

ILLINOIS SUPERCONDUCTOR CORPORATION

Form 10-K405

April 01, 2002

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SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2001

OR

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

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

COMMISSION FILE NUMBER 0-22302

ISCO INTERNATIONAL, INC.  
(Exact name of registrant as specified in its charter)

DELAWARE  
(State or other jurisdiction  
of incorporation)

36-3688459  
(I.R.S. Employer  
Identification No.)

451 KINGSTON COURT  
MT. PROSPECT, ILLINOIS 60056  
(847) 391-9400  
(Address and telephone number of principal executive offices)

Securities registered pursuant to Section 12(b) of the Act: NONE

Securities registered pursuant to Section 12(g) of the Act:

Title of each class

Common Stock, par value \$0.001 per share  
Preferred Stock Purchase Rights

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

On February 22, 2002, 147,835,202 shares of the registrant's Common Stock were outstanding. The aggregate market value on February 22, 2002 of the registrant's Common Stock held by non-affiliates of the registrant was \$42,600,000, based on the closing price per share of the registrant's common stock as quoted on the OTC bulletin board. This amount excludes more than 62 million shares of common stock held by

affiliates . Exclusion of shares held by any person should not be construed to indicate that such person possesses the power, direct or

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indirect, to direct or cause the direction of the management or policies of the registrant, or that such person is controlled by or under common control with, the registrant.

DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant's definitive proxy statement for the annual meeting of stockholders to be held during May/June, 2002 are incorporated by reference in Part III of this Form 10-K (the "2001 Proxy Statement").

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A NOTE CONCERNING  
FORWARD-LOOKING STATEMENTS

Because ISCO International, Inc. ( ISCO or ISCO International ) wants to provide investors with more meaningful and useful information, this Annual Report on Form 10-K ( Form 10-K ) contains, and incorporates by reference, certain forward-looking statements that reflect the Company s current expectations regarding the Company s future results of operations, performance and achievements. The Company has tried, wherever possible, to identify these forward-looking statements by using words such as anticipates, believes, estimates, expects, designs, p intends and similar expressions. These statements reflect the Company s current beliefs and are based on information currently available to the Company. Accordingly, these statements are subject to certain risks, uncertainties and contingencies, including the factors set forth under the caption Risk Factors, which could cause the Company s actual results, performance or achievements for 2002 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, the Company undertakes 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 Annual Report on Form 10-K or to reflect the occurrence of unanticipated events.

PART I

ITEM 1. BUSINESS

The Company develops and manufactures advanced front-end systems for wireless networks using patented and proprietary technologies including high temperature superconducting filters ( HTS or CRFE ) and adaptive notch filters ( ANF ) to eliminate out-of-band and in-band interference. Through the integration of the technologies from the ANF division of Lockheed Martin Canada, Spectral Solutions, Inc. and Illinois Superconductor Corporation, the Company believes it has assembled the most comprehensive interference management product and intellectual property portfolio in the industry.

The Company believes that the benefits of using the Company s products include: increased cell site capacity and utilization (as much as 70% or more), increased revenues per cell site (as much as 100% increase based on minutes of use), easier location of new cell sites due to tolerance of interference, improved voice quality and reduced dropped calls (up to 40%). These benefits have been documented in field trials and commercial deployments with wireless operators involving existing cellular and PCS systems.

In addition, the Company believes, that based on test results conducted by NTT DoCoMo ( NTT ), the next generation of wireless systems ( 3G or 3rd Generation) will need to manage and eliminate interference more effectively in order to meet performance objectives. The Company believes that with the increased data bit rates required of 3G systems and the increased usage of 3G systems due to the wireless internet , that interference levels will increase substantially, thereby requiring an improved filtering system in the base station.

HTS Technology

The Company s patented HTS technology includes the use of superconducting materials, radio frequency ( RF ) filter designs and cryogenic technologies that are needed to develop, manufacture and market high performance RF filter products. These products are designed to enhance the quality, capacity, coverage and flexibility of wireless telecommunications services.

RF filters refine the radio signals by passing radio waves through a series of resonators (poles), which allow certain frequencies to pass while rejecting other frequencies. Generally, the more poles in the RF filter, the more effective the RF filter. Each pole, however, has electrical resistance which causes the loss (insertion loss) of desired radio waves. Therefore, the more poles in a conventional RF filter, the greater the insertion loss.

Superconductive materials, when cooled below a critical temperature, are able to transmit an electric current with no loss or minimal loss of energy. The advantage of

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using superconductors in RF filters is that more poles can be added without significant increases in insertion loss, thereby creating a more effective RF filter.

HTS filters can be designed with a variety of structures and materials, each with different results. The Company is able to produce RF filters using the two main HTS filter designs, thin-film and thick-film design. The Company believes it is the only Company in the world that uses thick-film design and the Company believes it has an extensive patent position in the thick-film area that will protect its proprietary position.

One benefit of thick-film technology is that, according to published data of tests conducted by NTT DoCoMo, it produces an almost theoretically perfect RF filter for suppression of out-of-band interference (see diagram on page 18).

Another benefit of thick-film design is already incorporated in the Company's patented All-Temperature Performance (ATP) feature, which eliminates the need for certain redundant backup systems in a wireless base station. One of the hurdles of incorporating an HTS RF filter in a base station is that the HTS filter has an active feature, the cryo-cooler, which may be subject to failure or power loss. Non-HTS filters do not have an active component and therefore non-HTS filter performance is not hindered by a lack of power. The incorporation of the ATP function in an HTS RF filter eliminates the need for a backup system in case of power failure, because even without power, it has filtering capabilities at least equal to a non-HTS filter. Thin-film technology requires a back-up system and a by-pass system to continue to operate the filtering component of the base station, both of which adds cost and size to the overall product presentation.

The company also uses its patented thin-film superconducting technology for its patented T-series, or tower-mount RF filters. The Company believes that its tower-mount products will be a source of competitive advantage in the deployment of HTS filters worldwide. These products offer the Company additional tools with which to address the needs of its customers.

Finally, the Company believes that once the wireless operator accepts a cryo-cooler in a base station for HTS filter applications, the entire front-end of the base station will be open to improved performance through the use of HTS materials, known as the Cryogenic Front End (CRFE). The Company has studied all the components of the front end and believes that a hybrid of thin-film and thick-film technologies will greatly improve the performance of the Digital Wireless Communications System (see diagram on page 20).

### **ANF Technology**

One of the difficult tasks facing any wireless operator trying to suppress interference is determining its source and location. In general, wireless operators do not care about the source (whether it is in-band or out-of-band interference), just that it interferes with the efficiency of the base station.

With the acquisition of the ANF (Adaptive Notch Filter) division of Lockheed Martin Canada Corporation during 2000, the Company owns proprietary technologies to produce filters that monitor RF spectrum and block spontaneous interference occurring within that spectrum. This allows the Company to offer what it believes to be the only product in the world that locates and suppresses in-band interference in a CDMA carrier within 20 milliseconds.

Recently, the Company announced the expansion of the ANF platform (A-series) to support network-wide deployment in metropolitan service areas. The expanded platform now has the capability to scan and clean multiple CDMA carriers in either A-band or B-band cellular networks, along with a web-based network management software package to allow operators to remotely monitor and manage large numbers of sites equipped with ANF technology.

## **HISTORY**

The Company was founded in 1989 by ARCH Development Corporation, an affiliate of the University of Chicago, to commercialize superconductor technologies initially developed by Argonne National Laboratory. The Company was incorporated in Illinois on October 18, 1989 and reincorporated in Delaware on September 24, 1993. The Company's facilities and principal executive offices are located at 451 Kingston Court, Mt. Prospect, Illinois 60056 and its telephone number is (847) 391-9400.



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**BUSINESS STRATEGY**

The Company's strategic goal is to become the leading supplier of interference control solutions to wireless operators. ISCO is seeking to accomplish its goal by:

**Marketing aggressively its products to leading wireless operators and original equipment manufacturers (OEM's);**

**Providing customers comprehensive interference-control solutions;**

**Continuing to build on its strong intellectual property position and assert its rights therein; and**

**Outsourcing product manufacturing and reducing product cost.**

The Company is focusing its continuous efforts on winning the support of the world's leading wireless operators for its interference-control solutions. The Company has also conducted trials with NTT DoCoMo as well as several other leading Japanese and Korean operators, and is actively engaged in discussions with several OEMs.

The Company believes that its thin-film and thick-film HTS filters, ANF products and HTS front-end features (including all-temperature performance, tower mounted cryogenic RF receiver and cryogenic equalization technologies) make it the most comprehensive provider of wireless interference-solutions in the market, the only HTS provider to address both in-band and out-of-band interference, as well as the only supplier capable of addressing both the uplink and downlink interference problems. In addition, the Company recently started a business unit that will focus on providing services to operators who need expert advice on understanding and controlling interference in their networks.

The Company believes it has the most comprehensive intellectual property portfolio in CRFE technology and other areas of interference-management (132 patents issued or pending). The Company believes it has the seminal U.S. patent (issued July 17, 2001) that covers commercially viable configurations of CRFE applications for commercial wireless telecommunications. Accordingly, the Company filed a patent infringement lawsuit against two domestic competitors. The Company is expanding the scope of its patent program, focusing particularly on broad applications-controlling patents. Management believes that as interference-control technology becomes a vital component in wireless networks, the IP portfolio will become a powerful element of the Company's overall business strategy.

The Company currently outsources production for its ANF products and is working with other potential contract manufacturers to outsource production of the HTS units as well. Management believes that it can maintain or achieve healthy product gross margins, minimize capital needs while reducing product costs. Management believes that offering the lowest product cost will further strengthen the Company's ability to achieve its strategic objective.

**RECENT DEVELOPMENTS/SUBSEQUENT EVENTS**

*Shareholder Rights Offering*

On February 15, 2002, the previously announced Shareholder Rights Offering was completed, resulting in approximately 40 million shares sold to shareholders. The Company received nearly \$20 million from this offering.

*Issuance and Subsequent Repayment of Notes*

On February 15, 2002, the Company used a portion (approximately \$9.8 million) of the proceeds to repay all existing notes and accrued interest.

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**RISK FACTORS**

The following factors, in addition to other information contained herein, should be considered carefully in evaluating the Company and its business.

**RISKS RELATED TO THE OPERATIONS AND FINANCING OF THE COMPANY**

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

The Company was founded in October 1989 and through 1996 was engaged principally in research and development, product testing, manufacturing, marketing and sales activities. It has incurred net losses since inception. As of December 31, 2001, the accumulated deficit was approximately \$129,862,000. The Company has only recently begun to generate revenues from the sale of the Company's RF filter products. Prior to the commencement of these sales, the majority of the Company's revenues were derived from R&D contracts, primarily from the U.S. government. Management does not expect revenues to increase dramatically until the Company ships a significantly larger amount of the Company's RF products. Accordingly, management expects that the Company may continue to experience net losses and cannot be certain if or when the Company will become profitable. Spectral Solutions, Inc., recently acquired, had similar operating history and financial uncertainty. In addition, the Company may incur non-cash compensation charges related to the Company's stock option re-pricing which may further decrease the Company's earnings in the future.

The Company has only a limited operating history upon which an evaluation of it and its prospects can be based. It 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*

To date, the Company has financed its operations primarily through public and private equity and debt financings. The Company believes that it has sufficient funds to operate its business as identified herein without the need for substantial future capital sources other than those described herein through the end of fiscal year 2002. In addition, the Company has put in place mechanisms to raise additional capital when and if needed. The company intends to augment its existing capital position through the funding mechanisms identified and through other strategic sources of capital. Although the Company believes it has sufficient capital resources available to meet its obligations through the end of fiscal year 2002, there is no guarantee that the funding mechanisms identified will allow the company to access additional funds.

The actual amount of 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 the Company's commercialization plans, the magnitude of research and product development programs, the ability to improve or maintain product margins, the outcome of litigation against the Company, the cost of additional plant and equipment for manufacturing, if needed, and the costs involved in protecting patents or other intellectual property.

*Limited Experience in Manufacturing, Sales and Marketing*

For the Company to be financially successful, it must either manufacture its products in substantial quantities, at acceptable costs and on a timely basis or enter into an outsourcing arrangement with a qualified manufacturer that will allow it the same. In the event that it is unable to enter into a manufacturing arrangement on acceptable terms with a qualified manufacturer, the Company would have to produce the products in commercial quantities in its own facilities. Although to date the Company has produced limited quantities of its products for commercial installations and for use in development and customer field trial programs, production of large quantities of its products at competitive costs presents a number of technological and engineering challenges. The Company may be unable to manufacture such products in sufficient volume. The Company has limited experience in manufacturing, and substantial costs and expenses may be incurred in connection with attempts to manufacture larger quantities of the Company's products. The Company may be unable to make the transition to large-scale commercial production successfully.

The Company's sales and marketing experience to date is very limited. The Company may be required to further develop its marketing and sales force in order to effectively demonstrate the advantages of its products over more traditional products, as well as other competitors' HTS products. The Company also may elect to enter into arrangements with third parties regarding the commercialization and marketing of its

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products. If the Company enters into such agreements or relationships, it will be substantially dependent upon the efforts of others in deriving commercial benefits from its products. The Company may be unable to establish adequate sales and distribution capabilities, it may be unable to enter into marketing arrangements or relationships with third parties on financially acceptable terms, and any such third party may not be successful in marketing the Company's products. There is no guarantee that its sales and marketing effort will be successful.

### *Management of Growth*

Growth to date has caused, and will continue to cause, a significant strain on the Company's management, operational, financial and other resources. The ability to manage growth effectively may require the Company to implement and improve its operational, financial, manufacturing and management information systems and expand, train, manage and motivate 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 financial performance in future fiscal quarters. If the Company were to receive substantial orders, it may have to expand current facilities, which could cause an additional strain on the Company's management personnel and development resources. The failure of the management team to effectively manage growth could have a material adverse effect on the business, operating results and financial condition.

## RISKS RELATED TO THE COMPANY'S COMMON STOCK AND CHARTER PROVISIONS

### *Delisting of Common Stock*

The Company's common stock was de-listed from trading on the NASDAQ National Market in June 1999 due to its inability to meet the net tangible assets requirement for continued listing. The Company's common stock is now traded in the over-the-counter market and quoted on the over-the-counter bulletin board (OTCBB). While to date, the OTCBB market has not diminished the liquidity of the common stock, there is no guarantee that the OTCBB will provide the same liquidity for the trading of securities as the NASDAQ National Market in the future. Management intends to apply for relisting on the AMEX or NASDAQ National Market when reasonably confident that the application would be approved. However, there is no guarantee that this application for relisting will be approved.

### *Volatility of Common Stock Price*

The market price of the Company's 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, 2001, the closing price of its 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 the common stock. In addition, fluctuations in the price of our common stock could affect the Company's ability to have its common stock accepted for listing on a securities market or exchange.

### *Risk of Dilution*

As of December 31, 2001, the Company had (i) outstanding warrants to purchase 33,033 shares of common stock at a weighted average exercise price of \$1.47 per share and (ii) outstanding options to purchase 9,639,313 shares of common stock at a weighted average exercise price of \$1.64 per share (7,181,001 of which have not yet vested) issued to employees, directors and consultants pursuant to the 1993 Stock Option Plan as Amended, the merger agreement with Spectral Solutions, and individual agreements with management and directors. In order to attract and retain key personnel, the Company may issue additional securities, including stock options, in connection with the Company's employee benefit plans, or may lower the price of existing stock options.

On January 8, 2001, and subsequently amended through January, 2002, the Company filed a registration statement on Form S-3 for the sale of up to \$20 million of shares of common stock in a rights offering to common shareholders as of a certain holding date

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which was subsequently determined to be January 7, 2002. Nearly 40 million shares were issued to shareholders under that rights offering, which completed February 15, 2002. On January 12, 2001, a registration statement was filed on Form S-3 for the sale of up to \$50 million of shares of common stock in a universal shelf offering. During March, 2001, the Company entered into an agreement with Paul Revere Capital Partners, Ltd., whereby Paul Revere Capital commits to acquire up to \$20 million of the Company's stock over the next 24 months upon demand by the Company, subject to the conditions contained in the agreement. Pursuant to this facility, the Company may, at its discretion, sell shares of its common stock to Paul Revere Capital Partners at a discount to the market price of 94% of the average weighted volume price over a 22 day period. Each draw down is limited to the lesser of \$4 million or 20% of the trading volume over a specified period of time. The Company will also issue a warrant to Paul Revere Capital Partners to purchase a number of shares equal to 0.5% of the shares issued in each draw down. The Company has also agreed to pay its placement agent a fee equal to 4% of each draw down and issue a warrant to the placement agent to purchase a number of shares equal to 0.5% of the shares issued in each draw down. Subsequent to entering into this agreement, the SEC issued an interpretive release that requires the Company to amend the registration statement to include the purchase agreement prior to drawing down on this facility. Due to the depressed stock price and reduced trading volume, there is no assurance that this facility will be an effective source of capital. As of March 31, 2002, the Company had not amended the registration statement nor had it drawn down on this facility.

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 would be dilutive to existing stockholders and may have an adverse effect on the market value of the common stock.

### *Concentration of the Company's Stock Ownership*

At the time of this filing, officers, directors and principal stockholders (holding greater than 5% of outstanding shares) together control approximately 74% of the 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 the company, even if a change may be in the best interests of the Company's stockholders. The interests of these stockholders may not always coincide with the interests of the company or the interests of other stockholders. Accordingly, these stockholders could cause the Company to enter into transactions or agreements that it would not otherwise consider.

### *Anti-Takeover Provisions*

There exist 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 the company. In February 1996, the Board of Directors adopted a stockholders rights plan. In addition, the Company's 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 the Company's 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 charter documents may be to deter business combination transactions not approved by the Board of Directors, including acquisitions that may offer a premium over market price to some or all stockholders.

## TECHNOLOGY AND MARKET RISKS

*The Company is dependent on wireless telecommunications.*

The principal target market for the Company's products is wireless telecommunications. The devotion of substantial resources to the wireless telecommunications market creates vulnerability 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 may have a material adverse effect on the Company's business, operating results and financial condition.

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*The Company is dependent on the enhancement of existing 2G and 2.5G networks and the build-out of 3G networks, and the capital spending patterns of wireless network operators.*

Increased sales of products is dependent on a number of factors, one of which is the build-out of third generation, or 3G, enabled wireless communications networks as well as enhancements of existing infrastructure. Building wireless networks is capital intensive, as is the process of upgrading existing second generation, 2G, equipment. Further, the capital spending patterns of wireless network operators is beyond management's control and depends on a variety of factors, including access to financing, the status of federal, local and foreign government regulation and deregulation, changing standards for wireless technology, the overall demand for wireless services, competitive pressures and general economic conditions. The build-out of 2.5G and 3G enabled networks may take years to complete. The magnitude and timing of capital spending by these operators for constructing, rebuilding or upgrading their systems significantly impacts the demand for the Company's products. Any decrease or delay in capital spending patterns in the wireless communication industry, whether because of a general business slowdown or a reevaluation of the prospective demand for 2.5G and 3G services, would delay the build-out of these networks and may significantly harm business prospects.

*The Company's success depends on the market's acceptance of its interference-management telecommunications products.*

The Company's RF filter products, which are based on its high-temperature superconductor, or HTS, technology, and its adaptive notch filtering, or ANF, technology, have not been sold in very large quantities and a sufficient market may not develop for these products. Customers establish demanding specifications for performance and reliability, and although the Company believes it has met or exceeded these specifications to date, there is no guarantee that the wireless service providers will elect to use its HTS or ANF solutions to solve their interference problems. Although the Company has received several orders from domestic wireless operators for the Company's products over the past year, there is no assurance that it will continue to receive orders from these customers.

*Rapid technological change and future competitive technologies could negatively affect operations.*

The field of superconductivity is characterized by rapidly advancing technology. The Company's success will depend in large part upon its 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. Development efforts may be rendered obsolete by the adoption of alternative solutions to current wireless operator problems or by technological advances made by others such as smart antennas. 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 the Company.

## **BUSINESS RISKS**

### *Dependence on a Limited Number of Customers*

Sales to three customers accounted for over 72% and 80% of the Company's total revenues for 2001 and 2000, respectively. In addition, a significant amount of the Company's technical and managerial resources have been focused on working with the limited number of 3G license holders in Japan and Korea, as well as, established Original Equipment Manufacturers (OEMs) who may provide telecommunications equipment to these 3G wireless operators in these markets.

Management expects that if ISCO's RF filter products achieve market acceptance, a limited number of wireless service providers and OEMs will account for a substantial portion of revenue during any period. Sales of many of the 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 these products. Wireless service providers, wireless equipment OEMs and the Company's other customers are significantly larger than, and are able to exert a high degree of influence over the Company. Customers' orders are affected by a variety of factors such as new product introductions, regulatory approvals, end user

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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 the business, operating results and financial condition.

### *Lengthy Sales Cycles*

Prior to selling products to customers, the Company may be required to 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. The Company may not obtain the necessary approvals or ensuing sales of such products may not occur. The length of customers' approval process or delays could make the Company's quarterly revenues and earnings inconsistent and difficult to trend.

### *Dependence on Limited Sources of Supply*

Certain parts and components used in the Company's RF filter products, including substrates and cryogenic coolers, are only available from a limited number of sources. The Company's reliance on these limited source suppliers exposes it 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 the ability to manufacture and deliver products on a timely basis and result in the cancellation of orders, which could have a material adverse effect on the 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 the Company's products, the Company may be unable to manufacture products in quantities sufficient to meet customers' demand in any particular period. The Company has no guaranteed supply arrangements with its limited source suppliers, does not maintain an extensive inventory of parts or components, and customarily purchases parts and components pursuant to purchase orders placed from time to time in the ordinary course of business.

To satisfy customer requirements, the Company 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 the requirement for additional funds. In addition, such excess inventory could become obsolete, which would adversely affect financial performance. Business disruption, production shortfalls or financial difficulties of a limited source supplier could materially and adversely affect the Company by increasing product costs or reducing or eliminating the availability of such parts or components. In such events, the inability to develop alternative sources of supply quickly and on a cost-effective basis could materially impair the ability to manufacture and deliver products on a timely basis and could have a material adverse effect on the business, operating results and financial condition.

### *Dependence on Key Personnel*

The Company's success will depend in large part upon its ability to attract and retain highly qualified management, engineering, manufacturing, marketing, sales and R&D personnel. Due to the specialized nature of the Company's business, it may be difficult to locate and hire qualified personnel. The loss of services of one of the Company's 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 the Company's business, operating results and financial condition.

### *Failure of products to perform properly might result in significant warranty expenses.*

Although management believes the Company's products have not experienced any significant reliability problems to date, these products may develop reliability problems in the future. In general, products carry a warranty of one or two years, except in the case of superconducting materials which carry a five year warranty, limited to replacement of the product or refund of the cost of the product. In addition, the Company offers its customers extended warranties. Repeated or widespread quality problems could result in significant warranty expenses and/or the loss of customer

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confidence. The occurrence of such quality problems could have a material adverse effect on the business, operating results and financial condition.

*Intense competition, and increasing consolidation in our industry, could create stronger competitors and harm the business.*

The wireless telecommunications equipment market is very competitive. Many of these companies have substantially greater financial resources, larger research and development staffs and greater manufacturing and marketing capabilities than the Company. Its products compete directly with products which embody existing and future competing commercial technologies. Other emerging wireless technologies, including smart antennas, may also provide protection from RF interference and offer enhanced range to wireless communication service providers, potentially at lower prices and/or superior performance, and may therefore compete with the Company's products. High performance HTS RF filters may not become a preferred technology to address the needs of wireless communication service providers. Failure of its 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 the business, operating results and financial condition.

Although the market for superconductive electronics currently is small, management believes 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, the Company 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 its technology and products and manufacture and market its 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 the business, operating results and financial condition.

*If the worldwide economic slowdown continues, significant commercialization may be delayed.*

Industry analysts predict that the softness within the telecommunications industry will continue through 2002. If the world-wide economic slowdown continues, the telecommunications industry will most likely continue to be adversely affected, which may cause the Company's product commercialization to be delayed.

## LEGAL RISKS

### *Intellectual Property and Patents*

The Company's success will depend in part on its ability to obtain patent protection for its products and processes, to preserve 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, 2001, the Company had been issued 39 U.S. and 11 foreign patents, had filed and were actively pursuing applications for 26 other U.S. and 56 other patents, and was the licensee of 7 U.S. patents and patent applications held by others. The Company acquired additional patent rights in connection with the purchase of the Adaptive Notch Filtering business unit of Lockheed Martin Canada. One of the patents is jointly owned with Lucent Technologies, Inc. The Company believes 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 have been 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. The Company also believes there are a large number of patents and patent applications covering RF filter products and other products and technologies that it is pursuing. Accordingly, the patent positions of companies using HTS materials technologies and RF technologies, including the company, are uncertain and involve complex legal and factual questions. The patent applications filed by the Company or by its licensors may not result in issued patents or the scope and breadth of any claims allowed in any patents issued to the Company or its licensors may not exclude competitors or provide competitive advantages. In addition, patents issued to the Company, its subsidiaries or licensors may not be held valid if

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subsequently challenged or others may claim rights in the patents and other proprietary technologies owned or licensed by the Company. Others may have developed or may in the future develop similar products or technologies without violating any of the Company's proprietary rights. Furthermore, the loss of any license to technology that the Company now has or might acquire in the future may have a material adverse effect on the 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 the Company's 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.

Older patent applications in the U.S. are currently maintained in secrecy until patents are issued. In foreign countries and for newer U.S. patent applications, 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 or for newer U.S. patent applications 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 the Company is pursuing are often impractical or not cost-effective. As a result, patent and literature searches cannot fully evaluate the patentability of the claims in its patent applications or whether materials or processes used by the Company for its 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 it is pursuing, the Company believes 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 the Company. In any such case, to avoid infringement, it would have to either license such technologies or design around any such patents. The Company 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 the Company, may be necessary to enforce patents issued or licensed to it, to defend itself against infringement claims made by others or to determine the ownership, scope or validity of the proprietary rights of the Company and others. The parties to such litigation may be larger, better capitalized than the Company and better able to support the cost of litigation. An adverse outcome in any such proceedings could subject the Company to significant liabilities to third parties, require it to seek licenses from third parties and/or require it to cease using certain technologies, any of which could have a material adverse effect on the business, operating results and financial condition.

The Company believes that a number of patent applications, including applications filed by International Business Machines Corporation, Lucent Technologies, Inc., and other potential competitors of the 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 the Company in its 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 the Company could not use these materials without an appropriate license. As with other patents, there is no assurance that the Company would be able to obtain licenses to any such patents for YBCO or other HTS materials, processes for manufacturing those 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 the business, operating results and financial condition.



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### *Litigation*

The Company has been subject to a number of lawsuits and currently has ongoing legal proceedings involving various claims. Ongoing cases exist with respect to a former employee (Laves) and patent infringement litigation and related counterclaims with two competitors. If the Company is not successful in defending itself against these claims, there may be a material and adverse effect on our business, operating results and financial condition.

### *Government Regulations*

Although the Company believes that its 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 the Company's products would be incorporated is subject to FCC approval. Base stations and the equipment marketed for use therein must meet specified technical standards. The ability to sell the Company's 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. The Company 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 the 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.

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

### *Environmental Liability*

Certain hazardous materials are used in research, development and manufacturing operations. As a result, the Company is 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 it to make substantial expenditures for preventive or remedial action, reduction of chemical exposure, or waste treatment or disposal. The Company believes it is in material compliance with all environmental regulations and to date has not had to incur significant expenditures for preventive or remedial action with respect to the use of hazardous materials. However, its 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 the Company believes that its 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, the Company 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 available resources or otherwise have a material adverse effect on the business, results of operations and financial condition. The Company carries 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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**RISKS RELATED TO ACQUISITIONS AND BUSINESS EXPANSION**

*Risks of Future Acquisitions*

In the future, the Company may pursue acquisitions to obtain products, services and technologies that it believes will complement or enhance its current product or services offerings. At present, no agreements or other arrangements exist with respect to any such acquisition. An acquisition may not produce the revenue, earnings or business synergies as anticipated and may attach significant unforeseen liabilities, and an acquired product, service or technology might not perform as expected. If an acquisition is pursued, the Company's management could spend a significant amount of time and effort in identifying and completing the acquisition and may be distracted from the operations of the business. In addition, management would probably have to devote a significant amount of resources toward integrating the acquired business with the existing business, and that integration may not be successful.

*International Operations*

The Company is in discussions with several companies in non-U.S. markets to form manufacturing, product development joint ventures and other marketing, distribution or consulting arrangements.

The Company believes 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, the Company may be subject to risks related to fluctuations in the exchange rate between the U.S. dollar and foreign currencies in countries in which it does business. In addition, it may be subject to the additional laws and regulations of these foreign jurisdictions, some of which 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 the Company may be less able to protect its intellectual property from misappropriation and infringement in these foreign markets.

**INTERFERENCE AND WIRELESS SYSTEMS**

Interference is the dominant physical problem limiting cell site coverage, capacity and range. It is the root cause of dropped calls, poor call quality, and other service problems that lead to subscriber dissatisfaction and turnover (churn). Interference enters a carrier's operating frequencies from such sources as: home electronic devices such as portable phones, two-way radios used by commercial enterprises and governmental agencies, air-to-ground radio, police, fire and emergency services radio, military radio, wireless data networking systems, television and radio broadcasts, radar and other cellular networks. Interference is also created by electrical sources used to power cellular base station equipment.

The Company believes the proliferation of wireless devices and high data rate services will exacerbate the amount of interference bombarding carriers' operating frequencies. Conventional cellular base station equipment does not effectively cope with interference issues.

In the face of expanding subscriber bases, increased minutes of cell phone use, demand for high data rate services, high customer churn rates, restricted capital budgets and intense competition, the provisioning and optimization of wireless system infrastructure is a major challenge for operators. As a result of these industry conditions, wireless equipment manufacturers, including independent wireless technology companies and large original equipment manufacturers (OEM's) are working intensely to develop technologies that provide operators the tools necessary to monetize the growing demand for wireless services. As the table below illustrates, operators employ several techniques to increase cell site capacity and coverage, extend range and eliminate interference.

Using HTS Filters to mitigate out-of-band interference, Management believes that operators can capture up to 70% or more of additional capacity and utilization, expand cell site range and coverage as well as significantly reduce dropped calls and improve call quality. Management believes that the adoption of Adaptive Notch Filtering technology to mitigate in-band interference can provide operators with capacity enhancements of up to 50% while further reducing dropped calls and improving call

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quality. A trial of ISCO's products in major operator's 2G base stations surrounding a major airport demonstrated an average of 8-10% increase in minutes of use that is four to five times the baseline growth rate during the week following installation of ISCO equipment. Dropped and lost calls were reduced by 5-12%. At the physical level, mobile (cell phone) transmit power was reduced up to 4dB (about 65%).

The Company estimated the economic payback to the operator as a result of the use of the Company's filters to be between 2 and 8 months depending on cell site traffic levels. The operator purchased all of the equipment fitted to its base stations for the trial and placed a follow-on order in November, 2001 for filters to cover an additional 93 sectors within its network. The Company believes that the short economic payback of its equipment as opposed to other interference control solutions as well as the relatively low capital cost of the Company's products make its products the best value of all alternatives to system operators.

The higher data rates of 2.5G systems (that are expected to begin to come online in 2002) and 3G systems (up to 10 to 100 times faster than current 2G networks), will require much cleaner signals to support IP protocols (error rates typically 1,000 to 10,000 times better than current 2G specifications). As a result, management believes that system operators will eventually utilize HTS and ANF filter technologies in a large percentage of their base stations. Industry observers believe that the OEM's will begin to offer their customers interference control sub-systems (sourced from HTS equipment manufacturers such as ISCO) integrated with their advanced 2.5G and 3G base stations.

### **Target Market**

The Company believes demand for its products will be primarily driven by the following factors:

1. Existing 2G networks are straining under heavy traffic. According to the Cellular Telecommunications & Internet Association, minutes per user per month have increased from 136 minutes in 1998 to 255 minutes in 2000. According to industry sources, the worldwide number of subscribers using mobile wireless networks is expected to increase from 308 million in 1998 to almost 1 billion in 2004, representing an annual compound growth rate of 21%. Regardless of the timing of the introduction of high data rate 2.5G and 3G systems, these trends will drive demand for infrastructure enhancements.
2. As wireless operators install their data-oriented 2.5G overlay networks on top of their existing 2G network, the Company believes data-networks will further strain system capacity resulting in the need for interference-control in order to achieve data and error rates specified.
3. Interference is a primary cause of poor call quality, dropped and lost calls. The Company believes that as a result of increasing use of devices such as cellular phones, wireless data networking equipment, wireless consumer appliances and radar, wireless network operators are coming to view interference management technologies as necessary to protect against their customer bases migrating to other carriers (churn).
4. The Company believes that 3G wireless networks will require smaller operating cells and more base stations than existing cellular networks in order to cover the same geographic area. This is based on the requirement for high data rate transmission capability and cleaner error code criterion for 3G networks as well as the fact that transmissions at higher frequencies utilized by 3G networks (expected to operate in the 2100 MHz range) have shorter transmission waves as compared to lower frequency transmissions. Shorter transmission waves tend to limit the distance transmissions can travel without significant degradation.

### **The 3G Opportunity: A True Wireless Internet**

Existing wireless networks are based on technical architectures that were standardized in the late 1980s and early 1990s, and are highly optimized for voice signals. The guiding principle of 2G systems (including TDMA, GSM, CDMA) is signal compression to achieve spectrum efficiency. The basic user data-rate in these networks is typically around 10 kb/s, which is adequate for telephony voice traffic.

These networks are not capable of supporting true Internet applications. Recent experience with the i-Mode service introduced in 1999 by NTT DoCoMo in Japan has demonstrated a strong demand for wireless Internet type service, while also exposing the

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difficulties of delivering this service over existing 2G networks. The i-Mode service was launched in 1999 in Japan, and rapidly became the most successful new service introduction in the history of the wireless industry, adding six million customers in only six months. The service itself comprises an Internet-type connectivity for email, messaging, file transfer, as well as voice telephony, and by early 2000, more than 80% of the new subscribers being added in NTT's wireless network were i-Mode subscribers. However, beginning in February 2000, the network began to experience severe technical difficulties stemming from overloading of the basic 2G transmission facilities. By July 2000, it had become necessary to suspend the promotion of the service to new customers. While clearly demonstrating a strong demand for wireless Internet service, the i-Mode experiment clearly showed that a new network architecture will be needed to deliver this service effectively.

3G standards are being developed to meet the needs for a true wireless Internet service. [There are several competing versions of the 3G standard, including W-CDMA which is favored by most of the Europeans and by NTT DoCoMo, and cdma2000, promoted by Qualcomm and supported by many existing IS-95 (2G CDMA) operators. Both standards are broadly similar. They are based on wideband CDMA architecture, and will require the same general ultra-clean interference suppression solutions.] These new standards will allow for user data-rates of up to 2 MB/s *nearly two hundred times faster than 2G networks*. Moreover, 3G networks will have to support traffic patterns characteristic of Internet connectivity (always on service that may generate several hours of connect time per user per day) rather than today's short voice telephony patterns.

One system element that is especially affected by 3G performance objectives is the receiver front-end, especially the filters and low-noise amplifiers that acquire the desired signal and block interference from other sources. Existing 1G and 2G networks are designed around the less-than-perfect performance characteristics of conventional front-end systems based on metallic or ceramic (dielectric) filter technology. These systems allow for a great deal of interference to penetrate the desired signal. There is evidence that even in existing networks (2G CDMA) there are large losses in system capacity — up to 50% or more of nominal capacity lost, according to recent tests with major CDMA carriers — due solely to the imperfections in receiver front-end filtering based on conventional technology. With 3G, extensive testing by NTT DoCoMo and others indicates that conventional front-end technology will not deliver adequate performance. HTS-based receiver front-ends provide an almost theoretically perfect control over out-of-band interference. Recent publications and announcements by NTT scientists indicate that HTS is increasingly viewed as a basic requirement for 3G networks.

High-temperature superconducting materials are used to design RF subsystems such as receiver front-end filters which eliminate interference that can reduce the quality and capacity of wireless systems. Superconductor-based filters far outperform the best conventional front-end filters, as shown in Figure 1, which is adapted from [NTT DoCoMo] sponsored published test results in Japan:

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**HTS Competition**

All other HTS companies are limited to thin-film HTS. These include two small publicly-held U.S. based thin-film companies (Conductus, Inc. and Superconductor Technologies, Inc.) which have sold systems in the U.S. for receive filter applications. DuPont, a holder of a number of patents in the HTS materials area, has also been promoting its near antennae filter at the recent CTIA show in Orlando. This product is a thin-film, tower mounted unit which was developed by Dupont's Superconductivity Group. The company believes that DuPont has been promoting its product in Japan and the US but, to date, has not sold any commercial products. A number of other companies in Japan and Europe have engaged in development towards thin-film HTS, but to our knowledge have not delivered commercial HTS systems. In Japan, Cryodevices Ltd. is a joint venture between two Japanese companies, which has been working on thin-film technology for several years. In Europe, Cryoelectrica is a university-affiliated entity that has also been pursuing thin-film designs. To our knowledge, neither has delivered a commercial system.

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The following chart summarizes the relative publicly announced technology and product position of the current HTS competitors to the Company:

	<u>Thin-film</u>	<u>Thick-film</u>	<u>Hybrid HTS</u>	<u>Transmit Products</u>	<u>Tower-Mount</u>	<u>ATP</u>	<u>Equalization</u>
ISCO	YES	YES	YES	YES	YES	YES	YES
CDTS	YES	NO	NO	NO	YES	NO	NO
SCON	YES	NO	NO	NO	YES	NO	NO

The Company believes it has the broadest HTS technology base of any company in the world. The Company's goal is to position itself to lead the industry in HTS wireless applications as HTS solutions move toward the mainstream with 2G and 3G applications. In addition, the Company has been granted by the US Patent Office what it believes is the seminal patent in the HTS wireless systems area. The patent was issued on July 17, 2001 and ISCO immediately filed a patent infringement suit against both Conductus and Superconducting Technologies, Inc. The patent is discussed in greater detail in other areas of this report. [The tower-mount unit is also the subject of a patent granted to ISCO by the USPO in 2000 and is subject to the patent infringement lawsuit as amended on March 26, 2002.]

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**TECHNOLOGY OVERVIEW**

A wireless base station is divided (roughly) into two halves: the digital portion, and the so-called front-end.

The core expertise of ISCO is the application of HTS to wireless front-end systems. The components in the receiver front-end are designed to acquire the desired information-bearing signal and pass it through to the digital portion of the system, where it is processed digitally and the user information is extracted. Typically, much of the signal is lost as it passes through the front-end components. As well, undesired electromagnetic interference also leaks into the system due to imperfections in the filtering characteristics of the front-end devices. 1G and 2G systems are designed around these losses and interference levels, and the information carrying capacity of these systems are inherently limited.

Superconductivity is a property of certain materials, at certain temperatures, in which electrical resistance is reduced essentially to zero. High-temperature superconductivity (HTS) refers to materials, which exhibit this property at relatively higher temperatures, which are suitable for practical industry applications. [These materials were first discovered in the 1980s. There are two main materials used today: Yttrium Barium Cupric Oxide (YBCO) and Thallium Barium Calcium Cupric Oxide (TBCCO). These materials exhibit superconductivity at temperatures up to 80-100° K, which is suitable for industrial applications.]

The use of HTS for wireless front-end systems is based on the following general concept: by coating the surfaces of filter elements and other elements of the front-end, it is possible to create front-end components which introduce very little signal loss or degradation (no electrical resistance). In turn, this allows for much more powerful filter architectures to be employed practically which results in much better performance. For example, the complexity of a filter is related to the number of serial stages or poles in the filter design. With conventional technology, it is impractical to construct a filter of more than around 8-10 poles (and most are less complex). With HTS, ISCO has delivered systems using 32 poles, with nearly perfect out-of-band filter performance. Finally, the fact that these systems are cooled cryogenically reduces the thermal noise component.

***Thin-film & Thick-film HTS***

There are two ways of designing an HTS component. So-called *thin-film* techniques use vacuum deposition processes to carefully lay down extremely thin layers of HTS material upon an appropriate substrate. The result is a wafer which can be etched to

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create components such as a filter, in a process similar to semi-conductor chip fabrication. The advantages of thin-film techniques are a somewhat smaller size of the filter component, and the potential for integration with other components in an Integrated Circuit or chip-type architecture.

**Thick-film** techniques use a series of processes more similar to the ceramic firing of a coating to create a somewhat thicker HTS layer on the substrate, and are typically employed to coat three-dimensional resonator elements and other larger structures. The manufacturing process is generally much simpler and less expensive (no clean room required as for thin-film). The advantages of thick-film HTS are much higher filter performance (i.e., better selectivity and ultimate rejection; much better intermodulation characteristics; larger numbers of poles can be employed.) as well as the ability to support high-power applications for transmit filters and other transmitter components.

ISCO is the only company in the world with both thin-film and thick-film HTS technology. Because of this, ISCO can design products using the best available HTS technology for a given application, and is the only company with the ability to combine thin-film and thick-film solutions in the same front-end platform.

### ***Front-end Architectures (G-series and T-series filters)***

ISCO has extensive experience in designing and producing a wide range of RF front-end systems using HTS. We believe that our experience base is greater than any other company in the world in the application of HTS to wireless systems. Key platform technologies (all patented by ISCO) include:

Tower-mounted cryogenic RF receiver front-end (plus LNA) the only patented HTS system designed for tower-top installations

All-temperature Performance (ATP) RF filter technology, capable of operating at either cryogenic or ambient temperatures (eliminating system failure point and need for conventional back-up system required by competing thin-film vendors); ATP encompasses unique HTS materials as well as frequency-compensation filter architectures

Cryogenic equalization technologies to control group delay in high-performance 3G systems. Group delay is the tendency of the digital signal to spread out in time, so that information-bearing digital pulses tend to smear together and cause inter-symbol interference (ISI). ISI is combated by equalization techniques, which can be implemented either in the front-end or in the digital domain. Digital equalization is a significant signal processing overhead that can eventually impose limits on system throughput; hence, it is desirable to accomplish as much of the equalization of the signal as possible in the analog front-end. ISCO is the only HTS company that has implemented equalization in HTS front-end systems.

Transmit filter designs capable of handling up to 100 watts of power.

### ***Adaptive Notch Filters (A-series filters)***

The Company also offers adaptive notch filter products that continually scan a segment of RF spectrum for interference and block that interference within 20 milliseconds. The blocking feature is in place as long as needed for noise suppression. These products are especially useful in dealing with sporadic in-band interference as they adapt the Company's interference-management technology to the fluid environment. The complementary nature of these products with the Company's HTS solutions for adjacent-band interference allows the Company to offer complete interference-management solutions to its customers, rather than force customers to try to isolate the primary cause of their interference problems prior to looking for an effective solution.

### ***Product Benefits***

The Company's products are designed to address the high performance RF front-end needs of domestic and international commercial wireless telecommunication systems by providing the following advantages:

**Greater Network Capacity and Utilization.** The Company's interference management solutions can increase capacity and utilization by up to 70%. In some cases, capacity increases because channels which were previously unusable due to interference are



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recovered. In other cases, system utilization increases because of lower levels of blocked or dropped calls, and increases in the ability of the system to permit weak signals to be processed with acceptable call quality. In CDMA systems, increased capacity frequently results from lowering the system's noise floor.

**Improved Base Station Range.** The Company's RF front-end systems can extend the uplink range of a wireless system by up to 30%. Greater range can reduce a service operator's capital expenditure per customer in lower density areas by filling in coverage gaps in existing systems or by reducing the number of required cell sites for new system deployments.

**Improved Flexibility in Locating Base Stations.** The Company's RF front-end products can allow wireless telecommunications service providers to co-locate base stations near other RF transmitters. The Company's products allow the base station radio to better tolerate RF interference while reducing out-of-band signals that could interfere with other nearby wireless telecommunication operators.

**Improved Call Quality.** The Company's products improve call quality by reducing dropped and blocked calls. During commercial installations, the Company's RF filter products have demonstrated up to a 40% reduction in dropped calls. The Company's products also improve audio fidelity by reducing noise and interference.

**Improved Digital System Capacity.** Tests conducted by wireless operators show that on a single base station test, capacity of the base station increases by as much as 30%. The Company believes that with a system wide deployment of its products, the capacity of the system may increase by more than 70%.

## **COMPANY HIGHLIGHTS**

### *Sales and Marketing*

Until recently, the Company had historically focused its sales and marketing effort on U.S. wireless service providers for retrofit applications. To date, the Company has sold its products to many of the largest cellular operators in the United States as well as to numerous mid-size and smaller U.S. wireless operators.

Recently, the Company has also focused on international customers and OEM's, marketing both its existing products and presenting the benefits of its interference-management technology in the design and early stages of new systems for 2.5G and 3G Systems. The first of these systems is expected to be deployed during 2001 in Japan, with deployment in Korea, Europe, and the United States expected thereafter. Toward that end, the Company opened a sales office in Japan during 2000. The Company also sold its existing products in Chile, Spain, Japan and Canada during 2001 and looks to continue to market its products internationally during 2002 and beyond.

### *Manufacturing*

The Company's manufacturing processes provide predictable product yields and can be easily expanded to meet increased customer demand. However, it is possible that substantial growth in demand could overwhelm existing capacity to supply products. To deal with this possibility, the Company is in the process of qualifying third party manufacturers of the RF filter products. The Company also has an agreement in place with a contract manufacturer that outsources production of its Adaptive Notch Filters (ANF units) at a facility in Toronto, Canada.

The Company's manufacturing operation can be found in Mount Prospect, IL.

### *Research and Development*

The Company's R&D efforts have been focused on developing and improving RF filter products for wireless telecommunications systems. As a result of such efforts, filter performance has been improved, product size has been reduced, production costs have been lowered, product reliability has been increased, and product packaging has been streamlined. The Company expects to continue to invest in R&D to further improve and adapt its filter products to meet and exceed market expectations. The Company also intends to develop related products that are synergistic with its core filter offerings and which utilize the Company's core technical competencies in RF filter design, superconducting materials, and cryogenic cooling systems.

The Company's total R&D expenses during 1999, 2000 and 2001 were

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approximately \$1,757,000, \$3,188,000, and \$7,132,000, respectively.

### *Intellectual Property and Patents*

The Company regards certain elements of its product design, fabrication technology and manufacturing process as proprietary and protects its rights in them through a combination of patents, trade secrets and non-disclosure agreements. The Company also has obtained exclusive and non-exclusive licenses for technology developed with or by its research partners, Argonne National Laboratory ( Argonne ) and Northwestern University, and expects to continue to obtain licenses from such research partners and others. The Company believes that its success will depend in part upon the protection of its proprietary information, its patents and licenses of key technologies from third parties, and its ability to operate without infringing on the proprietary rights of others.

As of December 31, 2001, the Company had been issued 39 U.S. and 11 foreign patents, had filed and was actively pursuing applications for 26 other U.S. and 56 other patents, and was the licensee of 7 U.S. patents and patent applications held by others. The Company acquired additional patents, through assignment of a license from the Canadian government, in connection with the purchase of the Adaptive Notch Filtering business unit of Lockheed Martin Canada. One of the Company's patents is jointly owned with Lucent Technologies, Inc. The Company believes 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. Furthermore, the Company expects to pursue foreign patent rights on certain of its inventions and technologies critical to its products.

In 1994, the Company purchased from Ceramic Process Systems two additional patents and the related technical know-how covering a process for producing yttrium barium copper oxide ( YBCO ) powder and manufacturing YBCO electrical fibers. In 1994, the Company also purchased technology relating to the fabrication of HTS thick-film components from the University of Birmingham (UK). This thick-film technology complements the Company's existing patented processes for making thick-film superconducting components.

Through collaborative relationships with Argonne and Northwestern University, the Company has licensed patents and patent applications issued or filed in the United States and in certain foreign countries arising under or related to such collaborative relationships. These licenses primarily relate to the processing and composition of HTS materials, including the preferential orientation of HTS materials and the processing of YBCO on a variety of metals, as well as design technology for some of the Company's current and proposed products. The Company's licenses from ARCH Development Corporation and Northwestern University continues for the lives of the patent rights licensed thereby, subject to termination on certain events, and permit the Company to retain rights to its patentable improvements to the licensed technology. Certain of the Company's research has been funded in part by Small Business Innovation Research and other government contracts. Although the U.S. Government has or will have certain rights in the technology developed with this funding, the Company does not believe that these rights will have a material impact on the Company's current RF filter products.

### *Non-HTS Competition*

The market for wireless telecommunications products is very competitive. The Company views its competition as (i) conventional RF filter products, (ii) RF products based on new technologies and (iii) other superconductor-based RF Products, and (iv) smart antennae systems.

The Company's RF filter products compete against conventional RF filter products produced by such companies as Radio Frequency Systems (formerly Celwave), certain divisions of the Allen Telecom Group, Inc., among others. Although these conventional RF filter products are generally less expensive than the Company's products, the Company believes its RF filter products are superior on a cost/benefit basis.

Other competitive RF products based on other technologies may provide

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competition in the future to the Company's RF filter products. In addition to competitive RF filter products, other companies including, Metawave Communications Corporation, Allen Telecom Group, Inc., Repeater Technologies, Inc. and Array Com, Inc., among others, are developing products based on smart antenna, digital signal processing technologies, microcells and repeaters which are also aimed at reducing interference problems or providing range extension by means other than RF filtering. Furthermore, various vendors are offering tower mounted amplifiers ( TMAs ) which provide similar range extension benefits to the Company's filters with cooled LNAs. TMAs are generally less expensive than the Company's products but require greater maintenance costs due to their location on top of the operator's antenna tower.

Various filter companies appear to be experimenting with cooled dielectric filters or with filters that combine dielectric materials and superconducting technology. K&L Microwave, Inc. has been experimenting with a cooled dielectric filter design. In addition, COM DEV International, Ltd., a Canadian corporation, has published research in which a dielectric material is mounted on a superconducting ground plane. The Company does not believe that either of these efforts currently pose a competitive threat but cannot exclude them as competition to the Company's product lines at some point in the future.

The Company believes that it competes on the basis of product performance, price, breadth of product portfolio, customer support, quality, reliability and focus on the wireless telecommunications market. Many of the Company's competitors have substantially greater financial resources, larger R&D staffs and greater manufacturing and marketing capabilities than the Company.

### *GOVERNMENT REGULATIONS*

Although the Company believes that its wireless telecommunications products themselves are not licensed or governed by approval requirements of the Federal Communications Commission ( FCC ), the operation of base stations is subject to FCC licensing and the radio equipment into which the Company's products would be incorporated is subject to FCC approval. Base stations and the equipment marketed for use therein must meet specified technical standards. The Company's ability to sell its RF filter products is dependent on the ability of wireless base station equipment manufacturers and of wireless base station operators to obtain and retain the necessary FCC approvals and licenses. In order to be acceptable to base station equipment manufacturers and to base station operators, the characteristics, quality, and reliability of the Company's base station products must enable them to meet FCC technical standards.

The Company uses certain hazardous materials in its research, development and manufacturing operations. As a result, the Company is 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 the Company to make substantial expenditures for preventive or remedial action, reduction of chemical exposure, or waste treatment or disposal. The Company believes it is in material compliance with all environmental regulations and to date the Company has not had to incur significant expenditures for preventive or remedial action with respect to the use of hazardous materials.

### *EMPLOYEES*

As of January 31, 2002, the Company had a total of 63 employees, 22 of whom hold advanced degrees. Of the employees, 13 are engaged in manufacturing and production, 27 are engaged in research, development and engineering, and 23 are engaged in general management, marketing, sales, finance and administration. The Company also periodically employs a number of consultants and independent contractors. None of the Company's employees are covered by a collective bargaining agreement. The Company believes its relationship with its employees is good.

### *ITEM 2. PROPERTIES*

The Company maintains its corporate headquarters in a 35,000 square foot building located in Mt. Prospect, Illinois under a lease which expires in October 2004. Additionally, it maintains a 6,500 square foot facility located in North York, Ontario under a sublease that expires in August, 2004. These facilities house the Company's manufacturing, research, development, engineering and marketing activities. The Company believes that these facilities are adequate and suitable for its current needs and that additional space would be available on commercial terms as necessary to meet any future needs.

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ITEM 3. LEGAL PROCEEDINGS

Siegler Litigation

On June 5, 1996, Craig M. Siegler filed a complaint against the Company in the Circuit Court of Cook County, Illinois, County Department, Chancery Division. The complaint alleged that, in connection with the Company's private placement of securities in November 1995, the Company breached and repudiated an oral contract with Mr. Siegler for the issuance and sale by the Company to Mr. Siegler of 370,370.37 shares of the Common Stock, plus warrants (exercisable at \$12.96 per share) to purchase an additional 370,370.37 shares of the Common Stock, for a total price of \$4,000,000. On October 10, 1996, Mr. Siegler filed his First Amended Verified Complaint and Jury Demand, seeking a jury trial and money damages equal to the difference between \$8,800,000 (370,370.37 shares at \$10.80 per share and 370,370.37 shares at \$12.96 per share) and 740,740.74 multiplied by the highest price at which the Common Stock traded on The Nasdaq Stock Market between November 20, 1995 and the date of judgment. Mr. Siegler also preserved his claim for specific performance for purposes of appeal. On November 1, 1996, the case was transferred to the Circuit Court of Cook County, Illinois, County Department, Law Division.

The Company filed a motion for summary judgment against Mr. Siegler, which was on hold pending the deposition of an expert retained by Mr. Siegler in the case. The Company deposed this witness in March 2000. A hearing on the Company's summary judgment motion was held in June 2000, and the motion was subsequently denied. The trial began August, 2001.

On August 22, 2001, the jury reached a verdict in favor of Mr. Siegler in the amount of \$6.6 million. Subsequently, the Company filed several motions including motions for a mistrial and motions for a reduced verdict and Siegler filed a motion to expand the jury aware and obtain interest on the award. In September, 2001, the judge denied Siegler's motion and in October, 2001, the judge denied the Company's motion for a mistrial and granted the Company's motion for a reduced verdict, reducing the verdict from \$6,555,555.55 to \$6,541,254.27 and entered a judgment in that amount against the Company.

On November 7, 2001, the Company announced that it had settled ongoing litigation associated with Mr. Siegler. Pursuant to the settlement, the Company agreed to pay Mr. Siegler the reduced amount of \$4.925 million. On November 6, 2001, the court in the Siegler litigation approved the settlement. Upon receiving a portion of the funds from the Notes as described elsewhere in this document, the Company paid \$4.925 million to Mr. Siegler.

Patent Litigation

During July 2001, the Company filed suit against Conductus, Inc. and Superconductor Technologies, Inc. for infringement of its recently issued U.S. Patent No. 6,263,215, entitled "Cryoelectronically Cooled Receiver Front End for Mobile Radio Systems". This suit alleges that all of Conductus' and Superconductor Technologies' current base station front-end systems containing cryogenically cooled superconducting filters infringe this patent. The Company is seeking a permanent injunction restraining Conductus and Superconductor Technologies from marketing, selling or manufacturing these products, as well as triple damages and attorneys' fees. Conductus and Superconductor Technologies initially denied these allegations and asked the court to declare the patent invalid and not infringed. On October 3, 2001, Conductus and Superconductor Technologies each filed motions to amended their respective answers and counterclaims to the Company's complaint in order to seek to add a defense of inequitable conduct and a counterclaim for a declaration of unenforceability of the patent due to the alleged inequitable conduct. Conductus and Superconductor Technologies also filed to add additional asserted various federal and state law counterclaims, including claims of unfair competition. Conductus and Superconductor Technologies are seeking both compensatory and punitive damages as well as attorneys fees and costs. On March 26, 2002, the Company replied to Conductus' and Superconductor Technologies' Second Amended Answer and Counterclaims and filed counterclaims alleging that Conductus and Superconductor Technologies infringe U.S. Patent No. 6,104,934 entitled "Cryoelectronic Receiver Front End" and U.S. Patent No. 6,205,340 B1 entitled "Cryoelectronic Receiver Front End For Mobile Radio Systems". The Company alleges that cryogenic receiver front-end products for use in a tower-mounted configuration made, used, sold, offered for sale, supplied or caused to be supplied by

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Conductus and STI infringe these two patents. This case is scheduled for trial in January 2003.

During November 2001, the Company filed suit against Dobson Communications, Inc. for allegedly infringing on this patent. This action has been stayed, per agreement between the parties, until the resolution of the matter between the Company and Conductus and Superconductor Technologies. The parties have agreed that Dobson will be bound by any and all final, non-appealable determinations, holdings or findings with respect to all liability issues in the Company's case against Conductus the result of the case as it pertains to Conductus would similarly pertain to Dobson.

The Company intends to continue to prosecute these claims vigorously against Conductus and Superconductor Technologies and defend against counterclaims in this litigation. The Company believes the patents to be valid, the counterclaims asserted against the Company to be without merit, and that it is in the best interests of the Company and its shareholders to pursue this matter vigorously.

Laves Litigation

On July 17, 2000 Edward W. Laves filed an action(the Complaint) in the Law Division of the Circuit Court of Cook County, Illinois, against the Company and three directors charging the Company with constructive termination under and in breach of plaintiff's employment agreement, and with violation of the Illinois Wage Payment and Collection Act. Plaintiff seeks damages estimated to exceed \$12 million. The Company filed an appearance on behalf of all Defendants on October 3, 2000. On October 6, 2000, the Company filed on Defendants' behalf a Motion to Dismiss the Complaint. On January 22, 2001, the court issued an order granting our Motion to Dismiss the claims against the Individual Defendants, but denied our Motion to Dismiss with respect to claims against the Company. On February 21, 2001, Plaintiff filed a Motion to reconsider the court's dismissal of claims against the Individual Defendants. On March 13, 2001, we filed an Answer to the Complaint and a Memorandum in Opposition to this Motion to Reconsider. By order dated March 15, 2001, the court allowed Laves leave to file an amended Motion to Reconsider, which the Plaintiff filed on April 5, 2001, along with a motion to dismiss one of the Company's affirmative defenses. Following a substitution of judges and a hearing on August 9, 2001, the court granted Plaintiff's motion to dismiss one of the Company's affirmative defenses and ordered the case transferred back to the judge originally assigned to the case for the limited purposes of ruling on Plaintiff's amended motion to reconsider the dismissal of claims against the Defendants. On September 7, 2001, following a hearing, the Judge denied Plaintiff's amended motion to reconsider and entered an order retaining jurisdiction of the matter for 30 days. On November 9, 2001, the Judge granted Plaintiff leave to file his First Amended Count II. On November 11, 2001, Plaintiff filed his amended pleading. On January 31, 2002, Plaintiff filed a corrected Unified Complaint. On February 15, 2002, all Defendants filed their Answers to the Unified Complaint. On March 5, 2002, the individual defendants served their answers to Plaintiff's interrogatories and responses to Plaintiff's discovery requests. The next status date is April 8, 2002. Written discovery is to be completed by April 18, 2002; oral discovery is to be completed by June 19, 2002. No trial date is set. ISCO considers these claims without merit and intends to defend against them vigorously.

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

No matters were submitted to a vote of security holders during the quarter ended December 31, 2001.

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## PART II

## ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

The Common Stock has been quoted since April 1999 on the OTC Bulletin Board under the symbol ISCO. From 1993 until April 1999, the Common Stock was quoted on the NASDAQ National Market. The following table shows, for the periods indicated, the reported high and low sale prices for the Common Stock. Such prices reflect prices between dealers, without retail mark up, mark down, or commissions and may or may not reflect actual transactions.

	<u>HIGH</u>	<u>LOW</u>
FISCAL YEAR ENDING DECEMBER 31, 2000		
First Quarter	\$29.38	\$1.22
Second Quarter	\$ 7.75	\$2.81
Third Quarter	\$ 4.94	\$2.78
Fourth Quarter	\$ 3.81	\$0.81
FISCAL YEAR ENDING DECEMBER 31, 2001		
First Quarter	\$ 2.50	\$1.34
Second Quarter	\$ 2.25	\$1.19
Third Quarter	\$ 1.85	\$0.90
Fourth Quarter	\$ 1.19	\$0.74

On February 22, 2002, there were approximately 300 holders of record of the Common Stock. On such date the closing bid price for the Company's common stock as reported on the OTC Bulletin Board was \$0.50.

The Company has never paid cash dividends on the Common Stock and the Company does not expect to pay any dividends on its Common Stock in the foreseeable future.

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## ITEM 6. SELECTED FINANCIAL DATA

The following table presents selected consolidated financial data with respect to the Company as of and for the years ended December 31, 1997, 1998, 1999, 2000 and 2001. The selected consolidated financial data for each of the years in the five-year period ended December 31, 2001 have been derived from the audited consolidated financial statements of the Company. The information set forth below should be read in conjunction with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8., Financial Statements and Supplementary Data.

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
<b>CONSOLIDATED STATEMENT OF OPERATIONS DATA:</b>					
Net sales	\$ 1,038,134	\$ 3,242,930	\$ 2,408,604	\$ 495,885	\$ 1,981,001
Costs and expenses:					
Cost of revenues	4,401,077	7,047,347	5,923,173	2,672,578	3,978,368
Research and development	4,132,019	2,934,784	1,757,214	3,187,768	7,131,654
Selling and marketing	1,918,044	1,847,680	1,581,545	1,239,959	3,263,813
General and administrative	2,772,274	3,370,058	2,617,809	5,967,631	7,738,458
Goodwill amortization				704,165	2,009,974
Operating loss	(12,185,280)	(11,956,939)	(9,471,137)	(13,276,216)	(22,141,267)
Other income (expense):					
Interest income	254,781	354,738	98,194	174,919	138,696
Interest expense	(17,969)	(10,247,919)	(12,634,745)	(5,650,572)	(229,568)
Other income (expense), net			36,623	(16,017)	(5,957,465)
	<u>236,812</u>	<u>(9,893,181)</u>	<u>(12,499,928)</u>	<u>(5,491,670)</u>	<u>(6,048,337)</u>
Loss before extraordinary item	(11,948,468)	(21,850,120)	(21,971,065)	(18,767,886)	(28,189,603)
Extraordinary item-debt extinguishment			(745,197)	(28,297)	
Net loss	(11,948,468)	(21,850,120)	(22,716,262)	(18,796,183)	(28,189,603)
Preferred Stock dividends	(143,302)	(61,744)			
Net loss plus Preferred Stock dividends	<u>\$(12,091,770)</u>	<u>\$(21,911,954)</u>	<u>\$(22,716,262)</u>	<u>\$(18,796,183)</u>	<u>(28,189,603)</u>
Basic and diluted loss per common share before extraordinary item	\$ (2.34)	\$ (1.93)	\$ (1.71)	\$ (0.57)	\$ (0.26)
Extraordinary item-debt extinguishment			(0.06)		
Basic and diluted loss per common share	<u>\$ (2.34)</u>	<u>\$ (1.93)</u>	<u>\$ (1.77)</u>	<u>\$ (0.57)</u>	<u>\$ (0.26)</u>
Weighted average number of common shares	5,156,663	11,345,540	12,841,497	33,037,106	107,829,453

outstanding

	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>CONSOLIDATED BALANCE SHEET DATA:</b>					
Cash and cash equivalents	\$ 2,766,886	\$ 2,152,595	\$ 723,711	2,453,845	1,720,697
Working capital	4,668,982	4,190,548	831,724	3,096,173	658,661
Total assets	11,534,309	10,028,088	6,039,159	23,750,073	20,927,095
Long-term debt/capital lease obligations, less current portion	13,541	9,432,026	13,650,885	198	9,425,000
Stockholders' equity (net capital deficiency)	10,046,569	(772,968)	(9,291,712)	21,644,211	7,975,219

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ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

RECENT EVENTS

*Shareholder Rights Offering*

On February 15, 2002, the previously announced Shareholder Rights Offering was completed, resulting in approximately 40 million shares sold to shareholders. The Company received nearly \$20 million from this offering. On February 15, 2002, the Company used a portion of the proceeds to repay all existing shareholder notes and accrued interest, as further discussed below.

*Issuance and Subsequent Repayment of Notes*

On November 6, 2001, the Company entered into a loan agreement to borrow an aggregate original principal amount of \$9.425 million from Elliott Associates, L.P. and Alexander Finance, L.P., both majority stockholders of the Company. The Company used \$4.925 million of the proceeds to pay the settlement to Mr. Siegler as discussed elsewhere in this document and the remainder of the proceeds were used for working capital, capital expenditures and other general corporate purposes. The loans were due on March 31, 2003 and bore interest at 14% per annum, compounded annually.

On February 15, 2002, upon receipt of the funds from the Rights Offering as described above, the notes and related accrued interest were repaid in full (approximately \$9.8 million).

*ISO 9001:2000*

During October, 2001, the Company announced it had received certification for having met the ISO 9001:2000 quality standard established by the International Standards Organization of Geneva, Switzerland. The ISO standard is widely recognized as the premier benchmark for manufacturing excellence, and qualification involves an extensive commitment to quality management, customer support, and thorough manufacturing process documentation, as reviewed by external ISO certification auditors. The Company believes it is the only company in its industry segment to have met this certification process, a mark that it feels will be viewed positively by its customers and potential customers.

*Facility Consolidation*

During October and November of 2001, the Company announced the consolidation of its research and development facilities in Canada and Colorado. As part of its strategic plan to streamline the Company, reducing the monthly cash burn rate and to facilitate communications and development activities, the Company announced during October and November of 2001 that it has consolidated its development activities at its Illinois headquarters. The Toronto facility had been responsible for the research and development of the Company's patented Adaptive Notch Filter (ANF). The Colorado facility had been responsible for the research and development of the Company's patented thin film, tower mount HTS products. As a result of these actions, the Company recorded a restructuring charge of \$1.05 million during the fourth quarter of 2001, representing employee costs and other costs to transfer the facilities.

*Critical Accounting Policies*

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amount of assets and liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities at the date of our financial statements. Actual results may differ from these estimates under different assumptions or conditions.

Critical accounting policies are defined as those that are reflective of significant judgments and uncertainties, and potentially result in materially different results under different assumptions and conditions. We

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believe that our critical accounting policies are limited to those described below. For a detailed discussion on the application of these and other accounting policies, see Note 2 in the notes to the consolidated financial statements.

**Revenue Recognition.** Revenues from product sales are generally recognized at the time of shipment and are recorded net of estimated returns and allowances. The Company has, under certain conditions, granted customers the right to return product during a specified period of time after shipment. In these situations, the Company establishes a liability for estimated returns and allowances at the time of shipment and makes the appropriate adjustment in revenue recognized for accounting purposes. During the current year, no revenue was recognized on products that included a right to return at some future date.. The Company has established a program which, in certain situations, allows customers or prospective customers to field test the Company's products for a specified period of time. Revenues from field test arrangements are recognized upon customer acceptance of the products. The Company warrants its products against defects in materials and workmanship typically for an eighteen-month period from the date of shipment, except for superconducting materials contained in the products, which are warranted for ten years from the date of shipment, though these terms are negotiated on a case by case basis. A provision for estimated future costs related to warranty expenses is recorded when revenues are recognized. At December 31, 2001 and 2000, respectively, the Company has accrued \$138,000 and \$298,000 for warranty costs. Returns and allowances were not significant in any period reported.

**Impairments of Long-Lived Assets.** Acquired goodwill is being amortized using the straight-line method over eight years. The excess of cost over net assets acquired associated with assets acquired in a purchase business combination is included in impairment evaluations when events and circumstances occur that may indicate impairment, management evaluates the recoverability of acquired goodwill by comparing the carrying value of the asset to the associated current and projected annual sales, operating profit, undiscounted annual cash flows and market value; management also considers business prospects, market trends and other economic factors in performing this evaluation. Based on this evaluation, there was no unrecorded permanent impairment related to acquired goodwill at December 31, 2001 and 2000.

**New Accounting Pronouncements**

On July 20, 2001, the Financial Accounting Standards Board ( FASB ) issued Statement of Financial Accounting Standards No.141 ( SFAS No. 141 ), Business Combinations , and Statement of Financial Accounting Standards No. 142 ( SFAS No. 142 ), Goodwill and Intangible Assets . SFAS No. 141 is effective for all business combinations completed after June 30, 2001. SFAS No. 142 is effective for fiscal years beginning after December 15, 2001; however, certain provisions of such Statement apply to goodwill and other intangible assets acquired between July 1, 2001, and the effective date of SFAS No. 142. Major provisions of these Statements and their effective dates for the Company are as follows:

1. All business combinations initiated after June 30, 2001 must use the purchase method of accounting. The pooling of interest method of accounting is prohibited except for transactions initiated before July 1, 2001.
2. Intangible assets acquired in a business combination must be recorded separately from goodwill if they arise from contractual or other legal rights or are separable from the acquired entity and can be sold, transferred, licensed, rented, or exchanged, either individually or as part of a related contract, asset, or liability.
3. Goodwill, as well as intangible assets with indefinite lives, acquired after June 30, 2001, will not be amortized. Effective January 1, 2002, all previously recognized goodwill and intangible assets with indefinite lives will no longer be subject to amortization.
4. Effective January 1, 2002, goodwill and intangible assets with indefinite lives will be tested for impairment annually and whenever there is an impairment indicator.
5. All acquired goodwill must be assigned to reporting units for purposes of impairment testing and segment reporting.

Goodwill (using current exchange rates) is currently being amortized at approximately \$2.0 million annually and has a net carrying value of approximately \$13.4 million at the date of adoption of this standard. The Company is currently evaluating the provisions of SFAS No. 142 and has not yet determined the effect that adoption of this standard will have on its financial statements.

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RESULTS OF OPERATIONS

Years Ended December 31, 2001 and 2000

The Company's net sales increased \$1,485,000, or 299%, from \$496,000 in 2000 to \$1,981,000 in 2001, as a result of higher unit volume of the Company's radio frequency ( RF ) front-end products. Net sales during 2001 consisted of both sales resulting from the acquisition of SSI and ANF, during August 2000 and December 2000, respectively, as well as the sale of new products developed internally. This increase was due to stronger sales for each of its products, particularly with the introduction of the ANF product. The Company anticipates its net sales to continue to increase during 2002 based on existing and/or anticipated customer orders.

Cost of products sold increased to \$3,978,000 from \$2,673,000, an increase of \$1,305,000 or 49%. The cost of products sold for 2001 and 2000 consisted of direct material, labor and overhead costs associated with the products that were shipped during the period, as well as other costs consisting primarily of allocated overhead costs incurred to produce units in ending finished goods inventory that exceed net realizable value. Due to low utilization levels and excess capacity in the Company's manufacturing facility, cost of products sold exceeded net sales for 2001 and 2000. The Company expects the cost of products sold as a percentage of revenue to improve during 2002 due to anticipated revenue increases and related efficiencies, as well as certain cost control initiatives.

The Company's internally funded research and development expenses increased to \$7,132,000 from \$3,188,000, an increase of \$3,944,000 or 124%. These expenses were higher primarily due to the acquisitions of Spectral Solutions, Inc. ( SSI ) in August 2000 and of certain assets of the ANF business of Lockheed Martin Canada, Inc. (the ANF Business ) in December 2000, as well as substantially increased prototype development costs, including those for 2.5G and G wireless systems. Cost-cutting measures, including the consolidation of the Colorado facility and Canadian facility into the Illinois facility, are expected to substantially reduce these costs.

Selling and marketing expenses increased to \$3,264,000 from \$1,240,000, an increase of \$2,024,000 or 163%. This increase was due to the expansion of the Company's sales and marketing efforts beginning in the fourth quarter of 2000 and continuing through 2001.

General and administrative expenses increased to \$7,738,000 from \$5,968,000, an increase of \$1,770,000 or 30%. In addition to the two acquisitions, this increase was primarily due to non-cash compensation charges and an increase in legal fees and travel costs. These costs may continue to increase during 2002, particularly with respect to expenses associated with the ongoing patent litigation.

Interest income decreased \$36,000, or 21%, from \$175,000 in 2000 to \$139,000 in 2001. This decrease was a result of the timing of financing events and prevailing market interest rates during 2001 as compared to 2000.

Interest expense decreased \$5,421,000, or 96%, from \$5,651,000 in 2000 to \$230,000 in 2001. This decrease was primarily due to a decrease in non-cash interest expense related to the Company's Senior Convertible Notes. As stated previously, all of the Company's Senior Convertible Notes were converted to equity during 2000. During 2001, interest expense was incurred related to the short-term loans in the aggregate amount of \$3.5 million that were repaid in April, 2001 with the proceeds of the settlement, and related to the shareholder notes of \$9,425,000 that were repaid following the Shareholder Rights Offering, both of which are described elsewhere in this document.

Extraordinary charges of \$0 and \$28,000 were recorded in 2001 and 2000, respectively, as a result of amendments to the terms of certain of the Company's Senior Convertible Notes issued in May 1998 and March 1999.

Years Ended December 31, 2000 and 1999

The Company's net sales decreased \$1,913,000, or 79.4%, from \$2,409,000 in 1999 to \$496,000 in 2000, as a result of lower unit volume of the Company's radio frequency ( RF ) front-end products. Net sales during 2000 consisted of both sales resulting from the acquisition of SSI, during August, 2000, as well as the sale of new products

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developed internally. This decline was a result of lower unit volume in 2000 compared to 1999 related to the Company's strategic plan to focus on new products and new markets. The Company anticipates its net sales to increase substantially in 2001 based on existing and/or anticipated customer orders, as well as a result of the two acquisitions that occurred during the second half of 2000. All of the net sales in 2000 and 1999 were from commercial product sales. The Company has concentrated its efforts on its commercial product research and development.

Cost of products sold decreased to \$2,673,000 from \$5,923,000, a reduction of \$3,250,000 or 54.9%. The cost of products sold for 2000 and 1999 consisted of direct material, labor and overhead costs associated with the products that were shipped during the period, plus approximately \$460,000 and \$649,000, respectively, of costs, which consisted primarily of allocated overhead costs, incurred to produce units in ending finished goods inventory that exceed net realizable value. Due to low utilization levels and excess capacity in the Company's manufacturing facility, cost of products sold exceeded net sales for 2000 and 1999.

The Company's internally funded research and development expenses increased to \$3,188,000 from \$1,757,000, an increase of \$1,431,000 or 81.4%. These costs were higher due to increased prototype spending (substantially due to 3G related activities) and the acquisitions of SSI and ANF.

Selling and marketing expenses decreased to \$1,240,000 from \$1,582,000, a reduction of \$342,000 or 21.6%. This decrease was due primarily to a temporary reduction in personnel.

General and administrative expenses increased to \$6,672,000 from \$2,618,000, an increase of \$4,054,000 or 155%. In addition to the two acquisitions, this increase was primarily due to goodwill amortization attributable to the acquisitions of SSI and ANF, non-cash compensation charges, and an increase in professional fees and travel costs.

Interest income increased \$77,000, from \$98,000 in 1999 to \$175,000 in 2000. This increase was a result of various financing events that provided higher average balances of cash and cash equivalents on hand during 2000 compared to 1999.

Interest expense decreased \$6,984,000, from \$12,635,000 in 1999 to \$5,651,000 in 2000. This decrease was primarily due to a decrease in non-cash interest expense related to the Company's Senior Convertible Notes. As stated previously, all of the Company's Senior Convertible Notes were converted to equity during 2000, leaving the Company with no debt on its balance sheet. See Note 8 to the Company's financial statements.

Extraordinary charges of \$28,000 and \$745,000 were recorded in 2000 and 1999, respectively, as a result of amendments to the terms of certain of the Company's Senior Convertible Notes issued in May 1998 and March 1999. These amendments increased the interest rate of certain of the notes issued in May 1998 from 2% to 6% and reduced the conversion prices of these notes and the exercise prices of warrants issued in conjunction with these notes. In March 1999, the conversion price of certain of the notes issued in May 1998 was reduced from \$1.50 to \$1.125 per share, and the exercise price of the related warrants was reduced from \$3.75 to \$1.4625 per share. In November 1999, the conversion price of certain of the notes issued in both May 1998 and March 1999 and the exercise price of the related warrants were reduced from \$1.125 to \$0.25 per share and from \$1.4625 to \$0.25 per share, respectively. In addition, the exercise price of certain of the Company's G Warrants was reduced from \$10.0625 to \$0.25 per share. See Note 8 to the Company's financial statements.

## **LIQUIDITY AND CAPITAL RESOURCES**

At December 31, 2001, the Company's cash and cash equivalents, including restricted certificates of deposit, were \$1,721,000, a decrease of \$733,000 from the December 31, 2000 balance of \$2,454,000.

The continuing development of and expansion in sales of the Company's RF filter product lines will require a commitment of substantial funds to undertake product line development and expansion of manufacturing capabilities and to market and sell its RF front-end products. The actual amount of the Company's 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 the Company's commercialization plans, the magnitude of its research and product development programs, the ability of the Company to improve or maintain product margins, the

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potential cost of additional plant and equipment for manufacturing and the costs involved in protecting the Company's patents or other intellectual property.

As of the date of this filing, the Company believes it has cash resources available and other committed sources of capital to fund the activities of the Company through the end of fiscal year 2002. On February 15, 2002, the Company closed a Shareholder Rights Offering that raised approximately \$20 million. Approximately \$9.8 million was used to repay all debt and accrued interest, leaving the balance available for the Company's ongoing utilization.

The Company had previously filed a \$50 million universal shelf offering registration statement in the first quarter of 2001, and then entered into an agreement with Paul Revere Capital Partners, Ltd., whereby Paul Revere Capital Partners committed to acquire up to \$20 million of the Company's common stock over a 24-month period, upon demand by the Company, subject to the conditions contained in the purchase agreement. Pursuant to this facility, the Company may, at its discretion, sell shares of its common stock to Paul Revere Capital Partners at a purchase price per share which is equal to 94% of the average weighted volume price over a 22 day period. Each draw down is limited to the lesser of \$4 million or 20% of the trading volume over a specified period of time. The Company will also issue a warrant to Paul Revere Capital Partners to purchase a number of shares of common stock equal to 0.5% of the shares issued in each draw down. The Company also agreed to pay its placement agent a fee equal to 4% of each draw down and issue a warrant to the placement agent to purchase a number of shares of common stock equal to 0.5% of the shares issued in each draw down. Subsequent to entering into this agreement, the SEC issued an interpretive release that requires the Company to amend the registration statement to include the purchase agreement prior to drawing down on this facility. Due to the depressed stock price and reduced trading volume, there is no assurance that this facility will be an effective source of capital. As of March 1, 2002, the Company had not amended the registration statement nor had it drawn down on this facility.

The Company may augment its existing capital position through existing funding mechanisms identified and through other strategic sources of capital. Although the Company believes it has sufficient capital resources available to meet its obligations through the end of fiscal year 2002, there is no guarantee that future events will conform with its business plan, or that the funding mechanisms identified will allow the Company to access additional funds.

**ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

The Company does not have any material market risk sensitive instruments.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

Board of Directors  
ISCO International, Inc.

We have audited the accompanying consolidated balance sheets of ISCO International, Inc. (a Delaware corporation) and subsidiaries, as of December 31, 2001 and December 31, 2000, and the related consolidated statements of operations, shareholders' equity (net capital deficiency), and cash flows for each of the two years ended December 31, 2001. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of ISCO International, Inc. and subsidiaries at December 31, 2001 and December 31, 2000, and the consolidated results of their operations and their cash flows for the two years ended December 31, 2001, in conformity with accounting standards generally accepted in the United States of America.

We have also audited Schedule II of ISCO International, Inc. and subsidiaries for the years ended December 31, 2001 and December 31, 2000. In our opinion, this schedule presents fairly, in all material respects, the information required to be set forth herein.

GRANT THORNTON LLP

Chicago, Illinois  
March 8, 2002

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REPORT OF INDEPENDENT AUDITORS

The Board of Directors  
ISCO International, Inc.

We have audited the statements of operations, stockholders' equity (net capital deficiency), and cash flows of ISCO International, Inc. (formerly Illinois Superconductor Corporation) for the year ended December 31, 1999. Our audit also included the financial statement schedule listed in the Index at Item 14(a) for the year ended December 31, 1999. These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the results of operations and cash flows of ISCO International, Inc. for the year ended December 31, 1999, in conformity with accounting principles generally accepted in the United States. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein for the year ended December 31, 1999.

The accompanying financial statements have been prepared assuming that ISCO International, Inc. will continue as a going concern. ISCO International, Inc. has incurred ongoing operating losses and does not currently have financing commitments in place to meet expected cash requirements through 2000. These conditions raise substantial doubt about ISCO International, Inc.'s ability to continue as a going concern. The financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

Ernst & Young LLP

Chicago, Illinois  
February 25, 2000

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ISCO INTERNATIONAL  
 CONSOLIDATED BALANCE SHEETS

	DECEMBER 31,	
	2001	2000
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 1,720,697	\$ 2,453,845
Inventories	1,682,669	1,928,347
Accounts receivable, net of allowance for doubtful accounts of \$0 and \$12,354 at December 31, 2001 and 2000, respectively	234,850	192,295
Prepaid expenses and other	456,818	536,541
Total current assets	4,095,034	5,111,028
Property and equipment:		
Property and Equipment	9,286,725	8,769,962
Less: Accumulated depreciation	6,991,050	6,193,019
	2,295,675	2,576,943
Restricted certificates of deposit	263,094	203,178
Intangible assets, net	14,273,292	15,710,024
Other assets, net		148,900
Total assets	\$20,927,095	\$23,750,073

	DECEMBER 31,	
	2001	2000
<b>LIABILITIES AND STOCKHOLDERS EQUITY (NET CAPITAL DEFICIENCY)</b>		
Current liabilities:		
Accounts payable	\$ 537,636	\$ 599,553
Accrued liabilities	2,690,639	1,406,802
Current portion of other long-term debt	208,094	8,500
Total current liabilities	3,436,369	2,014,855
Notes	9,425,000	
Other long-term debt, less current portion		198
Deferred occupancy costs	90,507	90,809
Stockholders equity (net capital deficiency):		
Preferred Stock; 300,000 and 100,000 shares authorized; No shares issued and outstanding at December 31, 2001 and 2000, respectively		
Common stock (\$.001 par value); 250,000,000 and 250,000,000 shares authorized and 107,905,231 and	107,905	107,719



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107,719,307 shares issued and outstanding at  
December 31, 2001 and 2000, respectively

Additional paid-in capital (net of unearned comp.)	137,729,512	123,209,087
Accumulated deficit	(129,862,198)	(101,672,595)
Total stockholders' equity (net capital deficiency)	<u>7,975,219</u>	<u>21,644,211</u>
Total liabilities and stockholders' equity (net capital deficiency)	<u>\$ 20,927,095</u>	<u>\$ 23,750,073</u>

See the accompanying Notes which are an integral part  
of the financial statements.

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**ISCO INTERNATIONAL**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	YEAR ENDED DECEMBER 31,		
	2001	2000	1999
Net sales	\$ 1,981,001	\$ 495,885	\$ 2,408,604
Costs and expenses:			
Cost of sales	3,978,368	2,672,578	5,923,173
Research and development	7,131,654	3,187,768	1,757,214
Selling and marketing	3,263,813	1,239,959	1,581,545
General and administrative	7,738,458	5,967,631	2,617,809
Goodwill amortization	2,009,974	704,165	
	24,122,267	13,772,101	11,879,741
Operating loss	(22,141,266)	(13,276,216)	(9,471,137)
Other income and (expense):			
Interest income	138,696	174,919	98,194
Non-cash interest expense on Senior convertible notes (Note 7)		(5,631,581)	(12,608,355)
Other interest expense	(229,568)	(18,991)	(26,390)
Other income (expense), net	(5,957,465)	(16,017)	36,623
	(6,048,337)	(5,491,670)	(12,499,928)
Loss before extraordinary item	(28,189,603)	(18,767,886)	(21,971,065)
Extraordinary item debt extinguishment		(28,297)	(745,197)
Net loss	(28,189,603)	(18,796,183)	(22,716,262)
Basic and diluted loss per common share before extraordinary item	\$ (0.26)	\$ (0.57)	\$ (1.71)
Extraordinary item debt extinguishment			(0.06)
Basic and diluted loss per common share	\$ (0.26)	\$ (0.57)	\$ (1.77)
Weighted average number of common shares outstanding	107,829,453	33,037,106	12,841,497

See the accompanying Notes which are an integral part  
of the financial statements.

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## ISCO INTERNATIONAL

## CONSOLIDATED STATEMENT OF STOCKHOLDERS EQUITY (NET CAPITAL DEFICIENCY)

YEARS ENDED DECEMBER 31, 2001, 2000, AND 1999

	SERIES B CONVERTIBLE PREFERRED STOCK		SERIES C CONVERTIBLE PREFERRED STOCK		SERIES G CONVERTIBLE PREFERRED STOCK		COMMON STOCK	
	NUMBER OF SHARES	AMOUNT	NUMBER OF SHARES	AMOUNT	NUMBER OF SHARES	AMOUNT	NUMBER OF SHARES	AMOUNT
Balance as of January 1, 1999							12,557,045	12,557
Exercise of stock options; \$.18 - \$.23 per share							17,250	17
Conversion of senior convertible notes to common stock							3,178,706	3,179
Discount on issuance of senior convertible notes (Note 7)								
Additional discount on amendments to certain senior convertible notes (Note 7)								
Net loss								
Balance as of December 31, 1999		\$		\$		\$	15,753,001	\$ 15,753
Exercise of stock options; \$.48 - \$1.81 per share							362,812	\$ 363
Conversion of senior convertible notes to common stock							75,894,430	\$ 75,894
Conversion of warrants to common stock							7,950,356	\$ 7,950
Conversion of senior convertible notes								
Acquisition of Spectral Solutions, Inc.							3,440,526	\$ 3,441
Acquisition of Adaptive Notch Filter Division							2,500,000	\$ 2,500

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of Lockheed Martin Canada									
Equity Issuance							1,818,182	\$	1,818
Litigation settlement									
Dfd stock units granted, net of amort.									
Comp. expense for non-employee options									
Net loss									
	—	—	—	—	—	—			
Balance as of December 31, 2000		\$		\$		\$	107,719,307	\$	107,719
	—	—	—	—	—	—			
Exercise of stock options and vested DSU s; \$0.00 to \$0.75 per share							185,924	\$	186
Settlement proceeds received									
Dfd stock units granted, net of amort.									
Comp. expense for non-employee options									
Net loss									
	—	—	—	—	—	—			
Balance as of December 31, 2001		\$		\$		\$	107,905,231	\$	107,905
	—	—	—	—	—	—			

See the accompanying Notes which are an integral part  
of the financial statements.

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## ISCO INTERNATIONAL

## CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY (NET CAPITAL DEFICIENCY)

YEARS ENDED DECEMBER 31, 2001, 2000, AND 1999

(CONTINUED)

	ADDITIONAL PAID-IN CAPITAL	NOTES RECEIVABLE FROM STOCKHOLDERS	ACCUMULATED DEFICIT	UNEARNED COMPENSATION	TOTAL
Balance as of January 1, 1999	60,055,321	(680,696)	(60,160,150)		(772,968)
Exercise of stock options; \$.18 - \$.23 per share	3,769				3,786
Conversion of senior convertible notes to common stock	849,554				852,733
Discount on issuance of senior convertible notes (Note 7)	1,904,000				1,904,000
Additional discount on amendments to certain senior convertible notes (Note 7)	11,436,999				11,436,999
Net loss			(22,716,262)		(22,716,262)
Balance as of December 31, 1999	\$ 74,249,643	\$ (680,696)	\$ (82,876,412)		\$ (9,291,712)
Exercise of stock options; \$.48 - \$1.81 per share	219,565				219,928
Conversion of senior convertible notes to common stock	19,110,980				19,186,874
Conversion of warrants to common stock	4,007,072				4,015,022
Conversion of senior convertible notes	4,000,000				4,000,000
Acquisition of Spectral Solutions, Inc.	14,324,800			(108,915)	14,219,326
Acquisition of ANF division of LMC	2,653,750				2,656,250
Equity Issuance	4,998,182				5,000,000
Litigation Settlement	(822,766)	680,696			(142,070)
Dfd Stock Units Granted, net of amort	1,925,000			(1,693,175)	231,825
Comp. Exp. for non-emp stock options	344,951				344,951
Net loss			(18,796,183)		(18,796,183)
Balance as of December 31, 2000	\$ 125,011,177		\$ (101,672,595)	\$ (1,802,090)	\$ 21,644,211

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Exercise of stock options and vested DSU s; \$0.00 to \$0.75 per share	80,667				80,853
Settlement proceeds received, net	13,750,000				13,750,000
Dfd Stock Units Granted, net of amort	(393,750)			919,442	525,692
Comp. Exp. for non-emp ee stock options	164,066				164,066
Net loss			(28,189,603)		(28,189,603)
Balance as of December 31, 2001	\$138,612,160		\$(129,862,198)	\$ (882,648)	\$ 7,975,219

See the accompanying Notes which are an integral part of the financial statements.

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ISCO INTERNATIONAL  
CONSOLIDATED STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31,

	2001	2000	1999
<b>OPERATING ACTIVITIES</b>			
Net loss	\$(28,189,603)	\$(18,796,183)	\$(22,716,262)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	870,354	759,210	953,971
Amortization	2,109,559	744,493	28,434
Extraordinary item		28,297	745,197
Non-cash interest expense on senior convertible notes		5,631,673	12,608,355
Gain on sale of property and equipment			(30,662)
Non-cash compensation charges	689,758	576,778	
Write-off of capitalized patent costs		176,472	57,741
Changes in operating assets and liabilities:			
Accounts receivable	(42,555)	(2,525)	1,318,617
Inventories	245,678	515,176	331,714
Prepaid expenses and other	228,623	(200,063)	(31,549)
Accounts payable	(272,008)	(761,670)	526,161
Accrued liabilities	1,491,629	456,910	(210,728)
Net cash used in operating activities	(22,868,565)	(10,871,432)	(6,419,011)
<b>INVESTING ACTIVITIES</b>			
(Increase) decrease in restricted certificates of deposit	(59,916)	88,397	45,772
Payments of patent costs	(462,736)	(164,295)	(63,119)
Proceeds from sale of property and equipment			58,006
Payment of Deferred Acquisition Costs		(343,560)	
Acquisitions of property and equipment	(589,086)	(203,528)	(85,450)
Net cash (used in) provided by investing activities	(1,111,738)	(622,986)	(44,791)
<b>FINANCING ACTIVITIES</b>			
Proceeds from issuance of common stock net of offering costs		5,000,000	
Proceeds from settlement	13,750,000		
Exercise of stock options	80,853	219,926	3,786
Exercise of warrants		4,015,022	
Proceeds from issuance of notes	9,425,000	4,000,000	5,300,000
Payment of deferred financing fees			(247,349)
Payments on other long-term lease obligation	(8,698)	(10,396)	(21,519)
Net cash provided by financing activities	23,247,155	13,224,552	5,034,918
Increase/(Decrease) in cash and cash equivalents	(733,148)	1,730,134	(1,428,884)
Cash and cash equivalents at beginning of period	2,453,845	723,711	2,152,595
Cash and cash equivalents at end of period	1,720,697	\$ 2,453,845	\$ 723,711
<b>Supplemental cash flow information:</b>			
Cash paid for interest	\$ 29,682	\$ 18,991	\$ 26,390



See the accompanying Notes which are an integral part  
of the financial statements



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ISCO INTERNATIONAL  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. DESCRIPTION OF BUSINESS

ISCO International and its subsidiaries, Spectral Solutions, Inc., and Illinois Superconductor Canada Corporation, (the Company) use both patented and proprietary high-temperature superconducting materials technologies and proprietary ANF technologies to develop and manufacture radio frequency front-end products designed to enhance the quality, capacity, coverage and flexibility of cellular, PCS and other wireless telecommunications services. The Company has historically marketed its products to cellular, PCS and wireless telecommunications service providers and OEMs located both in the United States and in international markets.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Cash and Cash Equivalents

Cash and cash equivalents consist of demand deposits, time deposits, money market funds, and commercial paper which have maturities of three months or less from the date of purchase. Management believes that the financial institutions in which it maintains such deposits are financially sound and, accordingly, minimal credit risk exists with respect to these deposits.

Inventories

Inventories are stated at the lower of cost (determined on a first in, first out basis) or market.

Patents and Trademarks

Patents and trademarks represent costs, primarily legal fees and expenses, incurred in order to prepare and file patent applications related to various aspects of the Company's superconductor technology and to its current and proposed products. Patents and trademarks are recorded at cost and are amortized using the straight-line method over the shorter of their estimated useful lives or 17 years. The recoverability of the carrying values of patents and trademarks is evaluated on an ongoing basis. During 2001 and 2000, the Company wrote off \$ 0 and \$177,000, respectively, of patent-related costs. Total capitalized patent and trademark costs are \$998,000 and \$628,000 at December 31, 2001 and 2000, respectively. Capitalized patent costs related to pending patents are \$554,000 and \$194,000 at December 31, 2001 and 2000, respectively. Patents and trademarks are net of accumulated amortization of \$94,000 and \$88,000 at December 31, 2001 and 2000, respectively.

Property and Equipment

Property and equipment are stated at cost, less accumulated depreciation, and are depreciated over the estimated useful lives of the assets using accelerated methods. Leasehold improvements are amortized using the straight-line method over the shorter of the useful life of the asset or the term of the lease. Amortization of leasehold improvements is included in depreciation expense. The useful lives assigned to property and equipment for the purpose of computing book depreciation are as follows:

Lab equipment	5 years
Manufacturing equipment	3 to 5 years
Office equipment	3 to 5 years
Furniture and fixtures	5 years
Leasehold improvements	Life of lease

Income Taxes

Deferred tax assets and liabilities are determined based on differences

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between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse.

### Revenue Recognition and Product Warranty

Revenues from product sales are generally recognized at the time of shipment and are recorded net of estimated returns and allowances. The Company has, under certain conditions, granted customers the right to return product during a specified period of time after shipment. In these situations, the Company establishes a liability for estimated returns and allowances at the time of shipment and makes the appropriate adjustment in revenue recognized for accounting purposes. During the current year, no revenue was recognized on products that included a right to return at some future date. The Company has established a program which, in certain situations, allows customers or prospective customers to field test the Company's products for a specified period of time. Revenues from field test arrangements are recognized upon customer acceptance of the products. The Company warrants its products against defects in materials and workmanship typically for an eighteen-month period from the date of shipment, except for superconducting materials contained in the products, which are warranted for ten years from the date of shipment, though these terms are negotiated on a case by case basis. A provision for estimated future costs related to warranty expenses is recorded when revenues are recognized. At December 31, 2001 and 2000, respectively, the Company has accrued \$138,000 and \$298,000 for warranty costs. Returns and allowances were not significant in any period reported.

### Advertising Costs

Advertising costs are charged to expense in the period incurred.

### Research and Development Costs

Research and development costs related to both present and future products are charged to expense in the period incurred.

### Net Loss Per Common Share

Basic and diluted net loss per common share are computed based upon the weighted average number of common shares outstanding. Approximately 9.6 million common shares issuable as of December 31, 2001 upon the exercise of options and warrants are not included in the per share calculations since the effect of their inclusion would be antidilutive.

### Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

### Description of Certain Concentrations and Risks

The Company operates in a highly competitive and rapidly changing industry. Product revenues are currently concentrated with a limited number of customers, and the supply of certain materials is concentrated among a few providers. The development and commercialization of new technologies by any competitor could adversely affect the Company's results of operations.

### Long Lived Assets

Acquired goodwill is being amortized using the straight-line method over eight years. The excess of cost over net assets acquired associated with assets acquired in a purchase business combination is included in impairment evaluations when events and circumstances occur that may indicate impairment, management evaluates the recoverability of acquired goodwill by comparing the carrying value of the asset to the associated current and projected annual sales, operating profit, undiscounted annual cash flows and market value; management also considers business prospects, market trends and other economic factors in performing this evaluation. Based on this evaluation, there was no unrecorded permanent impairment related to acquired goodwill at December 31, 2001 and 2000.

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New Accounting Pronouncements

On July 20, 2001, the Financial Accounting Standards Board ( FASB ) issued Statement of Financial Accounting Standards No.141 ( SFAS No. 141 ), Business Combinations , and Statement of Financial Accounting Standards No. 142 ( SFAS No. 142 ), Goodwill and Intangible Assets . SFAS No. 141 is effective for all business combinations completed after June 30, 2001. SFAS No. 142 is effective for fiscal years beginning after December 15, 2001; however, certain provisions of such Statement apply to goodwill and other intangible assets acquired between July 1, 2001, and the effective date of SFAS No. 142. Major provisions of these Statements and their effective dates for the Company are as follows:

1. All business combinations initiated after June 30, 2001 must use the purchase method of accounting. The pooling of interest method of accounting is prohibited except for transactions initiated before July 1, 2001.
2. Intangible assets acquired in a business combination must be recorded separately from goodwill if they arise from contractual or other legal rights or are separable from the acquired entity and can be sold, transferred, licensed, rented, or exchanged, either individually or as part of a related contract, asset, or liability.
3. Goodwill, as well as intangible assets with indefinite lives, acquired after June 30, 2001, will not be amortized. Effective January 1, 2002, all previously recognized goodwill and intangible assets with indefinite lives will no longer be subject to amortization.
4. Effective January 1, 2002, goodwill and intangible assets with indefinite lives will be tested for impairment annually and whenever there is an impairment indicator.
5. All acquired goodwill must be assigned to reporting units for purposes of impairment testing and segment reporting.

Goodwill (using current exchange rates) is currently being amortized at approximately \$2.0 million annually and has a net carrying value of approximately \$13.4 million at the date of adoption of this standard. The Company is currently evaluating the provisions of SFAS No. 142 and has not yet determined the effect that adoption of this standard will have on its financial statements.

3. BUSINESS PLANS

The Company has incurred, and continues to incur, losses from operations. For the years ended December 31, 2001, 2000, and 1999, the Company incurred net losses of \$28,189,603, \$18,796,183, and \$22,716,262, respectively. During 2001, the Company implemented a strategy to reduce its cash used in operating activities. The Company's strategy included the consolidation of its manufacturing and research and development facilities and a targeted reduction of the employee workforce, increasing the efficiency of the Company's processes, focusing development efforts on products with a greater probability of commercial sales, reducing professional fees and discretionary expenditures, and negotiating favorable payment arrangements with suppliers and service providers.

To date, the Company has financed its operations primarily through public and private equity and debt financings. The Company believes that it has sufficient funds to operate its business as identified herein without the need for substantial future capital through the end of 2002, except as described herein. In addition, the Company has put in place mechanisms to raise additional capital when and if needed. The Company intends to augment its existing capital position through the funding mechanisms identified and through other strategic sources of capital. The Company believes it has sufficient capital resources available to meet its obligations through the end of fiscal year 2002.

4. ACQUISITIONS

On August 8, 2000, the Company acquired Spectral Solutions, Inc. in exchange for 3,440,526 shares of its common stock, on which date the price of the Company's common stock was \$4.09 per share. On December 20, 2000, the Company acquired the Adaptive Notch Filter ( ANF ) division of Lockheed Martin Canada, Inc. in exchange for 2,500,000 shares of its common stock, on which date the price of the Company's common stock was \$1.06 per share. Both transactions were accounted for under the purchase method of accounting. In each case, goodwill was recorded and amortized under the straight-line method over an 8 year period.

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## 5. INVENTORIES

Inventories consist of the following:

	DECEMBER 31,	
	2001	2000
Raw materials	\$ 768,042	\$ 1,266,803
Work-in-process	659,127	397,274
Finished product	255,500	264,270
	<u>\$ 1,682,669</u>	<u>\$ 1,928,347</u>

Cost of product sales for the years ending December 31, 2001 and 2000 includes approximately \$605,000 and \$864,000, respectively, of costs in excess of the net realizable value of inventory.

## 6. CAPITAL STOCK

The Company has an authorized class of undesignated preferred stock consisting of 300,000 shares. Preferred stock may be issued in series from time to time with such designations, relative rights, priorities, preferences, qualifications, limitations and restrictions thereof, to the extent that such are not fixed in the Company's certificate of incorporation, as the Board of Directors determines.

On February 9, 1996, the Board of Directors adopted a shareholder rights plan (the Rights Plan). In conjunction with the adoption of the Rights Plan, the Company created one series of preferred stock, consisting of 10,000 shares of Series A Junior Participating Preferred Stock (Series A Preferred). Each share of Series A Preferred would entitle the holder to receive dividends equal to 1,000 times the dividends per share declared with respect to the Company's common stock and, in the event of liquidation, such holders would receive a preference of 1,000 times the aggregate amount to be distributed per share to the holders of the Company's common stock. Pursuant to the Rights Plan, a Series A Right is associated with, and trades with, each share of common stock outstanding.

The record date for distribution of such Series A Rights was February 22, 1996, and for so long as the Series A Rights are associated with the common stock, each new share of common stock issued by the Company will include a Series A Right.

Each Series A Right will entitle its holder to purchase one one-thousandth of a share of Series A Preferred for \$200, subject to adjustment as defined in the Rights Plan. The Series A Rights are not exercisable until the earlier of (i) 10 days after any person or group becomes the beneficial owner of 15% or more of the Company's outstanding common stock, or (ii) 10 business days (unless extended by the Board of Directors) after the commencement of a tender offer or exchange offer that would result in a person or group beneficially owning 15% or more of the Company's outstanding common stock.

If any person or group (Acquiring Party) acquires 15% or more of the Company's outstanding common stock (Shares Acquisition Date), each holder of a Series A Right, except the Acquiring Party, has the right to receive upon exercise (i) shares of the Company's common stock having a market value equal to two times the exercise price of the Series A Right, and (ii) one Series B Right (Series A Rights and Series B Rights are hereinafter collectively referred to as the Rights). The Board of Directors has the option, after the Shares Acquisition Date but before there has been a 50% acquisition of the Company, to exchange one share of common stock (or one one-thousandth of a share of preferred stock) and one Series B Right for each Series A Right (other than Series A Rights held by the Acquiring Party).

If, after the Series A Rights become exercisable, the Company is involved in a merger or other business combination, or if the Company sells or transfers

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more than 50% of its assets or earning power, or if an acquiring party engages in certain self-dealing transactions with the Company, as defined in the Rights Plan, each Right then outstanding (other than Rights held by the Acquiring Party) will be exercisable for common stock of the other party to such transaction having a market value of two times the exercise price of the Right. The Company has the right to redeem each Series A Right for \$0.01 prior to the Shares Acquisition Date. The Series B Rights, once issued, are not redeemable. The Rights expire on February 9, 2006.

On July 18, 2000, the stockholders of the Company approved an increase in the number of shares of authorized common stock from 60,000,000 to 250,000,000.

On October 20, 2000, the Company sold 1,818,182 shares of common stock to its investors (Elliott Associates, L.P. and Elliott International, L.P.) in exchange for \$5 million.

At December 31, 2001, authorized but unissued shares of common stock have been reserved for future issuance as follows:

Warrants outstanding (Note 7)	33,000
Options outstanding (Note 7)	9,639,000
	<hr/>
	9,672,000
	<hr/>

Subsequent to December 31, 2001, on February 15, 2002, the Company completed a Shareholder Rights Offering. Approximately 40 million shares of Company stock were sold to existing shareholders. This Offering raised approximately \$20 million, which was used to repay all debt and accrued interest, and for general corporate uses.

## 7. STOCK OPTIONS AND WARRANTS

On August 19, 1993, the Board of Directors adopted the 1993 Stock Option Plan (the Plan) for employees, consultants, and directors who are not also employees of the Company (outside directors). The maximum number of shares issuable under the Plan, as amended in 2001, was 14,011,468. The Plan is administered by a committee (the Committee) consisting of two or more outside directors appointed by the board of directors of the Company.

For employees and consultants, the Plan provides for granting of Incentive Stock Options (ISOs) and Nonstatutory Stock Options (NSOs). In the case of ISOs, the exercise price shall not be less than 100% (110% in certain cases) of the fair value of the Company's common stock, as determined by the Committee, on the date of grant. In the case of NSOs, the exercise price shall not be less than 85% (110% in certain cases) of the fair value of the Company's common stock, as determined by the Committee, on the date of grant. The term of options granted to employees and consultants will be for a period not to exceed 10 years (five years in certain cases). Options granted under the Plan generally vest over a four year period (one-fourth of options granted vest after one year from the grant date and the remaining options vest ratably each month thereafter). In addition, the Committee may authorize option grants with vesting provisions that are not based solely on employees' rendering of additional service to the Company.

For outside directors, NSOs only will be granted with an exercise price of 100% of the fair value of the stock, as determined by the Committee, on the date of grant. The Plan provides that each outside director will be automatically granted 40,000 NSOs on the date of their initial election to the board of directors. On the date of the annual meeting of the stockholders of the Company, each outside director who is elected, reelected, or continues to serve as a director, shall be granted 40,000 NSOs, except for those outside directors who are first elected to the Board of Directors at the meeting or three months prior. The options granted vest ratably over two years and expire after ten years from the grant date.

The Company entered into stock option agreements with certain employees and a consultant prior to the adoption of the Plan. These stock options expire 10 years from the date of grant. Exercise prices were determined by the Board of Directors and represented estimated fair values of the Company's common stock at the grant date.

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On May 10, 1999, the Board of Directors granted to each employee of the Company (other than the executive officers of the Company) (collectively, the Non-Executive Employees ) the option to (i) reduce the exercise prices of up to a maximum of 15,000 of the unexercised stock options previously granted to such Non-Executive Employee under the Plan to \$.5625 per share (the closing price of the Company's Common Stock on May 10, 1999) and (ii) cause all of such stock options not otherwise scheduled to become fully vested on or before May 10, 2000 to become fully vested on such date. As a result thereof, an aggregate of 279,550 stock options previously granted under the Plan were amended as described in the preceding sentence. In addition, on May 10, 1999 the Board of Directors granted to the executive officers and certain Non-Executive Employees of the Company additional non-statutory stock options to purchase an aggregate of 343,575 shares of the Company's Common Stock under the Plan. Such stock options become fully vested on the first anniversary of the date of grant, have exercise prices of \$.5625 per share and expire 10 years from the date of grant.

On July 1, 2000, Financial Accounting Standards Board Interpretation No. 44, Accounting for Certain Transactions Involving Stock Compensation, an interpretation of APB Opinion No. 25 ( FIN 44 ) was adopted by the Company. FIN 44 requires that stock options that have been modified to reduce their exercise price be subject to variable accounting. The Company accounts for employee stock options under APB Opinion No. 25 and non-employee stock options under Statement of Financial Accounting Standards No. 123, Accounting for Stock Based Compensation ( FAS 123 ).

The Company has elected to follow Accounting Principles Board Opinion No. 25, Accounting for Stock Issued to Employees (APB 25) and related Interpretations in accounting for its employee stock options because, as discussed below, the alternative fair value accounting provided for under Financial Accounting Standards Board No. 123, Accounting for Stock-Based Compensation (FASB 123) requires the use of option valuation models that were not developed for use in valuing employee stock options. Under APB 25, since the exercise price of the Company's employee stock option grants has equaled the market price of the underlying stock on the date of grant, generally no compensation expense is recognized. However, based on the recently adopted interpretation of APB 25, the Company must record non-cash charges to the extent the 279,550 modified options under this plan have an underlying share value in excess of \$4.78 per share (the price on the July 1, 2000 adoption date of the interpretation).

On February 5, 2001, the Board of Directors approved the repricing of stock options granted to employees during 2000. Because options are generally priced on the date of grant, the Board determined that many employees receiving options during this period were at a disadvantage relative to other employees who held options, due to the significant volatility of the Company's share price during 2000. A total of 2,676,000 options were repriced at the closing share price of the Company's common stock on February 5, 2001, \$1.94. The average exercise price prior to this repricing was \$4.31. As indicated below, the weighted average exercise price for all options as of December 31, 2001, was \$1.64 per share. Due to the adoption of FASB 123, the Company would be required to show non-cash charges, and recovery of previously recognized non-cash charges as appropriate, to the extent that the Company's share price exceeds \$1.94.

Pro forma information regarding net income and earnings per share is required under FASB 123, and has been determined as if the Company had accounted for its stock options granted subsequent to December 31, 1994 under the fair value method of that Statement. The fair value for these options was estimated at the date of grant using a Black-Scholes option pricing model with the following weighted-average assumptions for the years ended December 31, 2001, 2000 and 1999: risk-free interest rate of 4.2%, 5.1%, and 6.0%, respectively; a dividend yield of 0%; volatility factor of the expected market price of the Company's common stock of 0.56, 2.33, and 1.68, respectively; and expected life of the options of 4.0 years.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options.

For purposes of pro forma disclosures, the estimated fair value of the

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options is amortized to expense over the options vesting period. The Company's pro forma information is as follows:

**YEAR ENDED DECEMBER 31,**

	<b>2001</b>	<b>2000</b>	<b>1999</b>
Pro forma net loss	\$(28,189,603)	\$(18,796,183)	\$(23,522,352)
Pro forma basic and diluted loss per common share	\$ (0.26)	\$ (0.57)	\$ (1.83)

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The table below summarizes all option activity during the three year period ended December 31, 2001:

	<b>OPTIONS OUTSTANDING</b>	<b>EXERCISE PRICE PER SHARE</b>	
Outstanding at December 31, 1998	1,193,977	.18	26.50
Granted	1,935,125	.45	1.31
Exercised	(17,250)	.18	.23
Forfeited	(1,197,005)	.48	26.50
Outstanding at December 31, 1999	1,914,847	\$ .18	26.50
Granted	3,986,561	.00	6.60
Exercised	(362,812)	.48	1.81
Forfeited	(96,000)	.48	4.94
Outstanding at December 31, 2000	5,442,596	\$ .00	26.50
Granted	6,507,500	.76	2.44
Exercised	(185,924)	1.30	2.41
Forfeited	(2,124,859)	.30	2.05
Outstanding at December 31, 2001	9,639,313	\$ .00	26.50

The weighted-average exercise price of options outstanding at December 31, 2001, 2000 and 1999, was \$1.64, \$2.97 and \$1.83, respectively. The weighted-average exercise price of options granted, exercised, and forfeited during 2001 was \$1.52, \$0.43 and \$1.68, respectively. The weighted-average fair value of options granted during 2001, 2000 and 1999 was \$1.52, \$3.86 and \$0.53, respectively.

Following is additional information with respect to options (including DSU s) outstanding at December 31, 2001:

	<b>EXERCISE PRICE FROM \$0.00 TO \$0.20</b>	<b>EXERCISE PRICE FROM \$0.30 TO \$0.56</b>	<b>EXERCISE PRICE FROM \$0.66 TO \$2.00</b>	<b>EXERCISE PRICE FROM \$2.05 TO \$3.25</b>	<b>EXERCISE PRICE FROM \$6.75 TO \$26.50</b>
<b>OUTSTANDING AT DECEMBER 31, 2001:</b>					
Number of options	323,725	932,809	7,934,482	284,710	163,587
Weighted-average exercise price	\$ 0.00	\$ 0.48	\$ 1.56	\$ 2.54	\$ 14.27
Weighted-average remaining contractual life in years	8.09	7.29	9.05	6.95	3.28
<b>EXERCISABLE AT DECEMBER 31, 2001:</b>					
Number of options	60,725	932,351	1,181,939	119,710	163,587
Weighted-average exercise price	\$ 0.01	\$ 0.48	\$ 1.68	\$ 3.19	\$ 14.27

The total number of unvested options outstanding at December 31, 2001 was 7,181,001, which will vest based on employees continued service to the Company.

On February 15, 2000, the Board of Directors of the Company granted to certain executive level employees (i) an aggregate of 440,000 Deferred Stock Units (DSUs) and (ii) an aggregate of 585,000 NSOs under the Plan. The NSOs have an exercise price of \$4.1875 per share (the closing price of the Company s common stock on February 15, 2000). The Deferred Stock Units represent the right to





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receive an equivalent number of restricted shares of the Company's common stock. Both the Deferred Stock Units and the NSOs vest at the rate of 10%, 20%, 30% and 40% on the first, second, third and fourth anniversary, respectively, of the date of grant. For accounting purposes, the value of the DSU's is amortized using the straight-line method over the four year period. The executive level employees have the right to defer receipt of the common stock subject to the Deferred Stock Units to a later date as elected by the employee. Both the NSOs and the DSUs are included in table above.

In December 1991 and January 1992, the Company issued common stock purchase warrants for 34,063 and 74,938 shares, respectively, to preferred stockholders in conjunction with short-term loans from the stockholders. These warrants have an exercise price of \$1.4679 per share and expire 10 years from the date of issue. Warrants for 33,033 were still outstanding as of December 31, 2001. These warrants subsequently expired, unexercised, during January, 2002.

On June 6, 1997, the Company issued warrants to purchase 62,500 shares of common stock in connection with the issuance of Series B Convertible Preferred Stock (Note 5). These warrants had an exercise price of \$14.8125 per share and expired, unexercised, on June 6, 2001.

On July 17, 2000, the Company issued 200,000 stock options to non-employees in connection with the opening of the Japanese sales office. 25% of these options vested immediately, while the remaining 75% are to vest ratably over a three year period. These options had a value according to the Black-Scholes model on the date of grant of \$4.53 per share. Compensation expense of \$906,000 was to be recognized over the life of the options, 25% immediately and the remaining 75% over a three year straight-line amortization. This arrangement was terminated during December, 2001, as a result of a change in the structure of the Japanese sales office. The cumulative compensation expense charged for these services through December 31, 2001, was \$545,000.

**8. LONG-TERM DEBT**

On November 6, 2001, the Company entered into a loan agreement to borrow an aggregate original principal amount of \$9.425 million from Elliott Associates, L.P. and Alexander Finance, L.P., both significant stockholders of the Company. The Company used \$4.925 million of the proceeds to pay the Siegler lawsuit settlement as discussed elsewhere in this document and the remainder of the proceeds were used for working capital, capital expenditures and other general corporate purposes. The loans were due on March 31, 2003 and bore interest at 14% per annum, compounded annually. The loans were collateralized by substantially all of the assets of the Company and guaranteed by both of the Company's wholly-owned subsidiaries, Illinois Superconductor Canada Corporation and Spectral Solutions, Inc.

On February 15, 2002, upon receipt of the funds from the Rights Offering as described above, the notes and related accrued interest were repaid in full (approximately \$9.8 million).

The Company recognized \$0, \$5,631,581, and \$12,608,355 of non-cash interest charges during 2001, 2000, and 1999, respectively as a result of amortizing the debt discount and the deferred financing fees related to senior convertible notes. These notes were issued and repaid prior to 2001.

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## 9. INCOME TAXES

The Company has net operating loss and research and development credit carryforwards for tax purposes of approximately \$102,572,000 and \$1,401,000, respectively, at December 31, 2001. The net operating loss carryforwards expire in the following years:

YEAR	AMOUNT
2005	\$ 7,000
2006	638,000
2007	974,000
2008	1,658,000
2009	3,973,000
2010	8,199,000
2011	11,953,000
2012	11,922,000
2018	11,146,000
2019	10,726,000
2020	15,501,000
2021	25,875,000
	<u>\$ 102,572,000</u>

Significant components of the Company's deferred tax assets and liabilities are as follows:

	DECEMBER 31,	
	2001	2000
Deferred tax assets:		
Net operating loss carryforward	\$ 38,978,000	\$ 28,754,000
Research and development tax credit carryforwards	1,401,000	1,153,000
Deferred compensation	3,000	3,000
Accrued liabilities	582,000	277,000
Inventories	154,000	234,000
Property, Equipment, and Goodwill	340,000	217,000
	<u>41,458,000</u>	<u>30,638,000</u>
Total deferred tax assets	41,458,000	30,638,000
Deferred tax liabilities:		
Patent costs	(343,000)	(205,000)
	<u>(343,000)</u>	<u>(205,000)</u>
Net deferred tax assets	41,115,000	30,433,000
Valuation allowance	(41,115,000)	(30,433,000)
	<u>\$</u>	<u>\$</u>
Net deferred tax assets	<u>\$</u>	<u>\$</u>

The valuation allowance increased during 2001 and 2000 by \$10,682,000 and \$6,119,000, respectively, due primarily to the increase in the net operating loss carryforward. Based on the Internal Revenue Code and changes in the ownership of the Company, utilization of the net operating loss carryforwards will be subject to annual limitations.



**Table of Contents****10. LEASES**

The Company leases its manufacturing and office space. Under the terms of the lease in Mount Prospect, IL, which expires October 2004, the Company is responsible for all real estate taxes and operating expenses. The lease provides for a security deposit(\$100,000 at December 31, 2001) that is secured by a certificate of deposit owned by the Company. In addition, the Company had lease commitments for its Colorado and Canadian facilities, expiring May, 2003 and August, 2004, respectively, as of December 31, 2001. The Company also had leased office facilities in Dallas, through February, 2002, as of December 31, 2001. The Company completed an early termination of the lease for the Colorado facility and is actively seeking conclusion of the Canadian facility. The Company also entered into a new lease for its Dallas office, expiring February, 2005.

Future minimum payments under the operating leases consist of the following at December 31, 2001:

YEAR	AMOUNT
2002	\$ 633,000
2003	418,000
2004	336,000
2005	8,000
2006	
Thereafter	
	\$ 1,395,000

Rent expense totaled \$690,000, \$312,000 and \$228,000, for the years ended December 31, 2001, 2000, and 1999, respectively.

**11. 401(k) PLAN**

The Company has a 401(k) plan covering all employees who meet prescribed service requirements. The plan provides for deferred salary contributions by the plan participants and a Company contribution. Company contributions, if any, are at the discretion of the Board of Directors and are not to exceed the amount deductible under applicable income tax laws. No Company contribution was made for the years ended December 31, 2001, 2000, and 1999.

**12. LITIGATION****Siegler Litigation**

On June 5, 1996, Craig M. Siegler filed a complaint against the Company in the Circuit Court of Cook County, Illinois, County Department, Chancery Division. The complaint alleged that, in connection with the Company's private placement of securities in November 1995, the Company breached and repudiated an oral contract with Mr. Siegler for the issuance and sale by the Company to Mr. Siegler of 370,370.37 shares of the Common Stock, plus warrants (exercisable at \$12.96 per share) to purchase an additional 370,370.37 shares of the Common Stock, for a total price of \$4,000,000. On October 10, 1996, Mr. Siegler filed his First Amended Verified Complaint and Jury Demand, seeking a jury trial and money damages equal to the difference between \$8,800,000 (370,370.37 shares at \$10.80 per share and 370,370.37 shares at \$12.96 per share) and 740,740.74 multiplied by the highest price at which the Common Stock traded on The Nasdaq Stock Market between November 20, 1995 and the date of judgment. Mr. Siegler also preserved his claim for specific performance for purposes of appeal. On November 1, 1996, the case was transferred to the Circuit Court of Cook County, Illinois, County Department, Law Division.

The Company filed a motion for summary judgment against Mr. Siegler, which was on hold pending the deposition of an expert retained by Mr. Siegler in the case. The Company deposed this witness in March 2000. A hearing on the Company's

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summary judgment motion was held in June 2000, and the motion was subsequently denied. The trial began August, 2001.

On August 22, 2001, the jury reached a verdict in favor of Mr. Siegler in the amount of \$6.6 million. Subsequently, the Company filed several motions including motions for a mistrial and motions for a reduced verdict and Siegler filed a motion to expand the jury aware and obtain interest on the award. In September, 2001, the judge denied Siegler's motion and in October, 2001, the judge denied the Company's motion for a mistrial and granted the Company's motion for a reduced verdict, reducing the verdict from \$6,555,555.55 to \$6,541,254.27 and entered a judgment in that amount against the Company.

On November 7, 2001, the Company announced that it had settled ongoing litigation associated with Mr. Siegler. Pursuant to the settlement, the Company agreed to pay Mr. Siegler the reduced amount of \$4.925 million. On November 6, 2001, the court in the Siegler litigation approved the settlement. Upon receiving a portion of the funds from the Notes as described elsewhere in this document, the Company paid \$4.925 million to Mr. Siegler.

### **Patent Litigation**

During July 2001, the Company filed suit against Conductus, Inc. and Superconductor Technologies, Inc. for infringement of its recently issued U.S. Patent No. 6,263,215, entitled "Cryoelectronically Cooled Receiver Front End for Mobile Radio Systems". This suit alleges that all of Conductus' and Superconductor Technologies' current base station front-end systems containing cryogenically cooled superconducting filters infringe this patent. The Company is seeking a permanent injunction restraining Conductus and Superconductor Technologies from marketing, selling or manufacturing these products, as well as triple damages and attorneys' fees. Conductus and Superconductor Technologies initially denied these allegations and asked the court to declare the patent invalid and not infringed. On October 3, 2001, Conductus and Superconductor Technologies each filed motions to amend their respective answers and counterclaims to the Company's complaint in order to seek to add a defense of inequitable conduct and a counterclaim for a declaration of unenforceability of the patent due to the alleged inequitable conduct. Conductus and Superconductor Technologies also filed to add additional asserted various federal and state law counterclaims, including claims of unfair competition. Conductus and Superconductor Technologies are seeking both compensatory and punitive damages as well as attorneys' fees and costs. On March 26, 2002, the Company replied to Conductus' and Superconductor Technologies' Second Amended Answer and Counterclaims and filed counterclaims alleging that Conductus and Superconductor Technologies infringe U.S. Patent No. 6,104,934 entitled "Cryoelectronic Receiver Front End" and U.S. Patent No. 6,205,340 B1 entitled "Cryoelectronic Receiver Front End For Mobile Radio Systems". The Company alleges that cryogenic receiver front-end products for use in a tower-mounted configuration made, used, sold, offered for sale, supplied or caused to be supplied by Conductus and STI infringe these two patents. This case is scheduled for trial in January 2003.

During November 2001, the Company filed suit against Dobson Communications, Inc. for allegedly infringing on this patent. This action has been stayed, per agreement between the parties, until the resolution of the matter between the Company and Conductus and Superconductor Technologies. The parties have agreed that Dobson will be bound by any and all final, non-appealable determinations, holdings or findings with respect to all liability issues in the Company's case against Conductus the result of the case as it pertains to Conductus would similarly pertain to Dobson.

The Company intends to continue to prosecute these claims vigorously against Conductus and Superconductor Technologies and defend against counterclaims in this litigation. The Company believes the patents to be valid, the counterclaims asserted against the Company to be without merit, and that it is in the best interests of the Company and its shareholders to pursue this matter vigorously.

### **Laves Litigation**

On July 17, 2000 Edward W. Laves filed an action (the "Complaint") in the Law Division of the Circuit Court of Cook County, Illinois, against the Company and three of its directors (George Calhoun, Samuel Perlman, and Mark Brodsky) charging the Company with constructive termination under and in breach of plaintiff's employment agreement, and with violation of the Illinois Wage Payment and Collection Act. Plaintiff seeks damages estimated to exceed \$12

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million. The Company filed an appearance on behalf of all Defendants on October 3, 2000. On October 6, 2000, the Company filed on Defendants' behalf a Motion to Dismiss the Complaint. On January 22, 2001, the court issued an order granting our Motion to Dismiss the claims against the Individual Defendants, but denied our Motion to Dismiss with respect to claims against the Company. On February 21, 2001, Plaintiff filed a Motion to reconsider the court's dismissal of claims against the Individual Defendants. On March 13, 2001, we filed an Answer to the Complaint and a Memorandum in Opposition to this Motion to Reconsider. By order dated March 15, 2001, the court allowed Laves leave to file an amended Motion to Reconsider, which the Plaintiff filed on April 5, 2001, along with a motion to dismiss one of the Company's affirmative defenses. Following a substitution of judges and a hearing on August 9, 2001, the court granted Plaintiff's motion to dismiss one of the Company's affirmative defenses and ordered the case transferred back to the judge originally assigned to the case for the limited purposes of ruling on Plaintiff's amended motion to reconsider the dismissal of claims against the Defendants. On September 7, 2001, following a hearing, the Judge denied Plaintiff's amended motion to reconsider and entered an order retaining jurisdiction of the matter for 30 days. On November 9, 2001, the Judge granted Plaintiff leave to file his First Amended Count II. On November 11, 2001, Plaintiff filed his amended pleading. On January 31, 2002, Plaintiff filed a corrected Unified Complaint. On February 15, 2002, all Defendants filed their Answers to the Unified Complaint. On March 5, 2002, the individual defendants served their answers to Plaintiff's interrogatories and responses to Plaintiff's discovery requests. The next status date is April 8, 2002. Written discovery is to be completed by April 18, 2002; oral discovery is to be completed by June 19, 2002. No trial date is set. ISCO considers these claims without merit and intends to defend against them vigorously.

16(b) Litigation and Related Settlements

On February 22, 2001, the Company announced that a settlement of previously disclosed shareholder litigation was reached, which, upon court approval, resulted in the Company receiving \$15 million, less 30% in court-awarded legal fees and certain other expenses. Two of the Company's stockholders, Elliott Associates, L.P. and Elliott International, L.P. (formerly Westgate International, L.P.), agreed to make this settlement payment in order to resolve claims asserted against them and certain present and former directors. The shareholder litigation remains outstanding against other third parties. The court hearing to consider the settlement occurred on March 30, 2001, at which time the settlement proposal was approved by the court.

On March 16, 2001, the Company announced that a settlement of previously disclosed shareholder litigation was reached, which, upon court approval, resulted in the Company receiving \$5 million, less 30% in court-awarded legal fees and certain other expenses. Alexander Finance agreed to make this settlement payment in order to resolve claims asserted against them. The court hearing to consider the settlement occurred on April 27, 2001, at which time the settlement proposal was approved by the court.

These settlements resulted in approximately \$13,750,000 being realized by the Company, which is the total of \$20 million in settlements less court-awarded legal fees of approximately \$6 million, as well as certain other related expenses.

13. Facility Consolidation

In October and November of 2001, the Company announced the consolidation of its research and development facilities in Canada and Colorado. As part of its strategic plan to streamline the Company, reducing the monthly cash burn rate and to facilitate communications and development activities, the Company announced during October and November of 2001 that it has consolidated its development activities at its Illinois headquarters. The Toronto facility has been responsible for the research and development of the Company's patented Adaptive Notch Filter (ANF). The Colorado facility has been responsible for the research and development of the Company's patented thin film, tower mount HTS products. As a result of these actions, the Company recorded a restructuring charge of \$1.05 million during the fourth quarter of 2001, representing employee costs and other costs to transfer the facilities.

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14. SUBSEQUENT EVENTS

*Shareholder Rights Offering*

On February 15, 2002, the previously announced Shareholder Rights Offering was completed, resulting in approximately 40 million shares sold to shareholders. The Company received nearly \$20 million from this offering. On February 15, 2002, the Company used a portion of the proceeds to repay all existing shareholder notes and accrued interest, as further discussed elsewhere in this document.

*Debt Repayment*

On February 15, 2002, upon receipt of the funds from the Rights Offering as described above, the notes and related accrued interest were repaid in full (approximately \$9.8 million).

15. SEGMENT REPORTING

The Company adopted SFAS No. 131, Disclosures about Segments of an Enterprise and Related Information. SFAS No. 131 requires a business enterprise, based upon a management approach, to disclose financial and descriptive information about its operating segments. Operating segments are components of an enterprise about which separate financial information is available and regularly evaluated by the chief operating decision maker(s) of an enterprise. Under this definition, the Company operated as a single segment for all periods presented.



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## 16. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

A summary of selected quarterly information for 2001 and 2000 is as follows:

	<b>2001 Quarter Ended</b>			
	<b>(in thousands of U.S. dollars except per share amounts)</b>			
	<b>March 31</b>	<b>June 30</b>	<b>Sep. 30</b>	<b>Dec. 31</b>
Net Sales	\$ 512	\$ 1,374	\$ 90	\$ 5
Gross Profit	(292)	(264)	(394)	(1,097)
Net Earnings before				
Extraordinary Item	(4,747)	(5,529)	(10,689)	(7,225)
Net Earnings	(4,747)	(5,529)	(10,689)	(7,225)
Earnings per Share excluding				
Extraordinary Item	\$ (0.04)	\$ (0.05)	\$ (0.10)	\$ (0.07)
Earnings per Share	\$ (0.04)	\$ (0.05)	\$ (0.10)	\$ (0.07)

	<b>2000 Quarter Ended</b>			
	<b>(in thousands of U.S. dollars except per share amounts)</b>			
	<b>March 31</b>	<b>June 30</b>	<b>Sep. 30</b>	<b>Dec. 31</b>
Net Sales	\$ 172	\$ 15	\$ 22	\$ 287
Gross Profit	(477)	(315)	(465)	(920)
Net Earnings before				
Extraordinary Item	(2,403)	(3,782)	(5,283)	(7,300)
Net Earnings	(2,431)	(3,782)	(5,283)	(7,300)
Earnings per Share excluding				
Extraordinary Item	\$ (0.10)	\$ (0.12)	\$ (0.16)	\$ (0.19)
Earnings per Share	\$ (0.10)	\$ (0.12)	\$ (0.16)	\$ (0.19)

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

On December 7, 2000, the Company advised Ernst & Young LLP that the Company intended to retain a different firm of independent auditors for the audit of the Company's financial statements for the fiscal year ending December 31, 2000. The Company engaged Grant Thornton LLP as its independent public accountants to audit its consolidated financial statements. This engagement was effective as of December 7, 2000. As noted in the current report on Form 8-K filed with the SEC on December 18, 2001, related to this event, there had been no disagreements with Ernst & Young on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedure during the Registrant's two most recent fiscal years or in the subsequent interim period through December 7, 2000 (date of termination), which disagreement(s), if not resolved to Ernst & Young's satisfaction, would have caused Ernst & Young to make reference to the subject matter of disagreement(s) in connection with its report. There were no reportable events as that term is described in Item 304(a)(1)(v) of Regulation S-K.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

Information in response to this item is incorporated by reference from the Election of Directors, Executive Officers, and Section 16(a) Beneficial Ownership Reporting Compliance sections of the 2002 Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

Information in response to this item is incorporated by reference from the section of the 2002 Proxy Statement captioned Executive Compensation and Certain Transactions.



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ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Information in response to this item is incorporated by reference from the section of the 2002 Proxy Statement captioned Security Ownership of Management and Principal Stockholders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Information in response to this item is incorporated by reference from the section of the 2002 Proxy Statement captioned Executive Compensation and Certain Transactions and Interests of Certain Persons in the Matters to be Acted Upon at the Meeting.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

(a) The following documents are filed as part of this Form 10-K:

1. The following financial statements of the Company, with the report of independent auditors, are filed as part of this Form 10-K:

Reports of Independent Certified Public Accountants  
Consolidated Balance Sheets as of December 31, 2001 and 2000  
Consolidated Statements of Operations for the Years Ended December 31, 2001, 2000, and 1999  
Consolidated Statements of Stockholders' Equity (Net Capital Deficiency) for the Years Ended December 31, 2001, 2000, and 1999  
Consolidated Statements of Cash Flows for the Years Ended December 31, 2001, 2000, and 1999  
Notes to Consolidated Financial Statements

2. The following financial statement schedules of the Company are filed as part of this Form 10-K:

Schedule II Valuation and Qualifying Accounts

All other financial schedules are omitted because such schedules are not required or the information required has been presented in the aforementioned financial statements.

3. Exhibits are listed in the Exhibit Index to this Form 10-K.

The following current reports on Form 8-K were filed during the quarterly period ended December 31, 2001:

1. On October 9, 2001, the Company filed a report on Form 8-K, making two announcements under Item 5. First, Conductus Inc. and Superconductor Technologies, Inc. filed motions in the patent infringement action to amend their respective answers and counterclaims to the Company's complaint in order to add a defense and counterclaims.

Second, on September 20, 2001, the judge in the Siegler litigation denied the plaintiff's motions to expand the initial jury award and to grant interest on the award. Additionally, on October 4, 2001, the judge denied the Company's motion for a mistrial. However, the judge did not enter the verdict against the Company pending his ruling on the Company's motion to reduce the amount of the award.

2. On October 23, 2001, the Company filed a report on Form 8-K, announcing under Item 5 that on October 19, 2001, the judge in the Siegler litigation granted the Company's motion for a reduced verdict, reduced the verdict from \$6,555,555 to

\$6,541,254.27 and formally entered a judgment in that amount against the Company.

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3. On November 7, 2001, the Company filed a report on Form 8-K, making two announcements under Item 5. First, on November 6, 2001, the Company entered into a settlement agreement with Craig Siegler resolving their ongoing litigation for the amount of \$4.925 million in full satisfaction of the judgment. The court approved the settlement and dismissed the litigation and judgment on November 6, 2001.

Second, on November 6, 2001, the Company entered in to a loan agreement to borrow an aggregate original principal amount of \$9.425 million from Elliot Associates, L.P. and Alexander Finance, L.P. bearing an interest rate of 14% per annum, compounded annually. The loans are due on March 31, 2003 and will be used to pay the settlement to Mr. Siegler and to provide working capital for the Company.

4. On December 7, 2001, the Company filed a report on Form 8-K, announcing under Item 5 that on November 15, 2001, the Company filed suit against Dobson Communications Corporation, Dobson Operating Co., L.L.C. and Dobson Cellular Systems, Inc. for infringement of the Company's U.S. Patent entitled Cryoelectronically Cooled Receiver Front End for Mobile Radio Systems. The Company is seeking a permanent injunction, triple damages and attorney's fees.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 22nd day of March, 2000.

ISCO INTERNATIONAL

By: /s/ GEORGE CALHOUN

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George Calhoun  
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on the 20th day of March, 2001.

SIGNATURE	TITLE
_____	_____
/s/ GEORGE CALHOUN	Chief Executive Officer and Director (Principal Executive Officer and Director)
George Calhoun	
/s/ CHARLES F. WILLES	Chief Financial Officer (Principal Financial and Accounting Officer)
Charles F. Willes	
/s/ STUART CHASE VAN WAGENEN	Director
Stuart Chase Van Wagenen	
/s/ MARK D. BRODSKY	Director
Mark D. Brodsky	
/s/ HOWARD HOFFMANN	Director
Howard Hoffmann	
/s/ NORBERT LOU	Director
Norbert Lou	
/s/ THOMAS L. POWERS	Director
Thomas L. Powers	
/s/ DANIEL SPOOR	Director
Daniel Spoor	

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## ISCO INTERNATIONAL

**EXHIBIT INDEX**

<b>EXHIBIT NUMBER</b>	<b>DESCRIPTION OF EXHIBITS</b>
3.1	Certificate of Incorporation of the Company, incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-3/A, filed with the Securities and Exchange Commission ( SEC ) on August 13, 1998, Registration No. 333-56601 (the August 1998 S-3 ).
3.2	By-Laws of the Company, incorporated by reference to Exhibit 3.2 to Amendment No. 3 to the Company's Registration Statement on Form S-1, filed with the SEC on October 26, 1993, Registration No. 33-67756 (the IPO Registration Statement ).
3.3	Certificate of Amendment of Certificate of Incorporation of the Company, incorporated by reference to Exhibit 3.3 to the IPO Registration Statement.
3.4	Certificate of Amendment of Certificate of Incorporation of the Company, incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-3/A, filed with the SEC on July 1, 1999, Registration No. 333-77337.
3.5	Certificate of Amendment of Certificate of Incorporation of the Company filed July 18, 2000, incorporated by reference to the Company's registration statement on Form S-8 filed August 7, 2000 (the August 2000 S-8 ).
3.6	Certificate of Amendment to Certificate of Incorporation filed with the Secretary of State of the State of Delaware on June 25, 2001, incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on June 27, 2001.
4.1	Specimen stock certificate representing Common Stock, incorporated by reference to Exhibit 4.1 to the IPO Registration Statement.
4.2	Form of Series B Warrants, incorporated by reference to Exhibit 4.2 to the IPO Registration Statement.
4.3	Form of Series C Warrants, incorporated by reference to Exhibit 4.3 to the IPO Registration Statement.
4.4	Form of Representative Warrant, incorporated by reference to Exhibit 4.4 to the IPO Registration Statement.
4.5	Rights Agreement dated as of February 9, 1996 between the Company and LaSalle National Trust, N.A., incorporated by reference to the Exhibit to the Company's Registration Statement on Form 8-A, filed with the SEC on February 12, 1996.

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- 4.6 Registration Rights Agreement dated as of June 6, 1997, by and between the Company and Southbrook International Investments, Ltd., incorporated by reference to Exhibit 4.5 to the June 1997 S-3.
- 4.7 Warrant dated June 6, 1997 issued to Southbrook International Investments, Ltd., incorporated by reference to Exhibit 4.5 to the June 1997 S-3.
- 4.8 Registration Rights Agreement dated as of October 29, 1997, by and between the Company and Elliott Associates, L.P. and Westgate International, L.P., incorporated by reference to Exhibit 4.10 to the December 1997 S-3.
- 4.9 Agreement dated as of October 29, 1997, by and between the Company and Brown Simpson Strategic Growth Fund, L.P. and Southbrook International Investments, Ltd., incorporated by reference to Exhibit 4.11 to the December 1997 S-3.
- 4.10 Form of Warrant dated May 15, 1998, incorporated by reference to Exhibit 4.3 to the August 1998 S-3.
- 4.11 Securities Purchase Agreement dated as of May 15, 1998, by and between the Company and Elliott Associates, L.P., Westgate International, L.P., Alexander Finance, LP, State Farm Mutual Automobile Insurance Company, Spring Point Partners, L.P. and Spring Point Offshore Fund, incorporated by reference to Exhibit 4.5 to the August 1998 S-3.
- 4.12 Registration Rights Agreement dated as of May 15, 1998, by and between the Company and Elliott Associates, L.P., Westgate International, L.P., Alexander Finance, LP, State Farm Mutual Automobile Insurance Company, Spring Point Partners, L.P. and Spring Point Offshore Fund, incorporated by reference to Exhibit 4.6 to the August 1998 S-3.
- 4.13 Form of Warrant dated March 31, 1999 incorporated by reference to Exhibit 4.19 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998.
- 4.14 Securities Purchase Agreement dated as of March 31, 1999, by and between the Company and Elliott Associates, L.P., Westgate International, L.P., Alexander Finance, LP and State Farm Mutual Automobile Insurance Company, incorporated by reference to Exhibit 4.20 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998.
- 4.15 Registration Rights Agreement dated as of March 31, 1999, by and between the Company and Elliott Associates, L.P., Westgate International, L.P., Alexander Finance, LP and State Farm Mutual Automobile Insurance Company, incorporated by reference to Exhibit 4.21 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998.
- 4.16 Amendment to Securities Purchase Agreement dated as of March 31, 1999, by and between the Company and Elliott Associates, L.P., Westgate International, L.P., Alexander Finance, LP, State Farm Mutual Automobile Insurance Company, Spring Point Partners, L.P. and Spring Point Offshore Fund, incorporated by reference to Exhibit 4.22 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998.



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- 4.17 The SSI Replacement Nonqualified Stock Option Plan, incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8, filed with the SEC on November 3, 2000, Registration No. 333-49268.\*
- 4.18 Letter Agreement dated October 20, 2000 by and between the Company and Elliott Associates, L.P. and Westgate International, incorporated by reference to Exhibit B to the Schedule 13D filed with the SEC by Elliott Associates, L.P. on November 13, 2000.
- 10.1 1993 Amended and Restated Stock Option Plan, as amended, incorporated by reference to Exhibit 4.6 to the August 2000 S-8.
- 10.2 Form of Amended and Restated Director Indemnification Agreement, incorporated by reference to Exhibit 10 to the Company's Quarterly Report on Form 10-Q for the quarterly period ended September 30, 1998.
- 10.3 Third Amended and Restated Registration Rights Agreement dated as of July 14, 1993, as amended, incorporated by reference to Exhibit 10.4 to the IPO Registration Statement.
- 10.4 Public Law Agreement dated February 2, 1990 between Illinois Department of Commerce and Community Affairs and the Company, incorporated by reference to Exhibit 10.5 to the IPO Registration Statement.
- 10.5 Public Law Agreement dated December 30, 1991 between Illinois Department of Commerce and Community Affairs and the Company, amended as of June 30, 1992, incorporated by reference to Exhibit 10.6 to the IPO Registration Statement.
- 10.6 Representative Warrant Agreement, incorporated by reference to Exhibit 10.7 to the IPO Registration Statement.
- 10.7 Subcontract and Cooperative Development Agreement dated as of June 1, 1993 between American Telephone and Telegraph Company and the Company, incorporated by reference to Exhibit 10.9 to the IPO Registration Statement.
- 10.8 Intellectual Property Agreement dated as of June 1, 1993 between American Telephone and Telegraph Company and the Company, incorporated by reference to Exhibit 10.10 to the IPO Registration Statement.
- 10.9 License Agreement dated January 31, 1990 between the Company and Northwestern University, incorporated by reference to Exhibit 10.13 to the IPO Registration Statement.
- 10.10 License Agreement dated February 2, 1990 between the Company and ARCH Development Corporation, incorporated by reference to Exhibit 10.14 to the IPO Registration Statement.
- 10.11 License Agreement dated August 9, 1991 between the Company and ARCH Development Corporation, incorporated by reference to Exhibit 10.15 to the IPO Registration Statement.
- 10.12 License Agreement dated October 11, 1991 between the Company and ARCH Development Corporation, incorporated by reference to Exhibit 10.16 to the IPO Registration Statement.
- 10.13 Public Law Agreement dated August 18, 1993 between Illinois Department of

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- Commerce and Community Affairs and the Company, incorporated by reference to Exhibit 10.17 to the IPO Registration Statement.
- 10.14 Form of Officer Indemnification Agreement incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998.
- 10.15 Employment Agreement dated November 9, 1998 between the Company and Dennis Craig incorporated by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998.
- 10.16 Employment Agreement dated April 12, 1999 between the Company and Amr Abdelmonem, incorporated by reference to the Company's Registration Statement on Form S-2A, filed with the SEC on July 9, 1999, Registration Number 333-77337.
- 10.17 Single-Tenant Industrial building Lease between Teachers' Retirement System of the State of Illinois, landlord, and ISCO International, tenant, dated June 24, 1994, incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q for the quarterly period ending June 30, 1994.
- 10.18 Letter Agreement, dated November 5, 1999, by and among the Company and the Investors, incorporated by reference to Exhibit 10(a) to the Company's Current Report on Form 8-K filed with the SEC on November 15, 1999.
- 10.19 Letter Agreement re Modification of Covenants, dated November 5, 1999, by and among the Company and the Investors, incorporated by reference to Exhibit 10(b) to the Company's Current Report on Form 8-K filed with the SEC on November 15, 1999.
- 10.20 Security Agreement, dated November 5, 1999, by and among the Company and the Investors, incorporated by reference to Exhibit 10(c) to the Company's Current Report on Form 8-K filed with the SEC on November 15, 1999.
- 10.21 Letter Agreement dated November 12, 1999, amending the Letter Agreement filed as Exhibit 10.18, incorporated by reference to Exhibit 4.26 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2000, filed with the SEC on May 12, 2000 (the First Quarter 2000 10-Q).
- 10.22 Securities Purchase Letter Agreement dated December 28, 1999, by and among the Company, Elliott Associates, Westgate and Alexander, incorporated by reference to Exhibit 4.27 to the First Quarter 2000 10-Q.
- 10.23 Securities Purchase Letter Agreement dated March 27, 2000, by and among the Company, Elliott Associates, Westgate and Alexander, incorporated by reference to Exhibit 4.28 to the First Quarter 2000 10-Q.
- 10.24 Agreement and Plan of Merger, dated May 17, 2000 among the Company, SSI Acquisition, Corp., Spectral Solutions, Inc., Russell Scott III, and Certain Other Stockholders of Spectral Solutions, Inc., incorporated by reference to Annex A to the Company's definitive additional proxy materials filed June 9, 2000.
- 10.25 Escrow Agreement dated August 8, 2000 among the Company, Russell Scott, III, as stockholder representative, and American National Bank and Trust Company, as escrow agent, incorporated by reference to Exhibit 10.25 to the Company's registration statement on Form S-2 filed September 7, 2000,

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Registration No. 333-45406 (the September S-2 ).

- 10.26 Employment Agreement dated August 2, 2000 between the Company and Richard Herring, incorporated by reference to Exhibit 10.26 to the September S-2.
- 10.27 Management Services Agreement, dated July 17, 2000, by and between the Company and CTR Ventures, K.K., incorporated by reference to Exhibit 10.27 to the September S-2.
- 10.28 Transaction Agreement, dated November 1, 2001, by and among the Company, Illinois Superconductor Canada Corporation and Lockheed Martin Canada, Inc., incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on January 4, 2001.
- 10.29 Common Stock Purchase Agreement with Paul Revere Capital Partners, Ltd. dated March 21, 2000, incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-3 filed on April 20, 2001.
- 10.30 Escrow Agreement with Paul Revere Capital Partners, Ltd. and Epstein Becker & Green, P.C. dated March 21, 2001, incorporated by reference to Exhibit 10.2 to the Company's Registration Statement on Form S-3 filed on April 20, 2001.
- 10.31 Placement Agreement with Ladenburg Thalmann & Co. Inc. dated December 12, 2000, incorporated by reference to Exhibit 10.3 to the Company's Registration Statement on Form S-3 filed on April 20, 2001.
- 10.32 Waiver Letter by Ladenburg Thalmann & Co. Inc. dated March 19, 2001, incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-3 filed on April 20, 2001.
- 10.33 Employment Agreement with Amr Abdelmonem dated January 1, 2001, incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-3 filed on April 20, 2001.
- 10.34 ISCO International, Inc. Amended and Restated 1993 Stock Option Plan, incorporated by reference to Appendix C and D of the Company's Definitive Proxy materials filed on May 22, 2001.
- 10.35 Note Purchase Agreement dated November 6, 2001 between ISCO International, Inc., Elliott Associates, L.P. and Alexander Finance, L.P., incorporated by reference to Exhibit 10.35 to the Company's Current Report on Form 8-K filed on November 7, 2001.
- 10.36 Security Agreement dated November 6, 2001 between ISCO International, Inc., Elliott Associates, L.P. and Alexander Finance, L.P., incorporated by reference to Exhibit 10.36 to the Company's Current Report on Form 8-K filed on November 7, 2001.
- 10.37 Promissory Note dated November 6, 2001 in favor of Alexander Finance, L.P. in the principal amount of \$2,000,000, incorporated by reference to Exhibit 10.37 to the Company's Current Report on Form 8-K filed on November 7, 2001.
- 10.38 Promissory Note dated November 6, 2001 in favor of Elliott Associates, L.P. in the principal amount of \$5,236,112, incorporated by reference to Exhibit 10.38 to the Company's Current Report on Form 8-K filed on November 7, 2001.
- 10.39 Promissory Note dated November 8, 2001 in favor of Alexander Finance, L.P. in the principal amount of \$2,188,888, incorporated by reference to Exhibit 10.39 to the Company's Current Report on Form 8-K filed on November 7, 2001.
- 10.40 Guaranty of Illinois Superconductor Canada Corporation, incorporated by reference to Exhibit 10.40 to the Company's Current Report on Form 8-K filed on November 7, 2001.
- 10.40 Guaranty of Spectral Solutions, Inc., incorporated by reference to Exhibit 10.41 to the Company's Current Report on Form 8-K filed on November 7, 2001.
- 10.42 Settlement Agreement and Release dated November 6, 2001 between ISCO International, Inc. and Craig M. Siegler, incorporated by reference to Exhibit 10.42 to the Company's Current Report on Form 8-K filed on November 7,



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| 10.43 | Employment Agreement with Charles F. Willes, incorporated by reference to Exhibit 10.43 to the Company's Quarterly Report on Form 10-Q filed on November 14, 2001. |
| 10.44 | Employment Agreement with Roger Boivin, incorporated by reference to Exhibit 10.44 to the Company's Quarterly Report on Form 10-Q filed on November 14, 2001.      |
| 10.45 | Employment Agreement with Dennis Craig, incorporated by reference to Exhibit 10.45 to the Company's Quarterly Report on Form 10-Q filed on November 14, 2001.      |
| 23.1  | Consent of Grant Thornton LLP.   |
| 23.2  | Consent of Ernst & Young LLP.  |

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\* Management contract or compensatory plan or arrangement required to be filed as an exhibit on this Form 10-K.

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