ANDREA ELECTRONICS CORP
Form 10-K
April 15, 2003
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

¨ **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 1-4324

ANDREA ELECTRONICS CORPORATION

(Exact name of registrant as specified in its charter)

New York	**11-0482020**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. employer identification no.)**
45 Melville Park Road, Melville, New York	**11747**
(Address of principal executive offices)	**(Zip Code)**

631-719-1800

Registrant s telephone number, including area code:

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

Title of each class

Common Stock, par value $.01 per share

Name of each exchange on which registered

American Stock Exchange

Securities registered under Section 12(g) of the Exchange Act:

None

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 x 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. Yes ¨ No x

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates was $10,794,386, based upon the closing price of $0.58 as quoted on the American Stock Exchange as of the last business day of registrants most recently completed second fiscal quarter.

The number of shares outstanding of the registrant s Common Stock as of April 10, 2003, was 22,149,775.

DOCUMENTS INCORPORATED BY REFERENCE

None

Table of Contents

TABLE OF CONTENTS

Table of Contents

PART I

ITEM 1. BUSINESS

Overview

Andrea Electronics Corporation (Andrea) designs, develops and manufactures state-of-the-art microphone technologies and products for enhancing speech-based applications software and communications that require high quality, clear voice signals. Our technologies eliminate unwanted background noise to enable the optimum performance of various speech-based and audio applications. We are incorporated under the laws of the State of New York and have been engaged in the electronic communications industry since 1934.

Andrea s products and technologies optimize the performance of speech-based applications and audio applications in primarily the following markets:

- personal computing (primarily for speech recognition applications and voice communication over the Internet);
- audio and video conferencing;
- in-vehicle communications (to enable untethered, hands-free communication); and
- call centers.

Andrea Digital Signal Processing (DSP) Microphone and Audio Software business Our patented and patent-pending digital noise canceling technologies enable a speaker to be several feet from the microphone, and free the speaker from having to hold the microphone (we refer to this capability as far-field microphone use). Our Digital Super Directional Array (DSDA) and Direction Finding and Tracking Array (DFTA) microphone products convert sound received by an array of microphones in a product into digital signals that are then processed to cancel background noise from the signal to be transmitted. These two adaptive technologies represent the core technologies within our portfolio of far-field technologies. In addition to DSDA and DFTA, Andrea has developed and commercialized several other digital, far-field noise canceling technologies, including, among others, Andrea EchoStop, a high-quality acoustic echo canceller, and Andrea PureAudio, a leading technology for canceling unwanted stationary noises.

All of our digital, far-field microphone technologies are software-based and operate using either a dedicated DSP or a general purpose processor (for example, the Pentium) and the software, which may encompass one or all of our far-field noise canceling technologies, can be applied to improve the performance of a single microphone or multiple microphones. In addition, our digital, far-field, noise canceling technologies can be tailored and implemented into various form factors, for example, into the monitor of a PC, a rear view mirror, or a personal digital assistant, and can be used individually or combined depending on particular customer requirements.

We are currently targeting our far-field technologies primarily at 1) the desktop computing market (primarily through our relationship with Analog Devices, Inc. (Analog Devices), 2) the market for personal computers designed for use in automobiles, trucks and buses to control satellite-based navigation systems and other devices within vehicles, and 3) the video and audio conferencing market. Our far-field, digital noise canceling technologies and related products, together with implementations of other high-end audio technologies (for example, our Active Noise Reduction technology), comprise our Andrea DSP Microphone and Audio Software line of business. Sales of such technologies and products during the years ended December 31 2002, 2001 and 2000 approximated 23%, 7% and 4%, respectively, of our total net revenues. We dedicate the majority of our marketing and research and development resources to this business segment, as we believe that communication products will increasingly require high performance, untethered (hands-free and headset-free) microphone technology.

Andrea Anti-Noise Headset Product business Our headset microphone products help to ensure clear speech in personal computer and telephone headset applications. Our Active Noise Cancellation microphone technology uses

Table of Contents

electronic circuits that distinguish a speaker s voice from background noise in the speaker s environment and then cancels the noise from the signal to be transmitted by the microphone. Our Active Noise Reduction headphone products use electronic circuits that distinguish the signal coming through an earphone from background noise in the listener s environment and then reduces the noise heard by the listener. Together with our lower-end noise canceling headset products and our call center headset products that we launched during 2002, these products comprise our Andrea Anti-Noise Headset Product segment.

During the fourth quarter 2001, we recorded restructuring charges relating to repositioning our business plan for our Andrea Anti-Noise Headset Product business segment as part of our overall effort to drive high margin product sales and become profitable. The restructuring focused on exiting from an increasingly unprofitable PC OEM/retail headset channel within Andrea s Anti-Noise Headset Product segment. This was primarily a result of the increasing competitive nature of the PC headset market, coupled with Andrea s ongoing strategic efforts to focus on being primarily a supplier of digital, far-field noise canceling microphone technologies. Such PC OEM/retail headset channel customers primarily purchased our lower-end, low margin headset products, and required substantial support which, when combined with decreasing volumes realized during 2001, became unprofitable. During the years ended December 31 2002, 2001 and 2000 our Andrea Anti-Noise Headset Product segment approximated 31%, 44% and 77%, respectively, of our total net revenues.

Andrea Aircraft Communications Product business For several decades prior to our entry into the voice-activated computing market in the 1990 s, our primary business was selling intercom systems for military aircraft communications. During 2000 and 2001, we dedicated development efforts aimed at increasing the manufacturability of certain intercom products as well as to accommodate future implementation of our digital, far field noise canceling technologies. We refer to this line of business as our Aircraft Communications line of business, and sales of such products during 2002, 2001 and 2000 approximated 46%, 49% and 19%, respectively, of our total net revenues. On April 11, 2003, we sold our Aircraft Communications Products division for approximately $3.8 million. For the year-ended December 31, 2002, this business segment generated approximately $3.3 million in revenue, and total operating profit of approximately $688 thousand. Proceeds from the sale will be used to fund our other operating segments.

For more financial information regarding our operating segments see Note 17 of the audited financial statements.

Industry Background

Our primary mission is to provide the emerging voice interface markets with state-of-the-art microphone and communication products. The idea underlying these markets is that natural language spoken by the human voice will become an important means by which to control many types of computing devices and other appliances and equipment that contain microprocessors. We are designing and marketing our products and technologies to be used for these natural language, human/machine interfaces with:

- desktop, laptop and hand-held computers and mobile personal computing devices;
- automotive communication systems; and
- video and audio conferencing systems.

We believe that end users of these applications and interfaces will require high quality microphone and earphone products that enhance voice transmission, particularly in noisy office and mobile environments. We also believe that these applications will increasingly require microphones that are located several feet from the person speaking, or far-field microphone technology. Applications in this area include:

- continuous speech dictation to personal computers;
- speech-enabled interfaces for automobiles, home and office automation; and

Table of Contents

multiparty video teleconferencing and software that allows participants to see and jointly edit documents, spreadsheets and other information.

We believe that an increasing number of these devices will be introduced during the next several years.

Our Strategy

Our strategy is to:

- maintain and extend our market position with our Andrea DSP Microphone and Audio Software technologies and products and our higher margin Andrea Anti-Noise products;
- develop relationships with companies that have significant distribution capabilities for our Andrea DSP Microphone and Audio Software technologies and products and Andrea Anti-Noise products;
- broaden our Andrea DSP Microphone and Audio Software product lines and Andrea Anti-Noise product lines through internal research and development;
- design our products to satisfy specific end-user requirements identified by our collaborative partners; and
- outsource manufacturing of our products in order to achieve economies of scale.

An important element of our strategy for expanding the channels of distribution and broadening the base of users for our products is our collaborative arrangements with manufacturers of computing and communications equipment and software publishers that are actively engaged in the various markets in which our products have application. In addition, we have been increasing our own direct marketing efforts.

The success of our strategy will depend on our ability to, among other things:

- increase sales of Andrea DSP Microphone and Audio Software products and our line of existing Andrea Anti-Noise products;
- contain costs;
- introduce additional Andrea DSP Microphone and Audio Software products and Andrea Anti-Noise products;

maintain the competitiveness of our technologies through successful research and development; and

achieve widespread adoption of our products and technologies.

We cannot assure that we will be able to accomplish these strategies or objectives, or that we will be able to maintain all of our product lines or technologies in the event we determine that the sale of such product lines or technologies is necessary to maintain our operations due to cash flow constraints. During 2000, in addition to significant price pressure we experienced relative to our Andrea Anti-Noise products, unit sales to our computer-manufacturing customers declined significantly. This trend continued through 2001, primarily as a result of a continued decrease in orders received from our largest customer, IBM, among other similar customers. We embarked upon a restructuring effort dedicated to focus on non-commoditized, highly profitable communication products and technologies specifically in response to the increasing competitive nature of the PC headset market which contributed significantly to this decline during 2001, coupled with Andrea s ongoing strategic efforts to focus on being primarily a leading supplier of high-end, digital-based, far-field microphone technologies. Consequently, during the fourth quarter of 2001, we exited from an increasingly unprofitable PC headset channel within Andrea s Anti-Noise Headset product segment. This channel included our largest customer, IBM. During the years ended

Table of Contents

December 31, 2002, 2001 and 2000, IBM and certain of IBM s affiliates, distributors, licensees and integrators, excluding the impact of restructuring charges, accounted for 6%, 22% and 44%, respectively, of our net sales, before sales returns related to the aforementioned restructuring charges. In addition to the foregoing, and in response to continued cash flow constraints that we experienced throughout 2002, on April 11, 2003 we sold our Aircraft Communications Products division for approximately $3.8 million. During the years ended December 31, 2002, 2001 and 2000, this business segment accounted for 46%, 49% and 19%, respectively, of our total net sales.

Our Technologies

We design our Andrea DSP Microphone and Audio Software products and Andrea Anti-Noise products to transmit voice signals with the high level of quality, intelligibility, and reliability required by the broad range of emerging voice-based applications in computing and telecommunications. We achieve this through the use of several audio technologies that employ software processes that are proprietary to us. Software processes of this type are commonly referred to as algorithms.

Andrea DSP Microphone and Audio Software Technology

This set of technologies is generally based on the use of an array of microphones from which the analog signals are converted to digital form and then processed using digital electronic circuitry to eliminate unwanted noise in the speaker s environment. Our Andrea DSP Microphone and Audio Software Products provide clear acoustic and audio input performance where the desired audio signal is at a distance from the microphone. An example of this is a person driving an automobile who wants to control various systems in the car or communicate through a wireless telephone. We have also engineered our Andrea DSP Microphone and Audio Software Products to be compatible with Universal Serial Bus, or USB, computer architecture. USB is a relatively new industry standard for connecting peripherals, such as microphones, earphones, headsets, keyboards, mice, joysticks, scanners and printers, to personal computers. We believe that our Andrea DSP Microphone and Audio Software technology achieve far-field microphone performance previously unattainable through microphones based on mechanical acoustic designs and microphones based on analog signal processing.

Our Andrea DSP Microphone and Audio Software Products include the use of the following technologies, among other technologies and techniques:

Digital Super Directional Array (DSDA®) Microphone Technology. Our patented DSDA microphone technology enables high quality far-field communications by centering microphone sensitivity on a user s voice and canceling noise outside of that signal. DSDA continuously samples the continually changing acoustic properties within an environment and adaptively identifies interfering noises that are extraneous to the voice signal, resulting in increased intelligibility of communications.

Direction Finding and Tracking Array. Our patent-pending DFTA technology utilizes an array of microphones, unique software algorithms and digital signal processing to detect the presence of a user s voice, determine the direction of the voice and track the speaker when he or she moves.

PureAudio®. Our patented PureAudio is a noise canceling algorithm that enhances applications that are controlled by speech by sampling the ambient noise in an environment and attenuating the noise from sources near or around the desired speech signals, thus delivering a clear audio signal. Designed specifically to improve the signal-to-noise ratio, PureAudio is effective in canceling stationary noises such as tires, computer fans, and engines.

SuperBeam®. Our patent-pending SuperBeam is a highly accurate digital algorithm that forms an acoustic beam that extends from the microphone to the speech source in an environment. We believe SuperBeam provides a fixed noise reduction microphone solution for the typical acoustic environment found in room environments in which speech is used, such as in offices and homes. The microphone beam is generated by processing multiple microphone samples through pre-established digital filters and adding the outputs. The result is an optimum speech enhancement and noise reduction solution to a predefined setting. Because the beam is able to adapt to changes in the acoustic environment, this technology is sometimes called adaptive beamforming.

Table of Contents

EchoStop®. Patented EchoStop is an advanced acoustic echo canceller (stereo version available) developed for use with conferencing systems such as group audio and videoconferencing systems and cellular car phone kits. EchoStop allows true two-way communication (often referred to as full duplex) over a conferencing system, even when the system is used in large spatial environments that may be vulnerable to extensive reverberation. EchoStop incorporates noise reduction algorithms to reduce the background noise of both the microphone input and the loudspeaker output, thus preventing the accumulation of interfering noise over conferencing systems that allow communication among multiple sites.

ExactVoice. ExactVoice is an adaptive, digital audio software process that extracts a voice signal from unwanted background noise. Utilizing two or more microphone elements, ExactVoice separates the audio microphone signals into two or more original sound sources. In a noisy environment, where the microphones accept both the user s voice signal and background noise, ExactVoice extracts the voice signal and eliminates the noise. As a result, speech applications receive only the desired audio signal. This algorithm was optimized to avoid side affects typical of adaptive processes, such as signal distortion or artifacts in the sounds.

Andrea Anti-Noise Technologies

Noise Cancellation (NC) Microphone Technology. This technology is based on the use of pressure gradient microphones to reduce the transmission of noise from the speaker s location. Instead of using electronic circuitry to reduce noise, pressure gradient microphones rely on their mechanical and acoustic design to do so. Our NC microphones are a less costly alternative to our Active Noise Cancellation (ANC) microphones and are well-suited for applications in which there is less background noise in the speaker s environment.

Active Noise Cancellation Microphone Technology. This technology is based on analog signal processing circuits that electronically cancel the transmission of noise from the speaker s location. ANC is particularly well-suited for those environments in which the speaker is surrounded by high levels of ambient background noise. Our ANC and NC microphones are most effectively used in near-field applications where the microphone is next to the speaker s mouth, for example, as by wearing a headset.

Active Noise Reduction (ANR) Earphone Technology. This technology is based on analog signal processing circuits that electronically reduce the amount of noise in the listener s environment that the listener would otherwise hear in the earphone. Our ANR earphones improve the quality of speech and audio heard by a listener in extremely noisy environments, particularly those characterized by low frequency sounds, such as those in aircraft, automobiles, trucks and other ground transportation equipment, machine rooms and factories.

Our Products and their Markets and Applications

Our Andrea DSP Microphone and Audio Software Products and Andrea Anti-Noise Products have been designed for applications that are controlled by or depend on speech across a broad range of hardware and software platforms. These products incorporate our DSP, NC, ANC and ANR microphone technologies, and are designed to cancel background noise in a range of noisy environments, such as homes, offices, automobiles and factories. We also manufacture a line of accessories for these products. For the consumer and commercial markets, we have designed our Andrea DSP Microphone and Audio Software Products and Andrea Anti-Noise Products for the following applications:

Speech recognition for word processing, database, and similar applications;

Distance Learning (education through the use of Internet-base lessons and training information);

Telematics, or in-vehicle computing (the use of computer-controlled systems in automobiles and trucks);

Hands-free car phone kits;

Internet telephony and Voice Chat;

Table of Contents

Audio/videoconferencing;

Professional audio systems;

Voice-activated interactive games;

Cellular and other wireless telecommunications.

We market and sell our products directly to end users through computer product distributors, through value-added resellers, to original equipment manufacturers and to software publishers. For more information about these collaborative arrangements, please refer to the information under the caption Collaborative Arrangements .

Andrea DSP Microphone and Audio Software Products

We develop our Andrea DSP Microphone and Audio Software Products primarily through customer-specific integration efforts, and we either license our related algorithms, sell a product incorporating our related algorithms, or both. For example, we have developed technologies that can be, or are, embedded into a PC, PC monitors, high-end videoconferencing units, automotive interiors, intercom systems, IP telephony applications and hand-held devices, among others. In addition, we have developed stand-alone products for specific customers who then sell such product to end users. As a result, such products are not available from us directly. However, as part of our strategy to increase sales to prospective customers desiring high-quality microphone performance for certain customer-specific environments, we have developed the following products that may be purchased directly from Andrea:

Andrea AutoArray Microphone (AutoArray). The AutoArray is a digital, high performance microphone system designed for computing applications in vehicles such as automobiles and trucks. It is the first super-directional audio input device designed specifically for in-vehicle computing. The AutoArray incorporates our DSDA and PureAudio technologies, among others.

Andrea Superbeam Array Microphone. The Superbeam Array Microphone is a two-microphone device that attaches to the top of any laptop or PC equipped with Analog Devices SoundMax® Cadenza Digital Audio System. The SoundMax Cadenza software is integrated with Andrea Electronics PureAudio® and DSDA® (Digital Super Directional Array) noise-cancellation software, thereby removing the high costs associated with required memory and processing power from previous, DSP-based microphone devices (now powered by Intel s host processor).

Andrea USB Stereo Full Duplex Adapter (USB-D2A). The USB-D2A was designed for users who desire to utilize Andrea Electronics award winning Superbeam® Array Microphone, and who operate PCs which do not have integrated stereo microphone input capability. In addition to providing users with high quality voice input to enable, headset-free, speech-based PC applications such as VoIP, voice command and control, and online-gaming, the USB-D2A also provides high fidelity, amplified stereo output for multimedia audio playback.

Andrea AudioCommander. Offering an audio interface for controlling PC multimedia applications, AudioCommander includes controls to operate noise cancellation features, thereby enhancing microphone performance. The software also includes an audio wizard that sets

microphone levels to optimize PC audio for speech-enabled applications including speech recognition, Internet telephony and command and speech control functions.

Andrea Anti-Noise Products

Our Andrea Anti-Noise Products include a line of headsets, handsets and related accessories that incorporate our NC, ANC and ANR technologies. Our headsets are mostly differentiated by the various designs of their headband, microphone boom and earphone components and are available in both single earphone monaural and dual earphone stereo models.

Table of Contents

NC Products. Our NC products are sold through our contact center, as well as to original equipment manufacturers for incorporation into, or for use with their products. With some of our headsets, customers have the unique ability to mix and match microphone boom and headband components to meet their specific application and user comfort preferences. The speaker-housing unit in these models can be used for digital, CD-quality sound. By removing the speaker-housing unit, we can offer this headset for simple speech applications at a lower price.

ANC Products. All of our ANC products are sold through our contact center. Two of our ANC products are handsets consisting of a high fidelity earphone and ANC microphone system that closely resembles the traditional telephone handset. This product also offers features such as near field and far field use and an on/mute function. Several of our higher end ANC headsets incorporate a speaker housing design that optimizes the acoustic performance of the earphone s digital sound capabilities with tenor and base attributes that are set, or pre-equalized, at the time of manufacture.

Call Center Products. During 2002, we introduced two new headsets, as well as an amplifier box, each specifically designed for the call center marketplace. Our CS-900 and CS-950 call center headsets have, what we believe to be, the most requested headset product features and are offered for sale at price points of up to 50% less than competitors substantially equivalent products. Our CS-910 amplifier box allows headset connectivity to most single or multi-line telephones and includes Andrea s Advanced Automatic Gain Control (AGC) to maintain constant receive and sound levels, among other more standard features.

We have developed and manufactured a line of accessories for our Andrea Anti-Noise Products:

Andrea ConnectSolutions. Personal Computer Telephone Interface (PCTI). The PCTI is a comprehensive desktop device that integrates computer applications controlled by speech and traditional telephony applications by connecting headset users to the telephone, to the computer, or to both simultaneously. Users can alternately or simultaneously conduct telephone conversations and use speech recognition to enter data or dictate into the PC, without having to pause or toggle between connectivity devices.

Andrea APS-100 Auxiliary Power Supply. The APS-100 is used when the computer microphone input on a user s computer has either no power or insufficient power for correct microphone operation.

Andrea MC 100 Multimedia Audio Controller. The Andrea MC-100 Multimedia Audio Controller connects a PC headset or handset with a PC multimedia speaker system thereby allowing a user to conveniently switch between the headset/handset and the speaker system.

Our Aircraft Communications Products

The Aircraft Communications Products division is engaged in the manufacture and sale of intercommunications systems and amplifiers primarily used on legacy military aircraft. On April 11, 2003, we sold our Aircraft Communications Products division. For the year-ended December 31, 2002, this business segment generated approximately $3.3 million in revenue, and total operating profit of approximately $688 thousand.

Our Collaborative Arrangements

An important element of our strategy is to promote widespread adoption of our products and technologies by collaborating with large enterprises and market and technology leaders in telecommunications, computer manufacturing, and software publishing. For example, during 2002 we entered into such arrangements and/or relationships with Analog Devices, General Motors Corporation and Marconi Communications, Inc. We are currently discussing additional arrangements with other companies, but we cannot assure that any of these discussions will result in any definitive agreements.

IBM Procurement Agreement. In 1997, we signed a procurement agreement with IBM to supply several models of Andrea Anti-Noise Products to IBM for packaging with a full line of IBM s speech recognition software programs. During 2002, 2001 and 2000, sales of our computer headsets to IBM and certain of its affiliates

Table of Contents

distributors, licensees, and integrators accounted for 6%, 22% and 44%, respectively, of our total sales. During the latter half of 2001, we formulated a plan to exit from an increasingly unprofitable PC Headset channel within Andrea s Anti-Noise Headset product segment. This channel included business with IBM related to this agreement.

Microsoft Procurement Agreement. In January 1999, we entered a procurement agreement with Microsoft covering the sale by us to Microsoft of our patented NC-8 headset for inclusion in Microsoft Encarta Interactive English Learning software programs for various markets in various languages. This agreement also covers the inclusion of Andrea product brochures in the packaging for these and related Microsoft products. During 2002, 2001 and 2000, sales of our computer headsets to Microsoft approximated $0, $40,000 and $500,000, respectively. During the latter half of 2001, we committed to a formal plan to exit from an increasingly unprofitable PC Headset channel within Andrea s Anti-Noise Headset product segment. This channel included business with Microsoft related to this agreement.

Clever Devices Procurement Agreement. In March 2001, we entered a procurement agreement with Clever Devices to be the microphone supplier for its SpeakEasy II mass transit bus communication system. The integrated communication system utilizes Andrea Electronics high performance digital microphone system to enable the clear voice communications in high noise, mass transit environments. Andrea Electronics digital microphone array, incorporating its DSDA 2.0 algorithm and PureAudio 2.0® noise reduction algorithm, reduces mass transit noises such as tire, engine and wind noise, as well as interfering passenger voices. As part of the agreement, Andrea is also providing Clever Devices with a proprietary digital signal processor reference design and a patented microacoustic mechanical design to be integrated with the SpeakEasy II communication system. Under our procurement agreement with Clever Devices, Clever Devices is not obligated to procure any minimum quantity of product from us. During 2002 and 2001, sales of this communication system and related products approximated $224,000 and $23,000, respectively.

Analog Devices License Agreements. In December 2001 and March 2002, we entered into two license agreements with Analog Devices to be their provider of noise canceling technologies for use with certain of their computer audio product offerings. These license agreements relate to Andrea Electronics high performance noise canceling technologies that enable clear voice communications and high-performance audio in small home-office and regular office environments. In accordance with our agreements, Analog Devices paid us a total of $5 million in license fees during calendar 2002. During 2002 licenses revenue recognized under these license agreements were $953,356, and at December 31, 2002, we have approximately $4 million in total deferred revenue related to these agreements.

VCON Telecomunications, Ltd. License Agreement. In July 2002, we entered into a license agreement that permits VCON to integrate a number of Andrea s proprietary software technologies into the VCON Conference Bridge (VCB) software module which is part of VCON s award-winning Media Xchange Manager. The Media Xchange Manager was the first product to deliver IP video telephony features such as call forward, transfer and pickup as well as centralized management and monitoring capabilities to enable large-scale videoconferencing deployment. The VCB software module allows Media Xchange Manager participants to dial into the conference session or allows the user to invite others to join the conference making a two-way call a multipoint videoconference. The addition of Andrea s technologies, including its patented PureAudio® 2.0 software algorithm, permits the VCB to manage and filter voice signals from multiple sources, enhancing intelligibility of the audio portion of the conference. Andrea has also introduced a new technology to the VCB, enabling the system to automatically select the speaker whose video picture is presented on the participants screens. The Andrea software monitors the activity of the speakers that are taking part in the conference call and selects the dominant speaker at any given time to be presented to the other participants. During 2002, because this product is in the early stages of commercialization, we did not record any material license revenues related to this agreement.

Marconi Communications, Inc. License Agreement. In December 2002, we entered into a license agreement with Marconi Communications to provide and integrate a number of our proprietary audio software technologies into the Marconi ViPr Virtual Presence System (ViPr). The ViPr conference system is a new network appliance developed by Marconi that enables secure, high resolution, real-time, multimedia communications between people in geographically dispersed locations. The addition of our hands-free audio system includes an advanced stereo version

Table of Contents

of Andrea s patented EchoStop®, as well as its patented DSDA® 2.0 and PureAudio® 2.0 noise canceling algorithms, among others. The implementation of Andrea s microphone array, which is embedded in the monitor of the ViPr system, together with the proprietary audio technologies, allows users to carry on a discussion at normal conversational levels, even in a noisy room. Background noise is cancelled out, as is all the sound coming from the speakers, to create an environment that breeds natural conversations. During 2002, because this product is in the early stages of commercialization, we did not record any material license revenues related to this agreement.

Patents, Trademarks, and Other Intellectual Property Rights

We rely on a combination of patents, patent applications, trade secrets, copyrights, trademarks, nondisclosure agreements, and contractual restrictions to protect our intellectual property and proprietary rights. We cannot assure, however, that these measures will protect our intellectual property or prevent misappropriation or circumvention of our intellectual property.

Andrea maintains a number of patents in the United States covering claims to certain of its products and technology, which expire at various dates ranging from 2010 to 2018. Counterparts to some of those patents have been obtained for other jurisdictions that we have determined to be strategic. We also have other patent applications currently pending; however, we cannot assure that patents will be issued with respect to these currently pending or future applications which we may file, nor can we assure that the strength or scope of our existing patents, or any new patents, will be of sufficient scope or strength or provide meaningful protection or commercial advantage to us.

Research and Development

We consider our technology to be of substantial importance to our competitiveness. To maintain this competitiveness, we have organized our research and development efforts using a market and applications approach for meeting the requirements of new and existing customers. Consistent with this approach, our engineering staff interacts closely with our sales and marketing personnel and directly with customers. The engineering staff is responsible for the research and development of new products and the improvement of existing products. Since 2000, substantially all of our research and development has been in support of developing Andrea DSP Microphone and Audio Software Products and Technologies. For the years ended December 31, 2002, 2001 and 2000, total research and development expenses were $3,642,550, $3,462,340 and $4,694,116, respectively. During 2003, we expect research and development expenses to decline when compared to 2002. We expect this will occur as a result of our overall plan to improve cash flows by pursuing aggressive cost reduction initiatives. No assurance can be given that our research and development efforts will succeed. See Part II Item 7 Management s Discussion and Analysis of Financial Condition and Results of Operations .

Sales and Marketing

We employ a sales staff as well as, from time to time, outside sales representative organizations to market our Andrea Anti-Noise Products and our Andrea DSP Microphone and Audio Software Products. Andrea Anti-Noise Products and Andrea DSP Microphone and Audio Software Products are marketed to computer OEMs, distributors of personal computers and telecommunications equipment, software publishers, and end-users in both business and household environments. These products are sold to end-users through distributors and value-added resellers, software publishers, Internet Service Providers and Internet Content Developers. Under our existing collaborative agreements, our collaborators have various marketing and sales rights to our Andrea Anti-Noise and Andrea DSP Microphone and Audio Software Products. We are seeking to enter additional collaborative arrangements for marketing and selling our Andrea Anti-Noise Products and Andrea DSP Microphone and

Audio Software Products, but we cannot assure that we will be successful in these efforts. Market acceptance of the Andrea Anti-Noise Products and Andrea DSP Microphone and Audio Software Products is critical to our success.

Production Operations

We conduct low volume assembly operations at our New York and Israeli facilities. As sales of any particular product increase, assembly operations are transferred to a subcontractor in Asia. Most of the components

Table of Contents

for the Andrea Anti-Noise Products and Andrea DSP Microphone and Audio Software Products are available from several sources and are not characteristically in short supply. However, certain specialized components, such as microphones and DSP boards, are available from a limited number of suppliers and subject to long lead times. To date we have been able to obtain sufficient supplies of these more specialized components, but we cannot assure that we will continue to be able to do so. Shortages of, or interruptions in, the supply of these more specialized components could have a material adverse effect on our sales of Andrea Anti-Noise Products and Andrea DSP Microphone and Audio Software Products.

Competition

The markets for our Andrea Anti-Noise Products and Andrea DSP Microphone and Audio Software Products are highly competitive. Competition in these markets is based on varying combinations of product features, quality and reliability of performance, price, sales, marketing and technical support, ease of use, compatibility with evolving industry standards and other systems and equipment, name recognition, and development of new products and enhancements. Most of our current and potential competitors in these markets have significantly greater financial, marketing, technical, and other resources than us. Consequently, these competitors may be able to respond more quickly to new or emerging technologies and changes in customer requirements, or to devote greater resources to the development, marketing, and sale of their products than we can. We cannot assure that one or more of these competitors will not independently develop technologies that are substantially equivalent or superior to our technology. During 2001, we incurred significant price pressure, as well as a significant decline in unit sales of Andrea Anti-Noise Products to our OEM customer base shipping continuous speech dictation products. We attributed this decline to increasing competition as well as our ongoing strategic efforts to focus on being primarily a leading supplier of high-end, digital-based, far-field microphone technologies. In response to these factors, we exited from an increasingly unprofitable PC headset channel within the Andrea Anti-Noise Headset product segment.

We believe that our ability to compete successfully will depend upon our capability to develop and maintain advanced technology, develop proprietary products, attract and retain qualified personnel, obtain patent or other proprietary protection for our products and technologies and manufacture, assemble and market products, either alone or through third parties, in a profitable manner.

Employees

At December 31, 2002, we had 78 employees, of whom 29 were engaged in production and related operations, 29 were engaged in research and development, and 20 were engaged in management, administration, sales and customer support duties. None of our employees are unionized or covered by a collective bargaining agreement. We believe that we generally enjoy good relations with our employees. On April 11, 2003, we sold our Aircraft Communications Products division; as a result of such sale, we terminated approximately 36 employees.

ITEM 2. PROPERTIES

Andrea s corporate headquarters is located in Melville, New York. Our corporate headquarters is located in approximately 40,000 square feet of leased space which houses our production operations, research and development activities, sales, administration and executive offices. We also lease facilities in Utah and Israel dedicated for research and development. We believe that we maintain our machinery, equipment and tooling in good operating condition and that these assets are adequate for our current business and adequately insured. See Notes 6 and 15 to our Consolidated Financial Statements for further information concerning our property and equipment and leased facilities.

ITEM 3. LEGAL PROCEEDINGS

Andrea was engaged in a lawsuit filed in the U.S. District Court for the Eastern District of New York by NCT Group, Inc. (NCT) and its subsidiary NCT Hearing Products, Inc. Andrea filed and served an answer to the NCT complaint, denying the allegations and asserting affirmative defenses and counterclaims. Effective July 29,

Table of Contents

2002, Andrea executed a non-cash settlement of the lawsuit with NCT which dismissed both NCT s claims and Andrea s counterclaims.

In addition to the litigation described above, we are from time to time subject to routine litigation incidental to our business.

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

The annual meeting of shareholders of Andrea was held on October 11, 2002. The results of this meeting were reported in our Form 10-Q for the nine-month period ended September 30, 2002.

On January 11, 2003, at a Special Meeting of Shareholders of the Company, the shareholders approved the amendment to the Restated Certificate of Incorporation of the Company to increase the authorized shares of common stock from 70,000,000 shares to 200,000,000 shares (18,382,208 shares for, 1,212,108 shares against, 66,286 shares abstained). In addition, the shareholders approved the amendment to the Restated Certificate of Incorporation of the Company to reduce the par value of the Company s common stock from $0.50 per share to $0.01 per share (18,336,077 shares for, 1,244,609 shares against, and 79,916 shares abstained).

PART II

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

Andrea s common stock is listed on the American Stock Exchange under the symbol AND . The table below sets forth the high and low sales prices for Andrea s Common Stock as reported by the American Stock Exchange. On April 10, 2003, there were approximately 540 holders of record of Andrea s Common Stock.

Quarter Ended	High	Low
March 31, 2001	3.90	1.52
June 30, 2001	2.29	1.36
September 30, 2001	1.70	.46
December 31, 2001	.95	.50
March 31, 2002	1.60	.51
June 30, 2002	1.25	.55
September 30, 2002	.80	.30
December 31, 2002	.65	.23

No cash dividends were paid on Andrea s Common Stock in 2002 or 2001.

ITEM 6. SELECTED FINANCIAL DATA

The selected consolidated financial data set forth below for the five years in the period ended December 31, 2002 has been derived from Andrea s audited consolidated financial statements. This information should be read in conjunction with the audited consolidated financial statements and notes thereto.

Table of Contents

	For the Years Ending December 31,				
	2002	2001	2000	1999	1998
INCOME STATEMENT DATA					
Net Product Revenues from Operations	$ 6,289,315	$ 10,258,875	$ 15,567,664	$ 17,112,487	$ 21,304,570
Licensing Revenue					