

PROSPECTUS

MICROVISION, INC.
189,000 Shares of Common Stock and
Warrants to Purchase 47,250 Shares of Common Stock

This prospectus covers the offer by Microvision, Inc. of 189,000 shares of its common stock at a price of \$3.20 per share and warrants to purchase 47,250 shares of its common stock to two purchasers.

Each purchaser of common stock shall receive a warrant entitling the holder to purchase that number of shares of Microvision's common stock equal to 25% of the number of shares of common stock purchased by such holder in this offering. Each warrant entitles the holder to purchase from Microvision shares of its common stock at an exercise price of \$4.80 per share until July 22, 2007.

The common stock is traded on the NASDAQ National Market System under the symbol MVIS. On July 19, 2002, the closing price of the common stock was \$3.249 per share.

The shares and warrants offered in this prospectus supplement and accompanying prospectus involve a high degree of risk. You should carefully consider the "Risk Factors" contained herein and in our future filings made with the Securities and Exchange Commission in determining whether to purchase shares of our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved the shares or the warrants, or determined if this prospectus supplement or accompanying prospectus is accurate or complete. Any representation to the contrary is a criminal offense.

July 22, 2002

TABLE OF CONTENTS

Section	Page
The Offering	S-2
Risk Factors	S-2
Description of Warrants	S-7
Use of Proceeds	S-8
Plan of Distribution	S-8
Certain United States Tax Consequences	S-9

You should rely only on information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. Microvision has not authorized any other person to provide you with information different from that contained in this prospectus.

The shares of common stock and common stock purchase warrants are not being offered in any jurisdiction where the offering is not permitted.

The information contained in this prospectus supplement and the accompanying prospectus is correct only as of the date on the cover, regardless of the date this prospectus supplement was delivered to you or the date on which you acquired any of the shares or warrants.

S-1

THE OFFERING

Microvision, Inc. is offering to issue 189,000 shares of its common stock, no par value, at a price of \$3.20 per share to two purchasers. Each purchaser shall also receive a warrant to purchase that number of shares of Microvision's common stock equal to 25% of the number of shares of common stock purchased by such purchaser in this offering, or an aggregate of 47,250 shares of common stock, at a price of \$4.80 per share.

RISK FACTORS

We have a history of operating losses and expect to incur significant losses in the future.

We have had substantial losses since our inception and we anticipate an operating loss during the year ended December 31, 2002. We cannot assure you that we will ever become or remain profitable.

- As of December 31, 2001, we had an accumulated deficit of \$100.9 million.

- We incurred net losses of \$22.8 million from inception through 1998, \$16.7 million in 1999, \$26.6 million in 2000, and \$34.8 million in 2001.

Our revenues to date have been generated from development contracts and sales of engineering demonstration units. We expect to generate material revenue from product sales in 2002 from the planned introduction of two commercial products. However, the likelihood of our success must be considered in light of the expenses, difficulties and delays frequently encountered by companies formed to develop and market new technologies. In particular, our operations to date have focused primarily on research and development of the retinal scanning display technology and development of demonstration units. We are unable to accurately estimate future revenues and operating expenses based upon historical performance.

We cannot be certain that we will succeed in obtaining additional development contracts or that we will be able to obtain customer orders for products incorporating the retinal scanning display technology. In light of these factors, we expect to continue to incur substantial losses and negative cash flow at least through 2002 and likely thereafter. We cannot be certain that we will become profitable or achieve positive cash flow at any time in the future.

We cannot be certain that the retinal scanning display technology or products incorporating this technology will achieve market acceptance. If the retinal scanning display technology does not achieve market acceptance, our revenues may not grow.

Our success will depend in part on customer acceptance of the retinal scanning display technology. The retinal scanning display technology may not be accepted by manufacturers who use display technologies in their products or by consumers of these products. To be accepted, the retinal scanning display technology must meet the expectations of our potential customers in the defense, medical, industrial and consumer markets. If our technology fails to achieve market acceptance, we may not be able to continue to develop the retinal scanning display technology.

Our lack of the financial and technical resources relative to our competitors may reduce our revenues, potential profits and overall market share.

The retinal scanning display and products that may incorporate this technology will compete with established manufacturers of miniaturized cathode ray tube and flat panel display devices, many of which have substantially greater financial, technical and other resources than us and many of which are also developing miniature displays. Because of their greater resources, our competitors may develop products or technologies that are superior to our own. The introduction of superior competing products or technologies could result in reduced revenues, lower margins or loss of market share, any of which could reduce the value of our business.

S-2

We may not be able to keep up with rapid technological change and our financial results may suffer.

The electronic information display industry and the optical switching industries have been characterized by rapidly changing technology, accelerated product obsolescence and continuously evolving industry standards. Our success will depend upon our ability to further develop the retinal scanning display and the optical materials technologies and to cost effectively introduce new products and features in a timely manner to meet evolving customer requirements and compete with competitors' product advances. We may not succeed in these efforts because of:

- delays in product development,
- lack of market acceptance for our products, or
- lack of funds to invest in development.

The occurrence of any of the above factors could result in decreased revenues and market share.

Our products may be subject to future health and safety regulations that could increase our development and production costs.

Products incorporating retinal scanning display technology could become subject to new health and safety regulations that would reduce our ability to commercialize the retinal scanning display technology. Compliance with any such new regulations would likely increase our cost to develop and produce products using the retinal scanning display technology and adversely affect our financial results.

If we experience delays or failures in developing and producing commercially viable products, we may have lower revenues.

Although we have developed demonstration units incorporating the retinal scanning display technology and demonstration units have been built using the optical materials technology, we must undertake additional research, development and testing before we are able to produce products for commercial sale. In addition, product development delays or the inability to enter into relationships with potential product development partners may delay or prevent us from introducing products for commercial sale.

If we are unable to adequately protect our patents and other proprietary technology, we may be unable to compete with other companies.

Our success will depend in part on our ability and the ability of the University of Washington and our other licensors to maintain the proprietary nature of the retinal scanning display and related technologies. We also rely on proprietary optical materials technology licensed from the University of Washington. Although our licensors have patented various aspects of the retinal scanning display technology and applied for patents on various aspects of the optical materials technology, and although we continue to file our own patent applications covering retinal scanning display features, optical materials technology and related technologies, we cannot be certain as to the degree of protection offered by these patents or as to the likelihood that patents will be issued from the pending patent applications. Moreover, these patents may have limited commercial value or may lack sufficient breadth to protect adequately the aspects of our technology to which the patents relate. We cannot be certain that our competitors, many of which have substantially greater resources than us and have made substantial investments in competing technologies, will not apply for and obtain patents that will prevent, limit or interfere with our ability to make and sell products incorporating our technologies.

We also rely on unpatented proprietary technology. Third parties could develop the same or similar technology or otherwise obtain access to our proprietary technology. We cannot be certain that we will be able to adequately protect our trade secrets, know-how or other proprietary information or

S-3

prevent the unauthorized use, misappropriation or disclosure of such trade secrets, know-how or other proprietary information.

We could face lawsuits related to our use of the retinal scanning display technology. These suits could be costly, time consuming and reduce our revenues.

We are aware of several patents held by third parties that relate to certain aspects of retinal scanning displays. These patents could be used as a basis to challenge the

validity of the University of Washington's patents, to limit the scope of the University of Washington's patent rights or to limit the University of Washington's ability to obtain additional or broader patent rights. A successful challenge to the validity of the University of Washington's patents could limit our ability to commercialize the retinal scanning display technology and, consequently, materially reduce our revenues. Moreover, we cannot be certain that patent holders or other third parties will not claim infringement by us or by the University of Washington with respect to current and future technology. Because U.S. patent applications are held and examined in secrecy, it is also possible that presently pending U.S. applications will eventually be issued with claims that will be infringed by our products or the retinal scanning display technology. The defense and prosecution of a patent suit would be costly and time-consuming, even if the outcome were ultimately favorable to us. An adverse outcome in the defense of a patent suit could subject us to significant cost, require others and us to cease selling products that incorporate retinal scanning display technology, or to cease licensing the retinal scanning display technology, or to require disputed rights to be licensed from third parties. Such licenses would increase our cost or may not be available at all. Moreover, if claims of infringement are asserted against our future co-development partners or customers, those partners or customers may seek indemnification from us for damages or expenses they incur.

Our revenues are highly sensitive to developments in the defense and aerospace industries.

Our revenues to date have been derived principally from product development research relating to defense applications of the retinal scanning display technology. We believe that development programs and sales of potential products in this market will represent a significant portion of our future revenues. Developments that adversely affect the defense sector, including delays in government funding and a general economic downturn, could cause our revenues to decline substantially.

If we cannot supply products in commercial quantities, we will not achieve commercial success.

We currently lack the capability to manufacture products in commercial quantities. Our success depends in part on our ability to provide our components and future products in commercial quantities at competitive prices. Accordingly, we will be required to obtain access, through business partners or contract manufacturers, to manufacturing capacity and processes for the commercial production of our expected future products. We cannot be certain that we will successfully obtain access to sufficient manufacturing resources. Future manufacturing limitations of our suppliers could result in a limitation on the number of products incorporating our technology that we are able to produce.

If we cannot manufacture products at competitive prices, our financial results will be adversely affected.

To date, we have produced only demonstration units for research, development and demonstration purposes. The cost per unit for these demonstration units currently exceeds the level at which we could expect to profitably sell commercial versions of these products to customers. If we cannot lower our cost of production, we may face increased demands on our financial resources, possibly requiring additional equity and/or debt financing to sustain our business operations.

S-4

If we lose the exclusive use of the Virtual Retinal Display technology or the optical materials technology, our business operations and prospects would be adversely affected.

We acquired the exclusive rights to the virtual retinal display technology and the optical materials technology under exclusive license agreements with the University of Washington. If the University of Washington were to violate the terms of the license agreements by providing the technology to another company, our business, operations and prospects would be adversely affected. In addition, we could lose the exclusivity under the license agreement if we fail to challenge, within the designated time limits, claims that other companies are using the virtual retinal display technology in violation of our rights under the license agreement.

We need to collaborate with third parties to be able to successfully develop products for commercial sale.

Our strategy for developing, testing, manufacturing and commercializing the retinal scanning display technology and products incorporating the retinal scanning display technology includes entering into cooperative development, sales and marketing arrangements with corporate partners, original equipment manufacturers and other third parties. We cannot be certain that we will be able to negotiate arrangements on acceptable terms, if at all, or that these arrangements will be successful in yielding commercially viable products. If we cannot establish these arrangements, we would require additional capital to undertake such activities on our own and would require extensive manufacturing, sales and marketing expertise that we do not currently possess and that may be difficult to obtain. In addition, we could encounter significant delays in introducing the retinal scanning display technology or find that the development, manufacture or sale of products incorporating the retinal scanning display technology would not be feasible. To the extent that we enter into cooperative development, sales and marketing or other joint venture arrangements, our revenues will depend upon the efforts of third parties. We cannot be certain that any such arrangements will be successful.

We will require additional capital to continue implementing our business plan. This may lessen the value of current stockholders' shares.

We will need additional funds in order to, among other requirements:

- further develop the retinal scanning display and optical materials technologies,
- add manufacturing capacity,
- add to our sales and marketing staff,
- develop and protect our intellectual property rights, and
- fund long-term business development opportunities.

We cannot be certain that we will be able to obtain financing when needed or on satisfactory terms, if at all. If additional funds are raised through the issuance of equity, convertible debt or similar securities, current shareholders will experience dilution and the securities issued to the new investors may have rights or preferences senior to those of the holders of our common stock. If adequate funds were not available to satisfy our short-term or long-term financial needs, we would be required to limit our operations significantly.

Loss of any of our key personnel could have a negative effect on the operation of our business.

Our success depends on our executive officers and other key personnel and on the ability to attract and retain qualified new personnel. Achievement of our business objectives will require substantial additional expertise in the areas of sales and marketing, research and product development, and manufacturing. Competition for qualified personnel in these fields is intense, and the inability to attract

S-5

and retain additional highly skilled personnel, or the loss of key personnel, could reduce our revenues and adversely affect our business.

A substantial number of our shares may be sold into the market in the near future, which could cause the market price of our common stock to drop significantly.

As of February 28, 2002, we had outstanding:

- options to purchase an aggregate of 5,066,000 shares of common stock, and
- warrants to purchase 603,000 shares of common stock.

Sales in the public market of common stock issuable upon exercises of stock options or warrants could depress prevailing market prices for our common stock. Even the perception that such sales could occur may adversely impact the market price for our stock. A decrease in market price would decrease the value of an investment in our common stock.

Our quarterly performance may vary substantially and this variance may decrease our stock price.

Our revenues to date have been generated from a limited number of development contracts with U.S. government entities and commercial partners. Our quarterly operating results may vary significantly based on:

- reductions or delays in funding of development programs involving new information display technologies by the U.S. government or our current or prospective commercial partners; or
- the status of particular development programs and the timing of performance under specific development agreements.

In one or more future quarters, our results of operations may fall below the expectations of securities analysts and investors and the trading price of our common stock may decline as a consequence.

If we fail to manage expansion effectively, our revenue and expenses could be adversely affected.

Our ability to successfully offer products and implement our business plan in a rapidly evolving market requires an effective planning and management process. We have significantly expanded the scope of our operations. In addition, we plan to continue to hire a significant number of employees during the next twelve months. The growth in business, head count and relationships with customers and other third parties has placed and will continue to place a significant strain on our management systems and resources. We will need to continue to improve our financial and managerial controls, reporting systems and procedures and will need to continue to expand, train and manage our work force.

It may be difficult for a third party to acquire us and this could depress our stock price.

Certain provisions of Washington law and our amended and restated articles of incorporation and bylaws contain provisions that create burdens and delays if a third party were to attempt to purchase us. As a result, these provisions could limit the price that investors are willing to pay for our stock. These provisions:

- authorize our board of directors, without further shareholder approval, to issue preferred stock that has rights superior to those of the common stock. Potential purchasers may pay less for us because the preferred stockholders may use their rights to take value from us; and
- provide that written demand of at least 30% of the outstanding capital stock is required to call a special meeting of the shareholders, which may be needed to approve our sale. The delay that this creates could deter a potential purchaser.

Additional risk associated with the Lumera business.

We cannot be certain that our optical materials will achieve market acceptance.

Lumera's success will depend in part on the commercial acceptance of the optical materials technology. The optical switching industry is currently fragmented with many competitors developing different technologies. We expect that only a few of these technologies ultimately will gain market acceptance. The optical materials may not be accepted by original equipment manufacturers and systems integrators of optical switching networks. To be accepted, the optical material must meet the technical and performance requirements of our potential customers in the telecommunications industry. If our optical materials technology fails to achieve market acceptance, we may not be able to continue to develop the technology.

Our lack of the financial and technical resources relative to our competitors may affect our ability to commercialize the optical materials.

The optical switching market is a highly competitive market. Several companies, many of which have substantially greater financial, technical and other resources than us, are working on competitive technologies. Because of their greater resources, our competitors may develop products or technologies that are superior to our own. The introduction of superior competing products or technology could cause our optical materials technology not to become commercially viable, which could reduce the value of our business.

Lumera's revenues are highly sensitive to developments in the telecommunications industry.

Lumera's expected revenues will be derived from product sales to original equipment manufacturers and system integrators in the telecommunications industry. We believe that sales of potential products in this market could represent a significant portion of our future revenues. Developments that adversely affect the telecommunications sector, including delays in traffic growth, government regulation or a general economic downturn, could slow or halt our revenue growth.

We expect that recent downturn in the telecommunications sector will have the following effects on Lumera:

- Reduced capital spending and technology investment by telecommunication companies may make it more difficult for our potential products to gain market acceptance. Customers may be less willing to purchase new technology such as ours or invest in new technology development when they have limited cash.

- Potential customers for our future products are very focused on reducing cost. This has reduced profit-margins for telecommunications equipment suppliers. Therefore our future products must compete with products that are less expensive than before the telecommunications downturn.

The building of a high speed telecommunications infrastructure has slowed. Currently companies are building networks using 10 GB modulators, this will delay the need for 40 GB modulators. We believe that our potential products have a better competitive advantage at higher modulating speeds.

DESCRIPTION OF WARRANTS

Each warrant entitles the holder to purchase from Microvision up to the number of shares of common stock set forth in such warrant at an exercise price of \$4.80 per share.

Exercise. The warrants are exercisable at any time until July 22, 2007. A warrant may be exercised upon surrender of the warrant certificate on or before the expiration date of the warrant at our offices, with the forms of "Election To Purchase" and "Warrant Shares Exercise Log" completed and executed as indicated, accompanied by payment of the exercise price made by wire transfer of immediately available funds for the number of shares with respect to which the warrant is being exercised. The

S-7

warrant may also be exercised by a cashless exercise feature, provided that at the time of exercise the underlying shares are not included in a then-effective registration statement, by a cashless exercise feature whereby the holder would receive that number of shares of common stock equal to the product of (A) the number of shares exercised times (B) a fraction, the numerator of which is the average closing bid price for the five trading days prior to the exercise date minus the exercise price, and the denominator of which is the average closing bid price for the five trading days prior to the exercise date. The shares of common stock underlying the warrants, when issued upon exercise of a warrant, will be fully paid and nonassessable, and Microvision will pay any issue or transfer tax, withholding tax or transfer agent fee incurred as a result of the issuance of common stock to the holder upon exercise of the warrant. None of the warrants has been exercised as of the date of this prospectus.

Adjustment. The warrants are subject to provisions that adjust the number of shares that may be purchased by the holders and the exercise price in the event of a common stock split, payment of stock dividend or certain other events.

If Microvision effects any merger or consolidation, effects any sale of all or substantially all of its assets, completes any tender offer or exchange offer pursuant to which holders of its common stock are permitted to tender or exchange their shares for other securities, cash or property, or effects any reclassification of its common stock pursuant to which such common stock is effectively converted into or exchanged for other securities, cash or property, then the holder shall have the right thereafter to receive, upon exercise of such warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such transaction, if the warrant had been exercised immediately prior to such transaction.

Delivery of Certificates. Upon exercise of a warrant, Microvision shall deliver a certificate representing the shares of common stock issuable upon exercise of the warrant by the third trading day after the date of exercise, where a trading day is defined as any day in which Microvision's common stock is traded on the NASDAQ National Market.

Additional Provisions. The above summary of certain terms and provisions of the warrants is qualified in its entirety by reference to the detailed provisions of the applicable agreements and certificates, each of which has been filed as an exhibit to our current report on Form 8-K filed for the event of July 22, 2007, which is incorporated herein by reference. Microvision is not required to issue fractional shares upon the exercise of the warrants. No holder of the warrants will possess any rights as a shareholder under those warrants until the holder exercises those warrants.

USE OF PROCEEDS

Microvision intends to use the net proceeds from the sale of the shares of common stock and the exercise of the warrants for general corporate purposes including, but not limited to, working capital, capital expenditures and acquisition of other technologies. Whether and when the warrants are exercised will depend on the price of our common stock in the future. If all of the warrants are exercised in full, the proceeds to Microvision, prior to the expenses of this offering, would be approximately \$831,600. We can provide no assurance that any or all of the warrants will be exercised. Our board of directors will have broad discretion in determining how any net proceeds will be used.

PLAN OF DISTRIBUTION

Microvision will issue and sell shares of common stock and warrants directly to two purchasers in this offering, and will issue shares of common stock upon the exercise of such warrants by the holders thereof.

Microvision has retained Olympus Securities LLC as placement agent in connection with this offering. In connection with its services, Olympus will receive a cash fee equal to five percent (5%) of the gross proceeds received by Microvision in this offering, which shall not exceed \$150,000. Microvision has also agreed to indemnify and hold harmless Olympus and its affiliates against any claims, actions, suits, proceedings, damages, liabilities and expenses they incur in the offering except for (a) the gross negligence or willful misconduct and (b) any claims for fees asserted by Zimmer Lucas Partners, LLC, one of the purchasers.

S-8

CERTAIN UNITED STATES INCOME TAX CONSIDERATIONS

The following is a summary of the material United States federal income tax consequences to the purchase, ownership and disposition of our common shares, warrants and common shares issued upon exercise of the warrants, subject to certain limitations and qualifications set forth below. For purposes of this discussion of United States federal income tax considerations, the term holder refers to the ultimate beneficial owner of the common shares, warrants or common shares issued upon exercise of the warrants. This discussion is not a comprehensive description of all of the tax considerations particular, this summary of United States federal income tax matters deals only with holders that will hold the common shares, warrants and common shares issued upon exercise of the warrants as capital assets and does not address special tax situations, such as the United States tax treatment of holders that are (i) subject to special tax rules (for example, financial institutions, securities or currency dealers, brokers, insurance companies, regulated investment companies and tax-exempt organizations), (ii) holding the common shares, warrants or common shares issued upon exercise of the warrants as part of a hedging or larger integrated financial transaction, or (iii) holders with a currency other than the U.S. Dollar as their functional currency, each of whom may be subject to special United States federal income tax rules.

This discussion is based on United States federal income tax law, including the United States Internal Revenue Code of 1986, as amended (the "Code"), regulations, rulings, administrative pronouncements and judicial decisions as of the date hereof. Subsequent changes in United States federal income tax law, which may be applied

retroactively, may alter the tax treatment of our common shares and warrants.

EACH PROSPECTIVE PURCHASER OF WARRANTS AND COMMON SHARES SHOULD CONSULT HIS OR HER OWN TAX ADVISOR AS TO THE UNITED STATES FEDERAL INCOME TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF WARRANTS AND COMMON SHARES, IN ADDITION TO THE EFFECT OF ANY STATE OR LOCAL TAX LAWS OR THE LAWS OF ANY JURISDICTION OTHER THAN THE UNITED STATES.

United States Holders. As used herein, "United States Holder" means a holder of a warrant or common shares (whether or not issued upon exercise of a warrant), who is, or which is, a United States Person. A "United States Person" is (i) a citizen or resident of the United States of America (including the States and the District of Columbia), its territories, possessions and other areas subject to its jurisdiction, including the Commonwealth of Puerto Rico (the "United States"), (ii) a corporation or partnership created or organized in the United States or under the laws of the United States or of any State and (iii) an estate or trust the income of which is subject to United States federal income taxation regardless of its source. A "resident" of the United States includes an individual who (i) is lawfully admitted for permanent residence in the United States, (ii) is present in the United States for 183 days or more during a calendar year; or (iii)(a) is present in the United States for 31 days or more during a calendar year, (b) is present in the United States for an aggregate of 183 days or more, on a weighted basis, over a 3-year period ending in such calendar year, and (c) does not have a closer connection to a "tax home" that is located outside the United States. "Non-United States Holder" means any person that is not a United States Holder.

This summary does not address the United States federal income tax consequences of the purchase, ownership or disposition of a warrant or common shares to Non-United States Holders, and such Non-United States Holders are accordingly urged to consult their own tax advisors regarding the potential United States federal income tax consequences of the purchase, ownership and disposition of a warrant or common shares.

If a partnership purchases, owns or disposes of common shares, warrants or shares issued upon exercise of the warrants, the consequences to a partner generally will depend upon the activities of the

S-9

partnership and the status of the partner. A partner of a partnership should consult its own tax advisor regarding the specific tax consequences of the purchase, ownership and disposition of a warrant or common shares.

Allocation of Purchase Price. Each purchaser will acquire shares of common stock and warrants in the offering and such securities acquired by each purchaser will have a tax basis equal to the cost of such securities. The measure of income or loss from certain transactions described depends upon the tax basis in each of the common stock and the warrants acquired by the purchaser. The tax basis for each of the common stock and warrant will be determined by allocating the cost of the securities acquired among the common stock and warrants in proportion to the relative fair market values of those components at the time of acquisition.

Warrants.

Upon a sale, exchange or other disposition (including a repurchase by Microvision) of a warrant other than the exercise of the warrant, a United States Holder will recognize capital gain or loss equal to the difference between the amount realized on the sale, exchange or other disposition and the holder's adjusted tax basis in the warrant. Such gain or loss will be long-term capital gain or loss if at the time of the sale, redemption or other disposition the warrant has been held for more than one year.

Upon the lapse of a warrant, a United States Holder will recognize a capital loss equal to such holder's adjusted tax basis in the warrant assuming the shares of common stock to which the warrant relates would have been a capital asset in the hands of the holder of such warrant. Any such loss will be long-term capital loss if the warrant had been held by the holder for more than one year at the time of lapse.

Under current law, for non-corporate United States Holders, the United States income tax rate applicable to the net long-term capital gain recognized for a year will not exceed 20 percent. For corporate United States Holders, a capital gain is currently taxed at the same rate as ordinary income. The deductibility of a capital loss, however, is subject to limitations for both non-corporate and corporate United States Holders.

Upon the exercise of a warrant, a United States Holder will not recognize gain or loss for United States federal income tax purposes, except to the extent of any cash received in lieu of fractional shares. The initial tax basis of a share of common stock acquired upon exercise of a warrant will be equal to the sum of (i) the adjusted tax basis of the exercised warrant and (ii) the exercise price. The holding period of shares of common stock acquired upon exercise of a warrant will commence on the day the warrant is exercised.

The number of shares issuable upon exercise of the warrants and the exercise price of the warrants are subject to adjustment under certain circumstances. See "Description of Warrants—Adjustments" above. For United States federal income tax purposes, such adjustments may result in deemed dividends to a holder of warrants, if such adjustments have the effect of increasing the holder's proportionate interest in earnings and profits or assets. In general, anti-dilution adjustments are not treated as resulting in deemed distributions. However, if, for example, the adjustment were considered an adjustment to compensate for a taxable cash or property distribution to shareholders, a taxable deemed distribution could result. The rules with respect to such adjustments are complex and holders should consult their own tax advisors regarding the applicability of such rules.

Common Shares

Taxation of Distributions. To the extent provided below, a United States Holder will be required to include in gross income when received by the holder as a dividend any cash or the fair market value of

S-10

any property distributed by Microvision with respect to the shares issued (whether or not acquired upon exercise of the warrants) held by the holder.

A distribution by Microvision with respect to the shares, including certain pro rata redemptions of such shares, will be treated first as a dividend of ordinary income includible in gross income to the extent of the current and accumulated earnings and profits of Microvision as determined under United States federal income tax principles, then as a tax-free return of basis in such shares to the extent of the United States Holder's adjusted tax basis in such shares, with the balance of the distribution, if any, treated as a gain realized by the United States Holder from the sale or disposition of such shares that is includible in gross income. Dividends paid by Microvision may be eligible for the dividends received deduction generally allowed to corporations under the Code.

Taxation of Dispositions of Shares. A gain or loss realized by a United States Holder on the sale, exchange or other disposition of any shares, including upon the liquidation or dissolution of the Company or as a result of certain non-pro rata redemptions of shares, will be subject to United States federal income tax, as a capital gain or loss, in an amount equal to the difference between such United States Holder's adjusted tax basis in the such shares and the amount realized on its disposition. The United States Holder's adjusted tax basis in such shares will generally be equal to the initial purchase price for such shares (or, in the case of an initial purchaser, an allocable portion of the

issue price as described above in "Allocation of Purchase Price"), reduced (but not below zero) by the amount of any distribution by Microvision that is treated as a tax-free return of basis.

Any capital gain or loss recognized upon the sale or other disposition of shares will be either short-term or, if held for more than one year, long-term. For non-corporate United States Holders, the United States income tax rate applicable to the net long-term capital gain recognized for a year currently will not exceed 20 percent. For corporate United States Holders, a capital gain is currently taxed at the same rate as ordinary income. The deductibility of a capital loss, however, is subject to limitations for both non-corporate and corporate United States Holders.

United States Backup Withholding Tax and Information Reporting. Payments of dividends on and proceeds from the sale or other disposition of common shares may be subject to information reporting to the IRS and backup withholding at the current rate of 30% on the gross proceeds received. Backup withholding rates will be reduced to 29% in 2004 and 2005, and 28% in 2006 and thereafter. Backup withholding generally will not apply to a holder who furnishes a correct taxpayer identification number and makes any other required certification, or who is otherwise exempt from backup withholding. United States Holders who are required to establish their exempt status generally must provide IRS Form W-9. Persons in doubt as to the necessity of furnishing this form should consult their own tax advisors.

Any amounts withheld under the backup withholding tax rules from a payment to a Holder will be allowed as a refund or a credit against such holder's United States federal income tax, provided that the required information is furnished to the United States Internal Revenue Service.

S-11

The information in this prospectus is not complete and may be changed. We may not sell the securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and we are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PROSPECTUS, Subject to Completion, dated September 26, 2001

\$20,000,000

MICROVISION, INC.

**Common Stock
Preferred Stock
Warrants
Convertible Debt Securities**

We may sell from time to time up to \$20,000,000 of our common stock, preferred stock, warrants, or convertible debt securities in one or more transactions.

We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest.

Our common stock is traded on the Nasdaq National Market under the symbol MVIS. On September 25, 2001, the closing price of our common stock on the Nasdaq National Market was \$14.00 per share. None of our other securities are publicly traded.

This prospectus may not be used to offer and sell securities unless accompanied by the applicable prospectus supplement.

The securities offered in this prospectus involve a high degree of risk. You should carefully consider the "Risk Factors" contained in our Quarterly Report on Form 10-Q for the three month period ending June 30, 2001 and in our future filings made with the Securities and Exchange Commission, which are incorporated by reference in this prospectus, in determining whether to purchase our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2001.

TABLE OF CONTENTS

Section	Page
ABOUT THIS PROSPECTUS	1
WHERE YOU CAN FIND MORE INFORMATION	2
OUR BUSINESS	3
USE OF PROCEEDS	4
PLAN OF DISTRIBUTION	4
DESCRIPTION OF CAPITAL STOCK	5
DESCRIPTION OF WARRANTS	6
DESCRIPTION OF CONVERTIBLE DEBT SECURITIES	7
RATIO OF EARNINGS TO FIXED CHARGES AND EARNINGS TO COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS	15
EXPERTS	15
LEGAL MATTERS	15
LIMITATION OF LIABILITY AND INDEMNIFICATION	16
STATEMENTS REGARDING FORWARD-LOOKING INFORMATION	16

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, using a "shelf" registration process. Under the shelf process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$20.0 million. This prospectus provides you with a general description of the securities that we may offer. Each time that we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement also may add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading "Where You Can Find More Information." We may use this prospectus to sell securities only if it is accompanied by a prospectus supplement.

The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered under this prospectus. That registration statement can be read at the Commission's web site, located at <http://www.sec.gov>, or at the Commission's offices referenced under the heading "Where You Can Find More Information."

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and periodic reports and other information with the SEC. You may read and copy the registration statement of which this prospectus constitutes a part and any other document that we file at the SEC's public reference rooms located at Room 1024, Judiciary Plaza, 450 Fifth Street N.W., Washington, D.C. 20549; 7 World Trade Center, Suite 1300, New York, New York 10048; and Citicorp Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our SEC filings are also available to you free of charge at the SEC's web site at <http://www.sec.gov>.

The SEC allows us to "incorporate by reference" our publicly-filed reports into this prospectus, which means that information included in those reports is considered part of this prospectus. Information that we file with the SEC subsequent to the date of this prospectus will automatically update and supersede the information contained in this prospectus. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Security Exchange Act of 1934, as amended, or the Exchange Act, until we sell all of the securities offered pursuant to this prospectus.

The following documents filed with the SEC are incorporated by reference in this prospectus:

1. Our Annual Report on Form 10-K for the year ended December 31, 2000;
2. Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2001 and June 30, 2001;
3. Our Definitive Proxy Statement for the 2001 Annual Meeting of Shareholders, as filed with the SEC on April 30, 2001;
4. Our Current Report on Form 8-K for the event of March 14, 2001, as filed on March 30, 2001, and Amendment No. 1 thereto on Form 8-K/A as filed on April 11, 2001; and
5. The description of our common stock set forth in Amendment No. 1 to our Registration Statement on Form SB-2 (Registration No. 33-5276-LA), including any amendment or report filed for the purpose of updating such description, as incorporated by reference in our Registration Statement on Form 8-A (Registration No. 0-21221).

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, other than exhibits to such documents. You should direct any requests for documents to Investor Relations, Microvision, Inc., 19910 North Creek Parkway, Bothell, Washington 98011-3008, Telephone (425) 415-6847.

The information relating to us contained in this prospectus is not comprehensive and should be read together with the information contained in the incorporated documents. Statements contained in this prospectus as to the contents of any contract or other document referred to are not necessarily complete. You should refer to the copy of such contract or other document filed as an exhibit to the Registration Statement.

You should rely only on information contained or incorporated by reference in this prospectus. We have not authorized any other person to provide you with information different from that contained in this prospectus.

We are not making an offer of these securities in any jurisdiction where the offering is not permitted.

You should not assume that the information contained in this prospectus or the documents incorporated by reference is accurate as of any date other than the date on the front of this prospectus or those documents.

2

OUR BUSINESS

Microvision, Inc., develops information display and related technologies that allow electronically generated images and information to be projected onto the retina of a viewer's eye. The Company has defined three distinct business platforms relating to the delivery of images and information:

- Retinal Scanning Displays—Utilizing the retinal scanning display technology to display information on the viewer's retina.
- Imaging Solutions—Utilizing proprietary scanning technology and the retinal scanning display technology to capture images and information.
- Optical Materials—Utilizing a new class of organic non-linear chromophore materials technology to transmit information using light.

Additional information concerning our business is set forth in our Annual Report on Form 10-K for the year ended December 31, 2000, which is incorporated by reference in the registration statement of which this prospectus constitutes a part.

Our executive offices are located at 19910 North Creek Parkway, Bothell, Washington 98011-3008, and our telephone number is (425)415-6847.

3

USE OF PROCEEDS

Unless otherwise indicated in the applicable prospectus supplement, we anticipate that the net proceeds from the sale of the securities offered under this prospectus will be used for general corporate purposes, which may include, but are not limited to, working capital, capital expenditures, and acquisitions of other technologies. The prospectus supplement relating to specific sales of our securities hereunder will set forth our intended use for the net proceeds we receive from the sales. Pending the application of the net proceeds, we expect to invest the proceeds in investment-grade, interest-bearing instruments or other securities.

PLAN OF DISTRIBUTION

General. We may sell the securities offered hereby directly to one or more purchasers, through agents on our behalf, or through underwriters or dealers designated by us from time to time. We may distribute the securities from time to time in one or more transactions at a fixed price or prices (which may be changed from time to time), at market prices prevailing at the times of sale, at prices related to these prevailing market prices or at negotiated prices. The applicable prospectus supplement will describe the terms of the offering of the securities, including:

- the terms of the securities to which such prospectus supplement relates;
- the name or names of any underwriters, if any;
- the purchase price of the securities and the proceeds we will receive from the sale;
- any underwriting discounts and other items constituting underwriters' compensation; and
- any discounts or concessions allowed or reallocated or paid to dealers.

Only underwriters named in the prospectus supplement, if any, are underwriters of the securities offered with the prospectus supplement.

Sales Directly to Purchasers. We may enter into agreements directly with one or more purchasers. Such agreements may provide for the sale of securities at a fixed price, based on the market price of the securities or otherwise.

Use of Underwriters and Agents. If underwriters are used in the sale of securities, they will acquire the securities for their own account and may resell them from time to time in one or more transactions at a fixed public offering price or at varying prices determined at the time of sale. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all the securities offered by the prospectus supplement. Any public offering price and any discounts or concessions allowed or reallocated or paid to dealers may change from time to time.

We may sell securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment. We may authorize agents or underwriters to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in the prospectus supplement.

Deemed Underwriters. In connection with the sale of the securities offered with this prospectus, underwriters, dealers or agents may receive compensation from us or from purchasers of the securities

for whom they may act as agents, in the form of discounts, concessions or commissions. The underwriters, dealers or agents which participate in the distribution of the securities may be deemed to be underwriters under the Securities Act of 1933, as amended, or the Securities Act, and any discounts or commissions received by them and any profit on the resale of the securities received by them may be deemed to be underwriting discounts and commissions under the Securities Act. Anyone deemed to be an underwriter under the Securities Act may be subject to statutory liabilities, including Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act.

Indemnification and Other Relationships. We may provide agents and underwriters with indemnification against certain civil liabilities, including liabilities under the Securities Act, or contribution with respect to payments that the agents or underwriters may make with respect to such liabilities. Agents and underwriters may engage in transactions with, or perform services for, us in the ordinary course of business.

Listing of Securities. Except as indicated in the applicable prospectus supplement, the securities are not expected to be listed on a securities exchange or market, except for the common stock, which is listed on the Nasdaq National Market, and any underwriters or dealers will not be obligated to make a market in securities. We cannot predict the activity or liquidity of any trading in the securities.

DESCRIPTION OF CAPITAL STOCK

Our Articles of Incorporation authorize us to issue 31,250,000 shares of common stock, no par value per share, and 31,250,000 shares of preferred stock, no par value per share. As of September 17, 2001, there were 12,022,983 shares of common stock, and no shares of preferred stock, outstanding.

Common Stock. All outstanding common stock is, and any stock issued under this prospectus will be, fully paid and nonassessable. Subject to the rights of the holders of our outstanding preferred stock, if any, holders of common stock:

- are entitled to any dividends validly declared;
- will share ratably in our net assets in the event of a liquidation; and
- are entitled to one vote per share.

The common stock has no conversion rights. Holders of common stock have no preemption, subscription, redemption, or call rights related to those shares.

Preferred Stock. The Board of Directors has the authority, without further action by the shareholders, to issue up to 31,250,000 shares of preferred stock in one or more

series and to fix the rights, preferences, privileges and restrictions thereof, including dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, without any further vote or action by the shareholders. The issuance of preferred stock could adversely affect the voting power of holders of our common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation may have the effect of delaying, deferring or preventing a change in control of Microvision, which could depress the market price of our common stock. We currently have no shares of preferred stock outstanding. If we offer preferred stock, the terms of that series of preferred stock will be set forth in the prospectus supplement relating to that series.

Transfer Agent. American Stock Transfer & Trust Company is the transfer agent and registrar for our common stock.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of debt securities, preferred stock, common stock or units of any combination of the foregoing securities. Each series of warrants will be issued under a warrant agreement all as set forth in the prospectus supplement or term sheet relating to the warrants offered hereby. A copy of the form of warrant agreement, including the form of warrant certificates representing the warrants reflecting the provisions to be included in the warrant agreements that will be entered into with respect to particular offerings of warrants, will be filed as an exhibit to the registration statement of which this prospectus constitutes a part prior to the issuance of any warrants.

The applicable prospectus supplement or term sheet will describe the terms of the warrants offered thereby, the warrant agreement relating to such warrants and the warrant certificates, including but not limited to the following:

- the offering price or prices;
- the aggregate amount of securities that may be purchased upon exercise of such warrants and minimum number of warrants that are exercisable;
- the number of securities, if any, with which such warrants are being offered and the number of such warrants being offered with each security;
- the date on and after which such warrants and the related securities, if any, will be transferable separately;
- the amount of securities purchasable upon exercise of each warrant and the price at which the securities may be purchased upon such exercise, and events or conditions under which the amount of securities may be subject to adjustment;
- the date on which the right to exercise such warrants shall commence and the date on which such right shall expire;
- the circumstances, if any, which will cause the warrants to be deemed to be automatically exercised;
- any material risk factors relating to such warrants;
- the identity of the warrant agent; and
- any other terms of such warrants (which shall not be inconsistent with the provisions of the warrant agreement).

Prior to the exercise of any warrants, holders of such warrants will not have any rights of holders of the securities purchasable upon such exercise, including the right to receive payments of dividends, if any, on the securities purchasable upon such exercise or the right to vote such underlying securities.

Prospective purchasers of warrants should be aware that special U.S. federal income tax, accounting and other considerations may be applicable to instruments such as warrants. The prospectus supplement or term sheet relating to any issue of warrants will describe such considerations.

DESCRIPTION OF CONVERTIBLE DEBT SECURITIES

This prospectus describes certain general terms and provisions of our convertible debt securities. When we offer to sell a particular series of convertible debt securities, we will describe the specific terms of the series in a supplement to this prospectus. We will also indicate in the supplement whether the general terms and provisions described in this prospectus apply to a particular series of convertible debt securities.

We may offer under this prospectus up to \$20,000,000 aggregate principal amount of convertible debt securities, or if such debt securities are issued at a discount, or in a foreign currency or composite currency, such principal amount as may be sold for an initial public offering price of up to \$20,000,000. Unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and will rank equally with all of our other unsecured and unsubordinated indebtedness.

The debt securities will be issued under an indenture between us and a commercial bank or trust company, or other duly qualified trustee, as trustee. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement and you should read the indenture for provisions that may be important to you. Capitalized terms used in the summary have the meanings specified in the indenture.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our Board of Directors and set forth or determined in the manner provided in an officer's certificate or by a supplemental indenture. The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series, including any pricing supplement.

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will set forth in a prospectus supplement, including any pricing supplement, relating to any series of debt securities being offered, the aggregate principal amount and the following terms of the debt securities:

- the title of the debt securities;

- the price or prices (expressed as a percentage of the principal amount) at which we will sell the debt securities;
- any limit on the aggregate principal amount of the debt securities;
- the date or dates on which we will pay the principal on the debt securities;
- the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;
- the place or places where principal of, premium and interest on the debt securities will be payable;
- the terms upon which the debt securities of the series may be converted into other securities of the Company, and the terms and conditions upon which such conversion or exchange shall be effected, including the initial conversion or exchange price or rate, the conversion or exchange period and any other additional provisions;
- the terms and conditions upon which we may redeem the debt securities;

- any obligation we have to redeem or purchase the debt securities pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities;
- the dates on which and the price or prices at which we will repurchase debt securities at the option of the holders of debt securities and other detailed terms and provisions of these repurchase obligations;
- the denominations in which the debt securities will be issued, if other than denominations of \$1,000 and any integral multiple thereof;
- whether the debt securities will be issued in the form of certificated debt securities or global debt securities;
- the portion of principal amount of the debt securities payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- the currency of denomination of the debt securities;
- the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities will be made;
- if payments of principal of, premium or interest on the debt securities will be made in one or more currencies or currency units other than that or those in which the debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the manner in which the amounts of payment of principal of, premium or interest on the debt securities will be determined, if these amounts may be determined by reference to an index based on a currency or currencies other than that in which the debt securities are denominated or designated to be payable or by reference to a commodity, commodity index, stock exchange index or financial index;
- any provisions relating to any security provided for the debt securities;
- any addition to or change in the events of default described in this prospectus or in the indenture with respect to the debt securities and any change in the acceleration provisions described in this prospectus or in the indenture with respect to the debt securities;
- any addition to or change in the covenants described in this prospectus or in the indenture with respect to the debt securities;
- any other terms of the debt securities, which may modify or delete any provision of the indenture as it applies to that series; and
- any depositories, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities.

The indenture does not limit our ability to issue convertible or subordinated debt securities. Any conversion or subordination provisions of a particular series of debt securities will be set forth in the officer's certificate or supplemental indenture related to that series of debt securities and will be described in the relevant prospectus supplement. Such terms may include provisions for conversion, either mandatory, at the option of the holder or at our option, in which case the number of shares of common stock, preferred stock or other securities to be received by the holders of debt securities would be calculated as of a time and in the manner stated in the prospectus supplement.

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture.

If we denominate the purchase price of any of the debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, as depository, or a nominee (we will refer to any debt security represented by a global debt security as a "book-entry debt security"), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a "certificated debt security") as set forth in the applicable prospectus supplement. Except as set forth under the heading "Global Debt Securities and Book-Entry System" below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the

indenture. No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange.

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

Global Debt Securities and Book-Entry System. Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the depository, and registered in the name of the depository or a nominee of the depository.

The depository has indicated it intends to follow the following procedures with respect to book-entry debt securities.

Ownership of beneficial interests in book-entry debt securities will be limited to persons that have accounts with the depository for the related global debt security, which we refer to as participants, or persons that may hold interests through participants. Upon the issuance of a global debt security, the depository will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal amounts of the book-entry debt securities represented by such global debt security beneficially owned by such participants. The accounts to be credited will be designated by any dealers, underwriters or agents participating in the distribution of the book-entry debt securities. Ownership of book-entry debt securities will be shown on, and the transfer of such ownership interests will be effected only through, records maintained by the depository for the related global debt security (with respect to interests of participants) and on the records of participants (with respect to interests of persons holding through participants). The laws of some states may require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to own, transfer or pledge beneficial interests in book-entry debt securities.

So long as the depository for a global debt security, or its nominee, is the registered owner of that global debt security, the depository or its nominee, as the case may be, will be considered the sole owner or holder of the book-entry debt securities represented by such global debt security for all purposes under the indenture. Except as described below, beneficial owners of book-entry debt securities will not be entitled to have securities registered in their names, will not receive or be entitled

9

to receive physical delivery of a certificate in definitive form representing securities and will not be considered the owners or holders of those securities under the indenture. Accordingly, each person beneficially owning book-entry debt securities must rely on the procedures of the depository for the related global debt security and, if such person is not a participant, on the procedures of the participant through which such person owns its interest, to exercise any rights of a holder under the indenture.

We understand, however, that under existing industry practice, the depository will authorize the persons on whose behalf it holds a global debt security to exercise certain rights of holders of debt securities, and the indenture provides that we, the trustee and our respective agents will treat as the holder of a debt security the persons specified in a written statement of the depository with respect to that global debt security for purposes of obtaining any consents or directions required to be given by holders of the debt securities pursuant to the indenture.

We will make payments of principal of, and premium and interest on book-entry debt securities to the depository or its nominee, as the case may be, as the registered holder of the related global debt security. Microvision, the trustee and any other agent of ours or agent of the trustee will not have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in a global debt security or for maintaining, supervising or reviewing any records relating to beneficial ownership interests.

We expect that the depository, upon receipt of any payment of principal of, premium or interest on a global debt security, will immediately credit participants' accounts with payments in amounts proportionate to the respective amounts of book-entry debt securities held by each participant as shown on the records of such depository. We also expect that payments by participants to owners of beneficial interests in book-entry debt securities held through those participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of those participants.

We will issue certificated debt securities in exchange for each global debt security if the depository is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act, and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days. In addition, we may at any time and in our sole discretion determine not to have the book-entry debt securities of any series represented by one or more global debt securities and, in that event, will issue certificated debt securities in exchange for the global debt securities of that series. Global debt securities will also be exchangeable by the holders for certificated debt securities if an event of default with respect to the book-entry debt securities represented by those global debt securities has occurred and is continuing. Any certificated debt securities issued in exchange for a global debt security will be registered in such name or names as the depository shall instruct the trustee. We expect that such instructions will be based upon directions received by the depository from participants with respect to ownership of book-entry debt securities relating to such global debt security.

We have obtained the foregoing information concerning the depository and the depository's book-entry system from sources we believe to be reliable, but we take no responsibility for the accuracy of this information.

No Protection In the Event of a Change of Control

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

10

Covenants

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities.

Consolidation, Merger and Sale of Assets

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to, any person, which we refer to as a successor person, unless:

• we are the surviving corporation or the successor person (if other than Microvision) is a corporation organized and validly existing under the laws of any U.S.

domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture;

- immediately after giving effect to the transaction, no event of default, and no event which, after notice or lapse of time, or both, would become an event of default, shall have occurred and be continuing under the indenture; and
- certain other conditions are met.

Events of Default

Event of default means, with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of that default for a period of 30 days (unless the entire amount of the payment is deposited by us with the trustee or with a paying agent prior to the expiration of the 30-day period);
- default in the payment of principal of or premium on any debt security of that series when due and payable;
- default in the deposit of any sinking fund payment, when and as due in respect of any debt security of that series;
- default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee or we and the trustee receive written notice from the holders of not less than a majority in principal amount of the outstanding debt securities of that series as provided in the indenture;
- certain events of bankruptcy, insolvency or reorganization of our company; and
- any other event of default provided with respect to debt securities of that series that is described in the applicable prospectus supplement accompanying this prospectus.

No event of default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an event of default with respect to any other series of debt securities. The occurrence of an event of default may constitute an event of default under our bank credit agreements in existence from time to time. In addition, the occurrence of certain events of default or an acceleration under the indenture may constitute an event of default under certain of our other indebtedness outstanding from time to time.

If an event of default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than a majority in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal (or, if the debt securities of that

series are discount securities, that portion of the principal amount as may be specified in the terms of that series) of and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an event of default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all events of default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an event of default.

The indenture provides that the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request of any holder of outstanding debt securities, unless the trustee receives indemnity satisfactory to it against any loss, liability or expense. Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series.

No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing event of default with respect to debt securities of that series; and
- the holders of at least a majority in principal amount of the outstanding debt securities of that series have made written request, and offered reasonable indemnity, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days.

Notwithstanding the foregoing, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment.

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any default or event of default (except in payment on any debt securities of that series) with respect to debt securities of that series if it in good faith determines that withholding notice is in the interest of the holders of those debt securities.

Modification and Waiver

We may modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

- reduce the amount of debt securities whose holders must consent to an amendment or waiver;

- reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;
- reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;
- reduce the principal amount of discount securities payable upon acceleration of maturity;
- waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);
- make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;
- make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or
- waive a redemption payment with respect to any debt security.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series or in respect of a covenant or provision which cannot be modified or amended without the consent of the holder of each outstanding debt security of the series affected; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of any series (except for certain obligations to register the transfer or exchange of debt securities of such series, to replace stolen, lost or mutilated debt securities of such series, and to maintain paying agencies and certain provisions relating to the treatment of funds held by paying agents). We will be so discharged upon the deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. dollars, foreign government obligations, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally

13

recognized firm of independent public accountants to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred.

Defeasance of Certain Covenants. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

- we may omit to comply with the covenant described under the heading "Consolidation, Merger and Sale of Assets" and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and
- any omission to comply with those covenants will not constitute a default or an event of default with respect to the debt securities of that series, or an event of covenant defeasance.

The conditions include:

- depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. dollars, foreign government obligations, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and
- delivering to the trustee an opinion of counsel to the effect that the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred.

Covenant Defeasance and Events of Default. In the event we exercise our option to effect covenant defeasance with respect to any series of debt securities and the debt securities of that series are declared due and payable because of the occurrence of any event of default, the amount of money and/or U.S. government obligations or foreign government obligations on deposit with the trustee will be sufficient to pay amounts due on the debt securities of that series at the time of their stated maturity but may not be sufficient to pay amounts due on the debt securities of that series at the time of the acceleration resulting from the event of default. However, we shall remain liable for those payments.

14

"Foreign Government Obligations" means, with respect to debt securities of any series that are denominated in a currency other than U.S. dollars:

- direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged

which are not callable or redeemable at the option of the issuer thereof; or

obligations of a person controlled or supervised by or acting as an agency or instrumentality of that government the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by that government which are not callable or redeemable at the option of the issuer thereof.

Federal Income Tax Consequences and Other Special Considerations

We will provide you with information on the federal income tax and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

RATIO OF EARNINGS TO FIXED CHARGES AND EARNINGS TO COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS

As we have incurred losses in each of the periods presented below, we had insufficient earnings to cover fixed charges and preferred dividends, if any, by the following amounts (in thousands):

Fiscal Year Ended December 31					Six Months Ended June 30, 2001
1996	1997	1998	1999	2000	
\$ 3,457	\$ 4,945	\$ 7,328	\$ 16,700	\$ 26,601	\$ 21,482

Please refer to Exhibit 12 filed with the registration statement of which this prospectus constitutes a part for additional information regarding the ratio of earnings to cover fixed charges and preferred dividends, if any.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K of Microvision, Inc., for the year ended December 31, 2000, have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

LEGAL MATTERS

The validity of the securities we are offering will be passed upon for us by Stoel Rives LLP, Seattle, Washington.

15

LIMITATION OF LIABILITY AND INDEMNIFICATION

Our Amended and Restated Articles of Incorporation provide that, to the fullest extent permitted by the Washington Business Corporation Act, our directors will not be liable for monetary damages to us or our shareholders, excluding, however, liability for acts or omissions involving intentional misconduct or knowing violations of law, illegal distributions or transactions from which the director receives benefits to which the director is not legally entitled. Our Amended and Restated Bylaws authorize us to indemnify our directors, officers, employees and agents to the fullest extent permitted by applicable law, except for any legal proceeding that is initiated by such directors, officers, employees or agents without authorization of the Board of Directors. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the SEC's opinion, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

STATEMENTS REGARDING FORWARD-LOOKING INFORMATION

This prospectus and the documents incorporated by reference in this prospectus contain forward-looking statements, within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, with respect to our financial condition, results of operations, business, and prospects. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," "may," "will," and similar expressions identify forward-looking statements. Although we believe that our plans, intentions and expectations reflected in these forward-looking statements are reasonable, we cannot be certain that these plans, intentions or expectations will be achieved. Actual results, performance or achievements could differ materially from those contemplated, expressed or implied by the forward-looking statements contained or incorporated by reference in this prospectus.

Forward-looking statements include, but are not limited to, those relating to the general direction of our business, including our retinal scanning display, imaging solutions, and optical materials businesses; the ability of our retinal scanning display technology or products incorporating this technology to achieve market acceptance; our ability to marshal adequate financial, management, and technical resources to develop and commercialize our technologies; our expected revenues and expenses in future periods; developments in the defense, aerospace and other industries on which we have focused; and our relationships with strategic partners.

These forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results to differ materially from the results contemplated by the forward-looking statements. The section entitled "Management's Discussion and Analysis of Financial Conditions and Results of Operations—Considerations Relating to the Company's Business" that appears in our quarterly report on Form 10-Q for the quarterly period ended June 30, 2001, as updated from time to time in our subsequent quarterly and annual reports, describe some, but not all, of the factors that could cause these differences. These factors are not intended to represent a complete list of the general or specific factors that may affect us. Other factors, including general economic factors and business strategies, may have a significant effect on our business, financial condition, and results of operations. You should not rely on these forward-looking statements, which reflect our position as of the date of this prospectus. We do not assume any obligation to revise forward-looking statements.

16

QuickLinks

[TABLE OF CONTENTS](#)

[THE OFFERING](#)

[RISK FACTORS](#)

[DESCRIPTION OF WARRANTS](#)

[USE OF PROCEEDS](#)

[PLAN OF DISTRIBUTION](#)

[CERTAIN UNITED STATES INCOME TAX CONSIDERATIONS](#)

[\\$20,000,000 MICROVISION, INC. Common Stock Preferred Stock Warrants Convertible Debt Securities](#)

[TABLE OF CONTENTS](#)

[ABOUT THIS PROSPECTUS](#)

[WHERE YOU CAN FIND MORE INFORMATION](#)

[OUR BUSINESS](#)

[USE OF PROCEEDS](#)

[PLAN OF DISTRIBUTION](#)

[DESCRIPTION OF CAPITAL STOCK](#)

[DESCRIPTION OF WARRANTS](#)

[DESCRIPTION OF CONVERTIBLE DEBT SECURITIES](#)

[RATIO OF EARNINGS TO FIXED CHARGES AND EARNINGS TO COMBINED FIXED CHARGES AND PREFERRED STOCK DIVIDENDS](#)

[EXPERTS](#)

[LEGAL MATTERS](#)

[LIMITATION OF LIABILITY AND INDEMNIFICATION](#)

[STATEMENTS REGARDING FORWARD-LOOKING INFORMATION](#)