

ADE CORP
Form 10-K
July 31, 2006
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended April 30, 2006

OR

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

For the transition period from _____ to _____

Commission file number 0-26714

ADE CORPORATION

(Exact Name of Registrant as Specified in its Charter)

Massachusetts
(State of Incorporation)

04-2441829
(I.R.S. Employer Identification No.)

80 Wilson Way

Westwood, Massachusetts

02090

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(Address of Principal Executive Offices)

(Zip Code)

(781) 467-3500

(Registrant's Telephone Number, Including Area Code)

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

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

Common Stock, \$0.01 par value

(Title of class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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 the 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 a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer Accelerated Filer Non-Accelerated Filer

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of October 31, 2005, there were outstanding 14,387,787 shares of common stock, \$.01 par value per share. The aggregate market value of shares of common stock held by non-affiliates of the registrant, based upon the last sale price for such stock on that date as reported by the Nasdaq National Market (now known as the Nasdaq Global Market (the "NasdaqGM")), was approximately \$210,471,000. The number of the registrant's shares of common stock, \$.01 par value per share, outstanding as of July 25, 2006 was 14,549,835.

Table of Contents**PART I****CAUTIONARY STATEMENT REGARDING FORWARD LOOKING STATEMENTS**

Except for historical information, this Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and federal securities laws that are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. These statements include, but are not limited to, those relating to expected demand for, and acceptance of, our new and existing products, our expectations for future financial performance and sources and uses of liquid assets, continued execution of our business strategy, the effects of economic trends on the semiconductor wafer, semiconductor device, magnetic data storage and optics manufacturing industries and the impact of new accounting pronouncements. Those statements that make reference to the Company's expectations, predictions, beliefs, assumptions and anticipations should be considered forward-looking statements. The sections entitled Management's Discussion and Analysis of Financial Condition and Results of Operations, Risk Factors and Business, including, but not limited to, the sub-sections entitled Overview, Cyclicalities of Our Business, Competition, Customer and Industry Concentration, Dependence on Suppliers, New Accounting Pronouncements and Risks Associated with International Operations as well as other sections of this Annual Report on Form 10-K contain a discussion of some of the factors that could contribute to these differences. Any forward-looking statements are made as of the date of this report and we assume no obligation to update any such forward-looking statements or to update the reasons why actual results could differ materially from those anticipated in such forward-looking statements.

ITEM 1. BUSINESS

ADE Corporation, incorporated in 1967, is engaged in the design, manufacture, marketing and service of production metrology and inspection systems for the semiconductor wafer, semiconductor device, magnetic data storage and optics manufacturing industries. Our systems analyze and report product quality at critical manufacturing process steps, sort wafers and disks, and provide manufacturers with quality certification data upon which they rely to manage processes and accept incoming material. Semiconductor wafer, device, magnetic data storage and optics manufacturers use our systems to improve yield and capital productivity. When we use the terms ADE, the Company, we, our or us in this Annual Report, we are referring to ADE Corporation and its consolidated subsidiaries taken as a whole, unless otherwise indicated.

ADE operates three major business segments, the Semiconductor Systems Group (SSG), ADE Phase Shift (PST) and ADE Technologies (ATI). SSG manufactures multifunctional semiconductor metrology systems, semiconductor wafer defect inspection and classification equipment, and process control data and yield analysis and management systems. PST manufactures high performance, non-contact surface metrology equipment using advanced interferometric technology that provides enhanced yield management to the data storage, semiconductor and optics industries. ATI manufactures high precision magnetic characterization and non-contact dimensional metrology gauging systems for the magnetic data storage, fundamental research and semiconductor manufacturing industries. For segment financial information, see Note 13 in the accompanying consolidated financial statements.

ADE's strategy is to provide its customers with complete metrology and inspection and data management solutions for optimization of their processes, workflow, and engineering. We accomplish these goals by offering a broad range of advanced metrology and inspection systems, featuring factory automation and control options, and software data management and analysis packages. ADE designs focus on a modular approach, which targets the lowest cost of ownership for a system at any given process step.

Merger with KLA-Tencor Corporation

On February 22, 2006, we entered into a definitive Agreement and Plan of Merger (the Merger Agreement) with KLA-Tencor Corporation (KLA-Tencor) and South Acquisition Corporation, a wholly owned subsidiary of KLA-Tencor (South). Pursuant to the Merger Agreement, each share of the Company's common stock was to be exchanged for 0.64 shares of KLA-Tencor common stock on a fixed basis.

On May 26, 2006, we entered into a definitive Amended and Restated Agreement and Plan of Merger (the Amended Merger Agreement) with KLA-Tencor and South. The Amended Merger Agreement amended and restated the Merger Agreement, and changed the consideration payable to ADE stockholders from 0.64 shares of KLA-Tencor common stock to \$32.50 in cash per share of ADE common stock.

The Amended Merger Agreement provides that, among other things, upon the terms and subject to the conditions set forth in the Amended Merger Agreement, South will merge with and into ADE, with ADE continuing as the surviving corporation and a wholly owned subsidiary of KLA-Tencor (the Merger). ADE's stockholders approved the Merger on July 13, 2006. Consummation of the Merger is subject to customary closing conditions, including the approval of German antitrust authorities.

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Products

Our products have evolved from single instruments used in off-line engineering analysis to full, 100% in-line, automated metrology and inspection solutions throughout the wafer, semiconductor device and magnetic data storage manufacturing processes. Our systems are targeted to deliver the high throughput, reliability, information and analysis necessary to meet the demands of increasingly complex and time-sensitive manufacturing processes.

Our principal products in the semiconductor wafer, semiconductor device and magnetic data storage device industries are described below. All of our metrology and inspection systems have the capability to record, print and store measurement data locally, as well as distribute the data via a network for yield and process management and off-line analysis.

Semiconductor Industry Products

Wafer Dimensional Measurements

WaferSight System. The wafer flatness and shape metrology tool-of-choice for 300mm and advanced 200mm production, the WaferSight systems measurement precision allows wafer and device manufacturers to meet ITRS metrology requirements down to the 45nm generation. Utilizing optical interferometric technologies, the WaferSight system extends ADE's market presence in wafer dimensional metrology, leveraging 30 years of industry leadership and our knowledge of process and market requirements.

Advanced Flatness System (AFS). The AFS was the 300mm silicon wafer production standard for the 130nm generation and above. The wafer is handled only by the edges, thereby minimizing the possibility of any surface contamination or damage due to contact with the polished surfaces of the wafer. The two-sided capacitance-based AFS measurement is well-suited for high volume polished wafer, pre-polish, epi, SOI, strained silicon, patterned wafer and reclaim operations.

UltraGage® Series. The UltraGage® series of automated benchtop metrology systems incorporate a single measurement module and robotic handler for several measurements, including wafer shape, flatness, thickness, conductivity type and stress on silicon, epi, SOI, or patterned wafers. The UltraGage® series includes systems optimized to handle the ultra-thin processed wafers used in the manufacture of devices for smart cards and advanced electronic packages, bumped wafers and MEMS.

UltraScan® Series. The UltraScan® series of products are high throughput, 150mm to 200mm in-line production systems for the measurement and sorting of wafers at various stages of the wafer manufacturing and device fabrication processes. UltraScan® systems measure wafer thickness, flatness, shape, resistivity and other mission-critical dimensional properties and can be integrated with factory automation systems.

NanoMapper® Series. NanoMapper® systems measure and analyze nanotopography, front surface non-planar topographic wafer features, on semiconductor wafers using proprietary noncontact optical interference techniques to detect a variety of process-induced defects and process control failures in silicon wafer and device manufacturing processes. Improved control of these defects can increase yields and reduce costs for 90nm and 65nm devices in CD control, shallow trench isolation (STI), and chemical mechanical planarization (CMP) results. The NanoMapper system was the winner of the prestigious R&D 100 award, presented by R&D Magazine in the year 2000.

Surface Inspection Systems

Film Inspection Tool™ (FIT). The FIT provides reliable inspection and defect detection on unpatterned films, ranging from dielectrics through metals, SOI, and strained silicon. Using ADE's patented angular resolve scatter technology, FIT can detect and classify particles and defects over a wide range of applications. The FIT's superior performance is the result of successfully deploying our intellectual property onto existing hardware and software platforms to meet new metrology requirements.

Advanced Wafer Inspection System™ (AWIS). The AWIS is a fully automated inspection tool designed to handle the advanced surface inspection and defect detection requirements of 200mm and 300mm polished and epitaxial wafer production. This system reduces the need for time consuming, off-line inspection of the wafers. The system meets the requirements for the 100nm design rules for high speed sorting applications.

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Film Metrology Systems

NanoXam Systems. The new NanoXam system is an in-line production metrology tool which quickly and precisely measures dishing of wide lines and erosion of fine-line arrays, for copper and tungsten CMP process monitoring and characterization. The noncontact NanoXam design uses low noise interferometry to measure both scribe line monitors and actual device structures on product wafers, providing surface profiles and 3-D topography maps.

AcuMap Series. AcuMap systems are full-wafer film thickness monitoring tools for SOI, CMP and photolithography applications. AcuMap systems provide high-speed full wafer mapping with high data density on various thin films for production process development and control. The industry standard for high-speed SOI film mapping, AcuMap systems have shown excellent results in measuring leading edge ultra-thin SOI layers for fully depleted CMOS applications.

Yield Management Systems

FabVision Systems. The new FabVision product is a fab-wide, real-time data analysis, storage and retrieval system that continuously monitors, issues alerts and reports, and manages product quality information for increased tool utilization and higher process yields. The fully integrated server, workstation and software package collects and combines data from ADE's WaferSight optical flatness system, AFS Advanced Flatness System, AWIS Advanced Wafer Inspection System, FIT Film Inspection Tool, NanoMapper® surface topography system, AcuMap film thickness mapper, WaferCheck®, UltraGage® and UltraScan® dimensional sorting systems and CR8X particle inspection products.

Disk Industry Products

Proprietary ADE Magnetic Technology

Vibrating Sample Magnetometers (VSM). The VSM is used to measure the magnetic properties of the broad-spectrum of magnetic materials. The VSM product line is comprised of several models, varying in maximum field strength and sensitivity. Systems can be configured to characterize anisotropy in magnetic materials, the understanding of which is rapidly becoming critical in the development of magnetic disks, recording heads, and MRAM. Specifically developed for this purpose is the Model 10, an advanced Vector VSM for research on directional properties of magnetic materials.

X9 Magnetic Properties Analysis System (X9 MPAS). The X9 MPAS is a fully automated system designed to make an in-depth analysis of GMR style head coupons. Based upon the Model 10 VSM, the X9 MPAS automatically loads, measures and returns wafer coupons, repeatedly measuring layer thicknesses to less than 0.2 NiFe equivalent Angstroms. In addition to layer thickness, the X9 MPAS measures all Hysteresis and transport properties in a single step and has replaced several pieces of equipment in the process control of advanced head production. The X9 MPAS system was the winner of the R&D 100 award, presented by R&D Magazine in the year 2002.

KerrMapper V/S 300 Platform. The KerrMapper V/S 300 is the latest generation of Wafer Mapping Systems and is designed specifically to address the HDD head wafer, perpendicular magnetic recording media, Soft Underlayer, and emerging MRAM markets. A proprietary Quadrupole magnet design with active field control, for example, allows MRAM developers to simulate the action of the MRAM device early in the process control of the magnetic films, and characterize patterned MRAM arrays. Using a patented Vector Kerr capability, the user can measure easy axis distribution with unparalleled accuracy and determine the switching field distribution with greater accuracy. The V300 is suitable for the most advanced HDD head wafer or MRAM R&D and production, as well as in-depth studies of the uniformity of the TMR stacks at the sheet film level.

M2 DiskMapper. The M2 DiskMapper system is an in-line fully automated noncontact measurement system that maps the variation of the most critical magnetic parameters over the surface of longitudinal magnetic recording disks. The data provided by the tool is used to directly control the sputtering process. The M2 DiskMapper can be configured to handle multiple form factors.

Polar Kerr Mapping System. Advances in areal density of HDD media are continuing at a rapid pace. Leading edge media developers are now working on replacing longitudinal media with perpendicular media in which the magnetic bits are orthogonal to the plane of the disk. The Polar Kerr Mapping System is designed to characterize this new media segment in development and control the deposition process in production. It handles the new media directly from cassette and leverages ADE's years of Kerr experience.

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Proprietary ADE Capacitance Technology

MicroSense® II. As the disk drive industry moves to ever-quieter fluid bearing motors there is an increasing requirement to measure non-repetitive run-out to achieve higher track densities. The MicroSense® II product line has been widely adopted by disk drive motor manufacturers. It has also achieved success in specialized applications such as fast tool servo-control outside of the disk drive market.

Passive Gauging. ADE's passive capacitive gauging systems make use of a design that is fundamentally different from the MicroSense II products. These passive capacitance gauges are incorporated in a number of ADE products that serve the hard disk, compact disk and semiconductor markets. ADE Passive Gauges are increasingly being used by other semiconductor capital equipment makers on an OEM basis to solve difficult servo-control problems where high precision and high stability are required.

Motor Test Systems. Our entire line of gauging products undergo continuous product improvement to keep pace with the rapid developments in the HDD and semiconductor equipment markets. Utilizing the recently introduced SpinCheck HR motor test system with ADE's noncontact dimensional gauging provides disk motor manufacturers with motor shaft runout measurements in both time and frequency domains. This software allows users to define sophisticated pass/fail criteria for production testing.

Series 4800, 5800, 6800,8800 and SpinCheck HR. Our new 6800 and 8800 series capacitance gauging system meet the ever-increasing demands of precision staging applications and disk drive motor manufacturers as they develop the next generation fluid dynamic bearing motors. The 4800 series gauge capabilities are being expanded to perform critical positioning of optics or targets in high vacuum applications to serve the needs of semiconductor capital equipment manufacturers.

Proprietary ADE Interferometer Based Tools

MiniFIZ™ Series of Interferometers (MiniFIZ). MiniFIZ series is a family of laser-based Fizeau interferometers that test the surface flatness, curvature and other shape characteristics of polished precision components such as optical mirrors, lenses and computer disks. The MiniFIZ interferometers provide interactive 3D modeling, statistical reporting, and user-selectable production and research modes. The product can be combined with full robotic automation to meet the needs of disk media and substrate process control.

MicroXAM Optical Profilers. These 3D optical profilers are interference microscopes which produce measurements of the shape, density and distribution of laser bumps in the laser-textured area of hard disks. The MicroXAM optical profiler is the industry standard for measuring the laser-textured area of hard disk media. Other configurations of MicroXAM products measure disk dub-off. Dub-off is the transition between the top (usable) surface of the disk, and the rough edge of the disk. MicroXAM systems, consequently, are used widely by disk media manufacturers and by hard drive manufacturers.

Products in Development

In order to maintain our technology leadership, we continue to introduce new products.

WaferXam System. The WaferXam advanced darkfield laser scanning system is ADE's latest-generation nano-particle inspection and defect classification tool for inspection of prime silicon substrates at semiconductor incoming quality control and silicon wafer suppliers. The WaferXam tool features a new system design, utilizing enhancements to ADE's patented Angle Resolve Scatter architecture, for highly improved defect detection sensitivity and classification performance for the 45nm process development market and sub-65nm wafer production market, with production throughput in excess of fifty 300mm wafers per hour.

Technology

Our metrology and inspection products use our proprietary non-contact capacitive, optical, eddy-current, interferometric and magnetic technologies to measure the dimensional, electrical magnetic and surface characteristics of semiconductor wafers and devices and computer hard disks and disk drives.

Dimensional Technology

Our non-contact capacitive gauging technology, which is the subject of a series of patents, is used to measure the dimensional parameters (thickness, flatness, shape) of semiconductor wafers, computer hard disks and other objects. This technology is based on the measurement of the capacitance between a measurement probe and the surface of the object. The capacitance varies as a precise function of the distance between the

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probe and the object being measured. For example, in the measurement of a semiconductor wafer, two probes, one on each side of the wafer, map both wafer surfaces simultaneously. Electronic circuitry converts the probe capacitance signal into distance signals, which are translated by our software to produce information concerning the wafer's thickness, flatness and shape.

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Surface Inspection Technology

We use patented optical technology to detect microscopic surface defects and non-uniformity. A finely focused laser beam is scanned over the surface of the wafer. Surface non-uniformities, particles or defects cause some of the beam's energy to deflect or scatter. Sensitive detectors quantify the scattering signals, which are translated by our software to produce information about particles, micro scratches, haze, nanotopography and other process-induced defects on the wafer surface. Although the principles of our optical technology are similar to those used by other manufacturers, we believe our theoretical modeling, patented optical engineering and proprietary software result in our products having a superior combination of high sensitivity and throughput.

Interferometric Technology

Optical interference is a technique used to produce surface images of alternating bright and dark images, called fringes, which correspond to variations in surface height. Using multiple reflection, optical interference can precisely measure variations in the height of a surface as small as a few atomic layers. Our software provides the ability to create and analyze these three-dimensional surface maps, comprised of millions of data points, which are used by our customers in advanced process development and in production control.

Magnetics Characterization Technology

Our products for characterizing magnetic materials use a variety of non-contact measurement technologies including lasers (the Kerr effect), vibrating sample and torque-effect inductive sensing techniques. We believe our world-class theoretical modeling and magnetics engineering enable us to offer automated products with superior sensitivity, speed, accuracy and reproducibility.

Proprietary Software

Our proprietary software analyzes and transforms the large amounts of data generated by our metrology and inspection systems to produce information about process-induced defects that supports real-time process management. The flexible design of this software permits recipe-driven reconfiguration of these products to serve new applications with a minimum of hardware or software redesign or development. Our software is designed to integrate our various metrology functions with one another while implementing industry standards for integrating our products with the manufacturing facility's information systems. We currently have applied for patent protection on unique features of our software.

Service

The Company's service business consists of installation, training, product maintenance and technical support services.

Marketing, Sales and Customer Support

We market and sell our semiconductor metrology and inspection products through our direct sales force, distributors and independent sales representatives. We market and sell our metrology and inspection products in the United States through full-time salespersons located in Milpitas, California; Dallas, Texas; Vancouver, Washington; Tucson, Arizona and Westwood, Massachusetts. We market and sell our metrology and inspection products in Europe through full-time salespersons located in Germany. We market and sell our metrology and inspection products in Malaysia and Singapore through full-time salespersons located in Malaysia. During the past fiscal year, approximately 39% of our revenue was derived through our direct sales organization. Our direct sales force is supported by applications engineers in selected field offices and in each of our manufacturing locations.

Sales of wafer dimensional systems, capacitive probes, and disk industry products in Japan are supported by Japan ADE, Ltd. (JAL), a joint venture between ADE and Kanematsu Electronics, Ltd. (KEL). Sales of surface inspection products are provided in Japan by a separate distributor. We also sell our semiconductor metrology and inspection products in Israel, South Korea, Singapore, Taiwan, and the People's Republic of China through independent sales representatives. We directly market and sell our non-contact capacitive, dimensional metrology and magnetic characterization data storage products in the United States and internationally through distributors and sales representatives. We directly market and sell our interferometric based surface metrology products in the United States and internationally through distributors and sales representatives.

The selling process for our products frequently involves participation by sales, marketing and customer support personnel. Customers and potential customers often evaluate our products by sending semiconductor and device wafers to us for measurement or by installing demonstration equipment at their facilities. We maintain demonstration equipment at our manufacturing sites and at some

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of our sales offices for this purpose. We plan to continue our investment in demonstration equipment to accelerate the introduction of new products. Our marketing activities also include participation in international standards organizations, trade shows, the publication of articles in trade journals, industry forums and the distribution of sales literature.

We believe that our strong commitment to service is essential, based on the growing complexity of the equipment used in the semiconductor manufacturing process. This complexity makes it difficult for semiconductor wafer and device manufacturers to maintain an internal workforce sufficiently skilled and specialized to support the disparate equipment and technologies used in their processes. We have customer support centers in Westwood, Massachusetts; Dallas, Texas; Milpitas, California; Vancouver, Washington and Tucson, Arizona in the United States; Munich, Germany; and Kuala Lumpur, Malaysia. In addition, our distributors and independent sales representatives provide customer support. We also offer training programs and maintenance contracts for our customers. We typically offer warranties of twelve months covering the performance and reliability of our products.

Customers

Our customers include the leading semiconductor wafer manufacturers and many of the leading semiconductor device, magnetic data storage and disk drive manufacturers throughout the world. Historically, a relatively limited number of customers, comprising a large share of the market, have accounted for a substantial portion of our revenue. In fiscal years 2006, 2005 and 2004, sales to our top five customers accounted for approximately 61%, 71% and 74% of our revenue, respectively. During fiscal year 2006, one of our customers, JAL, who distributes the Company's dimensional products in Japan, accounted for 31% of our revenue. Revenue from a second and third customer accounted for 11% and 8%, respectively, of our revenue in fiscal 2006. During the past fiscal year, approximately 67% of our revenue was derived from sales made to wafer manufacturers, with the remainder derived from sales to manufacturers of semiconductor devices, magnetic data storage, disk drives and semiconductor equipment. Our principal customers, in alphabetical order, are as follows:

Semiconductor Wafer Manufacturers

Canon Sales Company, Inc.

Japan ADE, Ltd.

MEMC Electronic Materials

Shin-Etsu Handotai

Siltron

Siltronic

SUMCO

Semiconductor Device Manufacturers

Peter Wolters

Promos Technologies, Inc.

Samsung

Texas Instruments

Data Storage and Disk Drive Manufacturers

Hitachi Global Storage

Komag

Seagate Technology

Research and Development

The market for semiconductor wafer and device, data storage and disk drive equipment is characterized by rapid technological advances and product innovations. Our research and development efforts are designed to enhance our current products and develop new products to keep pace with technological developments and constantly evolving customer requirements. We devote significant resources to programs directed towards developing new and enhanced products, as well as developing new applications for existing products.

In fiscal years 2006, 2005 and 2004, our research and development expenditures were \$15.8 million, \$15.5 million and \$15.1 million, respectively, representing 15%, 13% and 17% of revenue. Research and development expenditures consist primarily of salaries, project materials, consulting fees and other costs associated with our ongoing research and development efforts.

Industry standards organizations, such as Semiconductor Equipment and Materials International and American Standards for Testing and Materials, are pivotal in defining the test methods, measurement parameters and specifications governing commercial transactions within the semiconductor industry. We maintain a significant presence on standards committees of these two organizations and other international standards organizations. We believe that our involvement with these organizations has helped to ensure that our new products conform to industry standards.

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Backlog

Backlog increased to approximately \$53.1 million at April 30, 2006 from approximately \$45.0 million at April 30, 2005. This increase in backlog is primarily attributable to an increase in worldwide demand for capital equipment as a result of capacity expansion in the semiconductor wafer and device manufacturing industries. We schedule production based on firm customer commitments and anticipated orders during the planning cycle. Backlog is comprised of written purchase orders accepted from customers to whom we expect to ship the related product or provide service within the following twelve months. Customers may cancel or delay orders with limited or no penalty. We do not believe that the level of backlog is an accurate indicator of our performance in future periods.

Manufacturing

Our principal manufacturing activities take place at our ISO 9001-registered facility in Westwood, Massachusetts, where semiconductor dimensional metrology systems and semiconductor optical surface inspection equipment are manufactured. Our dimensional metrology gauging products and magnetic characterization products for the data storage industry are also manufactured in the Westwood, Massachusetts facility. Our interferometric based surface metrology products and our optical metrology products are manufactured in Tucson, Arizona. Manufacturing activities consist primarily of assembling and testing components and subassemblies, which are supplied by third party vendors and then integrated into our finished products. We also manufacture specific optical components used in certain products. Many of the components and subassemblies are standard products, although certain items are made to our specification. We manufacture many of our semiconductor metrology and inspection systems in a cleanroom environment.

Patents and Other Intellectual Property Rights

We rely on a combination of patent, copyright, trademark and trade secret laws and license agreements to establish and protect our proprietary rights in our products. We believe that our success depends to a large extent upon innovation, technological expertise and distribution strength. We enter into standard confidentiality agreements with our employees and consultants and seek to control access to and distribution of our proprietary information. Despite these precautions, it may be possible for a third party to copy or otherwise obtain and use our products or technology without authorization or to develop similar technology independently. In addition, effective patent, copyright and trade secret protection may be unavailable or limited in certain foreign countries.

As of June 30, 2006, we held 63 United States patents and 50 patents in foreign countries covering technology relevant to our business with remaining durations of up to 20 years. We have applied for 25 additional patents in the United States and 90 additional patents in foreign countries. We have licensed certain patents and other intellectual property to a number of companies.

Employees

As of April 30, 2006, we employed a total of 410 persons. Management believes that our ongoing success depends on our continued ability to attract and retain highly skilled employees. There can be no assurance that we will be successful in attracting or retaining such personnel. None of our employees are represented by a labor union, and we have experienced no work stoppages. We consider our employee relations to be good.

Cyclicality of Our Business

Our business depends in large part upon the capital expenditures of semiconductor wafer and device and data storage manufacturers, which in turn depend on the current and anticipated market demand for integrated circuits, products utilizing integrated circuits and systems requiring data storage. The semiconductor and data storage industries are cyclical and have historically experienced periodic downturns, which have had a severe effect on the demand for capital equipment. Prior semiconductor and data storage industry downturns and construction of excess capacity by the industries have adversely affected our revenue, gross margin, net income and the market price of our common stock. In addition, the need for continued investment in research and development and extensive customer service and support capability worldwide will continue to limit our ability to reduce expenses during industry downturns.

Competition

The semiconductor and data storage equipment industries are highly competitive. Competition in these industries is based primarily on technology, pricing and market penetration. We believe that we compete favorably in our markets for a Company of our size and resources. Companies that have complementary technologies and greater financial resources than we do may enter these industries and develop products that are superior to our products or achieve market acceptance. In the market for optical defect inspection equipment,

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we compete directly with Hitachi Electronics Engineering Co., Ltd., KLA-Tencor and Topcon Corporation, which have significantly greater total assets and annual revenue than we do. As discussed above, we have entered into an Amended Merger Agreement with KLA-Tencor. In the metrology area of the device industry, we have encountered, and expect to encounter in the future, competition from companies offering similar and competing technologies, some of which have significantly greater total assets and annual revenue than we do, have an existing market presence in the device industry, or both. We also expect to encounter intense competition in the areas of metrology and inspection for the magnetic data storage industry. Our competitors can be expected to continue to improve the design and performance of their products and to introduce new products with competitive price/performance characteristics. Competitive pressures can necessitate price reductions or non-revenue generating shipments of new products to certain strategic customers for evaluation purposes, which can adversely affect our operating results. In order to remain competitive, we must maintain a high level of investment in research and development, sales, marketing and customer service. There can be no assurance that we will have sufficient resources to continue to make such investment or that we will be able to make the technological advances necessary to remain competitive.

We expect acquisitions and business combinations by our competitors and potential competitors in the metrology as well as in the defect inspection markets. The impact of this activity could:

allow our competitors to offer new products without the lengthy time delays typically associated with internal product development;

limit our access to commercially significant technologies and/or new or complementary products; and

permit our competitors to accelerate the development and commercialization of new competitive products and the marketing of existing competitive products to their larger installed bases.

Accordingly, business combinations and acquisitions by our competitors could have an adverse impact on both our market share and the pricing of our products, which could have a material adverse effect on our business.

Customer and Industry Concentration

A relatively limited number of customers have historically accounted for a substantial portion of our revenue in each year. In fiscal years 2006, 2005 and 2004, sales to our top five customers in each period accounted for approximately 61%, 71% and 74% of our revenue, respectively. The loss of or any reduction in orders by any of these customers, including reductions due to market, economic or competitive conditions in the semiconductor industry or in other industries that manufacture products utilizing semiconductors, could adversely affect our business, financial condition or results of operations. In fiscal years 2006, 2005 and 2004, we derived 67%, 79% and 81% of our revenue, respectively, from customers in the semiconductor wafer industry. While we are increasing our emphasis on expanding the level of our business in the device and magnetic data storage industries, there can be no assurance that our efforts will be successful. Our ability to maintain or increase our sales levels in the future will depend in part upon our ability to obtain orders from new customers as well as the financial condition and success of our existing customers and the general economy. There can be no assurance that we will be able to increase the level of our revenue in the future or that we will be able to retain existing customers or attract new customers. In addition, due to the limited number of customers, any delay in collecting or the inability to collect our accounts receivable could have a material adverse effect on our financial results. See Notes 2 and 13 of Notes to Consolidated Financial Statements for information regarding our accounting policies and our revenues by segment.

Dependence on Suppliers

Certain components and subassemblies, including certain systems controllers and robotics components, incorporated in our current systems and those under development are obtained from a single source or a limited group of suppliers. In some instances, we have not qualified a second source for these products and the partial or complete loss of certain of these sources could have an adverse effect on our results of operations and damage customer relationships. For example, finding an alternative supplier or failure of an existing single supplier to perform in a timely manner could lead to a delay in the shipment of our products. Further, a significant increase in the price of one or more of these components or failure to perform up to specification could adversely affect our results of operations.

Risks Associated with International Operations

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International sales accounted for 81%, 83% and 86% of our revenue for fiscal years 2006, 2005 and 2004, respectively. See Note 13 of Notes to Consolidated Financial Statements for information regarding our revenues and long-lived assets outside the United States. We expect that international sales will continue to represent a significant percentage of revenue. Our international business may be affected by changes in demand resulting from:

fluctuations in interest and currency exchange rates;

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the investment policies of foreign countries;

changes in trade policies and/or tariff regulations; and

difficulties in obtaining U.S. export licenses.

Given that approximately 60%-70% of our revenue has historically come from Japan and the Asia-Pacific region, financial instability in certain Asian countries could materially affect our competitive position and consequently, our financial results.

Internet Address

The Company's internet address is www.ade.com. The Company makes available, free of charge, on or through its website, its Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and amendments to such reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") as soon as reasonably practical after such reports are electronically filed with the SEC. The Company's website is not incorporated by reference into this Annual Report on Form 10-K.

ITEM 1A. RISK FACTORS

Our business faces many risks. The risks described below may not be the only risks we face. Additional risks that we do not yet know of, or that we currently think are immaterial, may also impair our business operations or financial results. If any of the events or circumstances described in the following risks actually occurs, our business, financial condition or results of operations could suffer and the trading price of our common stock could decline. Investors should consider the following risks and the information contained under the heading "Cautionary Statement Regarding Forward Looking Statements" before deciding to invest in our common stock.

Risks relating to our business.

Our business depends in large part upon capital spending in the semiconductor wafer and device and data storage industries, which are highly cyclical.

Our business depends in large part upon capital expenditures by semiconductor wafer and device and data storage manufacturers, which in turn depend on the current and anticipated market demand for integrated circuits, products utilizing integrated circuits and systems requiring data storage. The semiconductor and data storage industries are cyclical and have historically experienced periodic downturns, which have had a severe effect on the demand for capital equipment. Prior semiconductor and data storage industry downturns and construction of excess capacity by the industries have adversely affected our revenue, gross margin and net income, and have also adversely affected the trading price of our common stock, and another downturn could have a similar effect in the future. In addition, the need for continued investment in research and development and extensive customer service and support capability worldwide will continue to limit our ability to reduce expenses during industry downturns.

Our operating results can vary significantly from period to period due to a number of factors.

Our operating results can vary significantly from period to period due to a number of factors, including:

economic conditions in the semiconductor wafer and device and data storage industries;

product mix of our sales;

the sales distribution channel of our sales;

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competitive pricing pressures;

our ability to design, introduce and manufacture new products on a cost effective and timely basis;

customer cancellations or rescheduled shipments;

production difficulties or the inability to obtain critical components resulting in delayed shipments; and

seasonal factors such as customers' capital budget approval cycles.

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These factors could have a material adverse effect on our results of operations. As cost of revenue includes manufacturing overhead, which is relatively constant from period to period, gross margin can vary significantly from period to period due to varying levels of production and revenue. Marketing and sales expenses can vary from period to period based on a number of factors, including mix of sales channels, geographic mix and the timing of marketing events. There can be no assurance that we will be profitable in any future period.

Sales to foreign markets, especially Asian markets, constitute a substantial portion of our sales; therefore, our sales and results of operations could be adversely affected by downturns in economic conditions in countries outside of the United States.

International sales accounted for 81%, 83% and 86% of our revenue for fiscal years 2006, 2005 and 2004, respectively. We expect that international sales will continue to represent a significant percentage of revenue. Our international business may be affected by changes in demand resulting from:

fluctuations in interest and currency exchange rates;

the investment policies of foreign countries;

changes in trade policies and/or tariff regulations; and

difficulties in obtaining U.S. export licenses.

Given that approximately 60%-70% of our revenue has historically come from Japan and the Asia-Pacific region, financial instability in certain Asian countries could materially affect our competitive position and, consequently, our financial results.

The loss of any one of our major customers would likely have a material adverse effect on us.

A relatively limited number of customers have historically accounted for a substantial portion of our revenue in each year. In fiscal years 2006, 2005 and 2004, sales to our top five customers in each period accounted for approximately 61%, 71% and 74% of our revenue, respectively. The loss of or any reduction in orders by any of these customers, including reductions due to market, economic or competitive conditions in the semiconductor industry or in other industries that manufacture products utilizing semiconductors, could adversely affect our business, financial condition and results of operations. Our ability to maintain or increase our sales levels in the future will depend in part upon our ability to obtain orders from new customers as well as the financial condition and success of our existing customers and the general economy. There can be no assurance that we will be able to increase the level of our revenue in the future or that we will be able to retain existing customers or attract new customers. In addition, due to the limited number of customers, any delay in collecting or the inability to collect our accounts receivable could have a material adverse effect on our financial results.

We must expend a significant amount of time and resources to develop new products, and if these products do not achieve commercial acceptance, our operating results may suffer.

We expect to spend a significant amount of time and resources on research and development of new systems and refinement of existing systems. In light of the long product development cycles inherent in our industry, these expenditures will be made well in advance of the prospect of deriving revenue from the sale of new or refined systems. Our ability to introduce and successfully market our systems is subject to a wide variety of challenges during this development cycle that could delay introduction of these systems. Due to the complexity of our systems, such challenges include overcoming design and production issues and modifying development plans to meet the needs of our customers, as well as addressing issues that arise upon installation at customer sites. If we do not achieve market acceptance of new products, our operating results will suffer.

Because of the high cost of switching equipment vendors in our markets, it is sometimes difficult for us to win customers from our competitors even if our metrology systems are superior to theirs.

We believe that once a semiconductor or magnetic data storage customer has selected one vendor's metrology system, the customer generally relies upon that system and, to the extent possible, subsequent generations of the same vendor's system, for the life of the application. Once a

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vendor's metrology system has been installed, a customer must often make substantial technical modifications and may experience downtime in order to switch to another vendor's metrology system. Accordingly, unless our systems offer performance or cost advantages that outweigh a customer's expense of switching to our systems, it will be difficult for us to achieve significant sales to that customer once it has selected another vendor's system for an application.

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Our failure to protect our proprietary technology may significantly impair our competitive position and protection of our proprietary technology may be impossible or expensive.

Our proprietary technology is important to the continued success of our business. We rely on a combination of patent, copyright, trademark and trade secret laws and license agreements to establish and protect our proprietary rights in our products. We own many United States and foreign patents covering existing and potential products and have applied for additional patents in and outside the United States. If we fail to adequately protect our intellectual property, it will be easier for our competitors to sell competing products. Any of our pending patent applications may be rejected, and we may not in the future be able to develop additional proprietary technology that is patentable. The patents we do own or that have been issued or licensed to us may not provide us with competitive advantages and may be challenged by third parties. Third parties may also develop alternative designs which work around our patents.

In addition to patent protection, we rely upon trade secret protection for our confidential and proprietary information and technology and routinely enter into standard confidentiality agreements with our employees and consultants and seek to control access to and distribution of our proprietary information. However, in the event that these agreements are breached, we may not have adequate remedies. Our confidential and proprietary information and technology might also be independently developed by or become otherwise known to third parties. Despite protective measures utilized by us, we cannot be certain that:

we will be able to protect our technology adequately;

competitors or other third parties will not be able to copy or otherwise obtain our products and or technology without our authorization or develop similar technology independently;

any of our pending patent applications will be issued;

intellectual property laws will protect our intellectual property rights; or

third parties will not assert that our products infringe patent, copyright or trade secrets of such parties.

The laws of some foreign countries do not protect our proprietary rights to as great an extent as do the laws of the United States.

Many U.S. companies have encountered substantial problems in protecting their proprietary rights against infringement in some foreign countries. If we fail to adequately protect our intellectual property in these countries, it would be easier for our competitors to sell competing products in those countries.

Litigation may be necessary in order to enforce our patents, copyrights or other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement.

In the past, we have been involved in lawsuits to enforce our intellectual property rights, and may be involved in such litigation in the future. Such litigation could result in substantial costs and diversion of resources and could have a material adverse effect on our business, financial condition or results of operations. Claims of infringement may result in protracted and costly litigation that could require us to pay substantial damages or have the sale of our products stopped by an injunction. Infringement claims could also cause product delays or require us to redesign our products, and these delays could result in the loss of substantial revenue. We may also be required to obtain a license from a third party or cease activities utilizing a third party's proprietary rights. We may not be able to enter into such a license or such license may not be available on commercially reasonable terms.

Our current and potential competitors have significantly greater resources than we do, and increased competition could impair our business.

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The semiconductor and data storage equipment industries are highly competitive. Competition in these industries is based primarily on technology, pricing and market penetration. We believe that we compete favorably in our markets for a Company of our size and resources. Companies that have complementary technologies and greater financial resources than we do may enter these industries and develop products that are superior to our products or achieve market acceptance. In the market for optical defect inspection equipment, we compete directly with companies that have significantly greater total assets and annual revenue than we do. In the metrology area of the device industry, we have encountered, and expect to encounter in the future, competition from companies offering similar and competing technologies, some of which have significantly greater total assets and annual revenue than we do, have an existing market presence in the device industry, or both. We also expect to encounter intense competition in the areas of metrology and inspection for the magnetic data storage industry. Our competitors can be expected to continue to improve the design and performance of their products and to introduce new products with competitive price/performance characteristics. Competitive pressures can necessitate price reductions or non-revenue generating shipments of new products to certain strategic customers for evaluation purposes, which

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can adversely affect our operating results. In order to remain competitive, we must maintain a high level of investment in research and development, sales, marketing and customer service. There can be no assurance that we will have sufficient resources to continue to make such investment or that we will be able to make the technological advances necessary to remain competitive.

We expect acquisitions and business combinations by our competitors and potential competitors in the metrology as well as in the defect inspection markets.

The impact of acquisitions and business combinations by our competitors could:

allow our competitors to offer new products without the lengthy time delays typically associated with internal product development;

limit our access to commercially significant technologies and/or new or complementary products; or

permit our competitors to accelerate the development and commercialization of new competitive products and the marketing of existing competitive products to their larger installed bases.

Accordingly, business combinations and acquisitions by our competitors could have an adverse impact on both our market share and the pricing of our products, which could have a material adverse effect on our business.

Our dependence on subcontractors and sole or limited source suppliers may prevent us from delivering an acceptable product on a timely basis and could result in disruption of our operations.

Certain components and subassemblies, including certain systems controllers and robotics components, incorporated in our current systems and those under development are obtained from a single source or a limited group of suppliers. In some instances, we have not qualified a second source for these products and the partial or complete loss of certain of these sources could have an adverse effect on our results of operations and damage customer relationships. For example, finding an alternative supplier or failure of an existing single supplier to perform in a timely manner could lead to a delay in the shipment of our products. Further, a significant increase in the price of one or more of these components or failure to perform up to specification could adversely affect our results of operations.

Key personnel may be difficult to attract and retain.

Our success depends to a large extent upon the efforts and abilities of a number of key employees and officers, particularly those with expertise in the semiconductor manufacturing and similar industrial manufacturing industries. The loss of key employees or officers such as Dr. Chris Koliopoulos, our chief executive officer, could have a material adverse effect on our business, financial condition or results of operations. We believe that our future success will depend in part on our ability to attract and retain highly skilled technical, financial, managerial and marketing personnel. We cannot be certain that we will be successful in attracting and retaining such personnel.

Changes in, or interpretations of, accounting principles, such as expensing of stock options, could result in unfavorable accounting charges.

We prepare our consolidated financial statements in conformity with U.S. generally accepted accounting principles. These principles are subject to interpretation by the SEC and various bodies formed to interpret and create appropriate accounting principles. A change in these principles could have a significant effect on our reported results and may even retroactively affect previously reported transactions. In particular, as of May 1, 2006, we adopted Statement of Financial Accounting Standards No. 123 (revised 2004), Share Based Payment (SFAS 123R), which requires that the costs resulting from all share-based payment transactions be measured using a fair-value method and be recognized in the financial statements. If we do not complete the Merger, we expect the adoption of SFAS 123R to have a significant adverse effect on our reported financial results and impact the way in which we conduct our business. Please refer to the section entitled New Accounting Pronouncements for further information regarding SFAS 123R.

As part of our business strategy, if the Merger is not consummated, we may make or seek to make acquisitions that may be difficult to integrate, disrupt our business, dilute stockholder value or divert management attention.

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As a part of our business strategy, if the Merger is not consummated, we may make acquisitions. Acquisitions are typically accompanied by a number of risks, including the difficulty of integrating the operations and personnel of the acquired companies, the potential disruption of our ongoing business and distraction of management, expenses related to the acquisition and potential unknown liabilities associated with acquired businesses.

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In making acquisitions, we could use substantial portions of our available cash as all or a portion of the purchase price. We could also issue additional securities as consideration for these acquisitions, which could cause significant stockholder dilution. Our acquisitions may not ultimately help us achieve our strategic goals and may pose other risks to us.

If we are not successful in completing acquisitions that we may pursue in the future, we may be required to reevaluate our strategy, and we will have incurred substantial expenses and devoted significant management time and resources in seeking to complete proposed acquisitions that will not generate benefits for us.

Risks relating to the Merger

Obtaining approval from German antitrust authorities or satisfaction of other conditions may delay or prevent completion of the Merger and these delays may cause additional costs and distractions.

German antitrust authorities have notified KLA-Tencor that they have begun a Phase II investigation of the Merger and, as a result, the closing of the Merger may not occur until approval is obtained from such authorities. Approval from German authorities may not be granted or may be conditioned upon divestitures relating to the divisions, operations or assets of KLA-Tencor or ADE. In addition, KLA-Tencor has the right, under the Amended Merger Agreement, not to make any divestitures that, individually or in the aggregate, would have an impact that is both material in comparison to, and adverse to, the benefits that would be reasonably expected to accrue to KLA-Tencor from the Merger. As a result, any divestitures or other conditions proposed by German authorities may jeopardize, delay or preclude completion of the Merger or may reduce the anticipated benefits of the Merger. We will also incur additional expenses relating to the Merger during this delay that may be significant. In addition, the uncertainty resulting from any delay in closing could erode customer and employee confidence in ADE and divert our management's focus and resources from other operational matters.

Provisions of the Amended Merger Agreement may deter alternative business combinations and could negatively impact the value of our common stock if the Amended Merger Agreement is terminated in certain circumstances.

Restrictions in the Amended Merger Agreement on solicitation generally prohibit us from soliciting any acquisition proposal or offer for a merger or business combination with any other party, including a proposal that might be advantageous to our stockholders when compared to the terms and conditions of the Merger. In addition, if the Merger is not completed because KLA-Tencor terminates the Amended Merger Agreement because our board of directors withdraws its support of the Merger or we terminate the Amended Merger Agreement to accept a superior acquisition proposal made by a third party, we may be required to pay KLA-Tencor a termination fee of \$15 million. These provisions may deter third parties from proposing or pursuing alternative business combinations that might result in greater value to our stockholders than the Merger. In the event the Merger is terminated by KLA-Tencor and/or us in circumstances that obligate us to pay the termination fee to KLA-Tencor, the value of our common stock may be reduced.

The Company, its directors, KLA-Tencor and South are involved in pending litigation with respect to the Merger, the result of which is uncertain.

As described in more detail in *Legal Proceedings* under Part I, Item 3 of this Annual Report on Form 10-K, a purported stockholder of the Company has filed original and amended complaints against the Company, its directors, KLA-Tencor and South. We have entered into a Memorandum of Understanding agreeing in principle to settle all claims brought on behalf of the putative class, but this settlement is still subject to Court approval and entry of a final order and judgment. At this time, we cannot predict the ultimate outcome of this matter definitively, nor can we determine how the various claims asserted in this action may affect our results of operations, our financial condition or the Merger.

Risks relating to our stock price.

Our stock price is volatile due to numerous factors, including unexpected operating results, the state of the markets in which we compete and other factors.

The trading price of our common stock has fluctuated widely in recent years. Consequently, the current trading price of our common stock may not be indicative of future trading prices, and we may be unable to sustain or increase the value of an investment in our common stock.

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Demand for our products is difficult to predict, due in part to the cyclical nature of the semiconductor and magnetic data storage industries that we service, and if realized demand does not meet our expectations, our results of operations in any particular period may be adversely affected. A significant percentage of our expenses are relatively fixed and based in part on expectations of future sales. The inability to adjust spending quickly enough to compensate for any shortfall would magnify the adverse impact of a shortfall in net sales on our results of operations. Factors that could cause fluctuations in our revenues include:

cyclical downturns in the semiconductor and magnetic data storage industries;

wafer pricing and wafer demand;

the timing of the receipt of orders from customers or cancellations from customers;

shipment delays;

acceptance of new products;

disruption in sources of supply;

mix of products sold and the geographic mix of sales;

competitive pricing;

production capacity constraints; and

specific features requested by customers.

As a result of the factors discussed above, it is possible that we will in the future experience quarterly or annual fluctuations and that, in one or more future quarters or years, our operating results will fall below the expectations of public market analysts or investors. In any such event, the price of our common stock could decline significantly.

We do not anticipate declaring any cash dividends on our common stock.

We have never declared or paid cash dividends on our common stock and do not plan to pay any cash dividends in the near future. Our current policy is to retain all funds and earnings for use in the operation and expansion of our business.

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None.

ITEM 2. PROPERTIES

Information regarding our principal properties at April 30, 2006 is set forth below:

Location	Principal Use	Business Segment	Sq. Footage	Ownership
Westwood, MA	Corporate Headquarters, Manufacturing, Engineering, Service, Sales and Marketing	Semiconductor Systems Group and ADE Technologies	118,000	Leased
Tucson, AZ	Manufacturing, Engineering, Service, Sales and Marketing	ADE Phase Shift	60,000	Owned
Vancouver, WA	Sales, Service and Engineering	Semiconductor Systems Group	12,800	Leased
Milpitas, CA	Sales and Service	Semiconductor Systems Group and ADE Technologies	9,300	Leased

We also lease space for sales and service support offices in various other domestic and overseas locations.

ITEM 3. LEGAL PROCEEDINGS

On June 7, 2006, Dean Drulias, a purported stockholder of the Company, filed a complaint in Massachusetts Superior Court, Norfolk County, against the Company, each of the Company's directors, KLA-Tencor and South entitled Dean Drulias v. ADE Corporation, et al. (Civil Action No. 06-00963). The complaint alleged, among other things, that, in connection with the Merger, the directors of the Company breached their fiduciary duties, the Company's preliminary proxy statement related to the Merger contained inaccurate statements of material facts and omitted material facts, and KLA-Tencor aided and abetted the Company's directors in their alleged breaches of fiduciary duties. Among other things, the complaint sought a determination that the class action status was proper, an injunction preventing the Merger or, if the Merger were consummated, a rescission of the Merger, and the payment of compensatory damages and other fees and costs. The defendants removed the action to federal court (United States District Court for the District of Massachusetts). On June 14, 2006, the Company filed a definitive proxy statement with the SEC and mailed it to all of the Company's stockholders of record as of the close of business on May 30, 2006; and, on June 27, 2006, plaintiff filed an amended complaint that alleged, among other things, that, in connection with the Merger, the directors of the Company breached their fiduciary duties, the Company's definitive proxy statement related to the Merger contained inaccurate statements of material facts and omitted material facts and KLA-Tencor aided and abetted the Company's directors in their alleged breaches of fiduciary duties. Among other things, the amended complaint sought a determination that the class action status was proper, an injunction preventing the Merger unless certain disclosures were made in advance of the Merger, and the payment of compensatory damages and other fees and costs. Plaintiff has not identified or alleged an amount of damages that are sought in the action. On June 30, 2006, plaintiff filed a motion for a preliminary injunction and a hearing on the motion took place on July 6, 2006. On July 7, 2006, a supplement to the definitive proxy statement was mailed to all of the Company's stockholders of record as of the close of business on May 30, 2006, and the Court was notified that defendants and plaintiff were in settlement discussions. On July 11, 2006, the Court dismissed the action as settled and without prejudice. The parties continued their settlement discussions; and, on July 19, 2006, entered into a Memorandum of Understanding (the "MOU") agreeing in principle to settle all claims brought on behalf of the putative class. However, effectuation of the settlement embodied in the MOU is contingent on, among other things, the Court's review and final approval of the settlement, and entry of a final order and judgment. Therefore, on July 28, 2006, the parties requested that the Court reopen the action. The Court has not yet acted in response to the parties' request. Although the ultimate outcome of this matter cannot yet be predicted definitively, and litigation poses a risk of uncertainty, the Company believes that the likelihood of a settlement, as embodied in the MOU, is high. However, the Company also believes that the claims in the original and amended complaints are without merit and it and the other defendants intend to vigorously defend the lawsuit if necessary.

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

There were no matters submitted to a vote of security holders during the fourth quarter of the fiscal year ended April 30, 2006.

Table of Contents**PART II****ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED COMMON STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES****Market Price of Common Stock**

Our common stock trades on the NasdaqGM under the symbol ADEX. The following table presents the high and low sale prices for each quarter for the common stock as reported for the periods indicated.

Fiscal year ended April 30, 2006	High	Low
First quarter	\$ 30.40	\$ 20.20
Second quarter	25.17	19.96
Third quarter	33.59	20.02
Fourth quarter	34.60	28.84
Fiscal year ended April 30, 2005	High	Low
First quarter	\$ 23.00	\$ 16.25
Second quarter	19.99	14.65
Third quarter	19.10	15.11
Fourth quarter	23.60	17.77

The last sale price of the common stock on July 25, 2006, as reported by the NasdaqGM, was \$32.13 per share. As of July 25, 2006, there were 82 holders of record of the common stock (approximately 2,600 beneficial holders).

We have never declared or paid any cash dividends on our common stock and currently expect to retain future earnings for use in our business for the foreseeable future.

Unregistered Sales of Equity Securities

None.

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The following table summarizes the financial data for our business and is derived from the Company's historical consolidated financial statements. You should read the selected financial data in conjunction with our historical consolidated financial statements and related notes and the section of this Annual Report on Form 10-K entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	2006	Year ended April 30, (in thousands, except per share data)			2002
	2005	2004	2003		
Statement of Operations Data:					
Revenue	\$ 103,448	\$ 116,901	\$ 88,585	\$ 71,247	\$ 81,806
Cost of revenue	45,820	54,294	45,043	38,954	48,132
Gross profit	57,628	62,607	43,542	32,293	33,674
Operating expenses:					
Research and development	15,815	15,519	15,085	17,017	22,783
Marketing and sales	13,610	13,044	10,435	11,514	13,064
General and administrative	11,076	10,404	11,009	9,229	11,290
Restructuring charges			393	1,588	
Total operating expenses	40,501	38,967	36,922	39,348	47,137
Income (loss) from operations	17,127	23,640	6,620	(7,055)	(13,463)
Gain on sale of long-term investment			1,729		
Gain on sale of marketable securities	915		398		
Interest and other income (expense), net	2,555	668	24	(434)	256
Income (loss) before provision for (benefit from) income taxes and equity in net earnings of affiliated companies	20,597	24,308	8,771	(7,489)	(13,207)
Provision for (benefit from) income taxes	5,340	(16,633)	46	91	10,416
Income (loss) before equity in net earnings of affiliated companies	15,257	40,941	8,725	(7,580)	(23,623)
Equity in net earnings of affiliated companies			48	175	498
Net income (loss)	\$ 15,257	\$ 40,941	\$ 8,773	\$ (7,405)	\$ (23,125)
Basic earnings (loss) per share	\$ 1.06	\$ 2.91	\$ 0.63	\$ (0.54)	\$ (1.70)
Diluted earnings (loss) per share	\$ 1.04	\$ 2.86	\$ 0.62	\$ (0.54)	\$ (1.70)
Weighted average shares outstanding - basic	14,393	14,069	13,887	13,710	13,615
Weighted average shares outstanding - diluted	14,686	14,312	14,127	13,710	13,615

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	2006	2005	April 30, 2004	2003	2002
	(in thousands)				
Balance Sheet Data:					
Cash and cash equivalents	\$ 91,573	\$ 72,841	\$ 41,560	\$ 21,476	\$ 26,108
Working capital	138,886	116,641	72,972	50,079	53,669
Total assets	177,462	153,226	108,475	101,116	114,751
Long-term debt, less current portion	3,244	3,431	3,608	10,082	10,715
Total stockholders' equity	\$ 150,117	\$ 130,026	\$ 86,169	\$ 74,797	\$ 83,322

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

The following discussion of our financial condition and results of operations should be read together with the description of business, financial statements and the related notes of ADE which appear elsewhere in this Annual Report on Form 10-K. The following discussion contains forward-looking statements that reflect ADE's plans, estimates and beliefs. Our actual results could differ materially from those discussed below and in the forward-looking statements appearing elsewhere in this Annual Report on Form 10-K.

Overview

ADE was incorporated in 1967 to develop and market certain advanced concepts and designs in capacitance and other measurement technologies suitable for industrial applications requiring precise, reliable, damage-free and repeatable measurements. Our products have evolved from single instruments used in off-line engineering analysis to multi-function systems for automated in-line monitoring of process-induced defects throughout the semiconductor wafer, device, magnetic data storage and optics manufacturing processes. We operate three major business segments, the Semiconductor Systems Group (SSG), ADE Phase Shift (PST) and ADE Technologies (ATI). SSG manufactures multifunctional semiconductor metrology and automation systems and optical wafer defect inspection equipment used to detect particles and other defects on silicon wafer surfaces. PST manufactures high-performance, non-contact surface metrology equipment using advanced interferometric technology that provides enhanced yield management to the data storage, semiconductor and optics industries. ATI manufactures high precision magnetic characterization and non-contact dimensional metrology gauging systems primarily for the magnetic data storage and semiconductor manufacturing industries.

Historically, the semiconductor wafer and device industries and the magnetic data storage industry have been highly cyclical and have experienced both rapid periods of growth and rapid downturns that can be abrupt and result in significant changes in revenue and profits. Earlier in fiscal 2006, there was evidence of a slight downturn in the semiconductor industry. As a result, prior to the second quarter of fiscal 2006, the Company had experienced four consecutive quarters of decreased bookings and, consequently, decreased quarterly revenues in the first half of fiscal 2006. However, the Company has experienced sequential increases in bookings in the second, third and fourth quarters of fiscal 2006. This fact, combined with increased quoting activity, suggests that the semiconductor industry may be experiencing a period of expansion. However, due to limited industry visibility, the Company cannot determine if this current increase in order activity will continue and, if so, for how long. The Company makes no assurances that current order, revenue, backlog and profit levels can be sustained in future periods.

Merger with KLA-Tencor

On February 22, 2006, the Company entered into a Merger Agreement with KLA-Tencor and South. Pursuant to the Merger Agreement, each share of the Company's common stock was to be exchanged for 0.64 shares of KLA-Tencor common stock on a fixed basis.

On May 26, 2006, the Company entered into an Amended Merger Agreement with KLA-Tencor and South. The Amended Merger Agreement amended and restated the Merger Agreement entered into on February 22, 2006, and changed the consideration payable to ADE stockholders from 0.64 shares of KLA-Tencor common stock to \$32.50 in cash per share of ADE common stock.

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The Amended Merger Agreement provides that, among other things, upon the terms and subject to the conditions set forth in the Amended Merger Agreement, South will merge with and into ADE, with ADE continuing as the surviving corporation and a wholly owned subsidiary of KLA-Tencor. ADE's stockholders approved the Merger on July 13, 2006. Consummation of the Merger is subject to customary closing conditions, including the approval of German antitrust authorities. See Item 1A. Risk Factors Risks relating to the Merger.

Restructurings

During the first quarter of fiscal 2004, as a result of continued cost cutting initiatives, the Company recorded a restructuring charge of \$393,000, which consisted primarily of severance expenses for 20 terminated employees. The employees were terminated from various functional areas within the Company's Semiconductor Systems and ADE Technologies business segments. The majority of all the severance payments from this restructuring were made by the end of fiscal year 2004. In connection with this restructuring, the Company did not renew its lease at its Bethel, Connecticut facility, which expired in August 2003. Prior to the end of the first quarter, the operations of the Bethel facility were relocated to the Westwood, Massachusetts and Tucson, Arizona facilities.

Sale of Long-term Investment

On July 24, 2003, the Company entered into an agreement to sell the majority of its 50% ownership in JAL to Kanematsu Electronics, Ltd., the other 50% owner of JAL. The Company received proceeds of \$4.0 million and realized a gain of \$1.7 million from this transaction. The Company retained a 9% ownership interest in JAL. Prior to the transaction, the Company accounted for its investment in JAL under the equity method. As a result of the decrease in both ownership and influence over the affairs of JAL, the Company accounts for its remaining 9% interest under the cost method.

The \$1.7 million gain on the transaction was calculated as follows:

ADE shares held prior to sale	1,500	50%
KEL shares held prior to sale	1,500	50%
Total ownership shares	3,000	100%
Shares sold by ADE	1,230	41%
Shares retained by ADE	270	9%
		(in thousands)
Book value of ADE investment at 4/30/03	\$	3,722
Less: Dividend received 7/10/03		(1,000)
Add: Income from affiliate April-June		48
Book value of ADE investment before sale	\$	2,770
Book value per share before sale	\$	1.85
Book value of shares sold	\$	2,271
Proceeds from sale	\$	4,000
Gain on sale of 41% ownership	\$	1,729

Prior to July 24, 2003, when the Company was accounting for its investment in JAL under the equity method, the revenue from sales to JAL, which had not in turn been sold by JAL to unrelated third parties, was eliminated and the related profit on such sales was recorded as deferred income on sales to affiliate. As a result of the reduction of the Company's 50% investment in JAL to 9% and the change in accounting method for the remaining investment to the cost method, the Company recognized approximately \$6.4 million of system and parts revenue in its statement of operations that otherwise may have been deferred revenue on the balance sheet as of July 31, 2003. Cost of revenue, systems and parts in the statement of operations increased by \$2.5 million during the quarter ended July 31, 2003 as a result of the sale of part of the Company's JAL investment. Therefore, gross profit in the statement of operations increased by \$3.9 million during the same period.

Table of Contents**Critical Accounting Policies, Significant Judgments and Estimates**

The discussion and analysis of the Company's financial condition and results of operations are based upon its consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures at the date of and for the periods reflected in the Company's financial statements. Management continually evaluates its estimates and judgments, including those related to bad debts, inventories, intangible assets, income taxes and warranty obligations. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. The Company considers certain accounting policies related to revenue recognition and allowance for doubtful accounts, inventory valuation, accounting for income taxes, and valuation of goodwill and software to be critical policies due to the estimates and judgments involved in each.

Revenue Recognition and Allowance for Doubtful Accounts

The Company's revenue recognition policy complies with SEC Staff Accounting Bulletin No. 104, Revenue Recognition in Financial Statements. The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable and collectibility is reasonably assured. The Company's standard customer arrangement includes a signed purchase order, in which it offers payment terms of 30 to 90 days, no right of return of delivered products and a twelve month warranty. The Company assesses whether the fee associated with its revenue transactions is fixed or determinable based on the payment terms associated with the transaction. If a significant portion of the fee is due after the Company's normal payment terms of 30 to 90 days, it determines that the fee is not fixed or determinable. In these cases, the Company recognizes revenue as the fees become due. The Company assesses collectibility based on the credit worthiness of the customer and past transaction history. The Company performs initial credit evaluations of its customers and does not require collateral from its customers. For many of the Company's international customers, it requires that an irrevocable letter of credit be issued by the customer before the purchase order is accepted. If the Company determines that collection of a fee is not reasonably assured, it defers the fee and recognizes the revenue at the time that collection becomes reasonably assured, which is generally upon the receipt of cash.

For some of the Company's sales transactions, a portion, usually 10%, of the fee is not due until installation occurs and the customer accepts the product. The other 90% of the fee is normally due 30 to 90 days after shipment. If the Company has met defined customer acceptance experience levels with a specific type of product, these transactions are accounted for as multiple-element arrangements with the deferral of the portion of the fee not due until installation is complete and customer acceptance has occurred. Management of the Company must make a determination of what constitutes an appropriate experience level with a product. This determination is based on, but not limited to, the extent to which a product contains significantly new technology, the number of similarly configured products previously delivered and the Company's experience with a particular customer. For new products, the Company must obtain at least three acceptances before it will recognize the 90% portion of the fee upon shipment. All other sales with customer acceptance provisions are recognized as revenue upon customer acceptance. The portion of the fee related to the installation of the product and customer training is classified as service revenue.

The Company's transactions frequently involve the sales of systems and services under multiple element arrangements. Revenue under multiple element arrangements is allocated to all elements except systems based upon the fair value of those elements. The amounts allocated to training are based upon the price charged when this element is sold separately and unaccompanied by the other elements. The amount allocated to installation revenue is based upon hourly rates and the estimated time to complete the service. The amount allocated to system and parts is done on a residual method basis. Under this method, the total arrangement value is allocated first to undelivered elements, based on their fair values, with the remainder being allocated to system revenue.

The Company accrues for anticipated warranty costs upon shipment. Warranty costs are estimated based on an analysis of historical cost information. Service revenue is recognized as the services are performed provided collection of the related receivable is probable. Service contract revenue is recognized ratably over the contractual periods in which the services are provided. Revenue from software licenses is recognized when an agreement has been executed, software has been delivered, fees are fixed or determinable and collection of the related receivable is probable.

Revenue from systems sales to JAL, the Company's previously 50% owned affiliate and a distributor of the Company's products, by the SSG, ATI and PST segments was reflected in segment revenue during the period they were shipped by the respective segment, which could differ from the period the revenue was recognized for consolidated financial reporting purposes. Consolidated revenue on systems sales to JAL was recognized when the related product or software was shipped to and accepted by the end user of the product or software. As a result of the Company's decreased investment in JAL, beginning July 24, 2003, all sales to JAL are reflected in both segment and consolidated revenue in the same period.

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The Company maintains an allowance for doubtful accounts based on a continuous review of customer accounts, payment patterns and specific collection issues. Where specific collection issues are identified, the Company records a specific allowance based on the amount that the Company believes will be collected. For accounts where specific collection issues are not identified, the Company will record a reserve based on the age of the receivable and historical collection patterns.

Inventory Valuation

Inventories are valued at the lower of cost or market, cost being determined on a first-in, first-out basis. Management evaluates the need to record adjustments for impairment of inventory on a monthly basis. The Company's policy is to assess the valuation of all inventories, including raw materials, work-in-process, finished goods and spare parts. Inventory that, in the judgment of management, is obsolete or in excess of the Company's estimated usage is written-down to its estimated market value, if less than its cost. Inherent in the estimates of market value are management's estimates related to current economic trends, future demand for the Company's products and technological obsolescence. Significant management judgments must be made when establishing the reserve for obsolete and excess inventory. If the Company's judgments and estimates relating to obsolete and excess inventory prove to be inadequate, its financial results could be materially adversely affected in future periods. If the inventory value is written down to its net realizable value, and subsequently there is an increased demand for the inventory at a higher value, the increased value of the inventory is not realized until the inventory is sold.

Accounting for Income Taxes

The Company records income taxes using the asset and liability method. Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases, and operating loss and tax credit carryforwards. The Company's financial statements contain certain deferred tax assets, which have arisen primarily as a result of operating losses incurred in prior years, as well as other temporary differences between book and tax accounting. SFAS No. 109, *Accounting for Income Taxes*, requires the establishment of a valuation allowance to reflect the likelihood of the realization of deferred tax assets. Significant management judgment is required in determining the Company's provision for income taxes, its deferred tax assets and liabilities and any valuation allowance recorded against its net deferred tax assets. During the quarter ended April 30, 2005, based on its evaluation of all available evidence, both positive and negative, the Company determined that it was more likely than not that it would realize the benefit of the majority of its deferred tax assets. As a result, the Company reversed \$17.2 million of its deferred tax asset valuation allowance. The decision to reverse the valuation allowance required significant judgment. The amount of the deferred tax asset considered realizable is based on significant estimates, and it is at least reasonably possible that changes in these estimates in the future could materially affect the Company's financial condition and results of operations. The Company's effective tax rate may vary from period to period based on changes in estimated taxable income or loss, changes to the valuation allowance, changes to federal, state or foreign tax laws and deductibility of certain costs and expenses by jurisdiction.

Goodwill and Intangible Assets

Intangible assets consist of \$1.3 million of goodwill obtained through the acquisition of the Semiconductor Solutions Division of LPA Software, Inc. in September 1997 as well as \$0.2 million, net of amortization, of capitalized license fees for software included in the Company's products. The Company accounts for goodwill and other intangible assets in accordance with SFAS No. 142 (*SFAS 142*), *Goodwill and Other Intangible Assets*.

The Company is required to perform impairment tests under SFAS 142 annually and whenever events or changes in circumstances suggest that the goodwill may be impaired. Factors the Company considers important that could trigger the impairment review include:

significant underperformance relative to historical or projected future operating results;

significant negative industry or economic trends;

significant adverse change in legal factors or in the business climate;

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significant decline in the Company's stock price for a sustained period;

significant decline in the Company's technological value as compared to the market;

the Company's market capitalization relative to net book value; and

unanticipated competition.

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During the fourth quarter in each of the fiscal years ended April 30, 2006 and 2005, the Company performed its annual impairment test in accordance with SFAS 142 and determined that the carrying value of its goodwill was not impaired.

As of April 30, 2006, net capitalized license fees of \$0.2 million for software included in the Company's products are amortized at the greater of 1) the ratio that current gross revenue for the related products bears to the total current and anticipated future gross revenue for those products or 2) on a straight-line basis over its estimated useful life. At each quarter-end, the carrying value of the software is compared to net realizable value (NRV). NRV is the estimated future gross revenues from products that incorporate the software reduced by the estimated future costs of disposal. If NRV is less than the carrying value, the excess is written-off and NRV becomes the new carrying value of the software.

Significant management judgments and estimates must be made when establishing criteria for future cash flows, estimating reporting unit fair value and assessing impairment. If the Company's judgments and estimates relating to goodwill and software prove to be inadequate, an asset may be determined to be impaired and the Company's financial results could be materially adversely impacted. Likewise, if a future event or circumstance indicates that an impairment assessment is required and, through the performance of that assessment, an asset is determined to be impaired, the Company's financial results could be materially and adversely impacted in future periods.

Off-Balance Sheet Arrangements

The Company has not created any special-purpose or off-balance sheet entities or entered into any off-balance sheet arrangements for the purpose of raising capital, incurring debt or operating parts of its business that are not consolidated into its financial statements. The Company does not have any arrangements or relationships with entities that are not consolidated into its financial statements that are reasonably likely to materially affect its liquidity or the availability of capital resources, except as set forth below under Liquidity and Capital Resources.

Table of Contents**Results of Operations**

The following table presents the percentage of total revenue for the respective line items in ADE's consolidated statements of operations.

	Year ended April 30,		
	2006	2005	2004
Revenue	100.0%	100.0%	100.0%
Cost of revenue	44.3%	46.4%	50.8%
Gross profit	55.7%	53.6%	49.2%
Operating expenses:			
Research and development	15.3%	13.3%	17.0%
Marketing and sales	13.2%	11.2%	11.8%
General and administrative	10.7%	8.9%	12.4%
Restructuring charges	0.0%	0.0%	0.0%
Income from operations	16.5%	20.2%	7.5%
Gain on sale of long-term investment	0.0%	0.0%	2.0%
Gain on sale of marketable securities	0.9%	0.0%	0.0%
Interest and other income (expense), net	2.5%	0.6%	0.0%
Equity in net earnings of affiliated companies	0.0%	0.0%	0.0%
Provision for (benefit from) income taxes	5.2%	(14.2)%	0.0%
Net income	14.7%	35.0%	9.9%

Fiscal Year Ended April 30, 2006 Compared to Fiscal Year Ended April 30, 2005

Systems and parts revenue. Systems and parts revenue decreased 13% to \$91.2 million in fiscal 2006 from \$104.6 million in fiscal 2005. Revenue in the SSG segment decreased 27% to \$40.5 million in fiscal 2006 compared to \$55.7 million in fiscal 2005. The decrease in revenues from the SSG segment reflects both decreased orders for capacitance-based flatness tools in favor of the Company's newer optical-based flatness tools, which are sold by the Company's PST segment, and decreased demand for the Company's Advanced Wafer Inspection System as the Company's latest-generation nano-particle inspection and defect classification tool, the WaferXam, gains industry acceptance and begins to generate higher levels of revenue. Systems and parts revenue in the PST segment decreased 3% to \$37.1 million in fiscal 2006 from \$38.1 million in fiscal 2005. The decrease in revenue from the PST segment was due primarily to the timing of shipments. Systems and parts revenue from the products that are marketed to the data storage industry by the Company's ATI segment increased 26% to \$15.2 million in fiscal 2006 compared to \$12.0 million in fiscal 2005. The increase can be attributed primarily to increased demand for ATI's magnetics products.

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A breakdown of the Company's total revenues by industry is as follows:

	Year Ended April 30,	
	2006	2005
Wafer	67%	79%
Device / OEM	15%	11%
Magnetic Data Storage	18%	10%
Total	100%	100%

The Company's total revenues by region are distributed as follows:

	Year ended April 30,	
	2006	2005
United States	19%	17%
Japan	36%	41%
Asia-Pacific	35%	26%
Europe	10%	16%
Total	100%	100%

Service revenue. Service revenue was \$12.3 million in both fiscal 2006 and fiscal 2005. The Company's service revenue consists of fees for installation, training, product maintenance and technical support services. The majority of the Company's service revenue is derived from the SSG segment.

Gross profit systems and parts. Gross profit increased to 61% in fiscal 2006 from 58% in fiscal 2005. Gross profit in the SSG segment increased to 59% in fiscal 2006 compared to 58% in fiscal 2005 due primarily to decreased sales to Japan. In general, sales to Japan are made through distributors who buy the Company's products at a discount and then perform installation and service after reselling the products to the end user. As a result, sales to Japan tend to have a lower gross margin than sales made to other parts of the world, which are made through internal and external sales representatives who are compensated by means of commissions. Commissions expense is included in marketing and sales expense. Gross profit in the PST segment increased to 63% in fiscal 2006 compared to 60% in fiscal 2005 due to changes in product mix. Gross profit in the ATI segment increased to 57% in fiscal 2006 compared to 44% in fiscal 2005 due to increased sales of magnetic products. Changes in product and geographical mix impact the Company's gross profit. Consequently, the gross profit in one period may not be indicative of the gross profit in future periods.

Gross profit service. Gross profit decreased to 14% in fiscal 2006 from 20% in fiscal 2005. The decreased gross profit was primarily the result of increased overhead expenses in fiscal 2006 compared to fiscal 2005.

Research and Development. Research and development expense increased 2% to \$15.8 million in fiscal 2006 from \$15.5 million in fiscal 2005 and increased as a percentage of revenue to 15% in fiscal 2006 from 13% in fiscal 2005. The increase in expense was primarily due to increased payroll and benefits expense of \$0.4 million and increased equipment expense of \$0.2 million, offset by a \$0.3 million decrease in contract labor. The increase in expense as a percentage of revenues reflects both the decreased revenue mentioned above as well as the increased expense in fiscal 2006. The Company continues to invest in its semiconductor wafer and device industry products as well as new products for the magnetic storage industry, including those that measure the magnetic properties of materials used in manufacturing disk drives.

Marketing and Sales. Marketing and sales expense increased 4% to \$13.6 million in fiscal 2006 from \$13.0 million in fiscal 2005, and increased as a percentage of revenue to 13% in fiscal 2006 from 11% in fiscal 2005. The increased expense resulted primarily from higher commission expense of \$0.4 million on sales made through internal and external sales representatives. Also contributing to the increase in expense was higher payroll and benefits expense of \$0.3 million, which was offset by a net \$0.1 million decrease in other expenses. The mix of sales channels through which the Company's products are sold may have a significant impact on the Company's marketing and sales expense and the results in any period may not be indicative of marketing and sales expense for future periods.

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General and Administrative. General and administrative expenses increased 6% to \$11.1 million in fiscal 2006 from \$10.4 million in fiscal 2005 and increased as a percentage of revenue to 11% in fiscal 2006 from 9% in fiscal 2005. Expense increased primarily as a result of a \$0.3 million increase in payroll and incentive compensation expense and a \$0.4 million increase in expense related to the pending Merger with KLA-Tencor. The increase in expense as a percentage of revenues reflects both higher general and administrative expense and the decreased revenue mentioned above.

Interest Income. Interest income was \$2.7 million in fiscal 2006 compared to \$0.7 million in fiscal 2005. The increase in interest income was primarily the result of an increase in invested cash balances and increased investment returns during fiscal 2006.

Interest Expense. Interest expense was \$0.2 million in fiscal 2006 compared to \$0.3 million in fiscal 2005. The decrease in interest expense was primarily due to principle payments made during fiscal 2006.

Provision for (benefit from) Income Taxes. The provision for income taxes was \$5.3 million in fiscal 2006 compared to a benefit from income taxes of \$16.6 million in fiscal 2005. The provision for income taxes in fiscal 2006 consisted of federal, state and foreign income taxes. In the fourth quarter of fiscal 2005, the Company reversed \$17.2 million of its deferred tax asset valuation allowance which was slightly offset by \$0.6 million of federal and state alternative minimum and foreign tax expense. Consequently, the Company began to recognize a higher effective tax rate starting in the first quarter of fiscal 2006. The Company's effective tax rate for fiscal 2006 was 26%. The effective tax rate for fiscal 2006 includes a tax benefit of \$1.5 million related to the Company's foreign export sales. The Company's effective income tax rate differs from the statutory rate of 35% primarily due to benefits realized from the Extraterritorial Income exclusion and research and development tax credits. As described in Note 14 to the Company's consolidated financial statements, during the quarter ended April 30, 2005, based on its evaluation of all available evidence, both positive and negative, the Company determined that it was more likely than not that it would realize the benefit of the majority of its deferred tax assets. As a result, the Company reversed \$17.2 million of its deferred tax asset valuation allowance. The decision to reverse the valuation allowance required significant judgment. The amount of the deferred tax asset considered realizable is based on significant estimates, and it is at least reasonably possible that changes in these estimates in the future could materially affect the Company's financial condition and results of operations. The Company's effective tax rate may vary from period to period based on changes in estimated taxable income or loss, changes to the valuation allowance, changes to federal, state or foreign tax laws, and deductibility of certain costs and expenses by jurisdiction.

Fiscal Year Ended April 30, 2005 Compared to Fiscal Year Ended April 30, 2004

Systems and parts revenue. Systems and parts revenue increased 33% to \$104.6 million in fiscal 2005 from \$78.7 million in fiscal 2004. Revenue in the SSG segment increased 9% to \$55.7 million in fiscal 2005 compared to \$51.2 million in fiscal 2004. The increase in revenues from the Company's products in the SSG segment was due primarily to increased demand for its 300mm products. Systems and parts revenue in the PST segment increased 101% to \$38.1 million in fiscal 2005 from \$18.9 million in fiscal 2004. The increase in revenue from the PST segment was due primarily to increased demand for its 300mm optical-based flatness tools. System and parts revenue from the products that are marketed to the data storage industry by the Company's ATI segment increased 35% to \$12.0 million in fiscal 2005 compared to \$8.9 million in fiscal 2004. The increase can be attributed primarily to increased demand for ATI's magnetics products.

A breakdown of the Company's total revenues by industry is as follows:

	Year Ended April 30,	
	2005	2004
Wafer	79%	81%
Device / OEM	11%	8%
Magnetic Data Storage	10%	11%
Total	100%	100%

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The Company's total revenues by region are distributed as follows:

	Year ended April 30,	
	2005	2004
United States	17%	14%
Japan	41%	50%
Asia-Pacific	26%	22%
Europe	16%	14%
Total	100%	100%

Service revenue. Service revenue increased 25% to \$12.3 million in fiscal 2005 from \$9.9 million in fiscal 2004. The Company's service revenue consists of fees for installation, training, product maintenance and technical support services. The majority of the Company's service revenue is derived from the SSG segment. The increase is primarily due to service calls related to customers bringing and keeping equipment on-line to meet higher demand levels.

Gross profit systems and parts. Gross profit increased to 58% in fiscal 2005 from 57% in fiscal 2004. Gross profit in the SSG segment decreased slightly to 58% in fiscal 2005 compared to 59% in fiscal 2004 due primarily to changes in product mix. Gross profit in the PST segment increased to 60% in fiscal 2005 compared to 58% in fiscal 2004 due to changes in product mix. Gross profit in the ATI segment increased to 44% in fiscal 2005 compared to 41% in fiscal 2004 due to continuing improvements in cost controls and efficiencies along with changes in product mix.

Gross profit service. Gross profit increased to 20% in fiscal 2005 from (13%) in fiscal 2004. The increased gross profit was primarily the result of both increased revenues related to service calls and decreased material and repair costs compared to fiscal 2004.

Research and Development. Research and development expense increased in fiscal 2005 to \$15.5 million from \$15.1 million in fiscal 2004 but decreased as a percentage of revenue to 13% in fiscal 2005 from 17% in fiscal 2004. The increase in expense was primarily due to increased payroll expense. The decrease in expense as a percentage of revenues reflects the increased revenue mentioned above.

Marketing and Sales. Marketing and sales expense increased 24% to \$13.0 million in fiscal 2005 from \$10.4 million in fiscal 2004, but decreased as a percentage of revenue to 11% in fiscal 2005 from 12% in fiscal 2004. The increased expense resulted primarily from higher commissions expense of \$1.4 million on sales made through internal and external sales representatives. Also contributing to the increase in expense was higher payroll expense of \$0.6 million.

General and Administrative. General and administrative expenses decreased 5% to \$10.4 million in fiscal 2005 from \$11.0 million in fiscal 2004 and decreased as a percentage of revenue to 9% in fiscal 2005 from 12% in fiscal 2004. Expense decreased primarily as a result of a \$3.1 million decrease in legal and facility related expenses, which were offset by an increase in regulatory compliance expense of \$0.8 million and an increase in payroll and incentive compensation expenses of \$1.6 million. The decrease in expense as a percentage of revenues reflects lower general and administrative expense and the increased revenue mentioned above.

Interest Income. Interest income was \$0.7 million in fiscal 2005 compared to \$0.2 million in fiscal 2004. The increase in interest income was primarily the result of an increase in invested cash balances and increased investment returns during fiscal 2005.

Interest Expense. Interest expense was \$0.3 million in fiscal 2005 compared to \$0.4 million in fiscal 2004. The decrease in interest expense was primarily due to the Company's retirement of its 1996 and 1997 Industrial Development Bonds in the first quarter of fiscal 2004.

Provision for (benefit from) Income Taxes. The benefit from income taxes was \$16.6 million in fiscal 2005 compared to a provision for income taxes of \$46,000 in fiscal 2004. The benefit from income taxes in fiscal 2005 consisted of a \$17.2 million reversal of deferred income tax valuation allowances, which was slightly offset by federal and state alternative minimum and foreign tax expense of \$0.6 million. The provision for income taxes in fiscal 2004 consisted of federal and state alternative minimum taxes and foreign income taxes. As described in Note 14 to the Company's consolidated financial statements, during the quarter ended April 30, 2005, based on its evaluation of all available evidence, both positive and negative, the Company determined that it was more likely than not that it would realize the benefit of the majority of its deferred tax assets. As a result, the Company reversed \$17.2

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million of its deferred tax asset valuation allowance. The decision to reverse the valuation allowance required significant judgment. The amount of the deferred tax asset considered realizable is based on significant estimates, and it is at least reasonably possible that changes in these estimates in the future could materially affect the Company's financial condition and results of operations. The Company's effective tax rate may vary from period to period based on changes in estimated taxable income or loss, changes to the valuation allowance, changes to federal, state or foreign tax laws, and deductibility of certain costs and expenses by jurisdiction.

Selected Consolidated Quarterly Operating Results

The following table presents consolidated statement of operations data for each of the eight quarters in the period beginning May 1, 2004 and ending April 30, 2006. This information has been derived from ADE's unaudited consolidated financial statements. The unaudited financial statements have been prepared on the same basis as the audited financial statements and include all normal recurring adjustments considered necessary to present fairly this information when read in conjunction with ADE's annual audited financial statements and related notes appearing elsewhere in this annual report. Our quarterly revenue typically is derived from a relatively small number of customer orders. These customer orders may consist of multiple systems, each of which is priced between approximately \$100,000 and \$1,500,000. As a result, the timing of significant orders or a reduction in the number of systems shipped in a quarter could have a material effect on our revenue and results of operations for that quarter. The results for a particular quarter may also vary due to a number of other factors, including:

economic conditions in the semiconductor and magnetic data storage industries;

product mix of our sales for the period;

the sales distribution channel of our sales for the period;

competitive pricing pressures;

our ability to design, introduce and manufacture new products on a cost effective and timely basis;

customer cancellations or rescheduled shipments;

production difficulties or the inability to obtain critical components resulting in delayed shipments; and

seasonal factors such as customers' capital budget approval cycles.

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These factors could have a material adverse effect on our results of operations. Significant levels of our expenses are fixed in advance and based in part on our expectations as to future revenue. As a consequence, any material shortfall in revenue in a given quarter could have a material adverse effect on our earnings.

	Quarter ended							
	July 31, 2004	Oct. 31, 2004	Jan. 31, 2005	April 30, 2005	July 31, 2005	Oct. 31, 2005	Jan. 31, 2006	April 30, 2006
	(in thousands, except per share data, unaudited)							
Statement of Operations Data:								
Revenue	\$ 28,313	\$ 29,289	\$ 29,505	\$ 29,794	\$ 24,312	\$ 23,614	\$ 26,258	\$ 29,264
Cost of revenue	13,392	13,543	13,969	13,390	10,703	10,396	11,382	13,338
Gross profit	14,921	15,746	15,536	16,404	13,609	13,218	14,876	15,926
Operating expenses:								
Research and development	3,626	3,657	4,130	4,106	3,812	3,819	4,113	4,072
Marketing and sales	3,469	2,815	2,715	4,045	3,509	2,940	2,933	4,227
General and administrative	2,663	2,864	2,413	2,464	2,758	2,424	2,754	3,141
Total operating expenses	9,758	9,336	9,258	10,615	10,079	9,183	9,800	11,440
Income from operations	5,163	6,410	6,278	5,789	3,530	4,035	5,076	4,486
Gain on sale of marketable securities								915
Interest and other income, net	43	71	275	279	486	521	716	832
Income before provision for (benefit from) income taxes	5,206	6,481	6,553	6,068	4,016	4,556	5,792	6,233
Provision for (benefit from) income taxes	148	178	117	(17,077)	1,131	1,640	1,059	1,510
Net income	\$ 5,058	\$ 6,303	\$ 6,436	\$ 23,145	\$ 2,885	\$ 2,916	\$ 4,733	\$ 4,723
Basic earnings per share	\$ 0.36	\$ 0.45	\$ 0.46	\$ 1.63	\$ 0.20	\$ 0.20	\$ 0.33	\$ 0.33
Diluted earnings per share	\$ 0.35	\$ 0.44	\$ 0.45	\$ 1.60	\$ 0.20	\$ 0.20	\$ 0.32	\$ 0.32
Weighted average shares outstanding basic	14,007	14,042	14,065	14,166	14,318	14,376	14,405	14,475
Weighted average shares outstanding diluted	14,285	14,257	14,285	14,436	14,611	14,605	14,695	14,822

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	Quarter ended							
	July 31, 2004	Oct. 31, 2004	Jan. 31, 2005	April 30, 2005	July 31, 2005	Oct. 31, 2005	Jan. 31, 2006	April 30, 2006
Percentage of Revenue:								
Revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of revenue	47.2%	46.2%	47.3%	44.9%	44.0%	44.0%	43.3%	45.6%
Gross profit	52.8%	53.8%	52.7%	55.1%	56.0%	56.0%	56.7%	54.4%
Operating expenses:								
Research and development	12.8%	12.5%	14.0%	13.8%	15.7%	16.2%	15.7%	13.9%
Marketing and sales	12.3%	9.6%	9.2%	13.6%	14.4%	12.5%	11.2%	14.5%
General and administrative	9.4%	9.8%	8.2%	8.3%	11.3%	10.3%	10.5%	10.7%
Income from operations	18.3%	21.9%	21.3%	19.4%	14.6%	17.0%	19.3%	15.3%

Our quarterly operating results can vary significantly due to a number of factors, including economic conditions in the semiconductor and magnetic data storage industries, the timing of shipments of orders to major customers, the mix of products sold and competitive pricing. Customers may cancel or reschedule shipments. Product shipments could be delayed by production difficulties or critical component inventory shortages. These factors could have a material adverse effect on our results of operations. As cost of revenue includes manufacturing overhead, which is relatively constant from quarter to quarter, gross margin can vary significantly from quarter to quarter due to varying levels of production and revenue. Marketing and sales expenses can vary from quarter to quarter based on a number of factors, including mix of sales channels, geographic mix and the timing of marketing events. There can be no assurance that we will be profitable in any future period.

Liquidity and Capital Resources

At April 30, 2006, the Company had \$91.6 million in cash and cash equivalents and \$138.9 million in working capital compared with \$72.8 million in cash and cash equivalents and \$116.6 million in working capital at April 30, 2005.

Cash provided by operating activities for the year ended April 30, 2006 was \$15.3 million. This amount resulted from net income of \$15.3 million, adjusted for net non-cash charges of \$5.7 million and a \$5.7 million net increase in working capital accounts. Non-cash items primarily consisted of \$3.2 million in deferred income taxes, \$2.0 million of depreciation and amortization, and a \$0.9 million gain from the sale of marketable securities, namely the Company's remaining stake in MKS Instruments, Inc. The net increase in working capital of \$5.7 million was comprised of increases in accounts receivable of \$4.7 million, accrued and other current liabilities of \$1.4 million, prepaid expenses and other current assets of \$0.3 million, accounts payable of \$3.0 million and inventory of \$5.1 million. The increase in accounts receivable resulted from the timing of shipments at the end of the fourth quarter of fiscal 2006. The increase in accrued expenses and other current liabilities was primarily due to an increase in accrued incentive compensation of \$0.5 million and accrued commission expense of \$0.9 million. The increase in accounts payable was due to increased purchases of inventory. The increase in inventory was due to increased purchases to meet increased bookings in the latter portion of fiscal 2006.

Cash used in investing activities was \$0.2 million and consisted primarily of \$1.5 million in purchases of fixed assets, which was offset by \$1.3 million of proceeds from the sale of marketable securities.

Cash provided by financing activities was \$3.7 million, which consisted primarily of \$3.9 million in aggregate proceeds from the issuance of common stock from the exercise of stock options and stock purchased through the Company's employee stock purchase plan, which was offset by \$0.2 million of principal repayments of long-term debt.

Under Generally Accepted Accounting Principles in the United States, certain obligations and commitments are not required to be included in the consolidated balance sheet. These obligations and commitments, while entered into in the normal course of business, may have a material impact on liquidity. The Company does not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. As such, the Company is not exposed to any financing, liquidity, market, or credit risk that could arise if the Company had engaged in such relationships.

The following table discloses the Company's contractual payment obligations as of April 30, 2006. The operating lease

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obligation is not included in the consolidated financial statements included in this annual report. The principal portion of the long-term debt is included in the consolidated financial statements. The long-term debt payments in the table below include both principal and interest. The purchase order obligations primarily represent open purchase orders for inventory, a significant portion of which is necessary to produce and ship orders from the Company's backlog.

The following table reflects future cash payments, including interest, due under current contractual obligations as of April 30, 2006:

	Payments due by period (in thousands)				Total
	Less than 1 year	1-3 years	3-5 years	More than 5 years	
Contractual Obligations:					
Long term debt obligations	\$ 372	\$ 3,568	\$	\$	\$ 3,940
Operating lease obligations	2,014	3,431	2,744	9,071	17,260
Purchase obligations	7,312	87			7,399
Total	\$ 9,698	\$ 7,086	\$ 2,744	\$ 9,071	\$ 28,599

In April 1999, the Company issued a tax exempt Industrial Development Bond (the 1999 bond) through the Industrial Development Authority of the County of Pima, Arizona. The face value of the 1999 bond is \$4.5 million. The 1999 bond bears interest at a rate of 5.52% and provides for 50% of the principal to be paid over ten years from the date of issuance with the remaining 50% due in March 2009. Monthly payments of principal and accrued interest for the 1999 bond are approximately \$31,000. The proceeds of the 1999 bond were used to fund the construction of a new manufacturing facility in Tucson, Arizona.

On July 22, 2004, the Company entered into a Standby Letter of Credit Agreement with Bank of America, as successor to Fleet National Bank, in the amount of \$4.5 million. One letter of credit issued under this facility serves as collateral for the \$3.9 million principal balance on the 1999 bond issued through the Industrial Development Authority of the County of Pima, Arizona and replaces a letter of credit the Company had obtained from another financial institution. Another letter of credit under this facility serves as a security deposit required by the lease agreement for the Company's Westwood, Massachusetts headquarters building. The facility bears a fee of 1.5% per annum of the face amount of each letter of credit. Under the terms of the Letter of Credit Agreement, the Company is required to comply with certain financial covenants. As of April 30, 2006, the Company is in compliance with these covenants.

On December 2, 2004, the Company finalized the sale of its Newton property. The Company received \$4.4 million in proceeds from the sale. The proceeds from this sale have been used for general corporate purposes.

The Company expects to meet its working capital needs and capital expenditures primarily through available cash and cash equivalents, which will primarily be generated from sales to both existing and new customers.

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New Accounting Pronouncements

In November 2004, the Financial Accounting Standards Board (FASB) issued SFAS No. 151, *Inventory Costs* (SFAS 151). SFAS 151 amends the guidance in Accounting Review Board No. 43, Chapter 4, *Inventory Pricing*, to clarify the accounting for abnormal amounts of idle facility expense, freight, handling costs and wasted material (spoilage). SFAS 151 is effective for fiscal years beginning after June 15, 2005. The adoption of SFAS 151 is not expected to have a material impact on the Company's financial position and results of operations.

In December 2004, the FASB issued SFAS 123R. SFAS 123R requires that the cost resulting from all share-based payment transactions be measured using a fair-value method and be recognized in the financial statements. SFAS 123R is effective as of the beginning of the first interim or annual reporting period of the first fiscal year that begins on or after June 15, 2005. SFAS 123R is effective for the Company's first quarter of fiscal 2007 beginning May 1, 2006. SFAS 123R permits public companies to adopt its requirements using one of two methods:

1. A modified prospective method in which compensation cost is recognized beginning with the effective date (a) based on the requirements of SFAS 123R for all share-based payments granted after the effective date and (b) based on the requirements of SFAS 123 for all awards granted to employees prior to the effective date of SFAS 123R that remain unvested on the effective date.
2. A modified retrospective method which includes the requirements of the modified prospective method described above, but also permits entities to restate based on the amounts previously recognized under SFAS 123 for purposes of pro forma disclosures for either (a) all prior periods presented or (b) prior interim periods of the year of adoption.

The Company has determined that it will adopt SFAS 123R using the modified prospective method. In the event that the Merger is not completed, the Company expects that the adoption of FAS 123R will have a material impact on the Company's financial position and results of operations.

In June 2006, the FASB issued FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* an interpretation of FASB Statement No. 109 (FIN 48). FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with FASB Statement No. 109, *Accounting for Income Taxes*. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. FIN 48 is effective for fiscal years beginning after December 15, 2006. The adoption of FIN 48 is not expected to have a material impact on the Company's financial position and results of operations.

Inflation

To date, inflation has not had a significant impact on our operations.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

At April 30, 2006, the Company's exposure to market risk relates primarily to changes in interest rates on its investment portfolio. The Company's cash equivalents consist primarily of fixed income securities. The Company invests only with high credit quality issuers and does not use derivative financial instruments in its investment portfolio. We do not believe that a sharp increase or decrease in interest rates would have a material adverse impact on the fair value of our investment portfolio. The Company's long-term borrowings are at fixed interest rates.

In addition, a portion of the Company's business is conducted outside the United States through its foreign subsidiaries and an affiliate. The Company generally transacts business in international markets in United States currency, but pays its employees in local currencies. Accordingly, the Company is subject to exposure from adverse movements in foreign currency exchange rates.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by Item 8 is contained on pages F-1 through F-26 of this Annual Report on Form 10-K.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Exchange Act. Based on this evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Annual Report on Form 10-K.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in *Internal Control - Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of April 30, 2006.

Our management's assessment of the effectiveness of our internal control over financial reporting as of April 30, 2006, has been audited by PricewaterhouseCoopers LLP (PWC), an independent registered public accounting firm, as stated in their report which is included herein.

Changes to Internal Control Over Financial Reporting

There were no changes to our internal control over financial reporting during the fourth fiscal quarter of fiscal 2006 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION.

None.

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PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

Directors and Executive Officers of the Registrant

Set forth below is information with respect to each member of ADE's Board of Directors and each of ADE's executive officers:

Directors

HARRIS CLAY, age 79, has been a director of ADE since 1970. He has been self-employed as a private investor during the past five years. Mr. Clay received an AB from Harvard College. Mr. Clay and Landon T. Clay are brothers.

LANDON T. CLAY, age 80, has been a director of ADE since 1970 and Chairman of the Board since 1979. From 1971 until 1997, he served as Chairman of Eaton Vance Corp., a mutual fund management and distribution company. Mr. Clay serves as Chairman of East Hill Management LLC, a registered investment advisor, which he founded in 1997. Mr. Clay received an AB from Harvard College. Mr. Clay and Harris Clay are brothers.

H. KIMBALL FAULKNER, age 75, has been a director of ADE since 1970 and has been retired for the past five years. He was formerly a self-employed small business consultant. Mr. Faulkner received an AB from Harvard College and an MBA from the University of Virginia.

CHRIS L. KOLIOPOULOS, age 53, was elected President and Chief Executive Officer of ADE in 2002 and has been a director of ADE since 1998. He is also President and a founder of Phase Shift Technology, Inc., now ADE Phase Shift, Inc., a wholly-owned subsidiary of ADE, positions he has held since 1987. Dr. Koliopoulos received a BS from the University of Rochester and an MS and a PhD from the University of Arizona.

KENDALL WRIGHT, age 80, has been a director of ADE since 1983 and has been a business, marketing and operations management consultant during the past five years. Mr. Wright received a BS from the Massachusetts Institute of Technology.

Executive Officers

CHRIS L. KOLIOPOULOS, age 53, was elected President and Chief Executive Officer of ADE in 2002. For further information, please see the information for Dr. Koliopoulos set forth above under *Directors*.

BRIAN C. JAMES, age 55, joined ADE in August 2000 and serves as Executive Vice President, Treasurer and Chief Financial Officer. Mr. James served as Executive Vice President and Chief Financial Officer of CCT, Inc. and as Corporate Vice President and Chief Financial Officer of The Aerostructures Corporation, both privately held investor-backed companies, prior to joining ADE. Mr. James had previously served as Group Controller for Textron Inc.'s Aerospace-Technology sector and has held various operations and financial positions with Allied-Signal and Ford Motor Company. Mr. James received a BA from the University of Vermont and an MS in finance from the University of Massachusetts.

DAVID F. BASILA, age 47, has served as Corporate Vice President of ADE Corporation since September 2002. Mr. Basila served as Vice President of ADE Phase Shift, Inc. since joining ADE in June 1998 through the merger with Phase Shift Technology, Inc., where he was Vice President and co-founder. Mr. Basila received a BA from the University of Arizona.

All executive officers are elected by the Board of Directors to serve in their respective capacities until their successors are elected and qualified or until their earlier resignations or removal.

ADE's Board of Directors has determined that the following directors are independent under currently applicable NasdaqGM rules and SEC rules and regulations: Messrs. Harris Clay, Landon T. Clay, Faulkner and Wright. The ADE Board of Directors has a standing Audit Committee (the Audit Committee) which consists of three members, Messrs. Harris Clay, Faulkner and Wright, each of whom is independent as determined under currently applicable NasdaqGM and SEC rules. The Board has determined that Mr. Wright is an audit committee financial expert. This determination is based on Mr. Wright's extensive experience as a chief executive officer in both privately and publicly held companies, his experience as a chief financial officer of a private company and his work for a venture capital firm where he received extensive training in financial matters.

Table of Contents**Section 16(a) Beneficial Ownership Reporting Compliance**

Section 16(a) of the Exchange Act requires directors, certain officers and persons who are beneficial owners of more than ten percent of ADE's common stock to file with the SEC reports of their ownership of ADE's securities and of changes in that ownership. Officers, directors and greater than ten percent stockholders are required by SEC rules to furnish ADE with copies of all Section 16(a) reports they file. To ADE's knowledge, based upon a review of copies of reports furnished to ADE with respect to the fiscal year ended April 30, 2006 and upon the written representations of officers and directors, all of such persons have filed all required reports. However, each of Messrs. Harris Clay and H. Kimball Faulkner did not timely report a grant of options to purchase 10,000 shares of ADE in compliance with reporting deadlines during fiscal year 2006.

Code of Ethics

ADE has adopted a Code of Ethics that applies to all of its directors, officers and employees, including ADE's principal executive officer, principal financial officer, principal accounting officer, controller or any person performing similar functions. This Code of Ethics is designed to comply with currently applicable NasdaqGM rules related to codes of conduct. A copy of ADE's Code of Ethics is attached as Exhibit 14.1 to ADE's Annual Report on Form 10-K for the fiscal year ended April 30, 2004 and incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION**Summary Compensation Table**

The following table sets forth all compensation received for services rendered to ADE for the fiscal years ended April 30, 2006, 2005 and 2004 by ADE's Chief Executive Officer and the most highly compensated executive officers other than the Chief Executive Officer whose annual salary and bonus for the fiscal year ended April 30, 2006 exceeded \$100,000. ADE did not have any other executive officers during any part of the fiscal year ended April 30, 2006. These three persons are referred to as the Named Executives.

NAME AND PRINCIPAL POSITION	FISCAL YEAR	ANNUAL COMPENSATION		LONG-TERM COMPENSATION	
		SALARY(\$)	BONUS(\$)	AWARDS NUMBER OF UNDERLYING STOCK OPTIONS	ALL OTHER COMPENSATION(\$)
Chris L. Koliopoulos(1) President and Chief Executive Officer	2006	392,765	445,000		9,846
	2005	345,673	270,000		8,308
	2004	310,915	150,000		5,577
Brian C. James(2) Executive Vice President and Chief Financial Officer	2006	307,846	390,000		7,865
	2005	271,539	180,000		
	2004	238,340	100,000		
David F. Basila(3) Vice President	2006	222,922	165,000		6,688
	2005	197,250	150,000		7,455
	2004	181,742	50,000		3,892

- (1) All Other Compensation for Dr. Koliopoulos in fiscal years 2006, 2005 and 2004 consists of matching contributions made by ADE on behalf of Dr. Koliopoulos to ADE's 401(k) Plan.
- (2) All Other Compensation for Mr. James in fiscal year 2006 consists of matching contributions made by ADE on behalf of Mr. James to ADE's 401(k) Plan.
- (3) All Other Compensation for Mr. Basila in fiscal years 2006, 2005 and 2004 consists of matching contributions made by ADE on behalf of Mr. Basila to ADE's 401(k) Plan.

Option Grants and Aggregated Options Exercised in the Last Fiscal Year

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No options were granted to Named Executives under ADE's stock option plans during the fiscal year ended April 30, 2006. In addition, no options were exercised by the Named Executives during the fiscal year ended April 30, 2006.

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Director Compensation

Prior to May 18, 2005, ADE's non-employee directors were reimbursed for expenses and received \$1,000 for each Board meeting attended. Directors were given the option to receive shares of ADE's common stock with an equivalent fair market value, calculated as of the date of each meeting, in lieu of cash compensation. All directors elected to receive shares of common stock, totaling 2,698 shares. On May 18, 2005, each non-employee director received options to acquire 10,000 shares of ADE common stock and an additional \$5,000 in cash with respect to his Board service in fiscal year 2005. On May 18, 2005, ADE's Board also voted to change the compensation paid to non-employee directors for future fiscal years. For future fiscal years, each non-employee director of ADE is to be reimbursed for expenses and receive \$5,000 in cash and a grant of options to acquire 5,000 shares of ADE's common stock each year at the Board meeting immediately following ADE's Annual Meeting of Stockholders. Accordingly, each non-employee director received \$5,000 in cash and options to acquire 5,000 shares of ADE common stock with respect to his service in fiscal year 2006 at the Board meeting immediately following ADE's 2005 Annual Meeting of Stockholders. Under the Amended Merger Agreement, if the Merger is completed, each non-employee director's options will be canceled and ADE will pay to each director at or promptly after the effective time of the Merger for each such stock option an amount in cash determined by multiplying (1) the excess, if any, of (a) \$32.50 over (b) the applicable exercise price of such stock option by (2) the number of shares of ADE common stock the director could have purchased (assuming full vesting of all options) had such director exercised such stock option in full immediately prior to the effective time of the Merger. Based on the options held by non-employee directors, each ADE non-employee director would receive a lump sum payment of \$170,250 for his options upon the closing of the Merger, of which \$23,520 can be attributed to vested options and \$146,730 can be attributed to options not yet vested. In addition, under the Amended Merger Agreement, ADE will be permitted to pay up to an aggregate of \$180,000 of compensation to non-employee directors prior to the effective time of the Merger which will have accrued through the effective time of the Merger.

Agreements with Executive Officers

Agreement with Dr. Chris Koliopoulos

Dr. Chris Koliopoulos is party to an agreement with ADE dated as of September 30, 2005 (the "Koliopoulos Agreement"). Pursuant to the terms of the Koliopoulos Agreement, Dr. Koliopoulos has agreed to serve as President and Chief Executive Officer of ADE through June 20, 2008. The term may be extended by mutual agreement of ADE and Dr. Koliopoulos, unless terminated earlier pursuant to the terms of the Koliopoulos Agreement.

Under the Koliopoulos Agreement, ADE shall pay Dr. Koliopoulos a base salary of \$407,000 per annum from and after September 12, 2005. This salary is subject to increase at the sole discretion of the Board and shall be reviewed by the Board at least annually, either before or at the Board's meeting following the Annual Meeting of Stockholders of ADE. The Koliopoulos Agreement also provides that Dr. Koliopoulos is entitled to such incentive or bonus compensation as the Board, in its sole discretion, may determine to pay to him from time to time and that Dr. Koliopoulos is entitled to other benefits, such as group insurance and other fringe benefit programs and personal time off, as well as reimbursement by ADE for all reasonable and necessary expenses.

The Koliopoulos Agreement provides that in the event that a "change of control transaction" (as defined in the Koliopoulos Agreement and which would include the Merger, if completed) occurs or is pending, or Dr. Koliopoulos' employment with ADE terminates on account of his death or disability, all of his unvested options to acquire shares of ADE's common stock will, on the date of and immediately prior to the consummation of the change of control transaction or the termination of Dr. Koliopoulos' employment, accelerate and become immediately exercisable in full for a period of up to two years following the occurrence of such event, regardless of any stock option plan of ADE or any stock option agreement between ADE and Dr. Koliopoulos. As of July 25, 2006, of the options to purchase 100,000 shares of ADE common stock held by Dr. Koliopoulos, options with respect to 75,000 shares are currently vested with an exercise price of \$6.125 per share of ADE common stock.

Under the terms of the Koliopoulos Agreement, Dr. Koliopoulos is also entitled to receive severance payments under certain circumstances. If Dr. Koliopoulos' employment terminates (1) for a reason other than "cause", his death or disability, or (2) because ADE does not offer to extend the term of the Koliopoulos Agreement for at least one additional year upon expiration of the term of the agreement (ending June 20, 2008), or if Dr. Koliopoulos terminates his employment due to "job restructuring" which includes a change in his position as the Chief Executive Officer of ADE or a material diminishment of his duties and responsibilities so that they are no longer consistent with the duties and responsibilities of the Chief Executive Officer of ADE (regardless of whether such change in title, duties or responsibilities results from a merger, change of control of ADE, action by ADE's Board or otherwise), then all of his compensation and benefits shall terminate on the date his employment terminates, and ADE (or its successor) will be required, under certain circumstances, to pay to Dr. Koliopoulos severance compensation for 24 months following the termination of this employment at a yearly rate equal to his annualized base salary as of the date of termination. Dr. Koliopoulos' current annual salary is \$407,000. This means that, based on his current salary, if one of the conditions described earlier in this paragraph occurs, Dr. Koliopoulos could receive a total of \$814,000. "Cause" is defined in the Koliopoulos Agreement as (1) a material breach by

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Dr. Koliopoulos of his obligations under the Koliopoulos Agreement or any other agreement between him and ADE, (2) the willful or knowingly reckless engaging by Dr. Koliopoulos in conduct which is or may be materially financially injurious to ADE, (3) the commission by Dr. Koliopoulos of fraud, embezzlement or theft against ADE or (4) conviction of, or Dr. Koliopoulos' written admission to, a felony.

Agreement with Mr. Brian James

Mr. James, ADE's Executive Vice President and Chief Financial Officer, is a party to an agreement with ADE dated as of May 1, 2002 (the James Agreement). The James Agreement provides that in the event that a change of control transaction (as defined in the James Agreement and which would include the Merger, if completed) occurs or is pending, or if Mr. James' employment with ADE terminates on account of his death or disability, his unvested options to acquire shares of ADE's common stock will, on or prior to the consummation of the change of control transaction or the termination of Mr. James' employment, accelerate and become immediately exercisable in full, regardless of any stock option plan of ADE or any stock option agreement between ADE and Mr. James. As of July 25, 2006, of the options to purchase 170,000 shares of ADE common stock held by Mr. James, options with respect to 164,000 shares are currently vested with exercise prices ranging from \$9.795 to \$21.117 per share of ADE common stock.

Under the terms of the James Agreement, Mr. James is also entitled to receive his base salary and remain eligible to participate in ADE's medical and dental plans (to the extent permitted under such plans) for a period of 12 months following the termination of his employment with ADE if (1) his employment is involuntarily terminated by ADE and ADE does not have cause for such termination, or (2) his employment with ADE is constructively terminated. Mr. James' current annual salary is \$319,000. Constructive termination is defined as an involuntary relocation beyond a reasonable commuting distance or a substantial, sustained and material reduction in Mr. James' compensation, title, status, authority or responsibility at ADE, without his consent. Cause is defined in the James Agreement as (1) Mr. James' continued material failure to perform the reasonable and customary duties and responsibilities assigned to him following a 30 day cure period, (2) conduct that is materially detrimental to the business, goodwill or reputation of ADE, (3) conduct that constitutes dishonesty, fraud or other malfeasance, (4) felonious conduct, (5) immoral and/or reprehensible conduct, (6) violation of any provision of the James Agreement or (7) any other action constituting cause under the laws of Massachusetts. Under the James Agreement, ADE is not obligated to make any payments to Mr. James if he resigns (except due to constructive termination) or if he is terminated for cause. Mr. James is also subject to customary confidentiality and non-competition provisions under the James agreement.

Agreement with Mr. David Basila

Mr. David Basila, ADE's Vice President, is party to an agreement with ADE dated as of February 22, 2006 (the Basila Agreement). The Basila Agreement provides for the same severance arrangement (12 months of base salary and medical benefits upon a termination without cause or a constructive termination) as set forth in the James Agreement. Mr. Basila's current annual salary is \$231,000. Mr. Basila is also subject to customary confidentiality and non-competition provisions under the Basila Agreement. The Basila Agreement does not contain any provision relating to stock options.

Treatment of ADE Stock Options in the Merger

At the effective time of the Merger, each outstanding option to purchase shares of ADE common stock (other than options held by non-employee directors), whether or not vested or exercisable, will cease to represent a right to acquire shares of ADE common stock and will be converted automatically into an option to purchase shares of KLA-Tencor common stock on substantially the same terms and conditions (including vesting schedule, except as provided in the Koliopoulos and James Agreements described above) as were applicable to such stock option immediately prior to the effective time of the Merger, except that (1) the number of shares of KLA-Tencor common stock subject to each assumed ADE stock option shall be determined by multiplying the number of shares of ADE common stock subject to the stock option by a fraction, the numerator of which is the per share Merger consideration of \$32.50, and the denominator of which is the average closing price of KLA-Tencor common stock on The Nasdaq Global Select Market over the five trading days immediately preceding (but not including) the date on which the effective time of the Merger occurs (the Option Exchange Ratio) (such product to be rounded down to the nearest whole share) and (2) the per share exercise price for shares of KLA-Tencor common stock issuable upon exercise of such assumed ADE stock option will be determined by dividing the per share exercise price set forth in the ADE stock option immediately prior to the effective time of the Merger by the Option Exchange Ratio.

Director and Officer Liability after the Merger

KLA-Tencor is obligated, for six years after the effective time of the Merger, to cause the surviving corporation in the Merger to indemnify and hold harmless the present and former officers and directors of ADE in respect of acts or omissions occurring at or prior to the effective time of the Merger to the fullest extent permitted by Massachusetts law or any other law, or as provided under ADE's articles of organization and bylaws

in effect on the date of the Amended Merger Agreement.

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KLA-Tencor is also obligated, for six years after the effective time of the Merger, to cause the surviving corporation in the Merger to provide officers and directors liability insurance in respect of acts or omissions occurring prior to the effective time of the Merger covering each present and former officer and director of ADE currently covered by ADE's officers and directors liability insurance policy on terms with respect to coverage and amount that are not less favorable than those of the policy that is currently in effect. KLA-Tencor is not obligated to pay an aggregate premium for insurance coverage in excess of 250% of the amount per year that ADE paid in its last full fiscal year.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS**Security Ownership of Certain Beneficial Owners and Management**

The following table sets forth information regarding beneficial ownership of ADE's common stock as of July 25, 2006, by (1) each ADE director, (2) ADE's Chief Executive Officer and each other executive officer, (3) all ADE directors and executive officers as a group and (4) each other person known to ADE to be the beneficial owner of more than five percent of ADE's common stock on that date.

Name	Shares Beneficially Owned(1)	Percentage of Total
Directors and Executive Officers:		
Harris Clay(2)	807,269	5.5%
Landon T. Clay(3)	1,756,608	12.1%
H. Kimball Faulkner(4)	103,217	*
Chris L. Koliopoulos(5)	842,880	5.8%
Kendall Wright(6)	21,156	*
Brian C. James(7)	166,000	1.1%
David F. Basila(8)	342,565	2.4%
All directors and executive officers as a group (7 persons)(9)	4,039,695	27.3%
Other Five Percent Stockholders:		
Mellon Financial Corporation(10)	1,045,986	7.2%
Private Capital Management, Inc.(11)	1,596,927	11.0%

* Less than one percent.

- (1) Beneficial ownership of shares for purposes hereof, as determined in accordance with applicable SEC rules, includes shares of common stock as to which a person or entity has or shares voting power and/or investment power. Unless otherwise indicated, each beneficial owner listed above has sole voting and investment power for all of the shares of ADE common stock shown to be beneficially owned by that person or entity. All amounts shown in this column include shares obtainable upon exercise of stock options exercisable within 60 days from the date of this table.
- (2) Mr. Clay's address is c/o ADE Corporation, 80 Wilson Way, Westwood, Massachusetts 02090. Includes 3,500 shares of common stock issuable upon exercise of stock options.
- (3) Includes 240,000 shares held by the Landon T. Clay Charitable Annuity Lead Trust No. 2, 6,500 shares held by the LTC Corp. Pension and Profit Sharing Plan, 180,000 shares held by the Monadnock Charitable Lead Trust, 13,316 shares held by or on behalf of Mr. Clay's children and 1,000 shares held by the East Hill Hedge Fund. Mr. Clay disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein. Mr. Clay's address is c/o East Hill Management, 200 Clarendon Street, John Hancock Towers, Suite 6000, Boston, Massachusetts 02116. Also includes 3,500 shares of common stock issuable upon exercise of stock options.
- (4) Includes 99,717 shares held in Mr. Faulkner's grantor retained annuity trust for which Mr. Faulkner is the trustee and has voting and investment power. Also includes 3,500 shares of common stock issuable to Mr. Faulkner upon exercise of stock options.

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- (5) Dr. Koliopoulos address is c/o ADE Corporation, 80 Wilson Way, Westwood, Massachusetts 02090. Includes 80,000 shares of common stock issuable upon exercise of stock options.
- (6) Includes 3,500 shares of common stock issuable upon exercise of stock options.
- (7) Includes 164,000 shares of common stock issuable upon exercise of stock options.
- (8) Includes 248,450 shares of common stock held by SJR Technology L.P., which is beneficially owned by Mr. Basila, his wife and his children.
- (9) Includes an aggregate of 258,000 shares of common stock issuable upon exercise of stock options.
- (10) Based solely on the most recent Schedule 13G filed by Mellon Financial Corporation (Mellon) with the SEC on February 15, 2006. Includes shares held by certain direct or indirect subsidiaries of Mellon, including Mellon Trust of New England, National Association, Mellon Bank, N.A., Franklin Portfolio Associates, LLC, Mellon Capital Management Corporation and The Dreyfus Corporation. The address of Mellon is c/o One Mellon Center, Pittsburgh, Pennsylvania 15258.
- (11) Based solely on the most recent Schedule 13G/A filed by Private Capital Management, L.P. (PCM) with the SEC on July 10, 2006. Includes 1,539,027 shares held by PCM clients and managed by PCM, as to which PCM, its Chief Executive Officer, Bruce S. Sherman, and its President, Gregg J. Powers, have shared dispositive power. Also includes 54,900 shares as to which Mr. Sherman has sole dispositive power. Messrs. Sherman and Powers disclaim beneficial ownership for the shares held by PCM s clients and disclaim the existence of a group. The address of Private Capital Management, Inc. is 8889 Pelican Bay Blvd., Naples, FL 34108.

Compensation Plans under which ADE s Equity Securities are Authorized for Issuance

The following table sets forth certain information as of April 30, 2006 with respect to compensation plans under which our equity securities are authorized for issuance:

	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders (1):	680,409	\$ 15.59	948,240(2)
Equity compensation plans not approved by security holders:	None	None	None
Total	680,409	\$ 15.59	948,240

(1) Please see Note 11 of our Notes to Consolidated Financial Statements for a description of our equity compensation plans.

(2) Includes 568,741 shares that remain available for purchase under the ADE Corporation Employee Stock Purchase Plan.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

None.

Table of Contents**ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES****Principal Accountant Fees**

The fees for services provided by PricewaterhouseCoopers LLP (PwC), as ADE 's independent registered public accounting firm, to ADE in the last two fiscal years were as follows:

Type of Fees	FY 2006	FY 2005
Audit Fees	\$ 661,750	\$ 645,000
Audit-Related Fees	28,900	
Tax Fees	61,500	15,000
All Other Fees		
Total Fees	\$ 752,150	\$ 660,000

In the above table, audit fees are fees ADE paid to PwC for professional services for the audit of ADE 's consolidated financial statements included in ADE 's Annual Report on Form 10-K and reviews of financial statements included in ADE 's quarterly reports on Form 10-Q, or for services that are normally provided by the independent registered public accounting firm in connection with statutory and regulatory filings or engagements; audit fees also include fees for statutory audits of certain of ADE 's foreign subsidiaries and consulting on specific accounting matters; audit-related fees are fees billed by PwC for assurance and related services that are reasonably related to the performance of the audit or review of ADE 's financial statements and includes fees for due diligence related to the pending Merger with KLA-Tencor, and tax fees are fees billed by PwC for tax compliance, tax advice and tax planning. Audit fees for 2005 and 2006 include services relating to the examination and evaluation of ADE 's internal control over financial reporting in response to the requirements of Section 404 of the Sarbanes-Oxley Act of 2002. The Audit Committee has reviewed the fees paid to the independent registered public accounting firm as part of its review of the independent registered public accounting firm 's independence and concluded that such fees and the services provided are compatible with PwC 's independence.

Services Provided by PwC

The Audit Committee of ADE 's Board of Directors recognizes the importance of maintaining the independence and objective viewpoint of the independent registered public accounting firm. The Audit Committee also recognizes that the independent registered public accounting firm possesses a unique knowledge of ADE, and can provide necessary and valuable services to ADE in addition to the annual audit. The Audit Committee currently has no pre-approval policies or procedures for the independent registered public accounting firm 's services, as it specifically pre-approves each of the services to be rendered by PwC in advance of performance including the fees and terms thereof. The Audit Committee may delegate approval authority to one or more designated members of the Audit Committee. The Audit Committee will not delegate the Audit Committee 's responsibilities to approve services performed by the independent registered public accounting firm to management.

All services for which ADE engaged the independent registered public accounting firm in fiscal years 2005 and 2006 were pre-approved by the Audit Committee. The total fees paid to PwC for services are set forth in the table above.

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PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

	Page Number in this Form 10-K
(a)(1) Financial Statements. The Financial Statements required to be filed by Item 8 of Form 10-K, and filed herewith, are as follows:	
<u>Report of Independent Registered Public Accounting Firm</u>	F-1
<u>Consolidated Balance Sheets as of April 30, 2006 and 2005</u>	F-3
<u>Consolidated Statements of Operations for the three years ended April 30, 2006</u>	F-4
<u>Consolidated Statements of Stockholders' Equity for the three years ended April 30, 2006</u>	F-5
<u>Consolidated Statements of Cash Flows for the three years ended April 30, 2006</u>	F-6
<u>Notes to Consolidated Financial Statements</u>	F-7
(a)(2) Financial Statement Schedule:	
<u>II Valuation and Qualifying Accounts and Reserves for the three years ended April 30, 2006</u>	S-1
All other schedules are omitted because they are either not applicable or the required information is included in the consolidated financial statements or related notes.	

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(a)(3) Exhibits.

Exhibit Number	Description
2.1	Amended and Restated Agreement and Plan of Merger, dated as of May 26, 2006, by and among KLA-Tencor Corporation, South Acquisition Corporation and the Company (incorporated by reference from Exhibit 2.1 to the Company's Form 8-K dated May 26, 2006).
3.1	Restated Articles of Organization (filed as Exhibit 3.1 to the Company's Registration Statement on Form S-1 (No. 33-96408) or amendments thereto and incorporated herein by reference).
3.2	By-laws (as amended) (filed as Exhibit 3.2 to the Company's Form 10-K for the fiscal year ended April 30, 2002 and incorporated herein by reference).
4.1	Registration Rights Agreement dated as of May 31, 1998 by and among the Company, Chris Koliopoulos and David Basila (filed as Exhibit 4.6 to the Company's Form 8-K dated June 25, 1998 and incorporated herein by reference).
10.1	Form of Employee Confidentiality Agreement (filed as Exhibit 10.1 to the Company's Registration Statement on Form S-1 (No. 333-96408) or amendments thereto and incorporated herein by reference).
10.2	2000 Employee Stock Option Plan (as amended) (filed herewith).*
10.3	1997 Employee Stock Option Plan (filed as Exhibit 4.3 to the Company's Registration Statement on Form S-8 (No. 333-46505) or amendments thereto and incorporated herein by reference). *
10.4	Amendment to 1997 Employee Stock Option Plan dated April 7, 1999 (filed as Exhibit 10.3 to the Company's Form 10-K for the fiscal year ended April 30, 1999 and incorporated herein by reference). *
10.5	1995 Stock Option Plan (filed as Exhibit 10.4 to the Company's Registration Statement on Form S-1 (No.33-96408) or amendments thereto and incorporated herein by reference).*
10.6	Form of Agreement Evidencing Grant of Stock Option (filed as Exhibit 10.6 to the Company's Form 10-K for the fiscal year ended April 30, 2005 and incorporated herein by reference).*
10.7	Employee Stock Purchase Plan (as amended) (filed as Exhibit 10.8 to the Company's Form 10-K for the fiscal year ended April 30, 2002 and incorporated herein by reference).*
10.8	Amendments to Employee Stock Purchase Plan (filed as Exhibit 10.1 to the Company's Form 10-Q for the fiscal quarter ended July 31, 2003 and incorporated herein by reference).*
10.9	Noncompetition Agreement dated as of May 31, 1998, by and between the Company and Chris Koliopoulos (filed as Exhibit 10.21 to the Company's Form 10-K for the fiscal year ended April 30, 1998, and incorporated herein by reference).*
10.10	Employment and Non-Competition Agreement dated as of May 1, 2002, by and between the Company and Brian James (filed as Exhibit 10.18 to the Company's Form 10-K for the fiscal year ended April 30, 2002 and incorporated herein by reference).*
10.11	Letter Agreement regarding sale of certain shares of Japan ADE, Ltd. held by the Company to Kanematsu Electronics, Ltd. (filed as Exhibit 10.20 to the Company's Form 10-K for the fiscal year ended April 30, 2003 and incorporated herein by reference).
10.12	Purchase and Sale Agreement dated as of July 29, 2003, between the Company, as Seller, and New Boston Fund, Inc., as Buyer (filed as Exhibit 10.21 to the Company's Form 10-K for the fiscal year ended April 30, 2003 and incorporated herein by reference).
10.13	Lease Agreement dated July 29, 2003, between the Company, as tenant, and Westwood Nominee Trust, as landlord (filed as Exhibit 10.2 to the Company's Form 10-Q for the fiscal quarter ended July 31, 2003 and incorporated herein by reference).
10.14	Standby Letter of Credit Agreement, dated July 22, 2004, between the Company and Bank of America, as successor to Fleet National Bank (filed as Exhibit 10.1 to the Company's Form 10-Q for the fiscal quarter ended July 31, 2004 and incorporated herein by reference).
10.15	Summary of Director Compensation (filed as Exhibit 10.1 to the Company's Form 8-K dated May 23, 2005 and incorporated herein by reference).

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Exhibit Number	Description
10.16	Summary of Compensation Payable to Named Executives (filed as Exhibit 10.1 to the Company's Form 8-K dated September 23, 2005).
10.17	Employment Agreement, dated as of September 30, 2005, by and between the Company and Chris L. Koliopoulos (filed as Exhibit 10.1 to the Company's Form 8-K dated October 14, 2005 and incorporated herein by reference).*
10.18	Amendment No. 1 to Employment and Non-Competition Agreement, dated as of September 30, 2005, by and between the Company and Brian James (filed as Exhibit 10.2 to the Company's Form 8-K dated October 14, 2005 and incorporated herein by reference).*
10.19	Representative form of Stock Option Agreement for non-employee Directors of the Company (filed as Exhibit 10.4 to the Company's Form 10-Q for the fiscal quarter ended October 31, 2005 and incorporated herein by reference).*
10.20	Amendment No. 1 to Executive Employment Agreement, dated as of February 15, 2006, by and between the Company and Chris L. Koliopoulos (filed as Exhibit 10.1 to the Company's Form 10-Q for the fiscal quarter ended January 31, 2006 and incorporated herein by reference).*
10.21	Amendment No. 2 to Employment and Non-Competition Agreement, dated as of February 15, 2006, by and between the Company and Brian James (filed as Exhibit 10.1 to the Company's Form 10-Q for the fiscal quarter ended January 31, 2006 and incorporated herein by reference).*
10.22	Employment and Non-Competition Agreement, dated as of February 22, 2006, by and between the Company and David F. Basila (filed as Exhibit 10.1 to the Company's Form 8-K dated February 23, 2006 and incorporated herein by reference).*
10.23	Agreement and Plan of Merger, dated as of March 8, 1998, by and among the Company, Theta Acquisition Corp., Phase Shift Technology, Inc., Chris Koliopoulos and David Basila (filed as Exhibit 2 to the Company's Form 8-K dated June 25, 1998 and incorporated herein by reference).
14.1	ADE Corporation Code of Ethics (filed as Exhibit 14.1 to the Company's Form 10-K for the fiscal year ended April 30, 2004 and incorporated herein by reference).
21.1	Subsidiaries of the Company (filed as Exhibit 21.1 to the Company's Form 10-Q for the fiscal quarter ended January 31, 2003 and incorporated herein by reference).
23.1	Consent of PricewaterhouseCoopers LLP (filed herewith).
24.1	Power of Attorney (filed herewith as part of the signature page hereto).
31.1	Rule 13a-14(a) Certification of Chief Executive Officer (filed herewith).
31.2	Rule 13a-14(a) Certification of Chief Financial Officer (filed herewith).
32.1	Section 1350 Certification of Chief Executive Officer (furnished herewith).
32.2	Section 1350 Certification of Chief Financial Officer (furnished herewith).

* Compensatory plan or agreement applicable to management and/or employees.

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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.

ADE CORPORATION

July 31, 2006

By: */s/ CHRIS L. KOLIOPOULOS*
Chris L. Koliopoulos
President and Chief Executive Officer

Each person whose signature appears below constitutes and appoints Chris L. Koliopoulos, Brian C. James, William A. Levine, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them, for him and in his name, place, and stead, and in any and all capacities, to sign this Annual Report on Form 10-K of ADE Corporation and any amendments thereto, and to file the same, with all exhibits thereto and any other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully and to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

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 and on the dates indicated.

Signature	Title	Date
<i>/s/ CHRIS L. KOLIOPOULOS</i> Chris L. Koliopoulos	President, Chief Executive Officer of ADE Corporation, President of ADE Phase Shift and Director (Principal Executive Officer)	July 31, 2006
<i>/s/ BRIAN C. JAMES</i> Brian C. James	Executive Vice President, Treasurer and Chief Financial Officer (Principal Financial Officer)	July 31, 2006
<i>/s/ JOSEPH E. ROVATTI</i> Joseph E. Rovatti	Controller (Principal Accounting Officer)	July 31, 2006
<i>/s/ LONDON T. CLAY</i> Landon T. Clay	Chairman of the Board	July 31, 2006
<i>/s/ H. KIMBALL FAULKNER</i> H. Kimball Faulkner	Director	July 31, 2006
<i>/s/ KENDALL WRIGHT</i> Kendall Wright	Director	July 31, 2006
<i>/s/ HARRIS CLAY</i> Harris Clay	Director	July 31, 2006

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders

of ADE Corporation:

We have completed integrated audits of ADE Corporation's 2006 and 2005 consolidated financial statements and of its internal control over financial reporting as of April 30, 2006, and an audit of its 2004 consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Our opinions, based on our audits, are presented below.

Consolidated financial statements and financial statement schedule

In our opinion, the consolidated financial statements listed in the index appearing under Item 15(a)(1) present fairly, in all material respects, the financial position of ADE Corporation and its subsidiaries at April 30, 2006 and 2005, and the results of their operations and their cash flows for each of the three years in the period ended April 30, 2006 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the index appearing under Item 15(a)(2) present fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits. We conducted our audits of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit of financial statements includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

Internal control over financial reporting

Also, in our opinion, management's assessment, included in Management's Annual Report on Internal Control over Financial Reporting appearing under Item 9A, that the Company maintained effective internal control over financial reporting as of April 30, 2006 based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), is fairly stated, in all material respects, based on those criteria. Furthermore, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of April 30, 2006, based on criteria established in *Internal Control - Integrated Framework* issued by the COSO. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express opinions on management's assessment and on the effectiveness of the Company's internal control over financial reporting based on our audit. We conducted our audit of internal control over financial reporting in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. An audit of internal control over financial reporting includes obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we consider necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

Boston, Massachusetts

July 31, 2006

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Table of Contents**ADE CORPORATION****CONSOLIDATED BALANCE SHEETS**

(In thousands, except share data)

	April 30, 2006	April 30, 2005
Assets		
Current assets:		
Cash and cash equivalents	\$ 91,573	\$ 72,841
Marketable securities		836
Accounts receivable, less allowance for doubtful accounts of \$408 and \$514, respectively	23,164	18,499
Inventories	35,855	30,764
Prepaid expenses and other current assets	1,701	1,373
Deferred income taxes	9,311	10,601
Total current assets	161,604	134,914
Fixed assets, net	8,946	9,241
Deferred income taxes	4,742	6,616
Investments	499	499
Intangible assets, net	244	533
Goodwill	1,318	1,318
Other assets	109	105
Total assets	\$ 177,462	\$ 153,226
Liabilities and Stockholders Equity		
Current liabilities:		
Current portion of long-term debt	\$ 187	\$ 177
Accounts payable	9,021	6,027
Accrued expenses and other current liabilities	13,510	12,069
Total current liabilities	22,718	18,273
Deferred gain on sale-leaseback	1,383	1,496
Long-term debt, net of current portion	3,244	3,431
Total liabilities	27,345	23,200
Commitments and contingencies (Note 16)		
Stockholders equity:		
Preferred stock, \$1.00 par value; 1,000,000 shares authorized; none issued or outstanding		
Common stock, \$.01 par value; 25,000,000 shares authorized; 14,493,401 and 14,260,773 shares issued and outstanding at April 30, 2006 and 2005, respectively	145	143
Capital paid in excess of par value	114,962	109,597
Retained earnings	35,127	19,870
Accumulated other comprehensive income (loss)	(117)	416
Total stockholders equity	150,117	130,026
Total liabilities and stockholders equity	\$ 177,462	\$ 153,226

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The accompanying notes are an integral part of the consolidated financial statements.

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Table of Contents**ADE CORPORATION****CONSOLIDATED STATEMENTS OF OPERATIONS****(In thousands, except per share data)**

	Year ended April 30,		
	2006	2005	2004
Net Revenue:			
System and parts	\$ 91,183	\$ 104,619	\$ 70,738
System and parts - affiliate			7,997
Service	12,265	12,282	9,850
Total revenue	103,448	116,901	88,585
Cost of revenue:			
System and parts	35,329	44,432	30,923
System and parts - affiliate			3,017
Service	10,491	9,862	11,103
Total cost of revenue	45,820	54,294	45,043
Gross profit	57,628	62,607	43,542
Operating expenses:			
Research and development	15,815	15,519	15,085
Marketing and sales	13,610	13,044	10,435
General and administrative	11,076	10,404	11,009
Restructuring charges			393
Total operating expenses	40,501	38,967	36,922
Income from operations	17,127	23,640	6,620
Other income (expense):			
Gain on sale of long-term investment			1,729
Gain on sale of marketable securities	915		398
Interest income	2,654	703	221
Interest expense	(249)	(273)	(443)
Other income, net	150	238	246
Income before provision for (benefit from) income taxes and equity in net earnings of affiliated companies	20,597	24,308	8,771
Provision for (benefit from) income taxes	5,340	(16,633)	46
Income before equity in net earnings of affiliated companies	15,257	40,941	8,725
Equity in net earnings of affiliated companies			48
Net income	\$ 15,257	\$ 40,941	\$ 8,773
Basic earnings per share	\$ 1.06	\$ 2.91	\$ 0.63
Diluted earnings per share	\$ 1.04	\$ 2.86	\$ 0.62
Weighted average shares outstanding - basic	14,393	14,069	13,887

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Weighted average shares outstanding - diluted	14,686	14,312	14,127
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The accompanying notes are an integral part of the consolidated financial statements.

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Table of Contents**ADE CORPORATION****CONSOLIDATED STATEMENTS OF STOCKHOLDERS EQUITY**

(In thousands, except share data)

	Common Stock		Capital in excess of of par	Retained earnings (accumulated deficit)	Accumulated other comprehensive income	Total stockholders equity
	Number of shares	Par value				
Balance at April 30, 2003	13,760,282	138	103,943	(29,844)	560	74,797
Exercise of common stock options	181,217	2	1,948			1,950
Sale of common stock pursuant to the Employee Stock Purchase Plan	51,107	1	471			472
Common stock issued in lieu of Board of Directors fees	4,704		37			37
Realized gain from sale of marketable securities					(398)	(398)
Net income				8,773		8,773
Unrealized gain on marketable securities					538	538
Comprehensive income						9,311
Balance at April 30, 2004	13,997,310	141	106,399	(21,071)	700	86,169
Exercise of common stock options	220,462	2	2,488			2,490
Sale of common stock pursuant to the Employee Stock Purchase Plan	40,303		634			634
Common stock issued in lieu of Board of Directors fees	2,698		52			52
Stock options granted to non-employees			24			24
Net income				40,941		40,941
Unrealized loss on marketable securities					(248)	(248)
Cumulative translation adjustment					(36)	(36)
Comprehensive income						40,657
Balance at April 30, 2005	14,260,773	143	109,597	19,870	416	130,026
Exercise of common stock options	195,915	2	3,158			3,160
Sale of common stock pursuant to the Employee Stock Purchase Plan	36,713		717			717
Stock options granted to non-employees			19			19
Tax benefit from stock options			1,471			1,471
Realized gain from sale of marketable securities					(915)	(915)
Net income				15,257		15,257
Unrealized loss on marketable securities					462	462
Cumulative translation adjustment					(80)	(80)
Comprehensive income						15,639
Balance at April 30, 2006	14,493,401	\$ 145	\$ 114,962	\$ 35,127	\$ (117)	\$ 150,117

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The accompanying notes are an integral part of the consolidated financial statements.

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Table of Contents**ADE CORPORATION****CONSOLIDATED STATEMENTS OF CASH FLOWS**

(In thousands)

	Year ended April 30,		
	2006	2005	2004
Cash flows from operating activities:			
Net income	\$ 15,257	\$ 40,941	\$ 8,773
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	2,033	2,188	2,953
Long-lived asset impairment			378
Equity in net earnings of affiliated companies, net of dividends received			952
Deferred income taxes	3,164	(17,217)	
Stock-based compensation	19	76	37
Gain on sale of long-term investment			(1,729)
Gain on sale of marketable securities	(915)		(398)
Gain on sale of building		(69)	
Tax benefit related to the exercise of stock options	1,471		
Amortization of gain from sale-leaseback	(113)	(113)	(84)
Changes in assets and liabilities, net of acquisition:			
Accounts receivable, trade	(4,665)	(4,895)	(2,744)
Accounts receivable, affiliate			2,525
Inventories	(5,091)	1,981	(3,396)
Prepaid expenses and other current assets	(328)	(305)	(22)
(Increase) decrease in other assets	(4)	20	11
Accounts payable	2,994	(337)	1,837
Accrued expenses and other current liabilities	1,441	1,512	1,778
Deferred income on sales to affiliate			(2,259)
Net cash provided by operating activities	15,263	23,782	8,612
Cash flows from investing activities:			
Purchases of fixed assets, net	(1,450)	(451)	(760)
Change in restricted cash		637	2,520
Proceeds from sale of building, net		4,394	9,753
Proceeds from sale of long-term investment			4,000
Proceeds from sale of marketable securities	1,296		515
Net cash (used in) provided by investing activities	(154)	4,580	16,028
Cash flows from financing activities:			
Repayment of long-term debt	(177)	(168)	(6,978)
Proceeds from issuance of common stock	3,880	3,123	2,422
Net cash provided by (used in) financing activities	3,703	2,955	(4,556)
Effect of exchange rate changes on cash and cash equivalents	(80)	(36)	
Net increase in cash and cash equivalents	18,732	31,281	20,084
Cash and cash equivalents, beginning of year	72,841	41,560	21,476
Cash and cash equivalents, end of year	\$ 91,573	\$ 72,841	\$ 41,560

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See supplemental disclosures of cash flow information (Note 17)

The accompanying notes are an integral part of the consolidated financial statements.

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ADE CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business

ADE Corporation (the Company) designs, manufactures, markets and services highly precise, automated measurement, defect detection and handling equipment with current applications in the production of semiconductor wafers, integrated circuits, magnetic data storage and optics industries. The predominant markets for the Company consist of semiconductor wafer and device manufacturing concerns as well as magnetic data storage device and disk drive manufacturers located in the United States, Japan, Europe and the Asia-Pacific region.

2. Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries. All significant intercompany transactions and balances have been eliminated.

For non-U.S. subsidiaries, which operate in a local currency environment, assets and liabilities are translated at period-end exchange rates, and income statement items are translated at the average exchange rates for the period. The local currency for all foreign subsidiaries is considered to be the functional currency and, accordingly, translation adjustments are reported as a separate component of stockholders' equity under the caption accumulated other comprehensive income (loss).

Investments in 50% or less owned companies over which the Company has the ability to exercise significant influence are accounted for using the equity method. Investments in 20% or less owned companies are accounted for using the cost method (Note 5).

Revenue Recognition

The Company's revenue recognition policy complies with SEC Staff Accounting Bulletin No. 104, Revenue Recognition in Financial Statements. The Company recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable and collectibility is reasonably assured. The Company's standard customer arrangement includes a signed purchase order, in which it offers payment terms of 30 to 90 days, no right of return of delivered products and a twelve month warranty. The Company assesses whether the fee associated with its revenue transactions is fixed or determinable based on the payment terms associated with the transaction. If a significant portion of the fee is due after the Company's normal payment terms of 30 to 90 days, it determines that the fee is not fixed or determinable. In these cases, the Company recognizes revenue as the fees become due. The Company assesses collectibility based on the credit worthiness of the customer and past transaction history. The Company performs initial credit evaluations of its customers and does not require collateral from its customers. For many of the Company's international customers, it requires that an irrevocable letter of credit be issued by the customer before the purchase order is accepted. If the Company determines that collection of a fee is not reasonably assured, it defers the fee and recognizes the revenue at the time that collection becomes reasonably assured, which is generally upon the receipt of cash.

For some of the Company's sales transactions, a portion, usually 10%, of the fee is not due until installation occurs and the customer accepts the product. The other 90% of the fee is normally due 30 to 90 days after shipment. If the Company has met defined customer acceptance experience levels with a specific type of product, these transactions are accounted for as multiple-element arrangements with the deferral of the portion of the fee not due until installation is complete and customer acceptance has occurred. Management of the Company must make a determination of what constitutes an appropriate experience level with a product. This determination is based on, but not limited to, the extent to which a product contains significantly new technology, the number of similarly configured products previously delivered and the Company's experience with a particular customer. For new products, the Company must obtain at least three acceptances before it will recognize the 90% portion of the fee upon shipment. All other sales with customer acceptance provisions are recognized as revenue upon customer acceptance. The portion of the fee related to the installation of the product and customer training is classified as service revenue.

The Company's transactions frequently involve the sales of systems and services under multiple element arrangements. Revenue under multiple element arrangements is allocated to all elements except systems based upon the fair value of those elements. The amounts allocated to training are based upon the price charged when this element is sold separately and unaccompanied by the other elements. The amount allocated to installation revenue is based upon hourly rates and the estimated time to complete the service. The amount allocated to system and parts is done on a residual method basis. Under this method, the total arrangement value is allocated first to undelivered elements, based on their fair values, with the remainder being allocated to system revenue.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****2. Summary of Significant Accounting Policies (Continued)**

Revenue from the sale of parts is recognized upon shipment. Service revenue is recognized as the services are performed provided collection of the related receivable is probable. Service contract revenue is recognized ratably over the contractual periods in which the services are provided. Revenue from software licenses is recognized when an agreement has been executed, software has been delivered, fees are fixed or determinable and collection of the related receivable is probable. The Company does not provide a right of return on its products. The Company accrues for anticipated warranty costs upon shipment. Warranty costs are estimated based on an analysis of historical cost information. Shipping and handling costs for product shipments are recorded as a cost of sales.

Prior to July 24, 2003, revenue from systems sales to Japan ADE Ltd. (JAL), the Company's previously 50% owned affiliate and a distributor of the Company's products, was recognized when the related product or software was shipped to and accepted by the end user of the product or software. As a result of the Company's decreased investment in JAL, beginning July 24, 2003, all sales to JAL are recognized in accordance with the policy above.

Cash and Cash Equivalents

The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. The Company invests its excess cash in money market accounts and investment grade commercial paper with original maturities of less than 3 months. These investments are subject to minimal credit and market risks. At April 30, 2006 and 2005, the Company has classified its cash equivalent investments totaling approximately \$86,142,000 and \$67,048,000, respectively. The carrying amount of these investments approximates fair market value.

Marketable Securities

The Company classifies its marketable securities as available-for-sale in accordance with the provisions of Statement of Financial Accounting Standards (SFAS) No. 115, Accounting for Certain Investments in Debt and Equity Securities. Securities classified as available-for-sale are reported at fair market value with the related unrealized gains and losses included, net of tax, in accumulated other comprehensive income (loss). Gross unrealized gains (losses) on securities for the years ended April 30, 2006, 2005 and 2004, the cost of which is based upon the specific identification method, were \$0, \$(248,000) and \$538,000, respectively.

Inventories

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

Fixed Assets

Fixed assets are stated at cost. Additions and betterments, unless of a relatively minor amount, are capitalized. Expenditures for normal maintenance and repairs are charged to expense as incurred. Depreciation is provided by use of the straight-line method over the estimated useful lives of the assets. Leasehold improvements are amortized over the shorter of their useful life or the remaining life of the lease.

Goodwill and Intangible Assets

The Company accounts for goodwill and other intangible assets in accordance with SFAS No. 142 (SFAS 142), Goodwill and Other Intangible Assets. The Company has \$1.3 million of goodwill recorded on its consolidated balance sheet. Under SFAS 142, the Company is required to perform impairment tests annually and whenever events or changes in circumstances suggest that the goodwill may be impaired. During the fourth quarter of fiscal years ended April 30, 2006 and 2005, respectively, the Company performed its annual impairment test in accordance with SFAS 142 and determined that the carrying value of its goodwill was not impaired.

The Company has \$1.4 million in capitalized license fees for software included in the Company's products, which has accumulated amortization of \$1.2 million and \$0.9 million at April 30, 2006 and 2005, respectively. These license fees are amortized at the greater of 1) the ratio that current gross revenue for the related products bear to the total current and anticipated future gross revenue for those products or 2) on a

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straight-line basis over the estimated useful life of the related products. For the years ended April 30, 2006, 2005 and 2004, the Company amortized \$289,000, \$150,000 and \$150,000, respectively, of the license fees to the cost of revenue. Estimated future amortization is \$216,000 and \$28,000 for the fiscal years ending April 30, 2007 and 2008, respectively.

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ADE CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

2. Summary of Significant Accounting Policies (Continued)

Concentrations

Credit Risk

Financial instruments that potentially expose the Company to concentration of credit risk include cash, cash equivalents, marketable securities and trade accounts receivable. A significant amount of the Company's cash and cash equivalents are held by three financial institutions. Accounts at each institution are insured by the Federal Deposit Insurance Corporation up to \$100,000. Uninsured cash balances totaled approximately \$4,489,000 and \$4,942,000 at April 30, 2006 and 2005, respectively. The Company does not believe that such deposits are subject to any unusual credit risk associated with operating its business.

The Company's customer base primarily consists of semiconductor wafer, semiconductor device and data storage manufacturers. Accounts receivable from two customers accounted for approximately 54% and 52% of total accounts receivable at April 30, 2006 and 2005, respectively. The Company performs initial credit evaluations of its customers' financial condition and has used letters of credit from financial institutions to secure payments, although it generally does not require collateral. The Company maintains reserves for potential credit losses.

Suppliers

Certain components and subassemblies incorporated into the Company's systems are obtained from a single source or a limited group of suppliers. The Company seeks to reduce the impact from its dependence on those sole and limited source suppliers by considering alternate sources of supply, alternate designs for its products and by maintaining an adequate supply of the components and subassemblies. However, the loss of one or more of the sole or limited suppliers could cause a delay in manufacturing and a potential loss of sales, which could affect operating results adversely.

Financial Instruments

The carrying amount of the Company's financial instruments, which include cash, cash equivalents, marketable securities, accounts receivable, accounts payable, accrued expenses, and long-term debt, approximate their fair value at the balance sheet dates.

Comprehensive Income

SFAS No. 130, Reporting Comprehensive Income, requires that changes in comprehensive income be shown in a financial statement that is displayed with the same prominence as other financial statements. The Company has presented other comprehensive income in the Consolidated Statements of Stockholders' Equity. Other comprehensive income consists primarily of unrealized gains on marketable securities and cumulative translation adjustment.

Advertising Expense

The Company recognizes advertising expense as incurred. Advertising expense was \$8,200, \$27,000 and \$54,000 for the years ended April 30, 2006, 2005 and 2004, respectively.

Stock-Based Compensation

Stock-based compensation awards to employees under the Company's stock plans are accounted for using the intrinsic value method prescribed in Accounting Principles Board Opinion (APB) No. 25, Accounting for Stock Issued to Employees, and related interpretations. The Company provides the disclosures required by SFAS No. 123, Accounting for Stock-Based Compensation, and SFAS No. 148, Accounting for Stock-Based Compensation. Had compensation cost for the stock-based compensation been determined based on the fair value at the grant dates of awards consistent with the provisions of SFAS No. 123, the Company's net income (loss) and earnings (loss) per share would have been reduced to the pro forma amounts as follows:

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****2. Summary of Significant Accounting Policies (Continued)**

	(In thousands, except per share data)		
	Year ended April 30,		
	2006	2005	2004
Net income, as reported	\$ 15,257	\$ 40,941	\$ 8,773
Add back: Stock-based compensation included in net income, as reported	15	76	37
Deduct: Total stock-based employee compensation expense determined under fair value based method, net of related income taxes	1,446	1,471	1,417
Pro forma net income (loss)	\$ 13,826	\$ 39,546	\$ 7,393
Net earnings (loss) per share:			
Basic as reported	\$ 1.06	\$ 2.91	\$ 0.63
Basic pro forma	\$ 0.96	\$ 2.81	\$ 0.53
Diluted as reported	\$ 1.04	\$ 2.86	\$ 0.62
Diluted pro forma	\$ 0.95	\$ 2.77	\$ 0.52

The fair value of each stock option and stock purchase right grant was estimated on the grant date using the Black-Scholes option-pricing model with the following assumptions for fiscal years 2006, 2005 and 2004: no dividend yield; risk free interest rates of 4.6%, 3.9% and 3.4%, respectively; expected option terms of 8 years, 7 years and 7 years, respectively, and expected purchase right terms of three months; volatility of 57% for options and purchase rights granted in fiscal 2006, 60% for options and purchase rights granted in fiscal year 2005 and 63% for options and purchase rights granted in fiscal 2004. The weighted average fair value per option for options granted with option exercise prices equal to the fair value of the underlying common stock in fiscal years 2006, 2005 and 2004 was \$13.99, \$12.21 and \$11.12, respectively. The weighted average fair value per stock purchase right granted in fiscal years 2006, 2005 and 2004 was \$8.89, \$7.06 and \$3.42, respectively.

Because options vest over several years and additional option and purchase right grants are expected to be made in subsequent years (if the Merger described in Note 3 is not consummated), the pro forma impact on fiscal years 2006, 2005 and 2004 is not necessarily representative of the pro forma effects of reported net income and earnings per share for future years.

Earnings Per Share

Earnings per share are presented in accordance with SFAS No. 128, Earnings Per Share, which requires the presentation of basic earnings per share and diluted earnings per share. Basic earnings per share is computed by dividing net income available to common stockholders by the weighted average number of common shares outstanding for the period. Diluted earnings per share is computed using the weighted average number of common shares outstanding and gives effect to all dilutive potential common shares outstanding during the period. Potential common shares include shares issuable upon the assumed exercise of dilutive stock options. For the years ended April 30, 2006, 2005 and 2004, respectively, 1,500, 326,960 and 613,339 common shares issuable upon the exercise of stock options were antidilutive due to the fact that the exercise price of the options was greater than the market value of the stock and were therefore excluded from the computation of diluted earnings per share.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****2. Summary of Significant Accounting Policies (Continued)**

The following is a reconciliation of the shares used in calculating basic and diluted earnings per share:

	Year ended April 30,		
	2006	2005	2004
	(in thousands)		
Shares used in computation:			
Weighted average common stock outstanding used in computation of basic earnings per share	14,393	14,069	13,887
Dilutive effect of stock options	293	243	240
Shares used in computation of diluted earnings per share	14,686	14,312	14,127

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingencies at April 30, 2006 and 2005, and the reported amounts of revenue and expenses during the three year period ended April 30, 2006. Areas particularly subject to estimation include the allowance for doubtful accounts, the valuation for potential excess and obsolete inventory, the carrying value of the Company's intangible assets and the valuation allowance on deferred tax assets. Actual results could differ from those estimates.

New Accounting Pronouncements

In November 2004, the Financial Accounting Standards Board (FASB) issued SFAS No. 151, Inventory Costs (SFAS 151). SFAS 151 amends the guidance in Accounting Review Board No. 43, Chapter 4, Inventory Pricing, to clarify the accounting for abnormal amounts of idle facility expense, freight, handling costs and wasted material (spoilage). SFAS 151 is effective for fiscal years beginning after June 15, 2005. The adoption of SFAS 151 is not expected to have a material impact on the Company's financial position and results of operations.

In December 2004, the FASB issued SFAS No. 123 (revised 2004), Share Based Payment (SFAS 123R). SFAS 123R requires that the cost resulting from all share-based payment transactions be measured using a fair-value method and be recognized in the financial statements. SFAS 123R is effective as of the beginning of the first interim or annual reporting period of the first fiscal year that begins on or after June 15, 2005. SFAS 123R is effective for the Company's first quarter of fiscal 2007 beginning May 1, 2006. SFAS 123R permits public companies to adopt its requirements using one of two methods:

1. A modified prospective method in which compensation cost is recognized beginning with the effective date (a) based on the requirements of SFAS 123R for all share-based payments granted after the effective date and (b) based on the requirements of SFAS 123 for all awards granted to employees prior to the effective date of SFAS 123R that remain unvested on the effective date.
2. A modified retrospective method which includes the requirements of the modified prospective method described above, but also permits entities to restate based on the amounts previously recognized under SFAS 123 for purposes of pro forma disclosures for either (a) all prior periods presented or (b) prior interim periods of the year of adoption.

The Company has determined that it will adopt SFAS 123R using the modified prospective method. In the event that the Merger is not completed, the Company expects that the adoption of FAS 123R will have a material impact on the Company's financial position and results of operations.

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In June 2006, the FASB issued FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes* an interpretation of FASB Statement No. 109 (FIN 48). FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with FASB Statement No. 109, *Accounting for Income Taxes*. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition. FIN 48 is effective for fiscal years beginning after December 15, 2006. The adoption of FIN 48 is not expected to have a material impact on the Company's financial position and results of operations.

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ADE CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

3. Merger with KLA-Tencor Corporation

On February 22, 2006, the Company entered into a definitive Agreement and Plan of Merger (the Merger Agreement) with KLA-Tencor Corporation (KLA-Tencor) and South Acquisition Corporation, a wholly owned subsidiary of KLA-Tencor (South). Pursuant to the Merger Agreement, each share of the Company's common stock was to be exchanged for 0.64 shares of KLA-Tencor common stock on a fixed basis.

On May 26, 2006, the Company entered into a definitive Amended and Restated Agreement and Plan of Merger (the Amended Merger Agreement) with KLA-Tencor and South. The Amended Merger Agreement amended and restated the Merger Agreement, and changed the consideration payable to the Company's stockholders from 0.64 shares of KLA-Tencor common stock to \$32.50 in cash per share of the Company's common stock.

The Amended Merger Agreement provides that, among other things, upon the terms and subject to the conditions set forth in the Amended Merger Agreement, South will merge with and into the Company, with the Company continuing as the surviving corporation and a wholly owned subsidiary of KLA-Tencor (the Merger). The Company's stockholders approved the Merger on July 13, 2006. Consummation of the Merger is subject to customary closing conditions, including the approval of German antitrust authorities.

4. Restructurings

During the first quarter of fiscal 2004, as a result of continued cost cutting initiatives, the Company recorded a restructuring charge of \$393,000, which consisted primarily of severance expenses for 20 terminated employees. The employees were terminated from various functional areas within the Company's Semiconductor Systems and ADE Technologies business segments. The majority of all the severance payments from the first quarter restructuring were made by the end of fiscal year 2004. In connection with the first quarter restructuring, the Company did not renew its lease at its Bethel, Connecticut facility, which expired in August 2003. Prior to the end of the first quarter, the operations of the Bethel facility were relocated to the Westwood, Massachusetts and Tucson, Arizona facilities.

5. Investments

On July 10, 2003, the Company received a \$1.0 million dividend payment from JAL, which had been the exclusive distributor of ADE dimensional products in Japan since 1986. On July 24, 2003, the Company entered into an agreement to sell the majority of its 50% ownership in JAL to Kanematsu Electronics, Ltd., the other 50% owner of JAL. The Company received proceeds of \$4.0 million and realized a gain of \$1.7 million from this transaction. The Company retained a 9% ownership interest in JAL. Prior to the transaction, the Company accounted for its investment in JAL under the equity method. As a result of the decrease in both ownership and influence over the affairs of JAL, subsequent to July 24, 2003, the Company accounts for its remaining 9% interest under the cost method.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****5. Investments (Continued)**

The \$1.7 million gain on the transaction was calculated as follows:

ADE shares held prior to sale	1,500	50%
KEL shares held prior to sale	1,500	50%
Total ownership shares	3,000	100%
Shares sold by ADE	1,230	41%
Shares retained by ADE	270	9%
		(in thousands)
Book value of ADE investment at 4/30/03	\$	3,722
Less: Dividend received 7/10/03		(1,000)
Add: Income from affiliate April-June		48
Book value of ADE investment before sale	\$	2,770
Book value per share before sale	\$	1.85
Book value of shares sold	\$	2,271
Proceeds from sale	\$	4,000
Gain on sale of 41% ownership	\$	1,729

Prior to July 24, 2003, when the Company was accounting for its investment in JAL under the equity method, the revenue from sales to JAL, which had not in turn been sold by JAL to unrelated third parties, was eliminated and the related profit on such sales was recorded as deferred income on sales to affiliate. As a result of the reduction of the Company's 50% investment in JAL to 9% and the change in accounting method for the remaining investment to the cost method, the Company recognized approximately \$6.4 million of system and parts revenue in its statement of operations that otherwise may have been deferred revenue on the balance sheet as of July 31, 2003. Cost of revenue, system and parts in the statement of operations increased by \$2.5 million during the quarter ended July 31, 2003 as a result of the sale of part of the company's JAL investment. Therefore, gross profit in the statement of operations increased by \$3.9 million during the same period.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****5. Investments (Continued)**

The financial position and results of operations of JAL was significant compared to those of the Company for the year ended April 30, 2004. Below is the summarized unaudited financial information for JAL for the fiscal year ended April 30, 2004:

	Year ended April 30, 2004 (in thousands)
Revenue	\$ 40,788
Gross profit	10,686
Net income	826
	April 30, 2004
Current assets	\$ 23,752
Noncurrent assets	3,160
Current liabilities	19,942
Noncurrent liabilities	

6. Sale of Marketable Securities

On January 6, 2004, the Company sold 17,213 shares of its investment in the common stock of MKS Instruments Inc. The Company received proceeds of \$515,000 from the sale. The Company's cost basis in the shares sold was \$117,000. Therefore, a gain of \$398,000 was recognized in the Company's consolidated statement of operations for the year ended April 30, 2004.

During the fourth quarter of fiscal 2006, the Company sold the remaining 56,344 shares of its investment in the common stock of MKS Instruments Inc. The Company received proceeds of \$1,296,000 from the sale. The Company's cost basis in the shares sold was \$381,000. Therefore a gain of \$915,000 was recognized in the Company's consolidated statement of operations for the year ended April 30, 2006.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****7. Inventories**

Inventories consist of the following:

	April 30, 2006 2005 (in thousands)	
Raw materials and purchased parts	\$ 18,584	\$ 16,820
Work-in-process	15,564	13,084
Finished goods	1,707	860
	\$ 35,855	\$ 30,764

8. Fixed Assets

Fixed assets consist of the following:

	Useful life in years	April 30, 2006 2005 (in thousands)	
Land		\$ 505	\$ 505
Building and improvements	15-25	5,867	5,867
Machinery and equipment	3-10	12,816	18,449
Office equipment	3-10	2,799	5,628
Leasehold improvements	5	655	653
Construction-in-progress		671	805
		23,313	31,907
Less accumulated depreciation		14,367	22,666
		\$ 8,946	\$ 9,241

Depreciation expense for the years ended April 30, 2006, 2005 and 2004 was \$1,744,000, \$2,038,000 and \$2,803,000, respectively. During the years ended April 30, 2006 and 2005, the Company sold some demonstration units to customers. These units were transferred to inventory prior to the sale. The total cost of the demonstration units for the years ended April 30, 2006 and 2005 was \$53,000 and \$231,000, respectively, and accumulated depreciation was \$0 and \$16,000, respectively.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****9. Accrued Expenses and Other Current Liabilities**

Accrued expenses and other current liabilities consist of the following:

	April 30,	
	2006	2005
	(in thousands)	
Accrued salaries, wages, vacation pay and incentive compensation	\$ 3,803	\$ 3,335
Accrued commissions	2,409	1,512
Accrued warranty costs	1,151	1,482
Deferred revenue	2,289	2,316
Other	3,858	3,424
	\$ 13,510	\$ 12,069

10. Borrowings*Long-term Debt*

In April 1999, the Company issued a tax exempt Industrial Development Bond (the 1999 bond) through the Industrial Development Authority of the County of Pima, Arizona. The face value of the 1999 bond is \$4.5 million. The 1999 bond bears interest at a rate of 5.52% and provides for 50% of the principal to be paid over ten years from the date of issuance with the remaining 50% due in March 2009. Monthly payments of principal and accrued interest for the 1999 bond are approximately \$31,000. The proceeds of the 1999 bond were used to fund the construction of a new manufacturing facility in Tucson, Arizona.

On July 22, 2004, the Company entered into a Standby Letter of Credit Agreement with Bank of America, as successor to Fleet National Bank in the amount of \$4.5 million. One letter of credit issued under this facility serves as collateral for the \$3.9 million principal balance on the 1999 bond and replaces a letter of credit the Company obtained from another financial institution. Another letter of credit under this facility serves as a security deposit required by the lease agreement for the Company's Westwood, Massachusetts headquarters building. The facility bears a fee of 1.5% per annum of the face amount of each letter of credit. Under the terms of the Letter of Credit Agreement, the Company is required to comply with certain financial covenants. As of April 30, 2006, the Company was in compliance with these covenants.

Future maturities of principal of the Company's 1999 bond as of April 30, 2006 were as follows:

	(in thousands)
Year ending April 30,	
2007	187
2008	198
2009	3,046
Thereafter	
	\$ 3,431

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ADE CORPORATION

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)

11. Employee Compensation Plans

In August 1995, the Company adopted the 1995 Stock Option Plan (the 1995 Plan). The 1995 Plan provides for the issuance to employees of stock options or stock awards to purchase 400,000 shares of common stock. In October 1997, the Company adopted the 1997 Employee Stock Option Plan (the 1997 Plan). The 1997 Plan provides for the issuance to employees of stock options or stock awards to purchase 500,000 shares plus the number of shares reserved under the 1995 Plan that have not been issued or have been issued and subsequently cancelled.

Options are granted under the 1995 and 1997 Plans as either incentive stock options or non-qualified stock options and at exercise prices not less than the fair value of the stock on the date of grant or less than 110% of the fair value in the case of optionees holding more than 10% of the total combined voting power of all classes of stock of the Company. The terms of the options generally may not exceed ten years or five years in the case of optionees holding more than 10% of the total combined voting power of all classes of stock of the Company. The options are exercisable over periods determined by the compensation committee of the Board of Directors, generally at the rate of 20% per year, on a cumulative basis, beginning with the first anniversary of the date of grant.

During calendar year 2000, the Board of Directors adopted the Company's 2000 Employee Stock Option Plan (the 2000 Plan). Under the 2000 Plan, stock rights may be granted which are either (i) options intended to qualify as incentive stock options under Section 422(b) of the Internal Revenue Code of 1986, as amended, (ii) non-qualified stock options or (iii) awards of shares of common stock or the opportunity to make a direct purchase of shares of common stock. The 2000 Plan authorizes the issuance of up to 900,000 shares of the Company's common stock plus the number of shares of common stock previously reserved for granting of options under the 1995 Plan or the 1997 Plan which are not granted under either of these plans or which are not exercised and cease to be outstanding by reason of cancellation or otherwise. The options are exercisable over periods determined by the compensation committee of the Board of Directors, generally at the rate of 5% per quarter, on a cumulative basis, beginning with the first anniversary of the date of grant. At April 30, 2006, 379,499 shares were available for future grants under the Company's stock option plans. All of the Company's stock option plans have been approved by the Company's stockholders.

In October 1996, the Board of Directors adopted the Employee Stock Purchase Plan (the Purchase Plan), effective as of October 1, 1996. The Purchase Plan provides full-time employees, nearly all of whom are eligible to participate, the opportunity to purchase common shares, on a quarterly basis, at 85% of the fair market value of the shares on either the first or last day of the applicable quarter, whichever is lower. The original term of the Purchase Plan was for five years, and the Company has authorized 1,000,000 shares of the Company's common stock for issuance under the Purchase Plan. In October 2001, the Board of Directors adopted an amendment to the Purchase Plan to extend the term of the Plan by five years. Under the Purchase Plan, the Company sold 36,713, 40,303 and 51,107 shares to employees in fiscal years 2006, 2005 and 2004, respectively. At April 30, 2006, the Company has reserved 568,741 shares of common stock for issuance to employees under the Purchase Plan. The Purchase Plan has been approved by the Company's stockholders.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****11. Employee Compensation Plans (Continued)**

Stock option activity is summarized as follows:

	Number	Weighted average exercise price
	of shares	\$
Options outstanding at April 30, 2003	1,120,595	12.91
Granted	147,100	17.54
Exercised	(181,217)	10.76
Canceled	(134,460)	15.08
Options outstanding at April 30, 2004	952,018	13.73
Granted	74,100	19.33
Exercised	(225,385)	11.44
Canceled	(28,409)	19.41
Options outstanding at April 30, 2005	772,324	14.73
Granted	110,250	22.82
Exercised	(195,915)	16.23
Canceled	(6,250)	15.10
Options outstanding at April 30, 2006	680,409	\$ 15.59

The number and weighted average exercise price of options exercisable at April 30, 2006, 2005 and 2004 was 404,404 and \$14.03; 462,220 and \$14.77; and 530,408 and \$13.45, respectively.

The following table summarizes information about stock options outstanding at April 30, 2006:

Range of exercise prices	Options Outstanding			Options Exercisable	
	Number	Weighted average remaining contractual life (years)	Weighted average exercise price	Number exercisable	Weighted average exercise price
\$6.13 - \$9.94	249,920	5.8	\$ 8.21	196,320	\$ 8.41
\$12.43 - \$15.77	56,107	6.3	14.99	25,507	14.52
\$17.06 - \$21.97	327,632	6.7	19.99	178,941	19.89
\$24.55 - \$30.42	46,750	9.4	25.02	3,636	25.10
	680,409	6.5	\$ 15.59	404,404	\$ 14.03

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****12. Stockholders' Equity***Reserved Shares*

At April 30, 2006, the Company has reserved 1,628,649 shares of common stock for issuance upon the grant and exercise of available common stock options and for issuance to employees under the Purchase Plan.

Preferred Stock

The Company has 1,000,000 shares of \$1.00 par value preferred stock authorized. Shares of preferred stock may be issued at the discretion of the Board of Directors of the Company with such designation, rights and preferences as the Board may determine from time to time. The preferred stock may have voting rights, preferences as to dividends and liquidation, conversion and redemption rights and sinking fund provisions, which are more expansive than those of the holders of the common stock.

13. Segment, Geographic and Significant Customer Information

The Company has three reportable segments: ADE Semiconductor Systems Group (SSG), ADE Phase Shift (PST) and ADE Technologies (ATI). SSG manufactures and markets metrology and inspection systems to the semiconductor wafer and device manufacturing industries that are used to improve yield and capital productivity. PST manufactures and markets high performance, non-contact surface metrology equipment using advanced interferometric technology that provides enhanced yield management to the data storage, semiconductor and optics industries. ATI manufactures and markets high precision magnetic characterization and non-contact dimensional metrology gauging systems primarily to the magnetic data storage and semiconductor manufacturing industries. Sales of the Company's stand-alone software products and software consulting services are included in the SSG segment.

The Company's reportable segments are determined based upon the nature of the products, the external customers and customer industries and the sales and distribution methods used to market the products. The accounting policies of the segments are the same as those described in the summary of significant accounting policies. The Company evaluates performance based upon profit or loss from operations. The Company does not measure the assets allocated to the segments. Management fees representing certain services provided by corporate offices have been allocated to each of the reportable segments based upon the usage of those services by each segment. Additionally, other income (loss), the provision for (benefit from) income taxes and the equity in net earnings (losses) of affiliated companies are not included in segment profitability.

Some sales to JAL were reflected in segment revenue during the period they were shipped by the respective segment, which could differ from the period the revenue was recognized for consolidated financial reporting purposes. As a result of the transaction discussed in Note 5, as of July 24, 2003, all subsequent sales to JAL are reflected in both segment and consolidated revenue in the same period as they are no longer an equity method investee.

	SSG	PST	ATI	Total
	(in thousands)			
For the year ended April 30, 2006				
Revenue from external customers	\$ 50,371	\$ 38,034	\$ 15,043	\$ 103,448
Intersegment revenue	166	685	725	1,576
Income from operations	288	12,570	4,317	17,175
Depreciation and amortization expense	1,571	424	38	2,033
Capital expenditures	924	399	151	1,474

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****13. Segment, Geographic and Significant Customer Information (Continued)**

For the year ended April 30, 2005				
Revenue from external customers	\$ 66,148	\$ 38,690	\$ 12,063	\$ 116,901
Intersegment revenue	316	247	587	1,150
Income from operations	8,443	13,924	1,355	23,722
Depreciation and amortization expense	1,660	509	19	2,188
Capital expenditures	361	82	223	666
For the year ended April 30, 2004				
Revenue from external customers	\$ 60,043	\$ 19,393	\$ 8,950	\$ 88,386
Intersegment revenue	48		378	426
Income (loss) from operations	3,395	3,721	(528)	6,588
Depreciation and amortization expense	2,329	523	101	2,953
Long-lived asset impairment	378			378
Capital expenditures	676	63	21	760

The following is a reconciliation for the above items where aggregate reportable segment amounts differ from amounts contained in the Company's consolidated financial statements.

	Year ended April 30,		
	2006	2005	2004
	(in thousands)		
Total external revenue for reportable segments	\$ 103,448	\$ 116,901	\$ 88,386
Net impact of revenue recognition on sales to affiliate			199
Total consolidated revenue	\$ 103,448	\$ 116,901	\$ 88,585
Total operating profit for reportable segments	\$ 17,175	\$ 23,722	\$ 6,588
Net impact of intercompany gross profit eliminations and deferred profit on sales to affiliate	(48)	(82)	32
Total consolidated operating profit	\$ 17,127	\$ 23,640	\$ 6,620

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****13. Segment, Geographic and Significant Customer Information (Continued)**

Revenue by geographic area is summarized as follows:

	Year ended April 30,		
	2006	2005	2004
	(in thousands)		
United States	\$ 19,151	\$ 20,316	\$ 12,611
Japan	37,657	47,285	43,911
Taiwan	7,764	3,342	4,490
Europe	10,034	18,433	12,478
Asia	28,842	27,525	15,095
	\$ 103,448	\$ 116,901	\$ 88,585

Revenue from JAL in fiscal years 2006, 2005 and 2004 totaled \$31,869,000 (31%), \$36,482,000 (31%), and \$31,737,000 (36%), respectively. Revenue from another customer in fiscal 2006, 2005 and 2004 totaled \$11,367,000 (11%), \$11,112,000 (10%), and \$3,066,000 (3%), respectively. Revenue from a third customer in fiscal years 2006, 2005 and 2004 totaled \$8,347,000 (8%), \$8,399,000 (7%), and \$5,406,000 (6%), respectively. As of April 30, 2006, 2005 and 2004, all of the Company's long-lived assets are located in the United States except for \$176,000, \$679,000, and \$626,000, respectively.

14. Income Taxes

The provision for (benefit from) income taxes consists of:

	Year ended April 30,		
	2006	2005	2004
	(in thousands)		
Current tax expense (benefit):			
Federal	\$ 917	\$ 473	\$ (237)
Foreign	283	99	222
State	11	12	61
	1,211	584	46
Deferred tax (benefit):			
Federal	4,459	(15,128)	
State	(330)	(2,089)	
	4,129	(17,217)	
	\$ 5,340	\$ (16,633)	\$ 46

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****14. Income Taxes (Continued)**

For financial reporting purposes, income before income taxes includes the following components:

	Year ended April 30,		
	2006	2005	2004
United States	\$ 20,215	\$ 24,028	\$ 6,903
Foreign	382	280	1,868
Total	\$ 20,597	\$ 24,308	\$ 8,771

The significant components of deferred tax assets and liabilities consist of the following:

	April 30,	
	2006	2005
Deferred tax assets:		
Inventories, due to reserves and additional costs inventoried for tax purposes	\$ 5,492	\$ 4,550
Acquired in-process research and development and intangibles	1,253	1,443
Accrued expenses	2,794	2,815
Deferred revenue	870	622
Net operating loss and tax credit carryforwards	3,618	7,854
Capital loss carryforward		675
Bad debt reserve	155	195
Depreciation	285	393
Other	475	483
Gross deferred tax assets	14,942	19,030
Deferred tax valuation allowance	(889)	(1,813)
Total net deferred tax assets	\$ 14,053	\$ 17,217

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****14. Income Taxes (Continued)**

Deferred income taxes reflect the tax impact of temporary differences between the amount of assets and liabilities for financial reporting purposes and such amounts as measured by tax laws and regulations. Under SFAS No. 109, Accounting for Income Taxes, the benefit associated with future deductible temporary differences is recognized if it is more likely than not that the benefit will be realized. The measurement of deferred tax assets is reduced by a valuation allowance if, based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized. Significant management judgment is required in determining the Company's provision for income taxes, its deferred tax assets and liabilities and any valuation allowance recorded against its net deferred tax assets. The Company evaluates the weight of all available evidence to determine whether it is more likely than not that some portion or all of the deferred income tax assets will not be realized. During the quarter ended April 30, 2005, based on its evaluation of all available evidence, both positive and negative, the Company determined that it was more likely than not that it would realize the benefit of the majority of its deferred tax assets. As a result, the Company reversed \$17.2 million of its deferred tax asset valuation allowance. The decision to reverse the valuation allowance required significant judgment. Had the Company not reversed this allowance, it would have reported materially different results. The amount of the deferred tax asset considered realizable is based on significant estimates, and it is at least reasonably possible that changes in these estimates in the future could materially affect the Company's financial condition and results of operations.

As of April 30, 2006, the Company has approximately \$4,103,000 tax credit carryforwards available to reduce future tax liabilities. These credits begin to expire in 2012 and are primarily comprised of Federal alternative minimum tax (AMT) credit carryforwards of approximately \$1,104,000, Arizona research tax credit carryforwards of \$1,628,000 and Massachusetts research tax credit carryforwards of \$1,357,000. The AMT credit carries forward indefinitely and the Arizona research tax credit carries forward for 15 years. The Massachusetts tax credit carries forward for 15 years, however, this credit has a full valuation allowance as it is more likely than not that it will not be realized.

The Company does not provide for taxes which would be payable if undistributed earnings of its foreign affiliates were remitted because the Company either considers these earnings to be invested for an indefinite period or anticipates that if such earnings were distributed, the U.S. income taxes payable would be substantially offset by foreign tax credits.

The following is a reconciliation between the amount of reported income tax expense (benefit) and the amount computed using the U.S. Federal Statutory rate of 35% for fiscal 2006, 2005 and 2004:

	Year ended April 30,		
	2006	2005	2004
	(in thousands)		
Statutory federal rate	\$ 7,209	\$ 8,508	\$ 3,087
State taxes, net of federal benefit	11	8	41
Valuation allowance	(348)	(25,845)	(3,144)
Benefit from foreign export sales	(1,493)		
Tax credits generated	(367)		
Other	328	696	62
	\$ 5,340	\$ (16,633)	\$ 46

15. Incentive Savings and Profit Sharing Plan

The Company has an incentive savings and profit sharing plan covering substantially all employees who wish to participate and meet minimum age and service requirements. Annual Company contributions are determined by the Board of Directors and are limited to the maximum amount deductible under the Internal Revenue Code. Company contributions for fiscal 2006, 2005 and 2004 were \$599,000, \$558,000 and \$198,000, respectively.

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****16. Commitments and Contingencies***Lease Obligations*

The Company leases land and certain buildings, machinery and equipment under operating leases, which expire through 2018. Under the terms of the leases, the Company is responsible for normal maintenance, utility expenses and taxes and pays a monthly property management fee on certain leases.

Future minimum lease payments under operating leases, including management fees, as of April 30, 2006 were as follows:

Year ending April 30,	(in thousands)
2007	2,014
2008	1,723
2009	1,708
2010	1,557
Thereafter	10,258
	\$ 17,260

Total rent expense under non-cancelable operating leases was \$1,761,000, \$1,703,000 and \$1,486,000 for the years ended April 30, 2006, 2005 and 2004, respectively.

Litigation

On June 7, 2006, Dean Drulias, a purported stockholder of the Company, filed a complaint in Massachusetts Superior Court, Norfolk County, against the Company, each of the Company's directors, KLA-Tencor and South entitled Dean Drulias v. ADE Corporation, et al. (Civil Action No. 06-00963). The complaint alleged, among other things, that, in connection with the Merger, the directors of the Company breached their fiduciary duties, the Company's preliminary proxy statement related to the Merger contained inaccurate statements of material facts and omitted material facts, and KLA-Tencor aided and abetted the Company's directors in their alleged breaches of fiduciary duties. Among other things, the complaint sought a determination that the class action status was proper, an injunction preventing the Merger or, if the Merger were consummated, a rescission of the Merger, and the payment of compensatory damages and other fees and costs. The defendants removed the action to federal court (United States District Court for the District of Massachusetts). On June 14, 2006, the Company filed a definitive proxy statement with the SEC and mailed it to all of the Company's stockholders of record as of the close of business on May 30, 2006; and, on June 27, 2006, plaintiff filed an amended complaint that alleged, among other things, that, in connection with the Merger, the directors of the Company breached their fiduciary duties, the Company's definitive proxy statement related to the Merger contained inaccurate statements of material facts and omitted material facts and KLA-Tencor aided and abetted the Company's directors in their alleged breaches of fiduciary duties. Among other things, the amended complaint sought a determination that the class action status was proper, an injunction preventing the Merger unless certain disclosures were made in advance of the Merger, and the payment of compensatory damages and other fees and costs. Plaintiff has not identified or alleged an amount of damages that are sought in the action. On June 30, 2006, plaintiff filed a motion for a preliminary injunction and a hearing on the motion took place on July 6, 2006. On July 7, 2006, a supplement to the definitive proxy statement was mailed to all of the Company's stockholders of record as of the close of business on May 30, 2006, and the Court was notified that defendants and plaintiff were in settlement discussions. On July 11, 2006, the Court dismissed the action as settled and without prejudice. The parties continued their settlement discussions; and, on July 19, 2006, entered into a Memorandum of Understanding (the "MOU") agreeing in principle to settle all claims brought on behalf of the putative class. However, effectuation of the settlement embodied in the MOU is contingent on, among other things, the Court's review and final approval of the settlement, and entry of a final order and judgment. Therefore, on July 28, 2006, the parties requested that the Court reopen the action. The Court has not yet acted in response to the parties' request. Although the ultimate outcome of this matter cannot yet be predicted definitively, and litigation poses a risk of uncertainty, the Company believes that the likelihood of a settlement, as embodied in the MOU, is high. However, the Company also believes that the claims in the original and amended complaints are without merit and it and the other defendants intend to vigorously defend the lawsuit if necessary.

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In addition to the matters noted above, from time to time the Company is subject to legal proceedings and claims in the ordinary course of business. In the opinion of management, the amount of ultimate expense with respect to any other current legal proceedings and claims will not have a material adverse effect on the Company's financial position or results of operations.

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Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)***Guarantor agreements*

The Company has an agreement with a vendor whereby it guarantees the business related expenses incurred by certain of the Company's employees. The term of the agreement is from execution until cancellation and payment of any outstanding amounts. The Company would be required to pay any unsettled employee expenses upon notification from the vendor. The maximum potential amount of future payments the Company could be required to make under this agreement is not significant. As a result, the Company believes the estimated fair value of these agreements is minimal. Accordingly, no liabilities have been recorded for this guaranty as of April 30, 2006.

Pursuant to one of the provisions in the Company's standard terms and conditions of sale, the Company agrees, subject to certain limitations and conditions, to defend any suit or proceeding brought against a customer based on a claim that the Company's equipment, standing alone, infringes a United States patent or copyright or misappropriates a trade secret protected under United States law. Actions arising under such provision may only be brought by customers within two years after the cause of action arises. The maximum potential amount of payments the Company may be required to make under such provision is limited to the total purchase price of the Company's equipment sold under the particular contract. The Company has never incurred costs to defend lawsuits or settle claims related to these customer contract provisions. As a result, the Company believes the liability is minimal. Accordingly, the Company has no liabilities recorded for these provisions as of April 30, 2006.

The Company warrants that its products will perform in all material respects in accordance with its standard published specifications. The term of the Company's standard warranty is 12 months. The Company accrues 2% of product revenues to provide for estimated warranty costs, based on which business unit made the sale. The following is a reconciliation of the activity in the Company's warranty liability for the years ended April 30, 2006 and 2005.

	Year ended April 30,	
	2006	2005
	(in thousands)	
Accrued warranty, beginning of year	\$ 1,482	\$ 1,257
Accruals for warranties issued	1,391	1,185
Warranty settlements made	(1,722)	(960)
Accrued warranty, end of year	\$ 1,151	\$ 1,482

Table of Contents**ADE CORPORATION****NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS (Continued)****17. Supplemental Disclosures of Cash Flow Information**

	Year ended April 30,		
	2006	2005	2004
Cash paid during the year:			
Interest	\$ 195	\$ 204	\$ 358
Income taxes paid (refunds received), net	\$ 381	\$ 731	\$ (511)
Transfers of demonstration units to inventory from fixed assets, net of accumulated depreciation	\$ 53	\$ 215	\$ 89

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Table of Contents**FINANCIAL STATEMENT SCHEDULE****(In thousands)****Schedule II Valuation and Qualifying Accounts and Reserves**

Description	Balance at May 1, 2003	Charged to	Charged to other accounts	Deductions	Balance at April 30, 2004
		costs and expenses		and write-offs	
Allowance for doubtful accounts	\$ 612	\$	\$	\$ (154)	\$ 458
Deferred tax asset valuation allowance	29,706	(3,144)			26,562

Description	Balance at May 1, 2004	Charged to	Charged to	Deductions	Balance at April 30, 2005
		costs and expenses	to other accounts	and write-offs	
Allowance for doubtful accounts	\$ 458	\$ 234	\$	\$ (178)	\$ 514
Deferred tax asset valuation allowance	26,562	(17,217)		(7,532)	1,813

Description	Balance at May 1, 2005	Charged to	Charged to	Deductions	Balance at April 30, 2006
		costs and expenses	to other accounts	and write-offs	
Allowance for doubtful accounts	\$ 514	\$	\$	\$ (106)	\$ 408
Deferred tax asset valuation allowance	1,813	924			889

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