

ISCO INTERNATIONAL INC

Form 10-K

March 31, 2003

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**SECURITIES AND EXCHANGE COMMISSION**

**Washington, DC 20549**

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**Form 10-K**

(Mark One)

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

**For the fiscal year ended December 31, 2002**

or

**o 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:**

Title of Class	Name of Exchange on Which Registered
Common Stock, Par Value \$0.001 Per Share and associated Preferred Stock Purchase Rights	American Stock Exchange

**Securities registered pursuant to Section 12(g) of the Act: None**

## Edgar Filing: ISCO INTERNATIONAL INC - Form 10-K

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.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes  No

On June 28, 2002, 147,944,927 shares of the registrant's Common Stock, par value \$0.001 per share (the Common Stock) were outstanding. The aggregate market value on June 28, 2002 of the registrant's Common Stock held by non-affiliates of the registrant was \$18.5 million, based on the closing price per share of the registrant's common stock as quoted on the American Stock Exchange. This amount excludes more than 109 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 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 June, 2003 are incorporated by reference in Part III of this Form 10-K (the 2002 Proxy Statement).

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Certification Pursuant to Section 906

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**PART I**

**Item 1. Business**

The Company develops and manufactures advanced front-end systems for wireless networks using patented and proprietary technologies including adaptive notch filters ( ANF<sup>TM</sup>) and high temperature superconducting filters ( HTS or CRFE ) to eliminate in-band and out-of-band interference. Along with related service products, the Company believes it has assembled the most comprehensive interference management product, service, and intellectual property portfolio in the Company's industry.

The benefits of using the Company's products include: allowing carriers (channels) to carry traffic in certain circumstances where they cannot do so, increased cell site capacity and utilization, easier location of new cell sites due to tolerance of interference, improved voice quality and substantial reduction in dropped calls and failed attempts, culminating in increased revenues for wireless operators. These benefits have been documented in field trials and commercial deployments with wireless operators involving existing wireless systems.

In addition, the Company believes that upgrades of existing wireless networks to allow for data throughput ( 2.5G systems) and further, by the rollout of the next generation of wireless systems ( 3G or 3rd Generation ), operators will need to manage and eliminate interference more effectively in order to meet their performance objectives. The Company believes that with the increased data bit rates required of these systems and the increased usage of these systems due to the wireless internet , that interference levels will increase substantially while tolerance to interference will decrease substantially, thereby requiring an improved filtering system in the base station. The Company believes that its products can be an effective element of that solution.

*ANF Technology*

One of the difficult tasks facing any wireless operator is the need to resolve interference that is from multiple sources, sporadic or quickly moving. Often, sources of interference prove difficult to locate due to their sporadic nature, and other times are uncontrollable (such as in the case of border sites). Regardless, in-band interference is a fast-growing problem, one that can substantially reduce the ability of the network to carry traffic.

With the acquisition of the ANF (Adaptive Notch Filter) division of Lockheed Martin Canada Corporation during 2000 and subsequent development efforts, 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.

The Company has 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. This web-based reporting tool has been well-received by customers as a valuable tool for their use in managing their networks, and thus provides a strong competitive advantage to the ANF, or A-series, product line.

Based on customer feedback, the Company has further reinvented and refined its ANF<sup>TM</sup> product line to include an ANF on wheels . This is a rapidly deployable solution to combat immediate problems that also serves as a state-of-the-art reporting tool. Operators can utilize the reporting features of this product to gain critical information of interference events within their networks.

*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

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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 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.

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 provide a competitive advantage in the deployment of HTS filters worldwide, as 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 Receiver Front End ( CRFE ).

### *Professional Services*

Over time, the Company has developed expertise in the area of RF management and interference mitigation. This expertise is provided to customers in the form of interference audits and analytical tools, thus allowing customers to focus their resources on running their networks instead of focusing on understanding interference problems.

## **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 as Illinois Superconductor Corporation in Illinois on October 18, 1989 and reincorporated in Delaware on September 24, 1993. The Company shifted its focus from that of a superconductive filter provider to a customer-driven interference management Company during 2001, changing its name to ISCO International, Inc. 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. The

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Company maintains a website at <http://www.iscointl.com>. The information contained therein is not incorporated into this annual report.

**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 its products aggressively 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 believes that its ANF™ products and HTS products, features of which include all-temperature performance™, tower mounted cryogenic RF receiver and cryogenic equalization technologies, and professional service support, 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 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 (118 active 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 its two domestic competitors, which have since merged into a single entity (Superconductor Technologies, Inc., or STI). 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 targeted product gross margins and 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 objectives.

**RECENT DEVELOPMENTS/SUBSEQUENT EVENTS**

**Patent Litigation**

As disclosed in the Intellectual Property and Litigation Summary sections of this document, the Company has sued its primary HTS competitor for alleged patent infringement. That competitor has countersued the Company on the basis of tortious interference. The case went to trial in Delaware on March 17, 2003. As of the date this document was prepared that trial was ongoing. The outcome of the trial is expected to be known at the end of March or beginning of April, 2003.



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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**

**History of Losses Raises Doubts About Ability to Continue as a Going Concern**

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, 2002, the accumulated deficit was approximately \$142.9 million. The Company has only recently begun to generate revenues from the sale of its RF filter products. Prior to the commencement of these sales, the majority of its 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, although management has announced the expectation of reaching quarterly breakeven during 2003, it is nonetheless possible that the Company may continue to experience net losses and cannot be certain if or when the Company will become profitable.

These conditions raise substantial doubt about the Company's ability to continue as a going concern. The accompanying consolidated financial statements have been prepared assuming the Company will continue a going concern and do not include any adjustments relating to the recoverability of reported assets or liabilities should the Company be unable to continue as a going concern.

**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 only into May 2003, provided that the Company is able to borrow the \$1 million remaining under the uncommitted line of credit with its two largest shareholders, an affiliate of Elliott Associates, L.P. (Manchester Securities Corporation and Alexander Finance, L.P. This line is uncommitted, such that the additional borrowing under the facility is subject to the approval of the lenders. The Company's continued existence is therefore dependent upon its continued ability to raise funds through the issuance of its securities or borrowings, and its ability to acquire assets or satisfy liabilities by the issuance of stock. Management's plans in this regard are to obtain other debt and equity financing until such time as the Company profitable operation and positive cash flow are achieved and maintained.

Although management believes, based on the fact that it has raised funds through sales of common stock and from borrowings over the past several years, that it will be able to secure suitable additional financing for the Company's operations, there can be no guarantee that such financing will continue to be available on reasonable terms, or at all. As a result, there is no assurance that the Company will be able to continue as a going concern.

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 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

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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 competitive HTS products. The Company also may elect to enter into arrangements with third parties regarding the commercialization and marketing of its 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 may 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**

### **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, 2002, the closing price of its common stock has ranged from a low of \$0.10 per share to a high of \$39.00 per share, but its common stock has not traded above \$0.94 per share during 2002. 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 the Company's common stock could affect the Company's ability to maintain the listing of its common stock on the American Stock Exchange.

### **Risk of Dilution**

As of December 31, 2002, the Company had (i) outstanding warrants to purchase 10 million shares of common stock at a weighted average exercise price of \$0.20 per share and (ii) outstanding options to purchase 7,884,863 shares of common stock at a weighted average exercise price of \$0.96 per share (2,317,165 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. In addition, if each of the Company's principal shareholders approve a future draw of the \$1

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million which remains available under the uncommitted line of credit, warrants to purchase up to 5,000,000 shares of common stock would be issued at an exercise price of \$0.20 per share.

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 control 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) 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; (ii) prior specified notice must be given by a stockholder making nominations to the Board of Directors or raising business matters at stockholders meetings; and (iii) 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 Company's 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.

### **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

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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 adaptive notch filtering, or ANF, technology, or high-temperature superconductor, or HTS, 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 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 ANF or HTS solutions to solve their interference problems. Although the Company has received several orders from 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 telecommunications is characterized by rapidly advancing technology. The Company's success will depend in large part upon its ability to keep pace with advancing its high performance RF filter technology and efficient, readily available low cost materials technologies. Rapid changes have occurred, and are likely to continue to occur, in the development of wireless telecommunications. Development efforts may be rendered obsolete by the adoption of alternative solutions to current wireless operator problems or by technological advances made by others. In addition, other materials or processes, including other superconducting materials or fabrication processes, may prove more advantageous for the commercialization of high performance wireless products than the materials and processes selected by the Company.

## **BUSINESS RISKS**

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

Sales to three of the Company's customers accounted for 95% and 72% of the Company's total revenues for 2002 and 2001, respectively. In addition, a significant amount of the Company's technical and managerial resources have been focused on working with these and a limited number of other operators and OEMs.

The Company expects that if its interference-management 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 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

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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 its products, the Company may be unable to manufacture products in quantities sufficient to meet customers' demand in any particular period. The Company has few 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 actual or anticipated 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 or otherwise commit funds toward future purchase. 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 business, operating results and financial condition.

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

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 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 the Company's 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

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and future competing commercial technologies. Other emerging wireless technologies, 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 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, protect and/or obtain additional patent or other protection for its technology and products and manufacture and market its products, either alone or with third parties. The Company 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 2003. 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 the Company's products are based. As of December 31, 2002, the Company had been issued 41 U.S. and 12 foreign patents, had filed and were actively pursuing applications for 25 other U.S. and 40 other patents. The Company acquired 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 the 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 others may not result in issued patents or the scope and breadth of any claims allowed in any patents issued to the Company or others may not exclude competitors or provide competitive advantages. In addition, patents issued to the Company, its subsidiaries or others may not be held valid if 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 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 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

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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 the Company is 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 the Company or the Company 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 ), a 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.

## **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 raised by the defense. If the Company is not successful in defending itself against these claims, there may be a material and adverse effect on the Company's business, operating results and financial condition.

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### **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 the Company's 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 the Company 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.

## **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



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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 and has agreements in place with 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 (OEMs) are working intensely to develop technologies that provide operators the tools necessary to monetize the growing demand for wireless services.

Using the Company's filtering solutions to mitigate interference, the Company believes that operators can capture additional capacity and utilization, expand cell site range and coverage as well as reduce dropped calls to a fraction of what they were prior to the addition of the Company's equipment and to drastically improve overall call quality. Further, the addition of data has placed a tremendous strain on wireless networks, and the Company has encountered cases where its products enabled carriers (channels) to carry traffic where they could not do so without the Company's solutions. These issues, capacity and quality, have been presented as critical wireless operator issues in today's environment.

The Company estimated the economic payback to operators as a result of the use of the Company's filtering solutions to often be between 2 and 8 months depending on cell site traffic levels. 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 2003) 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,

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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 increased from 136 minutes in 1998 to 403 minutes in 2002. 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.

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 previous 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, 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. 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

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receiver front-end filtering based on conventional technology. With 3G, extensive testing by NTT DoCoMo and others indicates that conventional front-end technology may not deliver adequate performance.

The Company believes it has the broadest interference mitigation technology of any company in the world. The Company's goal is to position itself to lead the industry in interference mitigation applications as HTS solutions move toward the mainstream with 2.5G and 3G applications. At the same time ISCO ANF is a unique patented technology that mitigates in band interference, one of the most dominant factors in affecting service providers network quality.

### **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 filtering technology 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 (in band and out of band) also leaks into the system due to imperfections in the filtering characteristics of the front-end devices.

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.

#### **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 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. The Company believes that its 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

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

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thin-film vendors); ATP™ encompasses unique HTS materials as well as frequency-compensation filter architectures

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

### **HTS Competition**

Other HTS companies are limited to thin-film HTS. This includes a small publicly-held U.S. based thin-film company, Superconductor Technologies, Inc. (Conductus, Inc. having recently merged with Superconductor Technologies, Inc., or STI ) which has 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 trade shows. 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 the Company's knowledge have not delivered commercial HTS systems.

The market for wireless telecommunications products is very competitive. The Company also 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) other 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 competition in the future to the Company's RF filter products. In addition to competitive RF filter products, other companies including 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 and do not provide other benefits provided by HTS products.

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, DuPont has displayed HTS products on more than one occasion. The Company does not believe that 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.

The Company believes it has the broadest HTS technology base of any company in the world. 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 Superconductor Technologies, Inc. The patent is discussed in greater detail in other areas of this document.

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

The Company offers adaptive notch filter products, not based on superconductivity, that continually scan a segment of RF spectrum for interference and block that interference within 20 milliseconds per

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carrier (channel). 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.

ISCO's ANF product substantially reduces or eliminates altogether the effects of such in-band interference. Each ANF unit continuously monitors up to four CDMA carriers (or 4 1.25MHz channels) being utilized for service, identifying and eliminating narrow-band interferers within the channel whenever and wherever they occur. By dynamically notching out this in-band interference, the coverage integrity and supportable capacity of the cell site are maintained as designed during the network build out. As a direct consequence, the ANF product thereby recovers lost minutes of use, reduces the number of dropped calls and failed call attempts. An entire network of ANF hardware can be managed via the web-based management software that supports the hardware.

The current product is applicable to 800-MHz band CDMA networks. A product evolution path is planned to extend the range of applications to 1900-MHz CDMA systems, and subsequently to wide-band CDMA systems (W-CDMA). Other items that will be addressed during future product development include a higher level of integration and a modular design, resulting in a more compact and less expensive product with enhanced functionality, as well as configuration for an outdoor application

ISCO's Adaptive Notch Filter (ANF) unit dynamically identifies and eliminates direct in-band interference in the reverse link of a wide-band system such as CDMA. When such interference is present without being eliminated, the reverse link of such a system will be significantly reduced, often to the point of not allowing any calls on the entire CDMA channel. The ANF unit continuously monitors the power spectral density across the CDMA carriers in use and identifies narrow-band interference in the band of interest. The severity of multiple in-band interferers is prioritized, and the ANF unit dynamically inserts a highly selective notch to eliminate up to three interferers with minimal impact on the desired broadband signal. A single ANF unit supports both the main and diversity paths of a single sector within the cell sites.

ISCO has also developed a network-wide, web-based network management tool (web monitor) to perform management functions for all ANF units throughout the system. This tool with a graphical user interface allows the service provider to control, configure, and monitor the ANF units remotely from the network management center. This includes:

- Remote configuration of parameters within all ANF units

- Remote monitoring of alarm status for all ANF units

- Observe interference and notch activity from all units

- View on-line event data and reports based on measured performance data

ISCO has industry leading expertise in the design, deployment and optimization of CDMA networks. To facilitate rapid penetration of ANF, ISCO is offering professional services to the service providers engineering team to identify and quantify interference, and, its effects on network performance. ISCO has already developed the following custom software and hardware tools to perform interference analysis and interference audit. iSMART (Interference from System Metric Analysis Rules Tool): This software tool enables a service provider to identify potential ANF candidate sectors/cell sites by analyzing the system performance metrics data generated in their CDMA network. Automated Test Equipment, ANF-on-wheels and ANF Web Monitor: This software/ hardware combination affords us the ability to perform interference audit at cell sites of service providers regardless of the frequency band of operation. This service helps quantify interference and identify new markets (frequency bands) with high interference.

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### *ANF competition*

ISCO has a proprietary technology on ANF but there are alternative solutions that can be categorized as either direct or indirect competition. Direct competition is defined as products that directly address the problem of the issue at hand, namely in-band interference. Indirect competition is categorized as other wireless communication products that do not directly solve the problem of in-band interference, but may be perceived as an alternate solution by service providers. For purposes of this document, the base-station manufacturers will be referred to as the OEMs, whereas manufacturers of auxiliary equipment to augment the base station will be referred to as After-Market Vendors.

#### *Direct Competition After-Market Vendors:*

Fixed-frequency notch filters are the main form of direct competition. However, these will only work in a static interference environment, and hence do not satisfy the need of dynamic interference detection and elimination as observed in a vast majority of in-band interference scenarios. Finally, smart antennas were also developed with the intent of in-band interference mitigation. However, these solutions have limited applicability and effectiveness in eliminating in-band interference, particularly in a CDMA-based network, and are typically substantially more expensive (in addition to being less effective) than ISCO's ANF solution.

#### *Direct Competition OEMs:*

Digital-signal-processing based solutions may be under development by the various OEMs. Even if the manufacturers do develop such a solution for in-band interference, it is expected that they would have limited dynamic range and hence would only be able to mitigate low-power interference. (This has been confirmed, through discussions with a major OEM, which was interested in incorporating ISCO's ANF product in addition to their own DSP-based solution, so that the ANF product could eliminate the effects of high-power interference.)

#### *Indirect Competition OEMs:*

Indirect competition does not directly address the problem of in-band interference, but could be viewed as a method for circumventing the problem without addressing the issues at hand. Some of these are based solely on OEM-based hardware, such as adding a carrier to the CDMA cell sites (to increase capacity), cell splitting, or even adding an entirely new base station so as to add capacity and higher signal-to-noise in a particularly problematic location. However, all of these solutions are very costly, and, while providing more absolute network capacity, do not guarantee increase in performance due to the limiting effects of in-band interference.

#### *Indirect Competition After-Market Vendors:*

Other forms of indirect competition include repeaters, tower-mounted amplifiers, and HTS receiver front ends. As with the OEM-based solutions, these do not directly address the problem of in-band interference, but may in general improve the coverage of the network.

## **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% or more. In some cases, capacity increases because channels which were previously unusable due to interference are 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.

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**Improved Base Station Range.** The Company's RF front-end systems can extend the uplink range of a wireless system by up to 30% or more. 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 drastic 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%. Additionally, cases have been presented where a carrier (channel) could not carry data traffic without an ANF™ solution.

## **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.

### **Manufacturing**

The Company emphasizes the outsourcing of its manufacturing processes in order to provide predictable product yields and can be easily expanded to meet increased customer demand. Toward that end, the Company currently produces all of its ANF™ products through a third party manufacturer located near Toronto, Canada. Additionally, the Company has worked toward qualifying third party manufacturers for its HTS RF filter products.

The Company's internal 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 functionality has been increased, and product packaging has been streamlined. While the Company expects to continue to invest in R&D to further improve and adapt its filtering products to meet and exceed market expectations, this is expected to require significantly less capital than in the past as it is now primarily a matter of improving existing products as opposed to the initial development of those products. 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 the interference-management arena.

The Company's total R&D expenses during 2000, 2001 and 2002 were approximately \$3,188,000, \$7,132,000, and \$2,737,000 respectively.

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### **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, 2002, the Company had been issued 41 U.S. and 12 foreign patents, had filed and was actively pursuing applications for 25 other U.S. and 40 other patents, with no licenses of patents and patent applications held by others. The Company acquired 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 the 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.

### **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 15, 2003, the Company had a total of 26 employees, 7 of whom hold advanced degrees. Of the employees, 5 are engaged in manufacturing and production, 7 are engaged in research, development and engineering, and 7 are engaged in marketing and sales, and 7 are engaged in 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



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facility located in North York, Ontario under a sublease that expires in August, 2004, which has been further broken into two segments which have subsequently been subleased to other entities. The Company also has a small office lease in Dallas, Texas (expiring February 2005) which it is looking to eliminate or sublease. The Mount Prospect facility houses the Company's manufacturing, research, development, engineering and marketing activities. The Company believes that this facility is adequate and suitable for its current needs and that additional space would be available on commercial terms as necessary to meet any future needs.

**Item 3. Legal Proceedings**  
**Patent Litigation**

In July 2001, the Company filed suit in the United States District Court for the District of Delaware against Conductus, Inc. and Superconductor Technologies, Inc. alleging infringement of U.S. Patent No. 6,263,215, entitled "Cryoelectronically Cooled Receiver Front End for Mobile Radio Systems" (the '215 patent'). This suit alleges that Conductus and Superconductor Technologies' base station front-end systems containing cryogenically cooled superconducting filters infringe this patent. The Company is seeking a permanent injunction enjoining Conductus and Superconductor Technologies from marketing, selling or manufacturing these products, as well as triple damages and attorneys fees. Conductus and Superconductor Technologies have denied these allegations and asked the court to enter a judgment that the patent is invalid and not infringed. Conductus and Superconductor Technologies are also asserting the defense of inequitable conduct and a counterclaim for a declaration that the patent is unenforceable. Conductus and Superconductor Technologies have also asserted 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. Conductus, Inc. subsequently merged with Superconductor Technologies, Inc.

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 also 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". On April 17, 2002, the court dismissed these (the Company's) counterclaims without prejudice to the Company's right to assert these counterclaims in a separate action.

On February 10, 2003, the court disposed of various motions for summary judgment filed by each party. The court denied Superconductor Technologies' motion for summary judgment of invalidity of the '215 patent as well as Conductus' motion for summary judgment limiting computation of damages to a reasonable royalty for sales to Dobson Communications, Inc. On Superconductor Technologies' motion for summary judgment of non-infringement, the court granted the motion with respect to claim 13 of the '215 patent and otherwise denied the motion with respect to each of the other asserted claims. With regard to Conductus' motion for summary judgment of non-infringement, the court granted the motion with respect to claim 13 of the '215 patent and otherwise denied the motion with respect to each of the other asserted claims. In addition, the court denied Conductus' motion for summary judgment of invalidity of all asserted claims for causes of action existing prior to the date of issuance of the certificate of correction and of invalidity of claim 13. The court also denied the Company's motions for summary judgment that Superconductor Technologies' internal projects are not prior art to the '215 patent and to dismiss the defendants' counterclaims alleging unfair competition and interference with business relations. The trial for this case began on March 17, 2003. At the time of filing this annual report, the outcome of the trial was unknown.

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 patent 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.

In November 2001, the Company filed suit against Dobson Communications, Inc. for allegedly infringing the '215 patent. The action has been stayed, per agreement between the parties, until resolution of the matter between the Company and Conductus and Superconductor Technologies. The parties have agreed that

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Dobson Communications 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.

**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 the Company's Motion to Dismiss the claims against the Individual Defendants, but denied the Company's 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, the Company 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. On April 8, 2002, Laves was given leave to amend his Complaint and add Count III against the individual defendants for tortious interference with contractual obligations. Laves seeks damages against these individuals for: (1) an amount to be provided at trial estimated to exceed \$12 million; (2) \$500,000 for Laves' anxiety, mental suffering, and humiliation; (3) \$500,000 for punitive damages; and (4) pre- and post-judgment interest and costs. Oral fact discovery has been extended to May 15, 2003, while all discovery is to close by August 1, 2003. Any dispositive motions must be filed by July 15, 2003. A final pre-trial will be heard on September 8, 2003, a week after the deadline for submission of pretrial material. The trial is set to begin September 15, 2003. 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, 2002.

**Table of Contents****PART II****Item 5. *Market for Registrant's Common Equity and Related Stockholder Matters***

The Common Stock has been quoted since June, 2002, on the American Stock Exchange under the symbol ISO. Prior to that, and until April 1999, the stock had been quoted 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, 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
FISCAL YEAR ENDING DECEMBER 31, 2002		
First Quarter	\$ 0.86	\$ 0.45
Second Quarter	\$ 0.94	\$ 0.40
Third Quarter	\$ 0.54	\$ 0.18
Fourth Quarter	\$ 0.76	\$ 0.10

On February 21, 2003, 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 American Stock Exchange was \$0.37.

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.

**Table of Contents****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, 1998, 1999, 2000, 2001 and 2002. The selected consolidated financial data for each of the years in the five-year period ended December 31, 2002 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>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
<b>CONSOLIDATED STATEMENT OF OPERATIONS DATA:</b>					
Net sales	\$ 3,242,930	\$ 2,408,604	\$ 495,885	\$ 1,981,001	\$ 3,662,805
Costs and expenses:					
Cost of revenues	7,047,347	5,923,173	2,672,578	3,978,368	3,565,140
Research and development	2,934,784	1,757,214	3,187,768	7,131,654	2,737,084
Selling and marketing	1,847,680	1,581,545	1,239,959	3,263,813	2,201,195
General and administrative	3,370,058	2,617,809	5,967,631	7,738,458	7,972,948
Goodwill amortization			704,165	2,009,974	
Operating loss	(11,956,939)	(9,471,137)	(13,276,216)	(22,141,266)	(12,813,562)
Other income (expense):					
Interest income	354,738	98,194	174,919	138,696	62,954
Interest expense	(10,247,919)	(12,634,745)	(5,650,572)	(229,568)	(327,224)
Other income (expense), net		36,623	(16,017)	(5,957,465)	
	(9,893,181)	(12,499,928)	(5,491,670)	(6,048,337)	(264,270)
Loss before extraordinary item	(21,850,120)	(21,971,065)	(18,767,886)	(28,189,603)	(13,077,832)
Extraordinary item-debt extinguishment		(745,197)	(28,297)		
Net loss	(21,850,120)	(22,716,262)	(18,796,183)	(28,189,603)	(13,077,832)
Preferred Stock dividends	(61,744)				
Net loss plus Preferred Stock dividends	\$ (21,911,954)	\$ (22,716,262)	\$ (18,796,183)	\$ (28,189,603)	\$ (13,077,832)
Basic and diluted loss per common share before extraordinary item	\$ (1.93)	\$ (1.71)	\$ (0.57)	\$ (0.26)	\$ (0.09)
Extraordinary item-debt extinguishment		(0.06)			
Basic and diluted loss per common share	\$ (1.93)	\$ (1.77)	\$ (0.57)	\$ (0.26)	\$ (0.09)
Weighted average number of common shares outstanding	11,345,540	12,841,497	33,037,106	107,829,453	142,884,921
<b>CONSOLIDATED BALANCE SHEET DATA:</b>					

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Cash and cash equivalents	\$	2,152,595	\$	723,711	\$	2,453,845	\$	1,720,697	\$	216,119
Working capital		4,190,548		831,724		3,096,173		658,661		1,333,827
Total assets		10,028,088		6,039,159		23,750,073		20,927,095		19,183,000
Long-term debt/capital lease obligations, less current portion		9,432,026		13,650,885		198		9,425,000		2,000,000
Stockholders' equity (net capital deficiency)		(772,968)		(9,291,712)		21,644,211		7,975,219		15,380,306

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**A NOTE CONCERNING FORWARD-LOOKING STATEMENTS**

Because ISCO International, Inc. ( ISCO or ISCO International or Company ) 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 our current expectations regarding its 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, plans, 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 2003 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 prospectus or to reflect the occurrence of unanticipated events.

**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations  
Liquidity and Capital Resources**

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2, the Company incurred a net loss of \$13,077,832 during the year ended December 31, 2002, and, as of that date, the Company's accumulated deficit is \$142,940,030. In addition, the Company has consistently used, rather than provided, cash in its operations. These factors, among others, as discussed in Note 2 to the financial statements, raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments, including any adjustments relating to the recoverability and classification of recorded asset amounts or amounts and classification of liabilities that might result from the outcome of this uncertainty.

In view of the matters described in the preceding paragraph, recoverability of a major portion of the recorded asset amounts shown in the accompanying balance sheet is dependent upon continued operations of the Company, which in turn is dependent upon the Company's ability to meet its financing requirements on a continuing basis, to maintain present financing, and to succeed in its future operations.

At December 31, 2002, the Company's cash and cash equivalents, excluding restricted certificates of deposit, were \$216,000, a decrease of \$1,505,000 from the December 31, 2001 balance of \$1,721,000.

The continuing development of and expansion in sales of the Company's RF filter product lines, as well as the continued defense of its intellectual property, may require a commitment of substantial funds to undertake product line development and potentially the 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 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 that it has sufficient funds to operate its business as identified herein without the need for substantial future capital sources only into May 2003, provided that the Company is able to borrow the \$1 million remaining under the uncommitted line of credit.

During October 2002, the Company entered into an Uncommitted Line of Credit with its two largest shareholders, an affiliate of Elliott Associates, L.P. (Manchester Securities Corporation and Alexander Finance, L.P. This line is intended to provide up to \$4 million to the Company, with \$1 million of the total borrowed during October 2002 upon completion of the transaction and another \$1 million during November 2002.

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Subsequent to December 31, 2002, the Company borrowed an additional \$1 million. This line is uncommitted, such that each new borrowing under the facility would be subject to the approval of the lenders. Borrowings on this line bear an interest rate of 9.5% and are collateralized by all the assets of the Company. Outstanding loans under this agreement would be required to be repaid on a priority basis should the Company receive new funding from other sources. Additionally, the lenders would be entitled to receive warrants to the extent funds are drawn down on the line. The warrants bear a strike price of \$0.20 per share of common stock and expire on April 15, 2004. The credit line matures and is due, including accrued interest thereon, on March 31, 2004. Warrants to purchase 10 million shares of common stock were issued in connection with the borrowings under the line of credit during the year ended December 31, 2002. No warrants were issued in connection with March 2003 borrowing under the line of credit. Up to 5 million warrants may be issued in the event the Company is authorized to borrow the \$1 million remaining under the facility. Therefore, a maximum of 15 million warrants may be issued as a result of this transaction, presuming certain antidilutive features are not triggered.

According to existing accounting pronouncements and SEC guidelines, the Company has allocated the proceeds of these borrowings between their debt and equity components. As a result of these borrowings during 2002, the Company will record a non-cash charge of \$1.2 million through the outstanding term of the warrants (April, 2004). \$128,000 of that amount was recorded during 2002.

As part of its overall financing strategy, the Company filed a \$50 million universal shelf offering registration statement in the first quarter of 2001. The Company currently may not issue securities registered on this registration statement and may not issue securities in the future from this registration statement until the Company files a post effective amendment to the registration statement on a form for which the Company is then eligible.

Subject to the uncommitted nature of the line of credit, the Company believes it has sufficient capital resources available to meet its obligations and support its operations forecast through May 2003. There can be no assurance that other funding mechanisms, whether identified or not, will allow the Company to access additional funds beyond that date.

## **Results of Operations**

### *Years Ended December 31, 2002 and 2001*

The Company's net sales increased \$1,682,000, or 85%, from \$1,981,000 in 2001 to \$3,663,000 in 2002, as a result of higher unit volume of the Company's radio frequency ( RF ) front-end products. This increase was due to stronger sales volume for its ANF product. The Company anticipates its net sales to continue to increase during 2003 based on existing and/or anticipated customer orders.

Cost of products sold decreased \$413,000, or 10% from \$3,978,000 in 2001 to \$3,565,000 in 2002. This occurred despite an 85% increase in revenue as a result of various cost control measures adopted during the preceding 15 months and the continued emphasis on outsourcing manufacturing processes. The cost of products sold for 2002 and 2001 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 nearly did so for 2002. The Company expects the cost of products sold as a percentage of revenue to improve during 2003 due to anticipated revenue increases and related efficiencies, certain cost control initiatives, and primarily due to the continued emphasis on outsourcing the manufacture of its products.

The Company's internally funded research and development expenses decreased by \$4,395,000, or 62%, from \$7,132,000 in 2001 to \$2,737,000 during 2002. These reductions were primarily due to cost-cutting measures, including the consolidation of the Colorado and Canadian operations into the Illinois facility. The shift from initial development to product improvement as the focus of development efforts on products with a greater probability of commercial sales also were significant in this reduction.

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Selling and marketing expenses decreased \$1,063,000, or 33%, from \$3,264,000 during 2001 to \$2,201,000 during 2002. This decrease was due to cost reductions implemented during the past year.

General and administrative expenses increased \$235,000, or 3%, from \$7,738,000 in 2001 to \$7,973,000 during 2002. This increase was due to the expenses in the patent litigation as described elsewhere in this report, which were \$1.9 million higher during 2002 than they were during 2001 as the case approached the March 2003 trial date. If not for this line item, total general and administrative expenses would have decreased by \$1.6 million, or 21%. The Company expects general and administrative expenses to remain higher than their historical levels through the completion of the patent litigation.

Interest income decreased \$76,000, or 55%, from \$139,000 in 2001 to \$63,000 during 2002. This decrease was due, in part, to the timing and magnitude of funding and the vehicles employed. While operating under its uncommitted line of credit, the Company does not expect to maintain significant amounts of cash on which interest may be earned.

Interest expense increased \$97,000, or 42%, from \$230,000 in 2001 to \$327,000 during 2002. During February 2002, shareholder notes of \$9,425,000, plus accrued interest, were repaid following the Shareholder Rights Offering, both of which are described elsewhere in this document. The Company borrowed \$2 million during the fourth quarter of 2002 under an uncommitted line of credit with entities affiliated with its two largest shareholders. As a result of the borrowings on this line, warrants were issued. The interest expense recorded during 2002 includes \$128,000 of non-cash expense related to these warrants.

*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.

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'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.



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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.

### *Critical Accounting Policies*

The discussion and analysis of the Company's financial condition and results of operations are based upon the Company's 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 the Company 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 the Company's 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. The Company believes that its 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. Revenues from services are generally recognized upon substantial completion of the service and acceptance by customer. 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 a 1-2 year period from the date of shipment, except for superconducting materials contained in the products, which are warranted for five 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, 2002 and 2001, respectively, the Company has accrued \$63,000 and \$298,000 for warranty costs. Returns and allowances were not significant in any period reported.

### **Goodwill and Other Intangible Assets**

On July 20, 2001, the 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 Other 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

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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 a part of a related contract, assets, 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.

As of the reporting date, the Company had recorded unamortized goodwill assets resulting from the acquisitions of Spectral Solutions, Inc. and the Adaptive Notch Filter division of Lockheed Martin Canada, Inc. during 2000. Beginning January 1, 2002, goodwill is no longer to be amortized but rather to be tested for impairment on an annual basis and between annual tests whenever there is an indication of potential impairment. Impairment losses would be recognized whenever the implied fair value of goodwill is determined to be less than its carrying value. During the second quarter of 2002, the Company completed the process of evaluating goodwill for impairment under SFAS No. 142. As the fair value, using quoted market prices for the Company, exceeded the carrying amount, the goodwill was determined to be not impaired. There were no material adjustments relating to the classification of the Company's intangible assets as a result of adopting SFAS No. 142. During October 2002, the Company performed its annual evaluation of goodwill for impairment and no impairment was determined to exist, thus no write-downs were required.

The Company has concluded that no impairment exists as of the reporting date. As mentioned elsewhere in this document, litigation is ongoing with respect to intellectual property rights between the Company and two primary competitors. These intellectual property rights were acquired as part of the Spectral Solutions, Inc. acquisition. While the Company believes its position in the matter to be both correct and strong, an adverse ruling in this litigation may cause the Company to reassess the carrying value of a material portion of the Company's recorded goodwill asset.

Prior to the 2002 effective date of this standard, acquired goodwill from the two acquisitions completed during 2000 had been 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 may indicate impairment, management evaluated 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 considered 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.

**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, 2002 and 2001, and the related consolidated statements of operations, shareholders' equity, and cash flows for each of the three years ended December 31, 2002. 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 as of December 31, 2002, 2001 and 2000, and the consolidated results of their operations and their cash flows for the three years ended December 31, 2002, in conformity with accounting principles generally accepted in the United States of America.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 3, the Company incurred a net loss of \$13,077,832 during the year ended December 31, 2002, and, as of that date, the Company's accumulated deficit is \$142,940,030. In addition, the Company has consistently used, rather than provided, cash in its operations. These factors, among others, as discussed in Note 3 to the financial statements, raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 3. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

As discussed in Note 2 to the consolidated financial statements, the Company has adopted Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets" (SFAS 142) on January 1, 2002.

Grant Thornton LLP

Chicago, Illinois  
March 8, 2003

(except Note 12 for which the date is March 17, 2003)

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**ISCO INTERNATIONAL**  
**CONSOLIDATED BALANCE SHEETS**

	December 31,	
	2002	2001
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 216,119	\$ 1,720,697
Inventories	896,572	1,682,669
Accounts receivable, net of allowance for doubtful accounts of \$54,000 and \$0 at December 31, 2002 and 2001, respectively	1,551,912	234,850
Prepaid expenses and other	471,918	456,818
	3,136,521	4,095,034
Property and equipment:		
Property and Equipment	8,968,732	9,286,725
Less: Accumulated depreciation	7,463,289	6,991,050
	1,505,443	2,295,675
Restricted certificates of deposit	114,508	263,094
Intangible assets, net	14,426,528	14,273,292
	19,183,000	20,927,095
Total assets	\$ 19,183,000	\$ 20,927,095

	December 31,	
	2002	2001
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 193,458	\$ 537,636
Accrued liabilities	1,609,236	2,989,240
	1,802,694	3,526,876
Total current liabilities	1,802,694	3,526,876
Notes	2,000,000	9,425,000
Stockholders' equity:		
Preferred Stock; 300,000 and 100,000 shares authorized; No shares issued and outstanding at December 31, 2002 and 2001, respectively		
Common stock (\$.001 par value); 250,000,000 and 250,000,000 shares authorized and 147,944,927 and 107,905,231 shares issued and outstanding at December 31, 2002 and 2001, respectively	147,945	107,905
Additional paid-in capital (net of unearned comp.)	158,172,391	137,729,512
Accumulated deficit	(142,940,030)	(129,862,198)
	15,380,306	7,975,219
Total stockholders' equity	15,380,306	7,975,219
Total liabilities and stockholders' equity	\$ 19,183,000	\$ 20,927,095



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



**Table of Contents****ISCO INTERNATIONAL****CONSOLIDATED STATEMENTS OF OPERATIONS**

	Year Ended December 31,		
	2002	2001	2000
Net sales	\$ 3,662,805	\$ 1,981,001	\$ 495,885
Costs and expenses:			
Cost of sales	3,565,140	3,978,368	2,672,578
Research and development	2,737,084	7,131,654	3,187,768
Selling and marketing	2,201,195	3,263,813	1,239,959
General and administrative	7,972,948	7,738,458	5,967,631
Goodwill amortization	2,009,974	2,009,974	704,165
Total costs and expenses	16,476,367	24,122,267	13,772,101
Operating loss	(12,813,562)	(22,141,266)	(13,276,216)
Other income and (expense):			
Interest income	62,954	138,696	174,919
Non-cash interest expense	(128,423)		(5,631,581)
Other interest expense	(198,801)	(229,568)	(18,991)
Other income (expense), net		(5,957,465)	(16,017)
	(264,270)	(6,048,337)	(5,491,670)
Loss before extraordinary item	(13,077,832)	(28,189,603)	(18,767,886)
Extraordinary item debt extinguishment			(28,297)
Net loss	\$ (13,077,832)	\$ (28,189,603)	\$ (18,796,183)
Basic and diluted loss per common share before extraordinary item	\$ (0.09)	\$ (0.26)	\$ (0.57)
Extraordinary item debt extinguishment			
Basic and diluted loss per common share	\$ (0.09)	\$ (0.26)	\$ (0.57)
Weighted average number of common shares outstanding	142,884,921	107,829,453	33,037,106

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

**Table of Contents****ISCO INTERNATIONAL****CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY**  
**Years Ended December 31, 2000, 2001, and 2002**

	<u>Common Stock Shares</u>	<u>Common Stock Amount</u>	<u>Additional Paid-In Capital</u>	<u>Notes Receivable From Stockholders</u>	<u>Accumulated Deficit</u>	<u>Unearned Compensation</u>	<u>Total</u>
Balance as of December 31, 1999	15,753,001	\$ 15,753	\$ 74,249,643	\$ (680,696)	\$ (82,876,412)	\$	\$ (9,291,712)
Exercise of stock options; \$.48 \$1.81 per share	362,812	363	219,565				219,928
Conversion of senior convertible notes to common stock	75,894,430	75,894	19,110,980				19,186,874
Conversion of warrants to common stock	7,950,356	7,950	4,007,072				4,015,022
Conversion of senior convertible notes			4,000,000				4,000,000
Acquisition of Spectral Solutions, Inc.	3,440,526	3,441	14,324,800			(108,915)	14,219,326
Acquisition of ANF division of LMC	2,500,000	2,500	2,653,750				2,656,250
Equity Issuance	1,818,182	1,818	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-employee stock options			344,951				344,951
Net loss					(18,796,183)		(18,796,183)
Balance as of December 31, 2000	<u>107,719,307</u>	<u>\$ 107,719</u>	<u>\$ 125,011,177</u>	<u>\$</u>	<u>\$ (101,672,595)</u>	<u>\$ (1,802,090)</u>	<u>\$ 21,644,211</u>
Exercise of stock options and vested DSU s; \$0.00 to \$0.75 per share	185,924	186	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-employee stock options			164,066				164,066
Net loss					(28,189,603)		(28,189,603)

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Balance as of December 31, 2001	107,905,231	\$ 107,905	\$ 138,612,160	\$	\$ (129,862,198)	\$ (882,648)	\$ 7,975,219
Exercise of stock options and vested DSU s; \$0.00 to \$0.18 per share	109,725	110	201				311
Rights Offering proceeds received, net	39,929,971	39,930	19,725,055				19,764,985
Deferred Stock Unit Amortization						382,800	382,800
Compensation Expense for Non-Employee Options			26,400				26,400
Compensation Expense for Discount on Employee Options		180,000				180,000	
Issuance of Warrants, net			128,423				128,423
Net Loss					(13,077,832)		(13,077,832)
Balance as of December 31, 2002	147,944,927	\$ 147,945	\$ 158,672,239	\$	\$ (142,940,030)	\$ (499,848)	\$ 15,380,306

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



**Table of Contents****ISCO INTERNATIONAL****CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Years Ended December 31,		
	2002	2001	2000
<b>OPERATING ACTIVITIES</b>			
Net loss	\$ (13,077,832)	\$ (28,189,603)	\$ (18,796,183)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	744,188	870,354	759,210
Amortization	83,656	2,109,559	744,493
Extraordinary item			28,297
Non-cash interest expense on senior convertible notes			5,631,673
Gain on sale of property and equipment			
Non-cash compensation charges	589,200	689,758	576,778
Non-cash warrant issuance-related expense	128,423		
Write-off of capitalized patent costs			176,472
Changes in operating assets and liabilities:			
Accounts receivable	(1,317,062)	(42,555)	(2,525)
Inventories	786,097	245,678	515,176
Prepaid expenses and other	66,330	228,623	(200,063)
Accounts payable	(344,180)	(272,008)	(761,670)
Accrued liabilities	(1,289,432)	1,491,629	456,910
Net cash used in operating activities	(13,630,612)	(22,868,565)	(10,871,432)
<b>INVESTING ACTIVITIES</b>			
Decrease (increase) in restricted certificates of deposit	148,586	(59,916)	88,397
Payments of patent costs	(236,892)	(462,736)	(164,295)
Payment of Deferred Acquisition Costs			(343,560)
Acquisitions of property and equipment	(125,956)	(589,086)	(203,528)
Net cash used in investing activities	(214,262)	(1,111,738)	(622,986)
<b>FINANCING ACTIVITIES</b>			
Proceeds from issuance of common stock net of offering costs			5,000,000
Proceeds from settlement		13,750,000	
Proceeds from Rights Offering, net	19,764,985		
Exercise of stock options	311	80,853	219,926
Exercise of warrants			4,015,022
Proceeds from issuance of notes	2,000,000	9,425,000	4,000,000
Payment of notes	(9,425,000)		
Payments on other long-term lease obligation		(8,698)	(10,396)
Net cash provided by financing activities	12,340,296	23,247,155	13,224,552
(Decrease)/ Increase in cash and cash equivalents	(1,504,578)	(733,148)	1,730,134
Cash and cash equivalents at beginning of period	1,720,697	2,453,845	723,711
Cash and cash equivalents at end of period	\$ 216,119	\$ 1,720,697	\$ 2,453,845
Supplemental cash flow information:			
Cash paid for interest	\$ 208,000	\$ 30,000	\$ 19,000



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) address interference issues within wireless communications. The Company uses patented and proprietary products, including ANF (Adaptive Notch Filters) and HTS (high-temperature superconducting products) solutions, as well as service expertise, in mitigating the impact of interference on wireless communications systems. These solutions are 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.

**Accounts receivable**

The majority of the Company's accounts receivable are due from companies in the telecommunications industry. Credit is extended based on evaluation of a customer's financial condition and, generally, collateral is not required. Accounts receivable are due within 30 days and are stated at amounts due from customers, net of an allowance for doubtful accounts. Accounts outstanding longer than the contractual payment terms are considered past due. The Company determines its allowance by considering a number of factors, including the length of time trade accounts receivable are past due, the Company's previous loss history, the customer's current ability to pay its obligation to the Company, and the condition of the general economy and the industry as a whole. The Company writes-off accounts receivable when they become uncollectible, and payments subsequently received on such receivables are credited to the allowance for doubtful accounts.

The Company establishes a reserve for customer accounts receivable balances that are potentially uncollectible. The reserve could be materially different if economic conditions change or actual results deviate from historical trends.

**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 2002 and 2001, the Company wrote off no patent-related costs. Total capitalized patent and trademark costs are \$1,057,000 and \$998,000 at December 31, 2002 and 2001, respectively. Capitalized patent costs related to pending patents are \$595,000 and \$554,000 at December 31, 2002 and 2001, respectively. Patents and trademarks are net of accumulated amortization of \$133,000 and \$94,000 at December 31, 2002 and 2001, 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



**Table of Contents****ISCO INTERNATIONAL****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

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 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. Revenues from services are generally recognized upon substantial completion of the service and acceptance by customer. 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 1-2 years from the date of shipment, except for superconducting materials contained in the products, which are warranted for five 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, 2002 and 2001, respectively, the Company has accrued \$63,000 and \$238,000 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 17.9 million common shares issuable as of December 31, 2002 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 reported amounts of assets

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**ISCO INTERNATIONAL**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. 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.

**Goodwill and Other Intangible Assets**

On July 20, 2001, The 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 Other 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 a part of a related contract, assets, 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.

As of the reporting date, the Company had recorded unamortized goodwill assets resulting from the acquisitions of Spectral Solutions, Inc. and the Adaptive Notch Filter division of Lockheed Martin Canada, Inc. during 2000. Beginning January 1, 2002, goodwill is no longer to be amortized but rather to be tested for impairment on an annual basis and between annual tests whenever there is an indication of potential impairment. Impairment losses would be recognized whenever the implied fair value of goodwill is determined to be less than its carrying value. During the second quarter of 2002, the Company completed the process of evaluated goodwill for impairment under SFAS No. 142. As the fair value, using quoted market prices for the Company, exceeded the carrying amount, the goodwill was determined to be not impaired. There were no material adjustments relating to the classification of the Company's intangible assets as a result of adopting SFAS No. 142. During October 2002, the Company performed its annual evaluation of goodwill for impairment and no impairment was determined to exist, thus no write-downs were required.

The Company has concluded that no impairment exists as of the reporting date. As mentioned elsewhere in this document, litigation is ongoing with respect to intellectual property rights between the Company and two primary competitors. These intellectual property rights were acquired as part of the Spectral Solutions, Inc. acquisition. While the Company believes its position in the matter to be both correct and strong, an adverse ruling in this litigation may cause the Company to reassess the carrying value of a material portion of the Company's recorded goodwill asset.

**Table of Contents****ISCO INTERNATIONAL****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

Prior to the 2002 effective date of this standard, acquired goodwill from the two acquisitions during 2000 had been 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 was included in impairment evaluations when events and circumstances may indicate impairment, management evaluated 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 considered 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.

The following presents results of operations as though SFAS No. 142 had been in effect:

	For the Years Ended December 31,		
	2002	2001	2000
	(in thousands of dollars)		
Net losses as reported	\$ 13,078	\$ 28,190	\$ 18,796
Amortization, net of tax		2,010	704
Adjusted net losses	\$ 13,078	\$ 26,180	\$ 18,092
<b>Basic net loss per share:</b>			
As reported	\$ .09	\$ .26	\$ .57
Change in amortization expense		(0.02)	(0.02)
Adjusted basic net loss per share	\$ .09	\$ .24	\$ .55
<b>Diluted net loss per share:</b>			
As reported	\$ .09	\$ .26	\$ .57
Change in amortization expense		(0.02)	(0.02)
Adjusted diluted net loss per share	\$ .09	\$ .24	\$ .55

The Company's balances of other intangibles were as follows:

	As of December 31,	
	2002	2001
	(in thousands of dollars)	
Other amortizable intangibles, gross	\$ 1,190	\$ 998
Accumulated amortization	(133)	(94)
Other amortizable intangibles, net	\$ 1,057	\$ 904
Other intangibles with indefinite lives, net	\$ 13,370	\$ 13,370

**Fair Value of Financial Instruments**

The carrying values of financial instruments approximates fair value.

**Long Lived Assets**

The Company adopted SFAS No. 144, Accounting for the Impairment or Disposal of Long-Lived Assets effective January 1, 2002. SFAS No. 144 addresses financial accounting and reporting for the impairment or disposal of long-lived assets. This statement supersedes SFAS No. 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of, and the accounting and reporting provisions of Accounting Principles Board Opinion No. 30, Reporting the Results of Operations Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions, for the disposal of a segment of a business. This adoption did not have a material effect on its results of operations or financial position.



**Table of Contents****ISCO INTERNATIONAL****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)****Stock-Based Employee Compensation**

The Company has a stock-based employee compensation plan, which is described more fully in Note 6. The Company applies APB Opinion 25, Accounting for Stock Issued to Employees, and related Interpretations in accounting for its plans. Stock expense in 2002, 2001, and 2000 is the result of options issued with an exercise price below the underlying stock's market price. The following table illustrates the effect on net income and earnings per share if the Company had applied the fair value recognition provisions of FASB Statement 123, Accounting for Stock-Based Compensation, using the assumptions described in Note 6, to its stock-based employee plans.

	Year Ended December 31,	
	2002	2001
Net loss, as reported	\$ 13,078	\$ 28,190
Add: Stock-based employee compensation expense included in reported net loss, net of related tax effects	589	690
Less: Total stock-based employee compensation expense determined under fair value based method for awards granted, modified, or settled, net of related tax effects	2,260	1,984
Pro forma net loss	<u>\$ 14,749</u>	<u>\$ 29,484</u>
Earnings per share:		
Basic as reported	\$ 0.09	\$ 0.26
Basic pro forma	\$ 0.10	\$ 0.27
Diluted as reported	\$ 0.09	\$ 0.26
Diluted pro forma	\$ 0.10	\$ 0.27

**New Accounting Standards**

In April 2002, the FASB issued SFAS No. 145, Rescission of FASB Statements No. 4, 44, and 64, Amendment of FASB Statement No. 13, and Technical Corrections. SFAS No. 145 addresses a variety of accounting practices. The provisions of this statement related to the rescission of SFAS No. 4 (Reporting Gains and Losses from Extinguishment of Debt) are effective for fiscal years beginning after May 15, 2002. The provisions of this statement related to SFAS No. 13 (Accounting for Leases) are effective for transactions occurring after May 15, 2002. All other provisions of this statement are effective for financial statements issued on or after May 15, 2002. SFAS No. 44 was entitled Accounting for Intangible Assets of Motor Carriers and SFAS No. 64 was entitled Extinguishments of Debt Made to Satisfy Sinking-Fund Requirements.

The Company adopted those provisions of SFAS No. 145 that were effective as of May 15, 2002. Adoption of those provisions did not have a material effect on the Company's results of operations or financial position. For those provisions that are to be effective for fiscal years beginning after May 15, 2002, the Company does not expect that adoption of those provisions will have a material effect on its results of operations or financial position.

In June 2002, the FASB issued SFAS No. 146, Accounting for Costs Associated with Exit or Disposal Activities. This statement requires recognition of costs associated with exit or disposal activities when they are incurred rather than at the date of a commitment to an exit or disposal plan. This new statement is effective for exit or disposal activities that are initiated after December 31, 2002. The Company does not expect that adoption of this statement will have a material effect on its results of operations or financial position.

In November 2002, the FASB issued Interpretation No. 45 (FIN No. 45), Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others. This is an interpretation of FASB Statements No. 5, 57, and 107 and rescission of FASB Interpretation No. 34. FIN No. 45 elaborates on the disclosures to be made by a guarantor in its interim and annual financial statements about its obligations under certain



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**ISCO INTERNATIONAL**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

guarantees that it has issued. It also clarifies that a guarantor is required to recognize, at the inception of a guarantee, a liability for the fair value of the obligation undertaken in issuing the guarantee. The initial recognition and initial measurement provisions of FIN No. 45 are applicable on a prospective basis to guarantees issued or modified after December 31, 2002, irrespective of the guarantor's fiscal year-end. The disclosure requirements in FIN No. 45 are effective for financial statements of interim or annual periods ending after December 15, 2002. The Company does not expect that adoption of this interpretation will have a material effect on its results of operations or financial position.

In January 2003, the FASB issued Interpretation No. 46 (FIN No. 46), Consolidation of Variable Interest Entities. This is an interpretation of Accounting Research Bulletin No. 51, and addresses consolidation by business enterprises of variable interest entities, which have certain characteristics. FIN No. 46 applies immediately to variable interest entities created after January 31, 2003, and to variable interest entities in which an enterprise obtains an interest after that date. It applies in the first fiscal year or interim period beginning after June 15, 2003, to variable interest entities in which an enterprise holds a variable interest that it acquired before February 1, 2003. FIN No. 46 applies to public enterprises as of the beginning of the applicable interim or annual period, and it applies to nonpublic enterprises as of the end of the applicable annual period. FIN No. 46 may be applied prospectively with a cumulative-effect adjustment as of the date on which it is first applied or by restating previously issued financial statements for one or more years with a cumulative-effect adjustment as of the beginning of the first year restated. The Company does not expect that adoption of this interpretation will have a material effect on its results of operations or financial position.

In December 2002, The FASB SFAS No. 148, Accounting for Stock-Based Compensation Transition and Disclosure an amendment of FASB Statement No. 123. This Statement amends SFAS No. 123, Accounting for Stock-based Compensation, to provide alternative methods of transition for a voluntary change to the fair value method of accounting for stock-based employee compensation. In addition, this Statement amends the disclosure requirements of SFAS No. 123 to require more prominent disclosures in both the annual and interim financial statements about the method of accounting for stock-based employee compensation and the effect of the method on reported amounts. The amendments to SFAS 123 in paragraphs 2(a)-2(e) of this Statement are effective for financial statements for fiscal years ending after December 15, 2002. The Company does not expect that adoption of this statement will have a material effect on its results of operations or financial position.

**3. Realization of Assets**

The accompanying financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America, which contemplate continuation of the company as a going concern. However, the company has sustained substantial losses from operations in recent years, and such losses have continued through the unaudited quarter ended March 31, 2003. In addition, the company has used, rather than provided, cash in its operations.

In view of the matters described in the preceding paragraph, recoverability of a major portion of the recorded asset amounts shown in the accompanying balance sheet is dependent upon continued operations of the company, which in turn is dependent upon the company's ability to meet its financing requirements on a continuing basis, to maintain present financing, and to succeed in its future operations. The financial statements do not include any adjustments relating to the recoverability and classification of recorded asset amounts or amounts and classification of liabilities that might be necessary should the company be unable to continue in existence.

The Company has incurred, and continues to incur, losses from operations. For the years ended December 31, 2002, 2001, and 2000, the Company incurred net losses of \$13,077,832, \$28,189,603, and \$18,796,183, respectively. During 2002 and 2001, the Company implemented strategies 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.

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To date, the Company has financed its operations primarily through public and private equity and debt financings. Subject to the uncommitted nature of the credit line, the Company believes that it has sufficient funds to operate its business as identified herein and to meet its obligations through May 2003, provided that the Company is able to borrow the \$1 million remaining under the uncommitted line of credit. The Company intends to augment its existing capital position by utilizing the credit line as identified and through other sources of capital.

**4. Inventories**

Inventories consist of the following:

	December 31,	
	2002	2001
Raw materials	\$ 631,285	\$ 768,042
Work-in-process	39,695	659,127
Finished product	225,592	255,500
	<u>\$ 896,572</u>	<u>\$ 1,682,669</u>

Cost of product sales for the years ending December 31, 2002 and 2001 includes approximately \$295,000 and \$605,000, respectively, of costs in excess of the net realizable value of inventory.

**5. 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).

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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 more than 50% of its assets or earning power, or if an acquiring party engages in

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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 February 13, 2002, the Company executed an amendment to the Rights Agreement, to provide that neither Elliott Associates, L.P. and Elliott International, L.P. (collectively referred to herein as Elliott and with their affiliates, the Elliott Entities) nor Alexander Finance, LP (Alexander) shall be an acquiring person under the Rights Agreement (i) on account of any acquisition of additional common shares purchased directly from ISCO which has been approved in advance by its board of directors, or (ii) so long as the acquisition of any additional shares not purchased directly from ISCO, in the aggregate, does not exceed one (1%) percent of the total issued and outstanding ISCO common stock. Additionally, none of the Elliott Entities nor Alexander will be an acquiring person by reason of direct transfers between any of the Elliott Entities or from Alexander to any of its affiliates.

At December 31, 2002, authorized but unissued shares of common stock have been reserved for future issuance as follows:

Warrants outstanding (Note 7)	10,000,000
Options outstanding (Note 7)	7,885,000
	<hr/>
	17,885,000
	<hr/>

**6. 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 2002 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 25% (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.

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



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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 became fully vested on the first anniversary of the date of grant, with 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 the 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 (SFAS No. 123).

On May 10, 1999, as described above, the Company re-priced certain stock options granted to employees and in accordance with US GAAP, at that time, the Company accounted for the re-priced stock options as fixed. As a result of adopting FIN 44, the Company is required to apply variable accounting to these options. If the market price of the Company's common stock increases above the July 1, 2000 market price, the Company will have to recognize additional compensation expense equal to the increase in stock price multiplied by the number of re-priced options. No additional expense will be recognized if the stock does not exceed the July 1, 2000 value. However, the impact cannot be determined as it is dependent on the change in the market price of the common stock from July 1, 2000 until the stock options are exercised, forfeited, or expire unexercised. Because the stock price on December 31, 2002 was below that of July 1, 2000, no expense has been recognized during the period.

On February 5, 2001, the Company's board of directors authorized the re-pricing of certain out of the money stock options granted to employees during the calendar year of 2000 to the closing share price on such date, or \$1.9375 per share. Options for a total of 2,676,000 shares of common stock were affected. This re-pricing causes these options to be subject to variable accounting as described in FIN 44. Because the stock price on December 31, 2002, was lower than the re-priced strike price no gain or loss was recognized during the period.

On April 1, 2002, the Company's board of directors authorized the re-pricing of certain out of the money stock options granted to employees. A new strike price of \$0.81 per share was established, provided the respective employees remain with the Company for at least six months following the re-pricing date. In addition, certain stock options granted to directors were repriced, with a new strike price of \$1.00 per share. As the stock price on December 31, 2002, was lower than the re-priced strike price no gain or loss was recognized during the period.

On July 17, 2000, the Company granted an option to a non-Company advisor in connection with the establishment of a sales office in Japan to purchase 200,000 shares of common stock at \$4.9375 per share, the price of the common stock on the date of the grant. According to the Black-Scholes valuation model, the value of the option was \$4.53 per share. The option vested 25% immediately, with the balance vesting pro-rata over a three-year period. \$906,000 of non-cash compensation expense was to be amortized during the life of the options. 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 termination was \$545,000.

On February 15, 2000, the Company's board of directors granted to certain executive level employees an aggregate of 440,000 deferred stock units (DSUs) under the Company's 1993 Amended and Restated Stock Option Plan (the Plan). The DSUs represent the right to receive an equivalent number of restricted shares of the Company's common stock. On the date of the grant, the DSUs were set to vest at the rate of 10% on the first anniversary of the date of the grant, with the balance vesting at a rate of 20%, 30%, and 40% at the second, third, and fourth anniversary dates, respectively. The executive level employees had the right to elect to defer receipt of the common stock subject to the



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DSU s to a later date. In the third quarter of 2000, the Company began to recognize compensation expense for the DSU s over the vesting period (4 years) based on their intrinsic value of \$1,925,000, which was the number of DSU s multiplied by the closing price of the Company s common stock on July 18, 2000, the measurement date (\$4.38 per share).

During 2002, the Company s Board of Directors granted 2,172,000 new stock options to the Company s employees, including officers (option prices are generally, but not always, set at the closing price of the Company s common stock as of the date of each respective grant). Those grants include the issuance of 900,000 stock options to the CEO during December, 2002 that vest immediately and are priced at a \$0.20 discount to the closing price of the Company s common stock as of the date of grant. Consequently, \$180,000 of compensation expense was recognized during December, 2002, in order to account for this discount. On January 2, 2003, the Company s Board of Directors granted 2,800,000 new stock options to six of the Company s employees, including officers. 950,000 of these options vested immediately, while the remaining 1,850,000 vest monthly in 12 installments. All of the options granted on January 2, 2003 were granted at a \$0.22 discount to the closing price of the Company s common stock as of the date of the grant.

On February 15, 2002, the Company completed a Shareholder Rights Offering. Approximately \$20 million was raised from existing shareholders as of the recording date in exchange for the issuance of approximately 40 million shares of the Company s common stock. A portion of the proceeds were then used to repay in full \$9.8 million of debt and related accrued interest, as well as the payment of various other accrued expenses.

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, 2002, 2001 and 2000: risk-free interest rate of 2.9%, 4.2%, and 5.1%, respectively; a dividend yield of 0%; volatility factor of the expected market price of the Company s common stock of 0.15, 0.56, and 2.33, 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.

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The table below summarizes all option activity during the three year period ended December 31, 2002:

	<u>Options Outstanding</u>	<u>Exercise Price Per Share</u>	
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
Granted	2,171,757	.11	1.45
Exercised	(109,725)	.00	0.18
Forfeited	(3,816,482)	.18	26.50
Outstanding at December 31, 2002	7,884,863	\$ .00	21.50

The weighted-average exercise price of options outstanding at December 31, 2002, 2001 and 2000, was \$0.96, 1.64, and 2.97, respectively. The weighted-average exercise price of options granted, exercised, and forfeited during 2002 was \$0.40, \$0.00 and \$1.20, respectively. The weighted-average fair value of options granted during 2002, 2001 and 2000 was \$0.18, \$1.52, and \$3.86, respectively.

Following is additional information with respect to options (including DSU s) outstanding at December 31, 2002:

	<u>Exercise Price from \$0.00 to \$0.48</u>	<u>Exercise Price from \$0.53 to \$0.75</u>	<u>Exercise Price from \$0.76 to \$1.00</u>	<u>Exercise Price from \$1.03 to \$26.50</u>
<b>OUTSTANDING AT DECEMBER 31, 2002:</b>				
Number of options	2,064,041	600,268	3,763,200	1,457,354
Weighted-average exercise price	\$ 0.23	\$ 0.64	\$ 0.86	\$ 2.40
Weighted-average remaining contractual life in years	8.0	6.8	8.1	8.0
<b>EXERCISABLE AT DECEMBER 31, 2002:</b>				
Number of options	1,607,541	310,193	2,273,693	1,376,271
Weighted-average exercise price	\$ 0.26	\$ 0.59	\$ 0.89	\$ 1.49

The total number of unvested options outstanding at December 31, 2002 was 2,317,165, which will vest based on employees' continued service to the Company.

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The above-referenced DSUs are included in table above.

During the fourth quarter of 2002, in accordance with the terms of the credit line provided by the Company's two largest shareholders, 10 million warrants were issued to purchase common stock of the Company at an exercise price of \$0.20 per share and an expiration date of April 15, 2004. To the extent the remaining amount available under the credit line is drawn by the Company, these entities would be entitled to receive an additional 5 warrants for every dollar borrowed, with the same terms as those described above.

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As of the reporting date, the Company had drawn \$2 million of debt financing under a credit line. During October 2002, the Company entered into an Uncommitted Line of Credit with its two largest shareholders, an affiliate of Elliott Associates, L.P. (Manchester Securities Corporation and Alexander Finance, L.P. This line is intended to provide up to \$4 million to the Company. This line is uncommitted, such that each new borrowing under the facility would be subject to the approval of the lenders. Borrowings on this line bear an interest rate of 9.5% and are collateralized by all the assets of the Company. Outstanding loans under this agreement would be required to be repaid on a priority basis should the Company receive new funding from other sources. Additionally, the lenders are entitled to receive warrants to the extent funds are drawn down on the line. The warrants bear a strike price of \$0.20 per share of common stock and expire on April 15, 2004. The credit line matures and is due, including accrued interest thereon, on March 31, 2004. Warrants to purchase 10 million shares of common stock were issued in connection with the borrowings under the line of credit during the year ended December 31, 2002.

According to existing accounting pronouncements and SEC guidelines, the Company has allocated the proceeds of these borrowings between their debt and equity components. As a result of these borrowings during 2002, the Company will record a non-cash charge of \$1.2 million through the outstanding term of the warrants (April, 2004). \$128,000 of that amount was recorded during 2002.

Subject to its ability to draw the remaining \$1 million from the uncommitted line of credit, the Company believes that it has sufficient funds to operate its business as identified herein and to meet its obligations without the need for substantial future capital through May 2003. There can be no assurance that any funding mechanisms, whether identified or not, will allow the Company to access additional funds beyond that date.

**8. Income Taxes**

The Company has net operating loss and research and development credit carryforwards for tax purposes of approximately \$115,088,000 and \$332,000, respectively, at December 31, 2002. The net operating loss carryforwards expire in the following years:

<b>Year</b>	<b>Amount</b>
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	24,904,000
2022	13,487,000
	<u>\$ 115,088,000</u>

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The research and development credit carryforwards expire in the following years:

Year	Amount
2003	\$ 146,000
2004	85,000
2005	101,000
	<u>\$ 332,000</u>

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

	December 31,	
	2002	2001
Deferred tax assets:		
Net operating loss carryforward	\$ 43,733,000	\$ 38,608,000
Research and development tax credit carryforwards	332,000	545,000
Accrued liabilities	376,000	582,000
Inventories	105,000	154,000
Property, Equipment, and Goodwill	363,000	340,000
Total deferred tax assets	<u>44,909,000</u>	<u>40,229,000</u>
Deferred tax liabilities:		
Patent costs	(401,000)	(343,000)
	<u>(401,000)</u>	<u>(343,000)</u>
Net deferred tax assets	44,508,000	39,886,000
Valuation allowance	(44,205,000)	(39,886,000)
Net deferred tax assets	<u>\$</u>	<u>\$</u>

The valuation allowance increased during 2002 and 2001 by \$4,622,000 and \$9,433,000, 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.

**9. 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(\$50,000 at December 31, 2002) that is secured by a certificate of deposit owned by the Company. In addition, the Company had lease commitments for its Canadian facility expiring August, 2004, which was subsequently broken into two parts and successfully subleased to third parties as of March 1, 2003. The Company also had leased office facilities in Dallas, through February, 2005, as of December 31, 2002. The Company is actively seeking

conclusion of this Dallas lease.

Future minimum payments under the operating leases consist of the following at December 31, 2002:

<b>Year</b>	<b>Amount</b>
2003	\$ 352,000
2004	239,000
2005	10,000
2006	
2007	

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Rent expense totaled \$450,000, \$690,000, and \$312,000, for the years ended December 31, 2002, 2001, and 2000, respectively.

**10. 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, 2002, 2001, and 2000.

**11. Litigation**

**Patent Litigation**

In July 2001, the Company filed suit in the United States District Court for the District of Delaware against Conductus, Inc. and Superconductor Technologies, Inc. alleging infringement of U.S. Patent No. 6,263,215, entitled Cryoelectronically Cooled Receiver Front End for Mobile Radio Systems ( the 215 patent ). This suit alleges that Conductus and Superconductor Technologies base station front-end systems containing cryogenically cooled superconducting filters infringe this patent. The Company is seeking a permanent injunction enjoining Conductus and Superconductor Technologies from marketing, selling or manufacturing these products, as well as triple damages and attorneys fees. Conductus and Superconductor Technologies have denied these allegations and asked the court to enter a judgment that the patent is invalid and not infringed. Conductus and Superconductor Technologies are also asserting the defense of inequitable conduct and a counterclaim for a declaration that the patent is unenforceable. Conductus and Superconductor Technologies have also asserted 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 also 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 . On April 17, 2002, the court dismissed these (the Company s) counterclaims without prejudice to the Company s right to assert these counterclaims in a separate action.

On February 10, 2003, the court disposed of various motions for summary judgment filed by each party. The court denied Superconductor Technologies motion for summary judgment of invalidity of the 215 patent as well as Conductus motion for summary judgment limiting computation of damages to a reasonable royalty for sales to Dobson Communications, Inc. On Superconductor Technologies motion for summary judgment of non-infringement, the court granted the motion with respect to claim 13 of the 215 patent and otherwise denied the motion with respect to each of the other asserted claims. With regard to Conductus motion for summary judgment of non-infringement, the court granted the motion with respect to claim 13 of the 215 patent and otherwise denied the motion with respect to each of the other asserted claims. In addition, the court denied Conductus motion for summary judgment of invalidity of all asserted claims for causes of action existing prior to the date of issuance of the certificate of correction and of invalidity of claim 13. The court also denied the Company s motions for summary judgment that Superconductor Technologies internal projects are not prior art to the 215 patent and to dismiss the defendants counterclaims alleging unfair competition and interference with business relations. The trial for this case is scheduled to begin on March 17, 2003. At the time of filing this statement, the outcome of the trial was unknown.

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 patent 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.

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In November 2001, the Company filed suit against Dobson Communications, Inc. for allegedly infringing this patent. The action has been stayed, per agreement between the parties, until resolution of the matter between the Company and Conductus and Superconductor Technologies. The parties have agreed that Dobson Communications 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.

**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 the Company's Motion to Dismiss the claims against the Individual Defendants, but denied the Company's 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, the Company 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. On April 8, 2002, Laves was given leave to amend his Complaint and add Count III against the individual defendants for tortious interference with contractual obligations. Laves seeks damages against these individuals for: (1) an amount to be provided at trial estimated to exceed \$12 million; (2) \$500,000 for Laves' anxiety, mental suffering, and humiliation; (3) \$500,000 for punitive damages; and (4) pre-and post-judgment interest and costs. Oral fact discovery has been extended to May 15, 2003, while all discovery is to close by August 1, 2003. Any dispositive motions must be filed by July 15, 2003. A final pre-trial will be heard on September 8, 2003, a week after the deadline for submission of pretrial material. The trial is set to begin September 15, 2003. ISCO considers these claims without merit and intends to defend against them vigorously.

**12. Subsequent Events**

The above-referenced patent suit went to trial in Delaware on March 17, 2003. The outcome of that trial was unavailable at the time this document was prepared, but is expected at the end of March or beginning of April, 2003.

In March 2003, the Company borrowed an additional \$1 million under the uncommitted line of credit. No warrants were issued in connection with March 2003 borrowing. Up to 5 million warrants may be issued in the event the Company is authorized to borrow the \$1 million remaining under the facility. Therefore, a maximum of 15 million warrants may be issued as a result of the line of credit, presuming certain antidilutive features are not triggered.

**13. 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



**Table of Contents****ISCO INTERNATIONAL****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)**

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.

**14. Selected Quarterly Financial Data (Unaudited)**

A summary of selected quarterly information for 2002 and 2001 is as follows:

	<b>2002 Quarter Ended</b>			
	<b>March 31</b>	<b>June 30</b>	<b>Sep. 30</b>	<b>Dec. 31</b>
	(in thousands of U.S. dollars except per share amounts)			
Net Sales	\$ 1,563	\$ 134	\$ 430	\$ 1,536
Gross Profit	25	(454)	(112)	639
Net Earnings before Extraordinary Item	(3,780)	(4,009)	(2,806)	(2,483)
Net Earnings	(3,780)	(4,009)	(2,806)	(2,483)
Earnings per Share excluding Extraordinary Item	\$ (0.03)	\$ (0.03)	\$ (0.02)	\$ (0.01)
Earnings per Share	\$ (0.03)	\$ (0.03)	\$ (0.02)	\$ (0.01)

	<b>2001 Quarter Ended</b>			
	<b>March 31</b>	<b>June 30</b>	<b>Sep. 30</b>	<b>Dec. 31</b>
	(in thousands of U.S. dollars except per share amounts)			
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)

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**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 2003 Proxy Statement.

**Item 11. *Executive Compensation***

Information in response to this item is incorporated by reference from the section of the 2003 Proxy Statement captioned Executive Compensation and Certain Transactions.

**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 2003 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 2003 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. *Controls and Procedures***

Under the supervision and with the participation of our management, including our chief executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rule 13a-14(c) promulgated under the Securities Exchange Act of 1934, as amended (the Exchange Act ), within 90 days of the filing date of this Report. Based on their evaluation, our principal executive officer and principal accounting officer concluded that our disclosure controls and procedures are effective.

There have been no significant changes (including corrective actions with regard to significant deficiencies or material weaknesses) in our internal controls or in other factors that could significantly affect these controls subsequent to the date of the evaluation referenced in paragraph (a) above.

**Item 15. *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, 2002 and 2001

Consolidated Statements of Operations for the Years Ended December 31, 2002, 2001, and 2000

Consolidated Statements of Stockholders' Equity (Net Capital Deficiency) for the Years Ended December 31, 2002, 2001 and 2000

Consolidated Statements of Cash Flows for the Years Ended December 31, 2002, 2001, and 2000

Notes to Consolidated Financial Statements



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

All 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.

(b) The following current reports on Form 8-K were filed during the quarterly period ended December 31, 2002:

1. On October 24, 2002, the Company filed a report on Form 8-K announcing that its had secured a \$4 million line of credit from its two largest shareholders.

2. On November 20, 2002, the Company filed a report on Form 8-k announcing that it had accessed the line of credit agreement.

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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 31st day of March, 2003.

ISCO INTERNATIONAL

By: /s/ AMR ABDELMONEM

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Amr Abdelmonem  
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 31st day of March, 2003.

Signature	Title
/s/ AMR ABDELMONEM	Chief Executive Officer and Director (Principal Executive Officer and Director)
Amr Abdelmonem	
/s/ FRANK CESARIO	Chief Financial Officer (Principal Financial and Accounting Officer)
Frank Cesario	
/s/ STUART CHASE	Director and Chairman of the Board
Stuart Chase Van Wagenen	
/s/ MARK D. BRODSKY	Director
Mark D. Brodsky	
	Director
Howard Hoffmann	
/s/ DAN GROPPER	Director
Dan Gropper	
/s/ THOMAS L. POWERS	Director
Thomas L. Powers	
	Director
Daniel Spoor	
/s/ GEORGE CALHOUN	Director
George Calhoun	



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**CERTIFICATIONS**

I, Amr Abdelmonem, certify that:

1. I have reviewed this annual report on Form 10-K of ISCO International, Inc.;

2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;

3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and have:

a. designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;

b. evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and

c. presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

a. all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and

b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and

6. The registrant's other certifying officers and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

/s/ AMR ABDELMONEM

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Amr Abdelmonem  
*Chief Executive Officer*

Date: March 31, 2003

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I, Frank Cesario, certify that:

1. I have reviewed this annual report on Form 10-K of ISCO International, Inc.;

2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;

3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;

4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and have:

a. designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;

b. evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and

c. presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;

5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

a. all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and

b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and

6. The registrant's other certifying officers and I have indicated in this annual report whether there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

/s/ FRANK CESARIO

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Frank Cesario  
*Chief Financial Officer*

Date: March 31, 2003



**Table of Contents****ISCO INTERNATIONAL****EXHIBIT INDEX**

Exhibit Number	Description of Exhibits
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.
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.

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Exhibit Number	Description of Exhibits
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.
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.
4.19	Amendment No. 1 to the Rights Agreement between ISCO International, Inc. (formerly Illinois Superconductor Corporation) and LaSalle National Trust Association (formerly known as LaSalle National Trust Company) dated as of February 9, 1996, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the SEC on February 22, 2002.
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.

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Exhibit Number	Description of Exhibits
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 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.

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Exhibit Number	Description of Exhibits
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, 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.
10.41	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.

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Exhibit Number	Description of Exhibits
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, 2001.
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.
10.46	Loan Agreement dated October 23, 2002 between ISCO International, Inc., Manchester Securities Corporation, and Alexander Finance L.P., incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.47	Security Agreement dated October 23, 2002 between ISCO International, Inc., Spectral Solutions, Inc., Illinois Superconductor Canada Corporation, Manchester Securities Corporation, and Alexander Finance L.P., incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.48	Secured Grid Note dated October 23, 2002 between ISCO International, Inc. and Alexander Finance L.P. in the principal amount of \$1,752,400, incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.49	Secured Grid Note dated October 23, 2002 between ISCO International, Inc. and Manchester Securities Corporation in the principal amount of \$2,247,600, incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.50	Guaranty of Spectral Solutions, Inc., incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.51	Guaranty of Illinois Superconductor Canada Corporation, incorporated by reference to Exhibit 10.6 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.52	Registration Rights Agreement dated October 23, 2002 between ISCO International, Inc. Manchester Securities Corporation, and Alexander Finance L.P., incorporated by reference to Exhibit 10.7 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.53	Common Stock Purchase Warrant Agreement dated October 23, 2002 between ISCO International, Inc. and Alexander Finance L.P., incorporated by reference to Exhibit 10.8 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.54	Common Stock Purchase Warrant Agreement dated October 23, 2002 between ISCO International, Inc. and Manchester Securities Corporation, incorporated by reference to Exhibit 10.9 to the Company's Current Report on Form 8-K filed on October 24, 2002.
10.55	Common Stock Purchase Warrant Agreement dated November 18, 2002 between ISCO International, Inc. and Alexander Finance L.P., incorporated by reference to Exhibit 10.8 to the Company's Current Report on Form 8-K filed on November 20, 2002.
10.56	Common Stock Purchase Warrant Agreement dated November 18, 2002 between ISCO International, Inc. and Manchester Securities Corporation, incorporated by reference to Exhibit 10.9 to the Company's Current Report on Form 8-K filed on November 20, 2002.
23.1**	Consent of Grant Thornton LLP
99.1**	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

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

\*\* Filed herewith