ILLINOIS SUPERCONDUCTOR CORPORATION Form 424B3 January 26, 2001

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As filed with the Securities and Exchange Commission on January 26, 2001.

This prospectus is not an offer to sell, and is not soliciting an offer to buy, these securities in any state where the offer or sale is not permitted.

PROSPECTUS

\$50,000,000

ILLINOIS SUPERCONDUCTOR CORPORATION

COMMON STOCK PREFERRED STOCK WARRANTS

This prospectus relates to our offer and sale from time to time of shares of our common stock, shares of our preferred stock, and warrants to purchase our common stock or preferred stock in such amounts as shall result in an aggregate initial offering price for all securities of \$50,000,000.

We will provide specific terms of the securities offered pursuant to this prospectus (the "Offered Securities") in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest. This prospectus may not be used to sell these securities without a supplement.

Our principal executive offices are located at 451 Kingston Court, Mt. Prospect, Illinois 60056 and our telephone number at that address is (847) 391-9400.

AN INVESTMENT IN THE OFFERED SECURITIES ENTAILS A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 5 FOR INFORMATION THAT YOU SHOULD CONSIDER BEFORE PURCHASING THE SHARES OFFERED BY THIS PROSPECTUS.

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

The date of this prospectus is January 26, 2001

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement (including any amendments and exhibits, the "Registration Statement") that we filed with the Securities and Exchange Commission (the "SEC") utilizing a "shelf" registration process. Under this 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 \$50,000,000. This prospectus provides you with a general description of the securities that we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also 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. Summaries of agreements or other documents in this prospectus are not necessarily complete. Please refer to the exhibits to the Registration Statement for complete copies of these documents.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and special reports, proxy statements and other information with the Securities and Exchange Commission. These filings are available to the public from commercial document retrieval services and from the SEC's web site at http://www.sec.gov. You may also read and copy any document we file at the SEC's public reference rooms at 450 Fifth Street, N.W., Washington, D.C. 20549, and in New York, New York and Chicago, Illinois. Please call the SEC at 1(800)SEC-0330 for further information on the public reference rooms and copy charges.

The SEC allows us to "incorporate by reference" the information we file with it. This permits us to disclose important information to you by referencing these filed documents. We incorporate by reference in this prospectus the following documents which have been filed with the SEC (File No. 0-22302):

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 1999, filed with the SEC on March 22, 2000;

- Our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2000, filed with the SEC on May 12, 2000;
- Our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2000, filed with the SEC on August 11, 2000;
- Our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2000, filed with the SEC on November 14, 2000.
- Our Current Report on Form 8-K concerning the investment of \$4 million in our company by Elliott Associates, L.P., Elliott International, L.P. (formerly known as Westgate International, L.P.) and Alexander Finance, L.P., filed with the SEC on March 28, 2000;
- Our Current Report on Form 8-K concerning our earnings report for the quarter ended March 31, 2000, filed with the SEC on May 15, 2000;
- Our Current Report on Form 8-K concerning the announcement of our agreement to acquire Spectral Solutions, Inc. for 3.5 million shares of our common stock, filed with the SEC on May 19, 2000;
- Our Current Report on Form 8-K concerning the adjournment of our annual meeting until July 18, 2000 and the Extension Letter received from Elliott Associates, L.P., Elliott International, L.P. (formerly known as Westgate International, L.P.,) and Alexander Finance, L.P. regarding their agreement to refrain from exercising redemption rights in connection with their convertible notes, filed with the SEC on July 7, 2000;

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- Our Current Report on Form 8-K concerning stockholder approval obtained at our annual meeting of all proposals contained in our proxy material, filed with the SEC on July 18, 2000;
- Our Current Report on Form 8-K concerning our opening of an office in Japan, filed with the SEC on August 7, 2000;
- Our Current Report on Form 8-K concerning the announcement of our acquisition of Spectral Solutions, Inc. and the appointment of Dr. Richard Herring, CEO of Spectral Solutions, Inc. prior to the merger, to our Board of Directors, filed with the SEC on August 10, 2000;
- Our Current Report on Form 8-K concerning our earnings report for the quarter ended June 30, 2000, filed with the SEC on August 14, 2000;
- Our Current Report on Form 8-K concerning our acquisition of Spectral Solutions, Inc., filed with the SEC on August 23, 2000, and our amended Current Report on Form 8-K/A setting forth the financial statements for such acquisition, filed with the SEC on October 20, 2000;
- Our Current Report on Form 8-K concerning our receipt of an initial order for the deployment of HTS filter systems by

Telefonica, a telecommunications operating company in Spain, filed with the SEC on September 22, 2000;

- Our Current Report on Form 8-K reporting on an additional \$5 million investment in our company by Elliott Associates, L.P. and an affiliated investment firm, filed with the SEC on October 26, 2000.
- Our Current Report on Form 8-K announcing that we had entered into an agreement to acquire Lockheed Martin Canada's Adaptive Notch Filtering business unit, filed with the SEC on November 2, 2000.
- Our Current Report on Form 8-K reporting on our change in certifying accountants, filed with the SEC on December 13, 2000.
- Our Current Report on Form 8-K reporting on the acquisition of Lockheed Martin Canada Inc.'s Adaptive Notch Filtering business unit and the appointment of Daniel Spoor, President and CEO of Lockheed Martin Canada Inc., to our Board of Directors, filed with the SEC on December 27, 2000.
- Our Current Report on Form 8-K concerning our acquisition of the Adaptive Notch Filtering business unit of Lockheed Martin Canada Inc., and reporting on the conversion of senior convertible notes by certain of our principal stockholders, filed with the SEC on January 4, 2001.
- Our Current Report on Form 8-K concerning our agreement with KMW, Inc. of Korea to jointly develop an advanced-design cryogenic receiver front-end (CRFE) system to meet the requirements of third-generation (3G) Wideband-CDMA wireless systems, and reporting on the conversion of our senior convertible notes into shares of common stock in accordance with their terms, filed with the SEC on January 8, 2001.
- Our definitive Proxy Statement filed with the SEC on April 7, 2000 and our additional definitive proxy materials filed with the SEC on June 9, 2000.
- The description of our common stock contained in our Registration Statement on Form 8-A, as amended, and any other amendments or reports for the purpose of updating that description.

We incorporate by reference all documents filed pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of this prospectus and prior to the termination of this offering.

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We will provide promptly without charge to you, upon written or oral request, a copy of any document incorporated by reference in this prospectus, other than exhibits to such documents unless such exhibits are specifically incorporated by reference in such documents. Requests should be directed as follows:

> Illinois Superconductor Corporation 451 Kingston Court Mt. Prospect, Illinois 60056 (847) 391-9400

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Because we want to provide you with meaningful and useful information, this prospectus contains, and incorporates by reference, certain forward-looking statements that reflect our current expectations regarding our future results of operations, performance and achievements. We have tried, wherever possible, to identify these forward-looking statements by using words such as "anticipates," "believes," "estimates," "expects," "plans," "intends" and similar expressions. These statements reflect our current beliefs and are based on information currently available to us. Accordingly, these statements are subject to certain risks, uncertainties and contingencies, including the factors set forth under the caption "Risk Factors," which could cause our actual results, performance or achievements for 2001 and beyond to differ materially from those expressed in, or implied by, any of these statements. You should not place undue reliance on any forward-looking statements. Except as otherwise required by federal securities laws, we undertake no obligation to release publicly the results of any revisions to any such forward-looking statements that may be made to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events.

OUR COMPANY

We were founded in 1989 by ARCH Development Corporation, an affiliate of the University of Chicago, to commercialize superconductor technologies initially developed by Argonne National Laboratory. Superconductor materials, when cooled below a critical temperature, are able to transmit an electric current with either no or minimal loss of energy.

We use our patented and proprietary high temperature superconductor ("HTS") materials, radio frequency ("RF") filter designs and cryogenic technologies to develop, manufacture and market high performance products designed to enhance the quality, capacity, coverage and flexibility of cellular and other wireless telecommunications services.

In August 2000, we acquired Spectral Solutions, Inc. ("Spectral Solutions") for our common stock valued at approximately \$14.3 million. Spectral Solutions develops cryogenic superconducting radio frequency front-end systems for the wireless communications industry. In December 2000, we acquired Lockheed Martin Canada's Adaptive Notch Filtering business unit in exchange for 2,500,000 shares of our common stock. The ANF business unit has developed a technology to monitor and suppress sources of narrow-band interference that can reduce quality and capacity of CDMA-based wireless systems.

We were incorporated in Illinois on October 18, 1989 and reincorporated in Delaware on September 24, 1993. Our principal executive offices are located at 451 Kingston Court, Mt. Prospect, Illinois 60056 and our telephone number is (847) 391-9400.

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RECENT DEVELOPMENTS

Conversion of Senior Convertible Notes

On December 29, 2000, holders of our senior convertible notes converted \$14,354,778 principal amount of such notes plus accrued interest into 63,283,309 shares of common stock.

Change in Certifying Accountants

On December 7, 2000, we advised Ernst & Young LLP that we intended to retain a different firm of independent auditors for the audit of our financial statements for the fiscal year ending December 31, 2000. We have engaged Grant Thornton LLP as our new independent principal accountant to audit our consolidated financial statements. This engagement was effective as of December 7, 2000.

RISK FACTORS

You should carefully consider the risks described below and the other information in this prospectus and in the documents incorporated by reference herein before deciding to purchase shares in this offering. Our shares are subject to significant investment risks. Many factors, including the risks described below and other risks we have not recognized, could cause our operating results to differ from our expectations and plans.

RISKS RELATED TO THE OPERATIONS AND FINANCING OF OUR COMPANY GENERALLY

Limited Operating History; History of Losses; and Uncertainty of Financial Results

We were founded in October 1989 and through 1996 were engaged principally in research and development, product testing, manufacturing, marketing and sales activities. We have incurred net losses since our inception. As of September 30, 2000, our accumulated deficit was approximately \$94,373,000. We have only recently begun to generate revenues from the sale of our RF filter products. Prior to the commencement of these sales, the majority of our revenues were derived from R&D contracts, primarily from the U.S. government. We do not expect revenues to increase dramatically until we ship a significantly larger amount of our RF products. Accordingly, we expect to continue to experience net losses, and we cannot be certain if or when we will become profitable. Spectral Solutions and the Adaptive Notch Filtering business unit of Lockheed Martin Canada, both of which we recently acquired, have similar operating histories and financial uncertainties.

We have only a limited operating history upon which an evaluation of us and our prospects can be based. We must therefore be considered in light of the risks, expenses and difficulties frequently encountered by companies in their early stages of product commercialization.

Future Capital Needs

Although we have raised over \$10 million in equity capital during the past year, we anticipate that we will need additional cash to continue our operations at their current level past March 2001. Our planned expansion in sales of our RF filter product lines may require the commitment of substantial additional funding, beyond our current funding level, to continue product redesign, expansion of manufacturing capabilities and development of a sales and marketing effort to sell our RF front-end products.

The actual amount of our future funding requirements will depend on many factors, including: the amount and timing of future revenues, the level of product marketing and sales efforts to support our commercialization plans, the magnitude of our research and product development programs, our ability to improve product margins, the cost of additional plant and equipment for manufacturing and the costs involved in protecting our patents or other intellectual property.

Consequences of Inability to Obtain Adequate Future Funding

If we are unable to obtain adequate funds when needed in the future, we would be required to substantially delay, scale-back or eliminate the manufacturing, marketing or sales of one or more of our products or research and development programs, or may be required to obtain funds through arrangements with collaborative partners or others that may require us to relinquish rights to certain of our technologies, or potential products that we would not otherwise relinquish. In particular, if we do not secure adequate additional financing, we believe that we may not be able to continue as a going concern.

Qualified Audit Opinion

Ernst & Young's report on our financial statements for the years ended December 31, 1998 and December 31, 1999 contained an explanatory paragraph which stated that our history of operating losses and our need to obtain additional financing raised substantial doubt about our ability to continue as a going concern. Since the most recent opinion, we have raised in excess of \$10 million in external funding. However, the qualification of the audit opinion has raised the concerns of our suppliers and potential customers and has therefore had an adverse effect on our business.

Limited Experience in Manufacturing, Marketing and Sales

For us to be financially successful, we must manufacture our products in substantial quantities, at acceptable costs and on a timely basis. Although to date we have produced limited quantities of our products for commercial installations and for use in development and customer field trial programs, production of large quantities of our products at competitive costs presents a number of technological and engineering challenges for us. We may be unable to manufacture such products in sufficient volume. We have limited experience in manufacturing, and substantial costs and expenses may be incurred in connection with attempts to manufacture larger quantities of our products. We may be unable to make the transition to large scale commercial production successfully.

Our marketing and sales experience to date is very limited. We will be required to further develop our marketing and sales force in order to effectively demonstrate the advantages of our products over more traditional products, as well as competitive superconductive products. We may also elect to enter into agreements or relationships with third parties regarding the commercialization or marketing of our products. If we enter into such agreements or relationships, we will be substantially dependent upon the efforts of others in deriving commercial benefits from our products. We may be unable to establish adequate sales and distribution capabilities, may be unable to enter into marketing agreements or relationships with third parties on financially acceptable terms, and any third parties with whom we enter into such arrangements may not be successful in marketing our products.

Management of Growth

Our growth to date has caused, and will continue to cause, a significant strain on our management, operational, financial and other resources. Our ability to manage growth effectively will require us to implement and improve our operational, financial, manufacturing and management information systems and expand, train, manage and motivate our employees. These demands may require the addition of new management personnel and the development of additional expertise by management. Any increase in resources devoted to product development and marketing and sales efforts could have an adverse effect on our financial performance in the next several fiscal quarters. If we were to receive substantial orders, we may have to expand our current facilities, which could

cause an additional strain on our management personnel and development resources. The failure of our management team to effectively manage growth could have a material adverse effect on our business, operating results and financial condition.

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RISKS RELATED TO OUR COMMON STOCK AND CHARTER PROVISIONS

Delisting of Common Stock

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Our common stock was de-listed from trading on the Nasdaq National Market in June 1999 due to our inability to meet the net tangible assets requirement for continued listing. Our common stock is now traded in the over-the-counter market and quoted on the over-the-counter bulletin board. This may not provide the same liquidity for the trading of securities as the Nasdaq National Market. We intend to apply for relisting on the Nasdaq Stock Market when we are reasonably confident that our application would be approved.

Volatility of Common Stock Price

The market price of our common stock, like that of many other high-technology companies, has fluctuated significantly and is likely to continue to fluctuate in the future. Since January 1, 1999 and through December 31, 2000, the closing price of our common stock has ranged from a low of \$0.3438 per share to a high of \$39.00 per share. Announcements by us or others regarding the receipt of customer orders, quarterly variations in operating results, acquisitions or divestitures, additional equity or debt financings, results of customer field trials, scientific discoveries, technological innovations, litigation, product developments, patent or proprietary rights, government regulation and general market conditions may have a significant impact on the market price of our common stock. In addition, fluctuations in the price of our common stock could affect our ability to have our common stock accepted for listing on a securities market or exchange.

Substantial Number of Shares Eligible for Future Sale; Dilution

As of December 31, 2000, we had (i) outstanding warrants to purchase 95,533 shares of common stock at a weighted average exercise price of \$10.20 per share and (ii) outstanding options to purchase 5,315,096 shares of common stock at a weighted average exercise price of \$3.02 per share (3,774,078 of which have not yet vested) issued to employees, directors and consultants pursuant to our 1993 Stock Option Plan, the merger agreement with Spectral Solutions, and individual agreements with our management and directors. In order to attract and retain key personnel, we may issue additional securities, including stock options, in connection with our employee benefit plans, or may lower the price of existing stock options.

In December 2000, holders of our senior convertible notes converted \$14,354,778 principal amount of such notes plus accrued interest into 63,283,309 shares of common stock. We may in the future issue additional equity or rights to purchase equity, either alone, in connection with acquisition transactions or in connection with debt financings, at prices below the then-current market price of the common stock.

On January 8, 2001 we filed a registration statement on Form S-3 for the sale of up to \$20 million of shares of our common stock in a rights offering.

The exercise of options and warrants for common stock and the issuance of additional shares of common stock and/or rights to purchase common stock at prices below market value will be dilutive to existing stockholders and may have an adverse effect on the market value of the common stock.

Concentration of Our Stock Ownership

Our officers, directors and principal stockholders (holding greater than 5% of outstanding shares) together control approximately 66% of our outstanding voting power. Consequently, these stockholders, if they act together, would be able to exert significant influence over all matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions. In addition, this concentration of ownership may delay or prevent a change of control of our company, even when a change may be in the best interests of our stockholders. The interests of these stockholders may not always

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coincide with our interests as a company or the interests of other stockholders. Accordingly, these stockholders could cause us to enter into transactions or agreements that we would not otherwise consider.

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Anti-Takeover Provisions

We have certain arrangements which may be deemed to have a potential "anti-takeover" effect in that such provisions may delay, defer or prevent a change of control of our company. In February 1996, our Board of Directors adopted a stockholders rights plan. In addition, our Certificate of Incorporation and By-Laws provide that (i) stockholder action may be taken only at stockholders meetings; (ii) the Board of Directors has authority to issue series of our preferred stock with such voting rights and other powers as the Board of Directors may determine; (iii) prior specified notice must be given by a stockholder making nominations to the Board of Directors or raising business matters at stockholders meetings; and (iv) the Board of Directors is divided into three classes, each serving for staggered three-year terms. The effect of the rights plan and the anti-takeover provisions in our charter documents may be to deter business combination transactions not approved by our Board of Directors, including acquisitions that may offer a premium over market price to some or all of our stockholders.

TECHNOLOGY AND MARKET RISKS

Uncertain Market Acceptance of Superconducting Telecommunications Products

Our radio frequency ("RF") filter products, which are based on our high temperature superconductor ("HTS") technology, have not been sold in very large quantities and a sufficient market may not develop for our products. Our customers establish demanding specifications for performance and reliability. Our RF filter products may not continue to meet product performance and reliability criteria set by wireless communication service providers. We may be unable to manufacture adequate quantities of any products it develops at commercially acceptable costs or on a timely basis, or our current or future products may not achieve market acceptance. We have experienced, and may continue to experience, quarterly fluctuations in our results of operations as we attempt to gain market acceptance of our RF filter products while being subject to the lengthy testing process of customers. Failure to successfully develop, manufacture and commercialize products on a timely and cost-effective basis will have a material adverse effect on our business, operating results and

financial condition.

Rapid Technological Change; Possible Pursuit of Other Market Opportunities

The field of superconductivity is characterized by rapidly advancing technology. Our success will depend in large part upon our ability to keep pace with advancing superconducting technology, high performance RF filter design and efficient, low cost cryogenic technologies. Rapid changes have occurred, and are likely to continue to occur, in the development of superconducting materials and processes. Our development efforts may be rendered obsolete by the adoption of alternative solutions to current wireless operator problems or by technological advances made by others. In addition, other materials or processes, including other superconducting materials or fabrication processes, may prove more advantageous for the commercialization of high performance wireless products than the materials and processes selected by us.

Focus on Wireless Telecommunications Market; Current and Future Competitive Technologies

Our principal target market for our superconductor-based products is wireless telecommunications. The devotion of substantial resources to the wireless telecommunications market makes us vulnerable to adverse changes in this market. Adverse developments in the wireless telecommunications market, which could come from a variety of sources, including future competition, new technologies or regulatory decisions, could affect the competitive position of wireless systems. Any adverse developments in the wireless telecommunications market during the foreseeable future would have a material adverse effect on our business, operating results and financial condition.

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BUSINESS RISKS

Dependence on a Limited Number of Customers

To date, our marketing and sales efforts have focused on major cellular service providers in retrofit applications and, to a lesser extent, on PCS operators. During 1999, sales to three of our customers accounted for over 65% of our company's total revenues for 1999. Sales to these customers accounted for over 80% of our total revenues in the first nine months of 2000. We expect that if our RF filter products achieve market acceptance, a limited number of wireless service providers and Original Equipment Manufacturers ("OEMs") will account for a substantial portion our revenue during any period. Sales of many of our company's RF filter products depend in significant part upon the decision of prospective customers and current customers to adopt and expand their use of our products. Wireless service providers, wireless equipment OEMs and our other customers are significantly larger than, and are able to exert a high degree of influence over, us. Customers' orders are affected by a variety of factors such as new product introductions, regulatory approvals, end user demand for wireless services, customer budgeting cycles, inventory levels, customer integration requirements, competitive conditions and general economic conditions. The failure to attract new customers would have a material adverse effect on our business, operating results and financial condition.

Lengthy Sales Cycles

Prior to selling our products to our customers, we must generally undergo lengthy approval and purchase processes. Technical and business evaluation by potential customers can take up to a year or more for products

based on new technologies such as HTS. The length of the approval process is affected by a number of factors, including, among others, the complexity of the product involved, priorities of the customers, budgets and regulatory issues affecting customers. We may not obtain the necessary approvals or ensuing sales of such products may not occur. The length of our customers' approval process or delays could have a material adverse effect on our business, operating results and financial condition.

Dependence on Limited Sources of Supply

Certain parts and components used in our RF filter products, including substrates, vacuum components, and cryogenic coolers, are only available from a limited number of sources. Our reliance on these limited source suppliers exposes us to certain risks and uncertainties, including the possibility of a shortage or discontinuation of certain key components and reduced control over delivery schedules, manufacturing capabilities, quality and costs. Any reduced availability of such parts or components when required could materially impair our ability to manufacture and deliver our products on a timely basis and result in the cancellation of orders, which could have a material adverse effect on our business, operating results and financial condition. In addition, the purchase of certain key components involves long lead times and, in the event of unanticipated increases in demand for our products, we may be unable to manufacture products in quantities sufficient to meet our customers' demand in any particular period. We have no guaranteed supply arrangements with our limited source suppliers, do not maintain an extensive inventory of parts or components, and customarily purchase parts and components pursuant to purchase orders placed from time to time in the ordinary course of business.

To satisfy customer requirements, we may be required to stock certain long lead time parts in anticipation of future orders. The failure of such orders to materialize as forecasted could limit resources available for other important purposes or accelerate our requirement for additional funds. In addition, such excess inventory could become obsolete, which would adversely affect our financial performance. Business disruption, production shortfalls or financial difficulties of a limited source supplier could materially and adversely affect us by increasing product costs or reducing or eliminating the availability of such parts or components. In such events, our inability to develop alternative sources of supply quickly and on a cost-effective basis could materially impair our ability to manufacture and deliver our products on a timely basis and could have a material adverse effect on our business, operating results and financial condition.

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Dependence on Key Personnel

Our success will depend in large part upon our ability to attract and retain highly qualified management, engineering, manufacturing, marketing, sales and R&D personnel. Due to the specialized nature of our business, it may be difficult to locate and hire qualified personnel. The loss of services of one of our executive officers or other key personnel, or the failure to attract and retain other executive officers or key personnel, could have a material adverse effect on our business, operating results and financial condition.

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Product Liability

To date, our products have been installed in over 300 cell sites with a wide geographic dispersion. Although our products have not experienced any significant reliability problems to date, our products may develop reliability

problems in the future. Repeated or widespread quality problems could result in significant warranty expenses and/or the loss of customer confidence. The occurrence of such quality problems could have a material adverse effect on our business, operating results and financial condition.

Competition

The wireless telecommunications equipment market is very competitive. Our products compete directly with products which embody existing and future competing commercial technologies. Many of these companies have substantially greater financial resources, larger R&D staffs and greater manufacturing and marketing capabilities than we do. Other emerging wireless technologies, including "smart antennas" and tower mounted amplifiers, may also provide protection from RF interference and offer enhanced range to wireless communication service providers at lower prices and/or superior performance, and may therefore compete with our products. High performance RF filters may not become a preferred technology to address the needs of wireless communication service providers. Failure of our products to improve performance sufficiently, reliably, or at an acceptable price or to achieve commercial acceptance or otherwise compete with conventional and new technologies will have a material adverse effect on the our business, operating results and financial condition.

Although the market for superconductive electronics currently is small and in the early stages of development, we believe it will become intensely competitive, especially if products with significant market potential are successfully developed. In addition, if the superconducting industry develops, additional competitors with significantly greater resources are likely to enter the field. In order to compete successfully, we must continue to develop and maintain technologically advanced products, reduce production costs, attract and retain highly qualified personnel, obtain additional patent or other protection for our technology and products and manufacture and market our products, either alone or with third parties. We may be unable to achieve these objectives. Failure to achieve these objectives would have a material adverse effect on our business, operating results and financial condition.

In the past, we have had some success in increasing sales through pricing strategies pursuant to which we reduced the prices for all of our products. Such growth, however, was not consistently sustained. Similarly, we may not be able to continue to reduce product costs sufficiently to achieve and maintain acceptable profit margins.

LEGAL MATTERS

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Intellectual Property and Patents

Our success will depend in part on our ability to obtain patent protection for our products and processes, to preserve our trade secrets and to operate without infringing upon the patent or other proprietary rights of others and without breaching or otherwise losing rights in the technology licenses upon which any of our products are based. As of December 31, 2000, we had been issued 35 U.S. and 4 foreign patents, had filed and were actively pursuing applications for 13 other U.S. and 23 other foreign

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patents, and were the licensee of 7 U.S. patents and patent applications held by others. We acquired additional patents, through assignment of a license from the Canadian government, in connection with our purchase of the Adaptive Notch Filtering business unit of Lockheed Martin Canada. One of our patents is jointly owned with Lucent Technologies, Inc. We believe that, since the discovery of HTS

materials in 1986, a large number of patent applications have been filed worldwide, and many patents have been granted in the U.S. relating to HTS materials. The claims in those patents often appear to overlap and there are interference proceedings pending in the United States Patent and Trademark Office (not currently involving our company) regarding rights to inventions claimed in some of the HTS materials patent applications. We also believe there are a large number of patents and patent applications covering RF filter products and other products and technologies that we are pursuing. Accordingly, the patent positions of companies using HTS materials technologies and RF technologies, including our company, are uncertain and involve complex legal and factual questions. The patent applications filed by us or by our licensors may not result in issued patents or the scope and breadth of any claims allowed in any patents issued to us or our licensors may not exclude competitors or provide competitive advantages to us. In addition, patents issued to us, our subsidiaries or our licensors may not be held valid if subsequently challenged or others may claim rights in the patents and other proprietary technologies owned or licensed by us. Others may have developed or may in the future develop similar products or technologies without violating any of our proprietary rights. Furthermore, our loss of any license to technology that we now have or acquire in the future may have a material adverse effect on our business, operating results and financial condition.

Some of the patents and patent applications owned or licensed by us are subject to non-exclusive, royalty-free licenses held by various U.S. governmental units. These licenses permit these U.S. government units to select vendors other than us to produce products for the U.S. Government, which would otherwise infringe our patent rights that are subject to the royalty-free licenses. In addition, the U.S. Government has the right to require us to grant licenses (including exclusive licenses) under such patents and patent applications or other inventions to third parties in certain instances.

Patent applications in the U.S. are currently maintained in secrecy until patents are issued. In foreign countries, this secrecy is maintained for a period of time after filing. Accordingly, publication of discoveries in the scientific literature or of patents themselves or laying open of patent applications in foreign countries tends to lag behind actual discoveries and filing of related patent applications. Due to this factor and the large number of patents and patent applications related to HTS materials, RF technologies and other products and technologies that we are pursuing, comprehensive patent searches and analyses associated with HTS materials, RF technologies and other products and technologies that we are pursuing are often impractical or not cost-effective. As a result, our patent and literature searches cannot fully evaluate the patentability of the claims in our patent applications or whether materials or processes used by us for our planned products infringe or will infringe upon existing technologies described in U.S. patents or may infringe upon claims in patent applications made available in the future. Because of the volume of patents issued and patent applications filed relating to HTS materials, RF technologies and other products and technologies that we are pursuing, we believe there is a significant risk that current and potential competitors and other third-parties have filed or will file patent applications for, or have obtained or will obtain, patents or other proprietary rights relating to materials, products or processes used or proposed to be used by us. In any such case, to avoid infringement, we would have to either license such technologies or design around any such patents. We may be unable to obtain licenses to such technologies or, if obtainable, such licenses may not be available on terms acceptable to us or we may be unable to successfully design around these third-party patents.

Participation in litigation or patent office proceedings in the U.S. or other countries, which could result in substantial cost to and diversion of effort by our company, may be necessary to enforce patents issued or licensed to us, to defend our company against infringement claims made by others or to

determine the ownership, scope or validity of the proprietary rights of our company and others. The parties to such litigation may be larger, better capitalized than us and better able to support the cost of litigation. An adverse outcome in any such proceedings could subject us to significant liabilities to third parties, require us to seek licenses from third parties and/or require us to cease using certain technologies, any of which could have a material adverse effect on our business, operating results and financial condition.

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We believe that a number of patent applications, including applications filed by International Business Machines Corporation, Lucent Technologies, Inc., and other potential competitors of our company are pending that may cover the useful compositions and uses of certain HTS materials including yttrium barium copper oxide ("YBCO"), the principal HTS material used by us in our present and currently proposed products. Therefore, there is a substantial risk that one or more third parties may be granted patents covering YBCO and other HTS materials and their uses, in which case we could not use these materials without an appropriate license. As with other patents, we have no assurance that we will be able to obtain licenses to any such patents for YBCO or other HTS materials or their uses or that such licenses would be available on commercially reasonable terms. Any of these problems would have a material adverse effect on our business, operating results and financial condition.

Government Regulations

Although we believe that our wireless telecommunications products themselves would not be subject to licensing by, or approval requirements of, the FCC, the operation of base stations is subject to FCC licensing and the radio equipment into which our products would be incorporated is subject to FCC approval. Base stations and the equipment marketed for use therein must meet specified technical standards. Our ability to sell our wireless telecommunications products is dependent on the ability of wireless base station equipment manufacturers and wireless base station operators to obtain and retain the necessary FCC approvals and licenses. In order for them to be acceptable to base station equipment manufacturers and to base station operators, the characteristics, quality and reliability of our base station products must enable them to meet FCC technical standards. We may be subject to similar regulations of the Canadian federal and provincial governments. Any failure to meet such standards or delays by base station equipment manufacturers and wireless base station operators in obtaining the necessary approvals or licenses could have a material adverse effect on our business, operating results and financial condition. In addition, HTS RF filters are on the U.S. Department of Commerce's export regulation list. Therefore, exportation of such RF filters to certain countries may be restricted or subject to export licenses.

We are subject to governmental labor, safety and discrimination laws and regulations with substantial penalties for violations. In addition, employees and others may bring suit against us for perceived violations of such laws and regulations. Defense against such complaints could result in significant legal costs for us. Although we endeavor to comply with all applicable laws and regulations, we may be the subject of complaints in the future, which could have a material adverse effect on our business, operating results and financial condition.

Environmental Liability

We use certain hazardous materials in our research, development and

manufacturing operations. As a result, we are subject to stringent federal, state and local regulations governing the storage, use and disposal of such materials. It is possible that current or future laws and regulations could require us to make substantial expenditures for preventive or remedial action, reduction of chemical exposure, or waste treatment or disposal. We believe we are in material compliance with all environmental regulations and to date we have not had to incur significant expenditures for preventive or remedial action with respect to the use of hazardous materials. However, our operations, business or assets could be materially and adversely affected by the interpretation and enforcement of current or future environmental laws and regulations. In addition, although we believe that our safety procedures for handling and disposing of such materials comply with the standards prescribed by state and federal regulations, there is the risk of accidental contamination or injury from these materials. In the event of an accident, we could be held liable for any damages that result. Furthermore, the use and disposal of hazardous materials involves the risk that we could incur substantial expenditures for such preventive or remedial actions. The liability in the event of an accident or the costs of such actions could exceed the our resources or otherwise have a material adverse effect on our business, results of operations and financial condition. We carry property and workman's compensation insurances in full force and effect through nationally known carriers which include pollution cleanup or removal and medical claims for industrial incidents.

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Litigation

We are party to several pending litigation matters, as described in our quarterly report on Form 10-Q for the third quarter 2000. If decided adversely, such litigation could have a material adverse effect on our business, results of operations and financial condition.

RISKS RELATED TO ACQUISITIONS AND BUSINESS EXPANSION

Risks Associated with Lockheed Martin Canada Transaction

We acquired the Adaptive Notch Filtering business unit of Lockheed Martin Canada in December 2000. There are certain risks associated with this transaction, including the risk that we will not be able to successfully integrate the Adaptive Notch Filtering business into our existing business.

Risks Associated with Spectral Solutions Transaction

We acquired Spectral Solutions in August 2000. There are certain risks associated with this transaction, including the risk that we will not be able to successfully integrate the Spectral Solutions business. Spectral Solutions develops and manufactures primarily "thin-film" HTS RF applications for the wireless communications industry. We have concentrated our manufacturing and marketing efforts to date on "thick-film" applications, and there can be no assurance that we will successfully integrate thin-film technology into our product offerings. There is also no assurance that we will be able to achieve the synergies we believe should result from the acquisition of Spectral Solutions.

Risks of future acquisitions

In the future, we may pursue acquisitions to obtain products, services and technologies that we believe will complement or enhance our current product or services offerings. At present, we have no agreements or other arrangements

with respect to any acquisition. An acquisition may not produce the revenue, earnings or business synergies that we anticipated and may cause us to assume significant unforeseen liabilities, and an acquired product, service or technology might not perform as we expected. If we pursue any acquisition, our management could spend a significant amount of time and effort in identifying and completing the acquisition and may be distracted from the operations of our business. If we complete an acquisition, we would probably have to devote a significant amount of management resources to integrating the acquired business with our existing business, and that integration may not be successful.

To pay for an acquisition, we might use equity securities or cash, including proceeds of this offering. Alternatively, we might borrow money from a bank or other lender. If we use equity securities, our stockholders will experience dilution of their ownership interests. If we use cash or debt financing, our financial liquidity will be reduced.

International Operations

We are in discussions with several companies in non-U.S. markets, in particular in Japan and other parts of Asia, to form joint ventures or other marketing and consulting arrangements in order to increase sales of our products in these markets. Results of these discussions include the Lockheed Martin Transaction and the opening of a Japanese office. We believe that non-U.S. markets could provide a substantial source of revenue in the future. However, there are certain risks applicable to doing business in foreign markets that are not applicable to companies doing business solely in the U.S. For example, we will be subject to risks related to fluctuations in the exchange rate between the U.S. dollar and foreign currencies in countries in which we do business. In addition, we will be subject to the additional laws and regulations of these foreign jurisdictions, some of which laws and regulations might be substantially more restrictive than similar U.S. ones. Foreign jurisdictions may also provide less patent protection than is available in the U.S., and we may be less able to protect our intellectual property from misappropriation and infringement in these foreign markets.

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USE OF PROCEEDS

Except as otherwise described in the applicable prospectus supplement, the net proceeds from the sale of the Offered Securities will be added to our general funds and used for general corporate purposes, which may include, but are not limited to, capital contributions to our subsidiaries to support such subsidiaries' continuing operations.

DESCRIPTION OF OFFERED SECURITIES

GENERAL

Our authorized capital stock consists of 250,000,000 shares of common stock and 300,000 shares of preferred stock. As of January 4, 2001 there were 107,719,307 shares of our common stock and no shares of our preferred stock outstanding.

COMMON STOCK

Holders of our common stock will be entitled to one vote per share on all matters submitted to a vote of stockholders. Subject to the rights of holders of any outstanding shares of our preferred stock, the holders of outstanding shares of our common stock will be entitled to the dividends and

other distributions as may be declared from time to time by our Board of Directors from legally available funds. Holders of our common stock do not have preemptive, subscription, redemption or conversion rights. Subject to the rights of holders of any shares of our outstanding preferred stock, upon our liquidation, dissolution or winding up and after payment of all prior claims, the holders of shares of our common stock outstanding at that time will be entitled to receive pro rata all of our assets.

PREFERRED STOCK

The applicable prospectus supplement will describe the specific terms of any preferred stock for which this prospectus is being delivered. Our Board of Directors, without further stockholder approval, may issue our preferred stock in one or more series from time to time and fix or alter the designations, relative rights, priorities, preferences, qualifications, limitations and restrictions of the shares of each series. The rights, preferences, limitations and restrictions of different series of our preferred stock may differ with respect to dividend rates, amounts payable on liquidation, voting rights, conversion rights, redemption provisions, sinking fund provisions and other matters. Our Board of Directors may authorize the issuance of our preferred stock which ranks senior to our common stock for the payment of dividends and the distribution of assets on liquidation. In addition, our Board of Directors can fix limitations and restrictions, if any, upon the payment of dividends on our common stock to be effective while any shares of our preferred stock are outstanding. Our Board of Directors, without stockholder approval, can also issue our preferred stock with voting and conversion rights which could adversely affect the voting power of the holders of common stock. Our issuance of our preferred stock may delay, defer or prevent a change in our control. We have no present intention to issue shares of our preferred stock.

We have designated 10,000 shares of our preferred stock as series A junior participating preferred stock in connection with our stockholder rights agreement. As of the date of this prospectus, we have not issued any shares of our series A preferred stock. Please read "Item 5. Market for Registrant's Common Equity and Related Stockholder Matters -- Rights Plan" in our Annual Report on Form 10-K incorporated by reference in this prospectus for a description of our stockholder rights agreement and the series A preferred stock.

WARRANTS

We may issue warrants to purchase our common stock or preferred stock (the "Underlying Warrant Securities"), and we may issue such warrants independently or together with shares of our common stock or preferred stock, and such warrants may be attached to or separate from such shares of

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common stock or preferred stock. We will issue each series of warrants under a separate warrant agreement (each, a "Warrant Agreement") to be entered into between us and a warrant agent ("Warrant Agent"). The Warrant Agent will act solely as our agent in connection with the warrants of such series and will not assume any obligation or relationship of agency for or with holders or beneficial owners of warrants. The applicable prospectus supplement will describe the specific terms of any warrants for which we are delivering pursuant to this prospectus, including the aggregate number of such warrants, the issue price or prices of the warrants, the designation and terms of the Underlying Warrant Securities, the exercise date and expiration date for such warrants and any other terms of such warrants, including terms, procedures and limitations

relating to the exchange and exercise of such warrants.

PLAN OF DISTRIBUTION

We may sell any of the Offered Securities in any one or more of the following ways from time to time: (i) through agents; (ii) to or through underwriters; (iii) through dealers; or (iv) directly to purchasers. The prospectus supplement with respect to any Offered Securities will set forth the terms of the offering of such Offered Securities, including the name or names of any underwriters, dealers or agents; the purchase price of the Offered Securities and the proceeds to us from such offering; and any underwriting discounts and commissions or agency fees and other items constituting underwriters' or agents' compensation, which will not, in any case, exceed 8%; and any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers and any securities exchange on which such Offered Securities may be listed.

The distribution of the Offered Securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at market prices prevailing at the time of such sale, at prices related to such prevailing market prices or at negotiated prices.

Offers to purchase Offered Securities may be solicited by agents designated by us from time to time. Any such agent involved in the offer or sale of the Offered Securities will be named, and any commissions payable by us to such agent will be described, in the applicable prospectus supplement. Unless otherwise indicated in such prospectus supplement, any such agent will be acting on a reasonable best efforts basis for the period of its appointment. Any such agent may be deemed to be an underwriter, as that term is defined in the Securities Act, of the Offered Securities so offered and sold.

If Offered Securities are sold by means of an underwritten offering, we will execute an underwriting agreement with an underwriter or underwriters at the time an agreement for such sale is reached, and the names of the specific managing underwriter or underwriters, as well as any other underwriters, and the terms of the transaction, including commissions, discounts and any other compensation of the underwriters and dealers, if any, will be set forth in the applicable prospectus supplement. If underwriters are used in the sale of the Offered Securities in respect of which this prospectus is delivered, the Offered Securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at fixed public offering prices or at varying prices determined by the underwriter at the time of sale. Offered Securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by the managing underwriters. If any underwriter or underwriters are used in the sale of the Offered Securities, unless otherwise indicated in the prospectus supplement, the underwriting agreement will provide that the obligations of the underwriters are subject to certain conditions precedent and that the underwriters with respect to a sale of Offered Securities will be obligated to purchase all such Offered Securities of a series if any are purchased.

If a dealer is used in the sales of the Offered Securities in respect of which this prospectus is delivered, we will sell such Offered Securities to the dealer as principal. The dealer may then resell such Offered Securities to the public at varying prices to be determined by such dealer at the time of resale. Any such dealer may be deemed to be an underwriter, as such term is defined in the Securities Act, of the Offered Securities so offered and sold. The name of the dealer and the terms of the transaction will be set forth in the prospectus supplement relating thereto.

Offers to purchase Offered Securities may be solicited directly by us and the sale thereof may be made by us directly to institutional investors or others, who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resale thereof. The terms of any such sales will be described in the prospectus supplement relating thereto.

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Agents, underwriters and dealers may be entitled under relevant agreements to indemnification or contribution by us against certain liabilities, including liabilities under the Securities Act.

Agents, underwriters and dealers may be customers of, engage in transactions with or perform services for us and our subsidiaries in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers by certain types of institutions to purchase Offered Securities from us at the public offering prices set forth in the applicable prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date or dates in the future. A commission indicated in the applicable prospectus supplement will be paid to underwriters, dealers and agents soliciting purchases of Offered Securities pursuant to any such delayed delivery contracts accepted by us.

We have also engaged Ladenburg Thalman & Co. Inc. as a non-exclusive placement agent for some or all of the Offered Securities on a best-efforts basis. If we place any of the Offered Securities through Ladenburg, we have agreed to pay Ladenburg a commission of 4% and to issue Ladenburg three-year warrants equal to 1% coverage of the value of the Offered Securities sold through Ladenburg. We have also paid Ladenburg a non-accountable expense allowance of \$35,000, and have agreed to indemnify Ladenburg against certain liabilities under the Securities Act. Ladenburg has advised us that it will not purchase any of the Offered Securities for its own account or for any account over which it exercises investment discretion.

LEGAL MATTERS

Sonnenschein Nath & Rosenthal will deliver an opinion to us about the validity of the issuance of the Offered Securities.

EXPERTS

Ernst & Young LLP, independent auditors, have audited our financial statements and schedule included in our Annual Report on Form 10-K for the year ended December 31, 1999, as set forth in their report (which contains an explanatory paragraph describing conditions that raise substantial doubt about our company's ability to continue as a going concern as described in Note 3 to the financial statements), which is incorporated by reference in this prospectus. Our financial statements and schedule are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.