

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 June 30, 2004

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 No. 0-9992

KLA-TENCOR CORPORATION

(Exact Name of Registrant as Specified in its Charter)

Delaware
(State or Other Jurisdiction of Incorporation or Organization)

04-2564110
(I.R.S. Employer Identification Number)

160 Rio Robles, San Jose, California
(Address of Principal Executive Offices)

95134
(Zip Code)

Registrant's Telephone Number, Including Area Code: (408) 875-3000
Securities Registered Pursuant to Section 12(b) of the Act:

Title of Each Class
None

Name of Each Exchange on Which Registered
None

Securities Registered Pursuant to Section 12(g) of the Act:
Common Stock, \$0.001 Par Value
Common Stock Purchase Rights
(Title of Class)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

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

Indicate by checkmark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Exchange Act).

Yes No

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant based upon the closing price of the registrant's stock, as of December 31, 2003, was \$9,635,591,155. Shares of Common Stock held by each officer and director and by each person or group who owns 5% or more of the outstanding Common Stock have been excluded in that such persons or groups may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

The registrant had 196,365,907 shares of Common Stock outstanding as of August 19, 2004.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the 2004 Annual Meeting of Stockholders ("Proxy Statement") to be held on October 18, 2004, and to be filed pursuant to Regulation 14A within 120 days after registrant's fiscal year ended June 30, 2004, are incorporated by reference into Part III of this Report.

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SPECIAL NOTE REGARDING

FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements other than statements of historical fact may be forward looking statements. You can identify these and other forward-looking statements by the use of words such as “may,” “will,” “could,” “would,” “should,” “expects,” “plans,” “anticipates,” “relies,” “believes,” “estimates,” “predicts,” “intends,” “potential,” “continue,” or the negative of such terms, or other comparable terminology. Forward-looking statements also include the assumptions underlying or relating to any of the foregoing statements. Such forward-looking statements include, among others, those statements regarding the semiconductor market and our position in the market; our customers, including their products and financial results; the future results of our operations; the recovery and upturn in the demand for semiconductors and capital equipment and the effect of the recovery on our business and results of operations; technological trends in the semiconductor industry; our future product offerings and product features, as well as industry adoption of new technology; customers’ results utilizing our products; anticipated revenue from various domestic and international regions; international sales and operations; the competitive factors in our industry and maintenance of our competitive advantage; success of our product and service offerings; our purchase commitments and completion of backlog; creation of development and engineering programs for research and development; future investments in research and development; our agreements with financial institutions; our relationship with our employees and our ability to attract and retain employees; the completion of any acquisitions of third parties, or the technology or assets thereof; benefits received from any acquisitions and development of acquired technologies; the outcome of any litigation to which we are a party; dividends, results of our investment in leading edge technologies; enhancements of current products and strategic acquisitions; our future income tax rate; sufficiency of our existing cash balance, investments and cash generated from operations to meet our liquidity and working capital requirements; our use of derivative financial instruments to mitigate certain financial market risks; and the effectiveness of our efforts and the effects of hedging transactions.

Our actual results may differ significantly from those projected in the forward-looking statements in this report. Factors that might cause or contribute to such differences include, but are not limited to, those discussed in the “Risk Factors” section in Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and Item 1, “Business” in this Annual Report on Form 10-K. You should carefully review these risks and also review the risks described in other documents we file from time to time with the Securities and Exchange Commission, including the Quarterly Reports on Form 10-Q that we will file in fiscal year 2005. You are cautioned not to place undue reliance on these forward-looking statements, and we expressly assume no obligations to update the forward-looking statements in this report that occur after the date hereof.

PART I

ITEM 1. BUSINESS

The Company

KLA-Tencor Corporation (“KLA-Tencor”) is the world’s leading supplier of process control and yield management solutions for the semiconductor and related microelectronics industries. Our comprehensive portfolio of products, software, analysis, services and expertise is designed to help integrated circuit (“IC”) manufacturers manage yield throughout the entire fabrication process—from research and development to final mass-production yield analysis.

We offer a broad spectrum of products and services that are used by virtually every major wafer, IC and photomask manufacturer in the world. These customers turn to us for inline wafer defect monitoring; reticle and photomask defect inspection; critical dimension (“CD”) metrology; wafer overlay; film and surface measurement; and overall yield and fab-wide data analysis. Our advanced products, coupled with our unique yield technology services, allow us to deliver the complete yield management solutions our customers need to accelerate their yield learning rates, reduce their yield excursion risks and adopt industry-leading yield management practices.

KLA-Tencor was formed in April 1997 through the merger of KLA Instruments Corporation and Tencor Instruments, two long-time leaders in the semiconductor equipment industry, each with over 20 years of experience. KLA Instruments Corporation was incorporated in Delaware in 1975; Tencor Instruments was incorporated in California in 1976. Effective April 30, 1997, Tencor Instruments merged into a wholly owned subsidiary of KLA Instruments Corporation. Immediately following this merger, KLA Instruments Corporation changed its name to KLA-Tencor.

Additional information about KLA-Tencor is available on our web site at www.kla-tencor.com. KLA-Tencor makes available free of charge on its web site its Annual Report on Form 10-K, its Quarterly Reports on Form 10-Q, its Current Reports on Form 8-K and amendments to those Reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after we electronically file them with or furnish them to the Securities and Exchange Commission (“SEC”). Information contained on our web site is not part of this Annual Report on Form 10-K or our other filings with the SEC.

Industry

General Background

The semiconductor fabrication process begins with a bare silicon wafer—a round disk that is six, eight or twelve inches in diameter, about as thick as a credit card and gray in color. The process of manufacturing wafers is in itself highly sophisticated, involving the creation of large ingots of silicon by pulling them out of a vat of molten silicon. The ingots are then sliced into wafers and polished to a mirror finish on the side where the circuits are made.

The manufacturing cycle of integrated circuits is grouped into three phases: design, fabrication and testing. *ICdesign* involves the architectural layout of the circuit, as well as design verification and photomask or reticle generation. The *fabrication* of an IC, or “chip,” is accomplished by depositing a series of film layers that act as conductors, semiconductors or insulators. The deposition of these film layers is interspersed with numerous other process steps that create circuit patterns, remove portions of the film layers, and perform other functions such as heat treatment, measurement and inspection. Most advanced chip designs require over 300 individual steps, many of which are performed multiple times. Most chips consist of two main structures: the lower structure, typically consisting of transistors or capacitors, which perform the “smart” functions of the chip; and the upper structure, typically consisting of “interconnect” circuitry, which connects the components in the lower structure.

When all of the layers on the wafer have been completed, each die on the wafer is then *tested* for functionality. The wafer is placed on a prober that is used to attach the input/output pins of the device to a tester. When chips are tested on the wafer, it is called sort test. Sort test determines which chips are good. The wafer is then cut up and the good die are bonded to lead frames that contain pins used to attach the chip to the outside printed circuit board. Wires are bonded from the input/output pads of the IC to the pins of the lead-frame. Then the lead frame is encapsulated in packages typically made of plastic or ceramic materials. The packaged part are put through a final test and then shipped to customers. This entire packaging and testing process is called the “back end.”

Current Trends

Companies that anticipate future market demands by developing and refining new technologies and manufacturing processes, as well as production, are better positioned to lead in the semiconductor market. During past industry cycles, semiconductor manufacturers generally contended with one key new technology or market trend, such as a specific design rule shrink. In today’s market, the leading semiconductor manufacturers are investing in bringing a multitude of new technologies into production at the same time, including copper interconnects, new materials, sub-0.10 micron design rules and 300-mm wafers (the next larger wafer size, from which more than twice as many ICs can be produced as from 200-mm wafers).

While many of these technologies have been adopted at the development and pilot production stages, significant challenges and risks associated with each technology have slowed their adoption into full-volume production. For example, as design rules decrease, yields become more sensitive to the size and density of defects, while device performance characteristics (namely speed or capacity) become more sensitive to such parameters as linewidth and film thickness variation. Copper introduces new physical defects, which are harder to find within the interconnect structure, as well as electrical defects, which cannot be detected using conventional optical inspection systems. New process materials like low-k dielectrics, silicon-on-insulator (“SOI”) and 193-nm photoresists require extensive characterization before they can be made manufacturable. Larger 300-mm wafers are more susceptible to damage than 200-mm wafers, since they can bend or bow twice as much, creating stress on the wafer that can result in yield loss. Film uniformity is also more difficult to maintain on these larger wafers. Moving several of these advanced technologies into production at once only adds to the risks that chipmakers face, since technical challenges in bringing any one of these into production could also slow the adoption of the other technologies.

Our key activities during fiscal year 2004 involved the development of new process control and yield management tools that enable chipmakers to accelerate the adoption of these new technologies into full-volume production, while minimizing their associated risks. With our portfolio of application-focused technologies and our dedicated yield technology expertise, we are in a position to be the single source for comprehensive yield management solutions that enable our customers to achieve first-to-market success for their next-generation products.

The continuing evolution of semiconductor devices to smaller linewidth geometries and more complex multi-level circuitry has significantly increased the cost and performance requirements of the capital equipment used to manufacture these devices. Construction of an advanced wafer fabrication facility today can cost over \$3 billion, a substantial increase over the cost of previous-generation facilities. As a result, chipmakers are demanding increased productivity and higher returns from their manufacturing equipment. Our process control and yield management equipment enables our customers to better leverage these increasingly expensive facilities and significantly improve their return on investment ("ROI")—helping them to become low-cost producers.

Our Process Control and Yield Acceleration Solutions

Accelerating the yield ramp and maximizing the production yields of high-performance devices are key goals of modern semiconductor manufacturing. Achieving higher yields faster, along with higher performance characteristics, increases the revenue a manufacturer can obtain from each semiconductor wafer. Our systems are used to analyze product and process quality at critical points in the wafer, photomask and IC manufacturing process, and provide feedback to our customers so that fabrication problems can be identified, addressed and eliminated. This ability to locate the source of defects and other process issues, as well as contain them, enables our customers to improve control over their manufacturing processes, as well as increase their yields and device value—thus maximizing their ROI and lowering their manufacturing costs.

The following are some of the methods used to accelerate yields and optimize device performance, all of which require the capture and analysis of data gathered through many measurements:

Engineering analysis: This method of analysis is performed offline from the manufacturing process to identify, analyze and locate the source of defects or other manufacturing process issues. Engineering analysis equipment operates with very high sensitivity to enable comprehensive analysis of wafers. Because this method operates off the manufacturing line, high operational speeds are not required.

Inline monitoring: This method of analysis is used to review the status of ICs during production. Information generated is used to determine whether the fabrication process steps are within required tolerances. It is also used to make any necessary real-time process adjustments before wafer lots move to subsequent process stations. Because information related to defects is needed quickly, inline monitoring requires both high throughput and high sensitivity.

Pass/fail tests: This method of analysis may be used at several different points in the manufacturing process to evaluate whether products meet performance specifications.

The most significant opportunities for yield and device performance improvement generally occur either when production is started at new factories or technology shifts in existing factories. Equipment that helps a manufacturer quickly increase new product yields and optimize device performance enables the manufacturer to offer these new products in high volumes early in the product lifecycle—the time when they are likely to generate the greatest profits.

Products

We operate in one operating segment for the design, manufacture and marketing of process control and yield management systems for the semiconductor and related microelectronics industry. We market and sell our hardware—consisting of patterned and unpatterned wafer inspection, optical overlay metrology, e-beam review, reticle and photomask inspection, spectroscopic- and e-beam-based CD metrology, and film and surface measurement tools—as well as our advanced yield analysis and defect classification software to provide fab-wide yield management solutions that are optimized for the manufacturing process cells used in IC production, including lithography, etch, deposition and chemical mechanical planarization (“CMP”). Our offerings can be broadly categorized into four groups: Defect Inspection, Metrology, Customer Service and Support, Yield Management Software Solutions and Data Storage. In addition we provide to our customers manufacturing with older technologies, refurbished KLA-Tencor certified tools along with warranty and support.

Defect Inspection

Our defect inspection tools are used to detect, count, classify and characterize particles, pattern defects, surface anomalies and electrical failures both inline at various manufacturing process stages and offline during engineering analysis. Our portfolio includes the tools necessary for our customers to detect, correlate and analyze physical and electrical defects, as well as determine and correct their cause.

High-Resolution Imaging Inspection

Our 2xxx wafer inspection series, first introduced in 1992, set the standard for high-sensitivity patterned wafer inspection through a unique combination of high-speed image processing, an ultra-broadband brightfield illumination source and our Segmented Auto Threshold technology. Earlier this year, we introduced our latest-generation high-resolution imaging inspection system, the 2365, which incorporates multiple-bandwidth brightfield illumination and other enhancements to extend the performance of the 2xxx series to the 90-nm node and below.

High-Speed Laser Scattering Inspection

Our advanced inspection technology (“AIT”) wafer inspection family is designed to provide fast and accurate feedback on process tool performance, as well as advanced line monitoring for films, CMP, and non-critical etch and photo modules. The AIT series uses double-darkfield technology, which is a low-angle illumination technique particularly effective for detecting defects on planar surfaces such as post-CMP wafers. First introduced in 1995, the AIT platform has been continually enhanced over the years with increasing levels of sensitivity and throughput to address the inspection needs for sub-100-nm design rules.

Earlier this fiscal year, we unveiled the ^{AIT}Fusion XUV, our latest-generation double-darkfield ultraviolet (“UV”) optical inspection tool designed to meet the stringent demands associated with 65-nm device geometries and their associated materials. The tool is especially effective in inspecting CMP layers, copper/low-k interconnects, and multi-layer film stacks.

Electrical Line Monitoring

For advanced IC manufacturing, e-beam inspection is essential—not only during IC development, where the highest levels of sensitivity are needed to root out electrical defects, but also in production, where dedicated high-speed e-beam inspection systems are required at key process steps. Our μ Loop™ (MicroLoop) methodology, introduced in 2001, provides a fab-wide framework of solutions that accelerates yield learning for new semiconductor processes in development and production. eD₀, the first product in the μ Loop family, combines non-contact electrical test with inline physical defect inspection to produce a fast root-cause analysis.

In 2003, we introduced the latest addition to our eSxx series of e-beam inspection systems, called eS30. The successor to our widely adopted eS20XP tool, the eS30 delivers better throughput, sensitivity and image resolution capability than its predecessor, while allowing users to classify defects in real time and trend by defect type. The eS30 provides the sensitivity needed for advanced process development down to the 65-nm node.

E-beam Defect Review

In 2000, we introduced the eV300 defect review system—an advanced, automated scanning electron microscope (“SEM”) designed to gather and analyze defect excursion information, as well as report the results with the improved sensitivity required at 130-nm and smaller design rules. The eV300 provides topographical information to enable accurate defect classification.

Wafer Surface Inspection

The wafer substrate is the foundation of an IC. Having a defect-free wafer substrate is essential, since defects on the surface of the wafer can adversely affect subsequent semiconductor processes and ultimately impact IC performance. In the IC fab, wafer surface inspection is often used to qualify new process tools quickly in order to begin making product wafers as soon as possible. Wafer surface inspection is also critical for monitoring the defect performance of fab equipment during production to ensure they remain within specification.

In 1997, we introduced the Surfscan SP1™ series, which is today considered the de facto standard for bare wafer qualification, process monitoring and equipment monitoring applications. The latest member of the Surfscan SP1 family, the Surfscan SP1^{DLS}, was the first 300-mm tool to provide brightfield, darkfield and surface roughness information in a single scan. It has the sensitivity to capture a wide variety of defects as small as 50-nm at high throughput speeds. This past fiscal year, we also unveiled our next-generation Surfscan platform, the Surfscan SP2, incorporates a proprietary new UV illumination technology, which significantly enhances inspection sensitivity and speed. The system is capable of detecting defects as small as 30-nm, and is able to provide defect detection on engineered substrates, such as SOI, strained silicon, and strained SOI. Wafer backside defects can have a significant impact on wafer and process uniformity, both of which are critical issues in advanced 300-mm processing. In 2002, we unveiled a new Backside Inspection Module (“BSIM”) option for the Surfscan SP1 series that provides an automated, non-destructive inspection solution for the backsides of patterned production wafers.

Macro After-Develop Inspection

Macro defects, which can ruin the entire wafer, are costly to chipmakers in 300-mm production, since more than twice the number of die are at risk with these larger wafers compared to 200-mm wafers. With the introduction of the 2401 macro defect inspection system in 1999 we enabled our customers to automate after-develop inspection (“ADI”) for macro defects. Designed to replace inefficient manual macro ADI, the 2401 is an automated inspection system able to detect and classify front-end macro lithographic defects, which are 50 microns and larger in size. In 2001, we introduced the 2430 macro ADI series, which brought the benefits of the 2401 to 300-mm production.

Photo Cell Monitoring

The introduction of thinner photoresists, new resist chemistries, tighter process windows and smaller design rules have all given rise to new and smaller defect types within the lithography cell—a large area of investment within the fab. Defect management in the lithography cell is thus critical for qualifying new lithography processes and establishing a benchmark for controlling defects and minimizing yield losses during production. In 2002, we introduced our μ PCM (Micro Photo Cell Monitor) solution to provide fabs with a methodology for identifying and eliminating lithography-related micro defects before product lots are placed at risk. Combining our most advanced defect management hardware and software tools, a new proprietary reticle design, optimized test wafers and industry-leading expertise, μ PCM provides the high sensitivity and capture rate required for reducing lithography-related micro defects. It monitors the health of the lithography cell and enables chipmakers to make rapid and accurate “go/no-go” decisions about their product reticles, track systems and exposure tools.

Reticle Inspection

Error-free reticles are the first step in ensuring high yields in the manufacturing process, since defects in reticles can be replicated on wafers. Reticles are high-precision quartz plates that contain microscopic images of electronic circuits. Placed into steppers or scanners, these reticles are used to transfer circuit patterns onto wafers to fabricate ICs. The extension of optical lithography below the 130nm node has resulted in the mask error enhancement factor, where reticle defects once too small to print on the wafer become enhanced in the lithography process to create yield-killing wafer defects.

In 2000, we unveiled our TeraStar™ reticle inspection system for high-resolution reticle inspection down to the 90-nm node. With its ability to inspect up to a terapixel (one million by one million pixels) per reticle, TeraStar provides significant improvements in throughput compared to previous-generation systems. Tera™ algorithms enable the inspection of smaller linewidth geometries and complex resolution enhancement techniques, such as optical proximity correction (“OPC”) assist features and phase shift masks (“PSMs”). Its high throughput and sensitivity make TeraStar ideal for pre- and post-pelliclization inspection in photomask manufacturing operations, as well as incoming quality control and reticle re-qualification in wafer fabs.

Reticle CD errors are a major cause of yield loss in IC manufacturing at the 130-nm node and below. In 2002, we introduced a new option on TeraStar, called TeraFlux™, which detects minute but relevant CD errors on contact- and via-layer reticles prior to their first use in the wafer fab. TeraFlux measures the energy that passes through the contact hole and compares it to another reference—either die or database—to look for unexpected energy variations. This enables the TeraStar system to capture reticle CD defects, such as incorrectly sized contacts or semi-transparencies—both of which will adversely affect the amount of light passing through the contact holes during the lithography process. By capturing these critical defects during reticle inspection and qualification, TeraFlux enables chipmakers to ramp their deep sub-wavelength lithography processes into production, while minimizing the costs associated with scrapped wafers.

In 2003, we introduced TeraScan™, the successor to TeraStar. A DUV reticle inspection tool developed for sub-90-nm IC production, TeraScan offers high sensitivity to detect classical defects (intrusions, extrusions and point defects) as small as 80-nm, and CD defects as small as 50-nm. TeraScan has the ability to inspect nearly any type of photomask used in IC production, regardless of reticle wavelength and resolution enhancement technology, for sub-90-nm design rules.

Metrology

Our metrology or process window optimization products provide virtually all of the critical measurements fabs require to manage their advanced manufacturing processes. With our unique combination of overlay, critical dimension, film thickness and reflectivity measurements, IC manufacturers have the capabilities to maintain tight control of their lithography, etch, deposition and CMP processes.

Optical Overlay

Decreasing linewidths, larger die sizes and increasing numbers of layers in semiconductor devices all affect the tolerances for layer-to-layer matching, or overlay, and can result in overlay misregistration errors—a crucial cause of yield loss. Metrology systems are needed to measure the alignment between different layers of the semiconductor device to ensure overlay parameters are kept within specification.

In 2001, we unveiled Archer 10, which enables overlay measurements to within 2-nm for sub-130-nm and 300-mm production. To augment the performance of the Archer 10, we introduced a new software tool in 2002 called Archer Analyzer that conducts fully automated, real-time, on-tool overlay metrology analysis. Seamlessly integrated with the Archer 10, Archer Analyzer provides information, such as wafer lot dispositioning and stepper correction data, which helps chipmakers eliminate unnecessary wafer rework and quickly address variations in the performance of their lithography tools to minimize yield loss.

In fiscal year 2004, we introduced Archer AIM, which leverages a grating-style target technology to capture design-rule overlay errors and improve the accuracy of stepper corrections. Archer targets are denser than traditional box-in-box targets, resulting in the collection of more process information for improved correlation to in-device overlay performance.

Focus-exposure control in lithography is a key challenge for CD control at the 130-nm node and below. Unseen lithography focus-exposure excursions can result in CD process variations that lead to lower yields, cause unnecessary and costly rework, and reduce scanner productivity. Monitoring focus and exposure variations inline is thus critical to maintaining tight CD control at these advanced design rules. A new option on our Archer overlay metrology platform, called MPX, enables lithographers to detect and control stepper defocus and exposure variations on product wafers non-destructively. Leveraging dual-tone-design targets and analysis software, MPX can simultaneously provide separate exposure and focus measurements on product wafers with a high degree of sensitivity and precision. This enables MPX to provide fast and accurate feedback on the key parameters needed to maintain tight CD control without requiring periodic offline monitoring of the exposure tool.

E-Beam CD Metrology

Every nanometer in CD variation in the IC manufacturing process affects device performance, which consequently impacts yield and bottom-line profitability. The eCD-1, which we introduced in fiscal year 2004, offers the precision and resolution needed to meet the CD metrology performance requirements for the 90-nm node and beyond. The eCD-1 is based on a new platform, and all of its design aspects have been precision suited for 90-nm node metrology requirements, with extendibility to the 65-nm node. eCD-1 is well suited for applications involving 193-nm lithography and very-high-aspect-ratio structures.

Our pQC™ (“Pattern Quality Confirmation”) software enables the eCD-1 to provide inline, real-time monitoring of feature shape integrity during the patterning process—enabling the detection of subtle variations in feature shape that can occur at and below the 130-nm node and go undetected by traditional CD SEM measurements. Our 8250-R reticle CD control system provides precise and high-throughput measurements on advanced reticles used in the production of sub-130-nm devices.

Spectroscopic CD Metrology

Traditional CD linewidth measurements are no longer sufficient by themselves for providing all the information that chipmakers need to accurately predict yield and transistor performance. Today, complete feature profile information is needed, including CD, sidewall angle, height and depth. Contact hole profile measurements are also critical, since contact hole sizes that are significantly reduced or closed at the bottom of the structure can result in significant yield loss.

This fiscal year, we unveiled SpectraCD 100—our next-generation inline optical CD metrology system for advanced patterning process control at the 90-nm and 65-nm nodes. SpectraCD 100 utilizes a new hardware platform and advanced 3-D modeling capabilities to conduct complete profile measurements of yield-critical structures with a two-fold improvement in precision and tool-to-tool matching over our previous-generation SpectraCD system. These capabilities, coupled with SpectraCD 100’s production throughput and ability to non-destructively measure features down to 30-nm, provide chipmakers with an effective inline process control and product dispositioning tool for their most critical patterning steps.

Film Measurement

Our film measurement products measure a variety of optical and electrical properties of thin films. These products are used to control a wide range of wafer fabrication steps, where both within-wafer and wafer-to-wafer process uniformity are of paramount importance to semiconductor manufacturers—enabling them to achieve high device performance characteristics at low cost.

In 2002, we unveiled SpectraFx 100, our latest-generation thin-film metrology system, which delivers the precision, matching and stability required for advanced film-measurement applications for 90-nm device production, including 193-nm lithography processes. Designed to fully support next-generation and “operator-free” 300-mm fabs with automation and tool-to-tool matching capabilities, SpectraFx 100 enables foundries and other multi-product high-volume chip manufacturers to reduce the process development time for advanced materials and accelerate their adoption into volume production. These materials include 193-nm photoresists, complex copper dual-damascene film stacks, and low-k and high-k dielectrics. AccuFilm, an advanced option on the SpectraFx 100, eliminates the effects of airborne molecular contamination (“AMC”) on ultra-thin-film measurements. A key roadblock to achieving control of advanced gate processes below the 100-nm node, AMC grows rapidly on film surfaces and degrades the accuracy and repeatability of gate dielectric metrology. AccuFilm enables SpectraFx 100 to remove these contaminants from product wafers in a matter of seconds before taking film measurements at each measurement site without placing product at risk.

This past fiscal year, we introduced MetriX 100, an inline, non-contact metal films metrology system to provide independent measurements of both film composition and thickness on product wafers. MetriX 100 can be used for a wide range of applications—ranging from process development and characterization of ultra-thin atomic layer deposition (“ALD”) barrier films to routine production monitoring of copper barrier/seed and other yield-limiting critical layers such as silicon oxynitride (“SiON”) gate dielectrics.

Contamination Monitoring

Gate dielectric quality is critical to the speed and reliability of an IC. Below the 130-nm node, dielectrics become so thin (less than 20 angstroms, or the equivalent of 2 nm) that electrical performance characteristics of the dielectric films become just as critical as physical characteristics in determining overall transistor performance. Our Quantox™ product line provides non-contact, inline electrical performance measurements of key parameters that determine the quality of advanced gate dielectric films, including contamination and oxide thickness, as well as electrical capacitance and leakage.

Our latest addition to this product family, called Quantox XP, provides information on both the physical and electrical properties of advanced gate dielectric materials. These materials include SiON and high-k dielectrics, which are required for sub-130-nm IC production. Quantox XP data provides high correlation to device electrical test data, enabling chipmakers to predict transistor performance inline, rather than having to wait until end-of-line electrical test—a process that normally can take days or weeks to complete.

Surface Metrology

Our Stylus profilers measure the surface topography of films and etched surfaces, and are used in basic research and development as well as semiconductor production and quality control. The latest generation of our HRP® high resolution profilers, the HRP-240^{ETCH}, combines the dishing and erosion measurement capabilities of our long-scan profilers with high-aspect-ratio etched feature measurement capability, which has historically been limited to atomic force microscopes (“AFM”). This allows customers to monitor their critical etch processes, such as shallow trench isolation (“STI”) and dual-damascene via/trench. We also provide stress measurement systems and capabilities, such as our new wafer bow and wafer stress option for our ASET-F5x and SpectraFx 100 thin-film metrology tools, which detects reliability-related problems such as film cracking, voiding and lifting.

AFM has become a necessary technology for measuring trench depths and CMP processes, especially at the 90-nm node and below. Until now, however, traditional AFMs have lacked the throughput and reliability needed to monitor these processes effectively on the production floor. Our new AF-LM 300 system, introduced in fiscal year 2004, is the first true line monitoring solution for trench depth and surface planarity process control at the 90-nm and 65-nm nodes

Yield Management Software Solutions

Our productivity and analysis software systems translate raw inspection and metrology data into patterns that reveal process problems and help semiconductor manufacturers develop long-term yield improvement strategies.

Yield /Data Analysis and Management

In 1999, we acquired Taiwan-based ACME Systems, Inc., a provider of yield correlation software. Combining the newly acquired technology from ACME with our own yield management expertise led to the development of our Klarity ACE yield analysis software, which helps our customers quickly identify the source of defects and process problems, as well as correct them. With our acquisition of FINLE Technologies in 2000, we developed our Klarity ProDATA lithography data analysis software, which, along with our PROLITH lithography and etch simulation software, helps manufacturers reduce their advanced lithography development time and cost.

Our IMPACT XP™ automated defect classification (“ADC”) software provides consistent and accurate classification of yield-limiting defects to help our customers accelerate their ramp to higher process yields. IMPACT XP incorporates our SmartGallery™ tool, which reduces the setup time associated with ADC implementation in fabs. This is a critical requirement, particularly for foundries and application specific integrated circuit (“ASIC”) manufacturers, who specialize in short runs of multiple products. Our Real Time Classification™ (“RTC”) and inline ADC (“iADC”) technologies, which provide classification and binning of defect types in real time during inspection, are critical features on all of our latest-generation e-beam and optical inspection tools.

Our recipe management service, called iRecipe™, allows factory engineers to quickly and easily access existing recipes and associated information that reside on a central database from any personal computer that is connected to the fab intranet. By integrating iRecipe into their fab network, chipmakers can reduce their inspection and metrology tool CoO, as well as improve their overall fab efficiency.

Data Storage Industry

Outside the semiconductor industry, we manufacture, sell and service yield management solutions to the data storage market, with offerings for hard disk drive and component makers. In the front-end of thin film head wafer manufacturing, we are the leading provider of the same process control equipment with which we serve the semiconductor industry, with particular strength in photolithography control. In the back-end of head manufacturing, we are the leading provider of a range of test equipment, including fly-height and head resonance testers, CD-SEMs and high-resolution surface profilers. Additionally, we are leveraging our expertise in magnetics to meet customers' needs in the emerging magnetic random access memory ("MRAM") market.

Customer Service and Support

We enhance the value of our products through our customer service and support programs, which provide comprehensive worldwide service and support across all of our product lines. We also offer yield technology services to improve our customers' return on investment ("ROI").

Global Support Services

Our customer support organization is responsible for much of the support of our customers following the shipment of the equipment and software, including on-site repair, telephone support, system installation, relocation services and selected post-sales applications.

Our educational services offer a comprehensive selection of technical courses—from maintenance and service training to basic and advanced applications and operation. We offer both standard and customized courses for individuals and groups, at the user's location or at any of our three training facilities. We also offer self-paced learning packages, including video, computer-based training and study plans.

Yield Technology Services

Our Yield Technology Services group provides the systems, software and yield management expertise to speed the implementation of customers' yield improvement programs. This practice provides a broad range of services and support, including new fab yield management solution planning, factory and field customer applications training, dedicated ramp management support, integrated yield management consulting and applications support for effective solution implementation, and regional customer response centers with remote-access diagnostics. Use of our consulting practice provides accelerated yield learning rates and improved device performance.

Customers

To support our growing, global customer base, we maintain a significant presence throughout the United States, Europe, Asia-Pacific and Japan, staffed with local sales and applications engineers, customer and field service engineers and yield management consultants. We count among our largest customers leading semiconductor manufacturers from each of these regions. In fiscal year 2004 no single customer accounted for more than 10% of our total revenues. In 2003, one customer (Intel Corporation) accounted for 11% of our total revenues. In fiscal year 2002, no single customer accounted for more than 10% of our total revenues.

Our business depends upon the capital expenditures of semiconductor manufacturers, which in turn depend on the current and anticipated market demand for ICs and products utilizing ICs. We do not consider our business to be seasonal in nature, but it is cyclical with respect to the capital equipment procurement practices of semiconductor manufacturers and is impacted by the investment patterns of such manufacturers in different global markets. Downturns in the semiconductor industry or slowdowns in the worldwide economy could have a material adverse effect on our future business and financial results.

Sales, Service and Marketing

Our sales, service and marketing efforts are focused on building long-term relationships with our customers. We focus on providing a single and comprehensive resource for the full breadth of process control and yield management products and services. Customers benefit from the simplified planning and coordination, as well as the increased equipment compatibility found when dealing with a single supplier. Our revenues are derived primarily from product sales, principally through our direct sales force and, to a lesser extent, through distributors.

We believe that the size and location of our field sales, service and applications engineering, and marketing organizations represent a competitive advantage in our served markets. We have direct sales forces in the United States, Europe, Asia-Pacific and Japan. We maintain an export compliance program that is designed to fully meet the requirements of the United States Departments of Commerce and State.

As of June 30, 2004, we employed over 2,500 sales and related personnel, service engineers and applications engineers. In addition to sales and service offices in the United States, we conduct sales, marketing and services out of wholly-owned subsidiaries or branches of United States subsidiaries in a variety of countries, including China, France, Germany, Israel, Italy, Japan, South Korea, Malaysia, Singapore, Taiwan, Thailand and the United Kingdom. International revenues accounted for approximately 77%, 69%, and 67% of our total revenues in fiscal 2004, 2003, and 2002 respectively. Additional information regarding our revenues from foreign operations for our last three fiscal years can be found in Note 11 of the Notes to the Consolidated Financial Statements found under Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K.

We believe that sales outside the United States will continue to be a significant percentage of our total revenues. Our future performance will depend, in part, on our ability to continue to compete successfully in Asia, one of the largest markets for the sale of yield management services in process monitoring equipment. Our ability to compete in this area is dependent upon the continuation of favorable trading relationships between countries in the region (especially Taiwan, China, Japan and South Korea) and the United States, and our continuing ability to maintain satisfactory relationships with leading semiconductor companies in the region.

International sales and operations may be adversely affected by imposition of governmental controls, restrictions on export technology, political instability, trade restrictions, changes in tariffs and the difficulties associated with staffing and managing international operations. In addition, international sales may be adversely affected by the economic conditions in each country. The revenues from our international business may also be affected by fluctuations in currency exchange rates. Although we attempt to manage the currency risk inherent in non-dollar sales through hedging activities there can be no assurance that such efforts will be adequate. These factors could have a material adverse effect on our future business and financial results.

Backlog

Our backlog for system shipments and associated warranty totaled \$867 million at June 30, 2004. We include in our backlog only those customer orders for which we have accepted purchase orders and assigned shipment dates within twelve months. We exclude from backlog orders for non-released products. We expect to fill the present backlog of orders during fiscal year 2005; however, all orders are subject to cancellation or delay by the customer with limited or no penalty. Due to possible customer changes in delivery schedules and to cancellation of orders, our backlog at any particular date is not necessarily indicative of actual sales for any succeeding period.

Research and Development

The market for yield management and process monitoring systems is characterized by rapid technological development and product innovation. These technical innovations are inherently complex and require long development cycles and appropriate professional staffing. We believe that continued and timely development of new products and enhancements to existing products are necessary to maintain our competitive position. Accordingly, we devote a significant portion of our human and financial resources to research and development programs and seek to maintain close relationships with customers to remain responsive to their needs. As part of our customer relationships, we may enter into certain strategic development and engineering programs whereby our customers offset certain of our research and development costs.

Our key research and development activities during fiscal year 2004 involved development of process control and yield management equipment, especially reticle inspection and advanced wafer inspection for smaller feature sizes, copper-based devices and 300-mm wafers. For information regarding our research and development expenses during the last three fiscal years, including costs offset by our strategic development and engineering programs, see Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this Annual Report on Form 10-K.

In order to make continuing developments in the semiconductor industry, we are committed to significant engineering efforts toward both product improvement and new product development. New product introductions may contribute to fluctuations in operating results, since customers may defer ordering existing products. If new products have reliability or quality problems, those problems may result in reduced orders, higher manufacturing costs, delays in acceptance of and payment for new products, and additional service and warranty expenses. On occasion, we have experienced reliability and quality problems in connection with certain product introductions, resulting in some of these consequences. There can be no assurance that we will successfully develop and manufacture new hardware and software products, or that new hardware and software products introduced by us will be accepted in the marketplace. If we do not successfully introduce new products, our results of operations will be affected adversely.

Manufacturing, Raw Materials and Supplies

We perform system design, assembly and testing in-house and utilize an outsourcing strategy for the manufacture of components and major subassemblies. Our in-house manufacturing activities consist primarily of assembling and testing components and subassemblies that are acquired through third-party vendors and integrating those subassemblies into our finished products. Our principal manufacturing activities take place in San Jose and Milpitas, California, with additional operations in San Diego and Hayward, California, and Migdal Ha'Emek, Israel. As of June 30, 2004, we employed approximately 1,100 manufacturing and 1,100 engineering personnel.

Many of the parts, components and subassemblies (collectively "parts") are standard commercial products, although certain parts are made to our specifications. We use numerous vendors to supply parts for the manufacture and support of our products. Although we make reasonable efforts to ensure that these parts are available from multiple suppliers, this is not always possible; and certain parts included in our systems may be obtained only from a single supplier or a limited group of suppliers. We endeavor to minimize the risk of production interruption by selecting and qualifying alternative suppliers for key parts, by monitoring the financial condition of key suppliers and by ensuring adequate inventories of key parts are available to maintain manufacturing schedules.

Although we seek to reduce our dependence on sole and limited source suppliers, in some cases the partial or complete loss of certain of these sources could disrupt scheduled deliveries to customers, damage customer relationships and have a material adverse effect on our results of operations.

Competition

The worldwide market for process control and yield management systems is highly competitive. In each of our product markets, we face competition from established and potential competitors, some of which may have greater financial, research, engineering, manufacturing and marketing resources than us, such as Applied Materials, Inc. and Hitachi Electronics Engineering Co., Ltd. We may also face future competition from new market entrants from other overseas and domestic sources. We expect our competitors to continue to improve the design and performance of their current products and processes and to introduce new products and processes with improved price and performance characteristics. We believe that to remain competitive, we will require significant financial resources to offer a broad range of products, to maintain customer service and support centers worldwide, and to invest in product and process research and development.

Significant competitive factors in the market for process control and yield management systems include system performance, ease of use, reliability, installed base and technical service and support. We believe that, while price and delivery are important competitive factors, the customers' overriding requirement is for systems that easily and effectively incorporate automated and highly accurate inspection and metrology capabilities into their existing manufacturing processes, thereby enhancing productivity.

Our process control and yield management systems for the semiconductor industry are intended to compete based upon performance and technical capabilities. These systems may compete with less expensive and more labor-intensive manual inspection devices.

Management believes that we are well positioned with respect to both our products and services. However, any loss of competitive position could negatively impact our prices, customer orders, revenues, gross margins, and market share, any of which would negatively impact our operating results and financial condition.

Acquisitions

We continuously evaluate a course of strategic acquisitions and alliances to expand our technologies, product offerings and distribution capabilities. Acquisitions involve numerous risks, including management issues and costs in connection with integration of the operations, technologies and products of the acquired companies, possible write-downs of impaired assets, and the potential loss of key employees of the acquired companies. The inability to manage these risks effectively could negatively impact our operating results and financial condition.

Patents and Other Proprietary Rights

We protect our proprietary technology through reliance on a variety of intellectual property laws, including patent, copyright and trade secrets. We have filed and obtained a number of patents in the United States and abroad and intend to continue to pursue the legal protection of our technology through intellectual property laws. In addition, from time to time we acquire license rights under United States and foreign patents and other proprietary rights of third parties.

Although we consider patents and other intellectual property significant to our business, due to the rapid pace of innovation within the process control and yield management systems industry, we believe that our protection of patent and other intellectual property rights is less important than factors such as our technological expertise, continuing development of new systems, market penetration, installed base and the ability to provide comprehensive support and service to customers.

No assurance can be given that patents will be issued on any of our applications, that license assignments will be made as anticipated, or that our patents, licenses or other proprietary rights will be sufficiently broad to protect our technology. No assurance can be given that any patents issued to or licensed by us will not be challenged, invalidated or circumvented or that the rights granted hereunder will provide us with a competitive advantage. In addition, there can be no assurance that we will be able to protect our technology or that competitors will not be able to independently develop similar or functionally competitive technology.

Employees

As of June 30, 2004, we employed approximately 5,200 persons. None of our employees are represented by a labor union. We have experienced no work stoppages and believe that our employee relations are good.

Competition is intense in the recruiting of personnel in the semiconductor and semiconductor equipment industry. We believe that our future success will depend in part on our continued ability to hire and retain qualified management, marketing and technical employees.

ITEM 2. PROPERTIES

Information regarding our principal properties at June 30, 2004 is set forth below:

Location	Type	Principal use	Footage	Ownership
Phoenix, AZ	Office	Sales and Service	9,736	Leased
Hayward, CA	Plant	Manufacturing	14,150	Leased
Livermore, CA	Office and plant	Engineering, Manufacturing, and Service	241,252	Owned ⁽¹⁾
Milpitas, CA	Office, plant and warehouse	Research, Engineering, Marketing, Manufacturing, Service and Sales Administration	727,302	Owned
San Diego, CA	Office, plant and warehouse	Research, Engineering, Marketing, Manufacturing and Service	36,985	Leased
San Jose, CA	Office and plant	Research, Engineering and Manufacturing	17,080	Leased
San Jose, CA	Office, plant and warehouse	Corporate Headquarters, Research, Engineering, Marketing, Manufacturing, Service and Sales Administration	47,114	Leased
Colorado Springs, CO	Office	Sales and Service	6,902	Owned
Portsmouth, NH	Office	Sales and Service	6,000	Leased
Beaverton, OR	Office	Sales and Service	13,075	Leased
Austin, TX	Office	Sales, Service and Research	28,415	Leased
Richardson, TX	Office	Sales and Service	14,989	Leased
Boise, ID	Office	Sales and Service	5,965	Leased

Albuquerque, NM	Office	Sales and Service	5,210	Leased
Hopewell Junction, NY	Office	Sales and Service	8,736	Leased
Essex Junction, VT	Office	Sales and Service	5,704	Leased
Shanghai, China	Office	Sales, Service, and Warehouse	55,886	Leased
Wokingham and Basingstoke, England	Office	Sales and Service	11,425	Leased
Meylan, Corbeil, and Rousset, France	Office	Sales and Service	18,067	Leased
Dresden and Puchheim, Germany	Office	Sales and Service, Warehouse	14,007	Leased
Migdal Ha'Emek and Herzliya, Israel	Office and plant	Research, Engineering, Marketing, Manufacturing and Service and Sales Administration	64,584	Leased
Milan, Avezzano, and Catania, Italy	Office	Sales and Service	10,332	Leased
Yokohama, Japan	Office	Sales, Service, and Warehouse	48,018	Leased
Singapore	Office	Sales and Service	23,465	Leased
Kiheung, South Korea	Office	Sales and Service	11,579	Leased
Hsinchu, Taiwan	Office	Sales and Service	95,950	Leased

(1) Currently approximately half of the Livermore, California facility is being utilized for engineering, manufacture and service operations.

We also lease office space for other, smaller sales and service offices in several locations throughout the world. Our operating leases expire at various times through June 30, 2015 with renewal options at the fair market value for additional periods up to five years. Additional information regarding these leases is incorporated by reference from Note 8 of the Notes to the Consolidated Financial Statements found under Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K. We believe our properties are adequately maintained and suitable for their intended use and that our production facilities have capacity adequate for our current needs.

ITEM 3. LEGAL PROCEEDINGS

We are named from time to time as a party to lawsuits in the normal course of our business. Litigation, in general, and intellectual property and securities litigation in particular, can be expensive and disruptive to normal business operations. Moreover, the results of complex legal proceedings are difficult to predict. We believe that we have a defense for the case set forth below and are vigorously contesting this matter.

On October 11, 2000, ADE Corporation (“ADE”), a competitor, filed a patent infringement lawsuit against us in the U.S. District Court in Delaware. ADE claimed damages and sought an injunction under U.S. Patent No. 6,118,525 (“‘525 patent”). We filed a counterclaim in the same court alleging that ADE has infringed four of our patents. We are seeking damages and a permanent injunction against ADE. In addition, we are seeking a declaration from the District Court that the ‘525 patent is invalid. On October 22, 2001, we filed a separate action for declaratory judgment against ADE in the Northern District of California requesting a declaration that U.S. Patent No. 6,292,259 (“‘259 patent”) is invalid and not infringed. That action was consolidated with the prior action in the Delaware proceeding and ADE amended its complaint in that proceeding to allege that we are infringing the ‘259 patent. On August 8, 2002, the magistrate presiding over the action in the U.S. District Court in Delaware issued a recommendation that the court enter summary judgment in our favor on the issue of non-infringement under ADE’s ‘525 patent. On the same day, the magistrate issued recommendations that the court enter summary judgment in favor of ADE on the issue of non-infringement of two of our patents. The district court judge subsequently substantially adopted the recommendations of the magistrate regarding claims construction. The district court judge has ruled in our favor and granted summary judgment of non-infringement regarding both the ‘525 and ‘259 patents. We have voluntarily withdrawn one of our patents from this suit, and we continued to pursue our claim that ADE infringes our US Patent No. 6,215,551 (“‘551 patent”). Our case against ADE’s alleged infringement of our patent went to trial on January 27, 2004 and on February 4, 2004, the court entered judgment in favor of ADE, ruling that the ‘551 patent is invalid. We have filed post-trial motions and are evaluating appeals, if needed.

Although we cannot predict the outcome of this claim, we do not believe that this legal matter will have a material adverse effect on us. Were an unfavorable ruling to occur, there exists the possibility of a material impact on our operating results for the period in which the ruling occurred and in future periods.

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

None.

PART II

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON STOCK, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

KLA-Tencor's common stock is traded on the NASDAQ Stock Market and is quoted on the NASDAQ National Market under the symbol KLAC. The price per share reflected in the following table represents the range of high and low closing prices for our common stock on the NASDAQ National Market for the periods indicated.

<i>2004</i>	High	Low
First Quarter	\$ 59.45	\$ 46.50
Second Quarter	60.88	52.63
Third Quarter	62.60	49.47
Fourth Quarter	53.88	41.70
<i>2003</i>	High	Low
First Quarter	\$ 46.30	\$ 26.63
Second Quarter	45.80	26.15
Third Quarter	41.41	31.64
Fourth Quarter	49.36	36.19

As of August 19, 2004, there were 975 stockholders of record of our common stock. We have never paid cash dividends to our stockholders and have no plans to pay cash dividends in the foreseeable future.

Equity Compensation Plans

The following table summarizes our equity compensation plans as of June 30, 2004:

	Number of securities to be issued upon exercise of outstanding options	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under stock option and ESPP plans
Equity compensation plans approved by stockholders ⁽¹⁾	20,879,143	\$ 34.00	14,252,016
Equity compensation plans not approved by stockholders ⁽²⁾	8,816,802	37.95	3,098,870
Total	29,695,945	\$ 35.11	17,350,886

(1) In July 2004, the Company reserved an additional 5,903,603 shares of its common stock in accordance with the provisions of the 1982 stock option plan.

(2) Officer's and directors are not eligible to receive options granted under the 2000 Nonstatutory Stock Option Plan. For a description of the material terms of the plan, see Note 6 of the Notes to the Consolidated Financial Statements found under Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K.

Following is a summary of stock repurchases for the quarter ended June 30, 2004 (in thousands, except average price per share):⁽¹⁾

Period	Total Number of Shares (or Units) Purchased ⁽²⁾	Average Price Paid per Share (or Unit)	Maximum Number of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
April 1, 2004 to April 30, 2004	377,000	\$ 46.19	3,733,000
May 1, 2004 to May 31, 2004	413,000	\$ 43.19	3,320,000
June 1, 2004 to June 30, 2004	24,500	\$ 46.35	3,295,500
Total	814,500	\$ 44.67	

(1) In July 1997, the Board of Directors authorized KLA-Tencor to systematically repurchase shares of its common stock in the open market. This plan was entered in order to reduce the dilution from KLA-Tencor's employee benefit and incentive plans such as the stock option and employee stock purchase plans. Since the inception of the repurchase program in 1997 through June 30, 2004 the Board of Directors had authorized KLA-Tencor to repurchase a total of 17.8 million shares, including 5 million shares authorized in October 2002. All such shares remain as treasury shares.

(2) All shares were purchased pursuant to the publicly announced plan.

ITEM 6. SELECTED FINANCIAL DATA

The following tables reflect selected consolidated summary financial data for each of the last five fiscal years. This data should be read in conjunction with Item 8, "Financial Statements and Supplementary Data," and with Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in this Annual Report on Form 10-K. The per share data shown below have been restated to reflect KLA-Tencor's two-for-one stock dividend, effective January 19, 2000.

*Year ended June 30,
(in thousands, except per share data)*

	2004	2003	2002	2001	2000
Consolidated Statements of Operations:					
Revenues	\$ 1,496,718	\$ 1,323,049	\$ 1,637,282	\$ 2,103,757	\$ 1,498,812
Income from operations	297,358	138,722	244,893	458,468	311,541
Income before cumulative effect of change in accounting principles	243,701	137,191	216,166	373,058	253,798
Cumulative effect of change in accounting principle, net of tax	—	—	—	(306,375)	—
Net income	243,701	137,191	216,166	66,683	253,798
Earnings per share:					
Income before cumulative effect of change in accounting principle					
Basic	1.25	0.72	1.15	2.01	1.39
Diluted	1.21	0.70	1.10	1.93	1.32
Cumulative effect of change in accounting principle, net of tax					
Basic	—	—	—	(1.65)	—
Diluted	—	—	—	(1.59)	—
Net income					
Basic	1.25	0.72	1.15	0.36	1.39
Diluted	1.21	0.70	1.10	0.34	1.32

June 30, (in thousands)

	2004	2003	2002	2001	2000
Consolidated Balance Sheets:					
Cash, cash equivalents and marketable securities	\$ 1,876,356	\$ 1,487,883	\$ 1,333,583	\$ 1,143,860	\$ 964,383
Working capital	1,279,873	1,155,327	931,798	912,861	1,056,927
Total assets	3,539,179	2,866,597	2,717,718	2,744,551	2,203,503
Stockholders' equity	2,627,550	2,215,541	2,030,228	1,760,466	1,708,676

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 in conjunction with our Consolidated Financial Statements and the related notes included in Item 8, "Financial Statements and Supplementary Data" in this Annual Report on Form 10-K. This discussion contains forward-looking statements, which involve risk and uncertainties. Our actual results could differ materially from those anticipated in the forward looking statements as a result of certain factors, including but not limited to those discussed in "Risk Factors" and elsewhere in this Annual Report on Form 10-K. (See "Special Note Regarding Forward-Looking Statements.")

CRITICAL ACCOUNTING ESTIMATES

The preparation of our Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions in applying our accounting policies that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We based these estimates and assumptions on historical experience, and evaluate them on an on-going basis to ensure they remain reasonable under current conditions. Actual results could differ from those estimates. We discuss the development and selection of the critical accounting estimates with the audit committee of our board of directors on a quarterly basis, and the audit committee has reviewed the Company's disclosure relating to them in this Annual Report on Form 10-K. The items in our financial statements requiring significant estimates and judgments are as follows:

Revenue Recognition We recognize revenue when persuasive evidence of an arrangement exists, the sale price is fixed or determinable, delivery has occurred or services rendered, and collectibility is reasonably assured. System revenue includes hardware and software that is incidental to the product. We generally recognize system revenue upon positive affirmation by the customer that the system has been installed and is operating according to pre-determined specifications. This positive affirmation is generally evidenced by an acceptance document signed by the customer. This change has the impact of prolonging the cycle time between order placement and revenue recognition. In limited cases, we allow for exceptions where we recognize system revenue upon shipment; these exceptions have accounted for approximately 4.9%, 3.1% and 2.5% of our revenue for the fiscal years ended 2004, 2003 and 2002, respectively. The increase in revenue exceptions results from multiple shipments of same tools that have already met the required acceptance criteria, to customers who are looking to expand capacity. (See Note 1 of Notes to Consolidated Financial Statements under "Revenue Recognition" for detailed description of exceptions.) Shipping charges billed to customers are included in system revenue and the related shipping costs are included in cost of revenues.

Revenue from software license fees is typically recognized upon shipment if collection of the resulting receivable is probable, the fee is fixed or determinable, and vendor-specific objective evidence exists to allocate a portion of the total fee to any undelivered elements of the arrangement.

Such undelivered elements in these arrangements typically consist of services and/or upgrades. If vendor-specific objective evidence does not exist for the undelivered elements of the arrangement, all revenue is deferred until such evidence does exist, or until all elements are delivered, whichever is earlier. In instances where an arrangement to deliver software requires significant modification or customization, license fees are recognized under the percentage of completion method of contract accounting. Allowances are established for potential product returns and credit losses.

Spare parts revenue is recognized when the product has been shipped, risk of loss has passed to the customer and collection of the resulting receivable is probable.

Service and maintenance revenue is recognized ratably over the term of the maintenance contract. If maintenance is included in an arrangement, which includes a software license agreement, amounts related to maintenance are allocated based on vendor specific objective evidence. Consulting and training revenue is recognized when the related services are performed.

The deferred system profit balance as of June 30, 2004 was \$285 million. This amount equals the amount of deferred system revenue that was invoiced and due on shipment less applicable product and warranty costs. The deferred profit balance increased from \$177 million at June 30, 2003 primarily because shipments were higher than customer acceptance for which revenue was recognized during fiscal year 2004.

We also defer the fair value of non-standard warranty bundled with equipment sales as unearned revenue. Non-standard warranty includes services incremental to the standard 40-hour per week coverage for twelve months. Non-standard warranty is recognized ratably as revenue when the applicable warranty term period commences. The unearned revenue balance increased to \$57 million at June 30, 2004 from \$48 million at June 30, 2003 primarily due to an increase in service contracts as our installed base of equipment at customers' sites continues to increase.

Inventory Reserves We review the adequacy of our inventory reserves on a quarterly basis. For production inventory, our methodology involves matching our on-hand and on-order inventory with our build forecast over the next twelve months. We then evaluate the parts found to be in excess of the twelve-month demand and take appropriate reserves to reflect the risk of obsolescence. For spare parts inventory, we match our on-hand inventory against twenty-four months of usage. We then evaluate the parts in excess of the twenty-four month usage and take appropriate reserves to reflect risk of obsolescence. Both methodologies are significantly affected by the usage assumption. The longer the time period of estimated usage, the lower the reserves are required. Based on our past experience, we believe the twelve-month/twenty-four month time periods best reflect the reasonable and relative obsolescence risks. If actual demand or usage were to be substantially lower than estimated, additional inventory adjustments for excess or obsolete inventory may be required, which could have a material adverse effect on our business, financial condition and results of operations. Inventory reserves, once established, are not reversed until the related inventory has been sold or scrapped.

Allowance for Doubtful Accounts A majority of our trade receivables are derived from sales to large multinational semiconductor manufacturers throughout the world. In order to monitor potential credit losses, we perform ongoing credit evaluations of our customers' financial condition. An allowance for doubtful accounts is maintained for potential credit losses based upon our assessment of the expected collectibility of all accounts receivable. The allowance for doubtful accounts is reviewed periodically to assess the adequacy of the allowance. We take into consideration (1) any circumstances of which we are aware of a customer's inability to meet its financial obligations; and (2) our judgments as to prevailing economic conditions in the industry and their impact on our customers. If circumstances change, and the financial condition of our customers were adversely affected resulting in their inability to meet their financial obligations to us, we may need to take additional allowances, which would result in a reduction of our net income.

Warranty We provide standard warranty coverage on our systems for 40 hours per week for twelve months, providing labor and parts necessary to repair the systems during the warranty period. We account for the estimated warranty cost as a charge to cost of revenues when revenue is recognized. The estimated warranty cost is based on historical product performance and field expenses. Utilizing actual service records, we calculate the average service hours and parts expense per system and apply the labor and overhead rates to determine the estimated warranty charge. We update these estimated charges every quarter. The actual product performance and/or field expense profiles may differ, and in those cases we adjust our warranty reserves accordingly. The difference between the estimated and actual warranty costs tends to be larger for new product introductions for which there is limited or no historical product performance on which to base the estimated warranty expense; more mature products with longer product performance histories tend to be more stable in our warranty charge estimates. Non-standard warranty generally includes services incremental to the standard 40-hour per week coverage for twelve months. Non-standard warranty is deferred as unearned revenue and is recognized ratably as revenue when the applicable warranty term period commences.

Contingencies and Litigation We are currently named as a party to various legal proceedings, including those disclosed in Part I, Item 3, "Legal Proceedings," in this Annual Report on Form 10-K. While we currently believe the ultimate outcome of this proceeding will not have a material adverse effect on our financial position, the results of complex legal proceedings are difficult to predict. We would accrue the cost of an adverse judgment if, in our estimation, the adverse settlement is probable and we can reasonably estimate the ultimate cost to us. We have made no such accruals as of June 30, 2004.

Income Taxes We account for income taxes in accordance with Statement of Financial Accounting Standard No. 109, "Accounting for Income Taxes," (SFAS 109) which requires that deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. SFAS 109 also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that a portion of the deferred tax asset will not be realized. We have determined that our future taxable income will be sufficient to recover all of our deferred tax assets. However, should there be a change in our ability to recover our deferred tax assets, we could be required to record a valuation allowance against our deferred tax assets. This would result in an increase to our tax provision in the period in which we determined that the recovery was not probable.

On a quarterly basis, we provide for income taxes based upon an annual effective income tax rate. The effective tax rate is highly dependent upon the geographic composition of worldwide earnings, tax regulations governing each region, availability of tax credits and the effectiveness of our tax planning strategies. We carefully monitor the changes in many factors and adjust our effective income tax rate on a timely basis. If actual results differ from these estimates, this could have a material effect on our financial condition and results of operations.

EXECUTIVE SUMMARY

New system and service orders for the fiscal year ended June 30, 2004 were 74% higher than the fiscal year ended June 30, 2003. The growth in orders is being driven by the need of our customers to expand both 200-mm and 300-mm capacity, advance existing capacity to next-generation processes, increase the efficiency of already operating production lines and overcome yield and reliability problems in next-generation pilot lines. For the fiscal year ended June 30, 2003 new system and service orders were 7% lower than the fiscal year ended June 30, 2002 due to the continued downturn in the semiconductor industry.

For the fiscal year ended June 30, 2004 our total revenues increased approximately 13% over fiscal year ended June 30, 2003, driven by increased customer demands. While our service revenue continues to grow in absolute dollar terms, most of the growth is being driven by increases in product revenues. Total revenues for the fiscal year ended June 30, 2003 were approximately 19% lower than the fiscal year ended June 30, 2002. This was primarily due to a decline in customer demand for our products as a result of the downturn in the semiconductor industry.

Gross margins for the fiscal year ended June 30, 2004 improved 6% compared to the fiscal year ended June 30, 2003. The main reason for the increase was the lower cost of building, installing and maintaining our products. Gross margin for the fiscal year ended June 30, 2003 declined by 1.0% compared to fiscal year ended June 30, 2002.

For the fiscal year ended June 30, 2004, research and development expenses were 5% higher compared to the fiscal year ended June 30, 2003, as we funded new product development programs. For the fiscal year ended June 30, 2003, research and development expenses declined 7% compared to the fiscal year ended June 30, 2002, due to completion of several projects that resulted in reductions in labor and material expense. Selling, general and administrative expenses decreased 2% for the fiscal year ended June 30, 2004 compared to the fiscal year ended June 30, 2003 and decreased 13% for the fiscal year ended June 30, 2004 compared with the fiscal year ended June 30, 2003 on account of various cost controls initiatives and reduced overhead support costs.

During the fiscal year ended June 30, 2004, we generated \$350 million in cash flow from operations. Cash, cash equivalents and marketable securities totaled \$1.9 billion as of June 30, 2004 compared to \$1.5 billion as of June 30, 2003.

We intend this executive summary as well as the discussion of our financial condition, results of operations and liquidity and capital resources that follows to provide information that will assist in understanding our financial statements, the changes in certain key items in those financial statements from year to year, and the primary factors that accounted for those changes, as well as how certain accounting principles, policies and estimates affect our financial statements.

Over the longer term, we expect process control to continue to represent a higher percentage of our customers' capital spending. We believe this increase in process control spending will be driven by the demand for more precise diagnostics capabilities to address multiple new defects as a result of further shrinking of device feature sizes, the transition to copper and other new materials, and the transition to new 300-millimeter fabs. We anticipate these factors will drive increased demand for our products and services.

New system and service orders by region were as follows (in millions):

	Fiscal Year 2004	Fiscal Quarter 2004			
		Fourth	Third	Second	First
United States	\$ 550	\$ 158	\$ 192	\$ 129	\$ 71
Europe	247	81	70	75	21
Japan	438	138	92	128	80
Taiwan	449	167	97	89	96
Asia Pacific	370	63	148	87	72
Total orders	\$ 2,054	\$ 607	\$ 599	\$ 508	\$ 340

	Fiscal Year 2003	Fiscal Quarter 2003			
		Fourth	Third	Second	First
United States	\$ 374	\$ 104	\$ 98	\$ 92	\$ 80
Europe	167	39	40	58	30
Japan	289	101	64	67	57
Taiwan	135	28	44	17	46
Asia Pacific	216	65	70	52	29
Total orders	\$ 1,181	\$ 337	\$ 316	\$ 286	\$ 242

Our backlog for unshipped system orders as of June 30, 2004 was approximately \$867 million, a majority of which we expect to ship over the next six to nine months. In addition, we have \$543 million of deferred revenue that is related to products that have been delivered but are awaiting written acceptance from the customer.

Results of Operations

Revenues and Gross Margin

Product revenue in fiscal year 2004 increased \$140 million, or 13% to \$1.2 billion, from \$1.1 billion in fiscal year 2003. Product revenue increases in fiscal year 2004 were primarily the result of increased capital spending, which we believe was a result of the beginning of a semiconductor industry upturn. Product revenue in fiscal year 2003 decreased \$368 million, or 26% to \$1.1 billion, from \$1.4 billion in fiscal year 2002. Product revenue declines in fiscal year 2003 were primarily attributable to reduced capital spending by our customers as a result of a significant reduction in the demand for semiconductors over the last two years. In fiscal year 2004, international product revenue increased to 81% of product revenue, from 71% in fiscal year 2003, due to relatively higher product revenue in Japan, Korea and Asia Pacific partially offset by lower product revenue in Europe. In fiscal year 2003, international product revenue increased slightly to 71% of product revenue, from 69% in the prior year, due to higher demand in Taiwan.

Service revenue is generated from maintenance service contracts, as well as time and material billable service calls made to our customers after the expiration of the warranty period. Service revenues were \$297 million, \$263 million, and \$209 million in fiscal year 2004, 2003 and 2002, respectively. Service revenue continued to increase in absolute terms throughout the three year period as our installed base of equipment at our customers' sites continued to grow. The amount of service revenue generated is generally a function of the number of post-warranty systems installed at our customers' sites and the degree of utilization of those systems.

As a result of the strong order growth we experienced in fiscal year 2004, which significantly increased our shipment backlog, we expect product shipments to continue to increase, which will result in an increase in product revenue. We expect service revenue as a percentage of total revenue to decline with the increase in product revenue.

Gross margins as a percentage of revenues were 55%, 49% and 50% in fiscal year 2004, 2003 and 2002, respectively. Approximately 4% of the increase in fiscal year 2004 compared to fiscal year 2003 is attributable to streamlining of product manufacturing operations and cost management programs while approximately 2% of the improvement is attributable to improvements in installation, customer service and support programs. The decrease in fiscal year 2003 compared to fiscal year 2002 was primarily due to reduced capacity utilization, resulting from lower business volume and an increased percentage of revenue in the lower margin service business. As the conditions in the semiconductor industry continue to strengthen, we expect gross margins to continue to improve with the further increase in sales volume, introduction of new models, streamlining manufacturing costs through the use of common platforms, leveraging manufacturing procurement through consolidation of vendors and further expanding on outsourcing initiatives.

Engineering, Research and Development

Net engineering, research and development expenses were \$281 million, \$268 million, and \$287 million, or 19%, 20% and 18% of revenues in fiscal year 2004, 2003, and 2002, respectively. The gross dollars for research and development investment increased by \$6 million for the fiscal year 2004 compared to fiscal year 2003. The external funding received for fiscal year 2004 compared to fiscal year 2003, decreased by \$7 million. The increase in gross research and development expenses was driven by an increase in project material and labor costs as we focus on the development of new products and enhancements to existing products, in response to the recovery in the semiconductor industry. We expect our net engineering, research and development expenses to increase in absolute dollars as we accelerate our investments in critical programs focusing on new technologies and enhancements to existing products and consolidation of the results of operations of a development stage semiconductor company as required by generally accepted accounting principles. The absolute dollars decreased in fiscal year 2003, compared to fiscal year 2002, due to engineering programs reaching certain milestones that resulted in reductions in labor and material expense, additional external funding and cost saving measures such as company mandated time-off and reduction in discretionary spending implemented during fiscal year 2003 in response to the industry slow down.

Our future operating results will depend significantly on our ability to produce products and provide services that have a competitive advantage in our marketplace. To do this, we believe that we must continue to make substantial investments in our research and development efforts. We remain committed to product development in new and emerging technologies as we address the further shrinking of device feature sizes, the transition to copper and other new materials, and the transition to new 300-millimeter fabs. Our investments in new technology and existing product enhancements are intended to enable our customers to achieve a higher return on their capital investments and higher productivity through cost-effective, leading edge technology solutions.

Selling, General and Administrative

Selling, general and administrative expenses were \$249 million, \$254 million and \$291 million, or 17%, 19% and 18% of revenues, in fiscal year 2004, 2003, and 2002, respectively. The absolute dollars for selling, general and administrative expenses decreased primarily due to company mandated time-off, reductions in labor and discretionary spending as well as other cost saving measures implemented over fiscal years 2003 and 2002, in response to the industry slowdown and the ongoing global economic weakness. We expect our selling, general and administrative expenses to increase as we build up our organization to meet increased customer demands.

Non-Recurring Restructuring and Other Charges

Restructuring and Other Charges

In fiscal year 2004, there were no restructuring actions. In fiscal year 2003, we restructured certain of our operations to realign costs with planned business levels in light of the industry downturn. Restructuring costs were classified into two main categories: facilities and other charges of \$4.6 million and severance and benefits of \$1.1 million. As part of the facilities consolidation, we exited several of our leased buildings and included the remaining net book value of the related leasehold improvements as well as the future lease payments, net of anticipated sublease revenue, in the charge. Severance and benefit charges were related to the involuntary termination of approximately 70 employees from manufacturing, engineering, sales, marketing, and administration in the United States, Japan and Europe. The restructuring actions taken in fiscal year 2003 are proceeding as planned, with the termination of employees having been completed and the facilities related lease payments we expect to complete by early fiscal year 2006. The annual estimated cost savings from these restructuring actions was \$9 million, of which \$7 million related to workforce reductions and \$2 million related to consolidation of facilities and was not expected to have a material effect on our cost of goods sold or operating expenses. There were no material variances between the actual and anticipated costs of restructuring. The following table shows a summary of restructuring activity related to the fiscal year 2003 restructuring plan for the fiscal year ended June 30, 2004:

<i>(in thousands)</i>	Balance at June 30, 2003	Utilized	Balance at June 30, 2004
Facilities and other	\$ 3,193	\$ (2,372)	\$ 821
Severance and benefits	\$ 47	\$ (47)	\$ —
Total	\$ 3,240	\$ (2,419)	\$ 821

In addition to the restructuring action, we also recorded severance charges totaling \$10.9 million in operating expenses, throughout fiscal year 2003, relating to a series of involuntary employee terminations. We believe that both these actions will result in annual reductions in costs of goods sold and operating expenses of approximately \$60 million.

In fiscal year 2002, there were no restructuring charges. We recorded severance charges of \$8.5 million in operating expenses relating to a series of involuntary employee terminations throughout fiscal year 2002. This resulted in annual cost reductions in costs of goods sold and operating expenses of approximately \$44 million.

The semiconductor equipment industry that we operate in is a highly cyclical industry. This cyclical nature affects our ability to accurately predict future revenue and, thus, future expense levels. If we were to enter into a down cycle, we may need to take appropriate actions to scale down operating expenses to lower business levels.

Interest Income and Other, Net

Interest income and other, net was \$27 million, \$42 million and \$43 million in fiscal year 2004, 2003, and 2002, respectively. Interest income and other, net is comprised primarily of interest income earned on the investment and cash portfolio, gains realized on sales of marketable securities and income recognized upon settlement of certain foreign currency contracts. The decrease in interest income and other, net for fiscal year 2004 as compared to fiscal year 2003 was primarily due to a decrease in gains realized on sales of marketable securities and decreased interest income resulting from declining interest rates, partially offset by an increase in gains on settlement of foreign currency contracts. The decrease in fiscal year 2003 as compared to fiscal year 2002 was primarily due to decreased interest income resulting from declining interest rates and an increase in foreign currency losses resulting from increased volatility in foreign exchange markets partially offset by an increase in realized gains on investments resulting from investment decisions which impacted the timing of realizing gains and losses for these investments.

Provision for Income Taxes

Our effective income tax rate was 25%, 24% and 25% in fiscal year 2004, 2003 and 2002, respectively. In general, our effective income tax rate differs from the statutory rate of 35% largely as a function of benefits realized from our Extraterritorial Income ("ETI") exclusion, research and development tax credits and interest income derived from tax exempt interest.

The effective tax rate of 25% for fiscal year 2004 was higher than the effective tax rate of 24% realized in fiscal year 2003, as a result of more foreign tax expense and state tax, and less tax exempt interest and research and development tax credits. Partially offsetting these adverse changes was an increase in profits in low tax jurisdictions. The fiscal year 2004 effective tax rate of 25% includes a one time non-recurring benefit of \$1.5 million related to the resolution of a prior year federal tax audit matter and a non-recurring write-off of a deferred tax asset of \$1.2 million related to an investment. The overall reduction in our effective income tax rate from fiscal year 2002 to fiscal year 2003 of 1% was primarily the result of more research and development expenses credit, more tax-exempt interest and less nondeductible losses relative to these same items as a percentage of pre-tax income in the prior fiscal year. These reductions were partially offset by more relatively foreign tax expense.

Our future effective income tax rate depends on various factors, such as tax legislation, the geographic composition of our pre-tax income, non tax-deductible expenses incurred in connection with acquisitions, amounts of tax-exempt interest income and research and development credits as a percentage of aggregate pre-tax income, and the effectiveness of our tax planning strategies. There currently is pending legislation to repeal the existing export incentive provided by the United States Internal Revenue Code. If enacted, this legislation would likely increase our effective rate in future periods. In addition, the research and development credit contained in the United States Internal Revenue Code has expired under a sunset provision. While we expect federal legislation to be passed which would reinstate the research and development credit retroactive to July 1, 2004, we have not provided a benefit for the credit in our projected effective rate for fiscal year 2005. If the research and development credit is ultimately reinstated, our effective tax rate will be reduced.

Liquidity and Capital Resources

Working capital was \$1.3 billion as of June 30, 2004, compared to \$1.2 billion as of June 30, 2003. Cash, cash equivalents and short-term marketable securities at June 30, 2004 increased to \$1.1 billion from \$957 million at June 30, 2003. In addition, we maintained \$743 million and \$531 million in marketable securities classified as long-term as of June 30, 2004 and 2003, respectively.

We have historically financed our operations through cash generated from operations. Cash provided by operating activities was \$350 million, \$246 million, and \$270 million in fiscal year 2004, 2003 and 2002, respectively. The increase in cash provided by operating activities in fiscal year 2004 compared to fiscal year 2003 was primarily due to increases in net income, deferred profit and accounts payable, partially offset by higher accounts receivable and inventory balances. Net income and deferred profit increased in fiscal year 2004, compared to fiscal year 2003, primarily due to increased shipments, revenues and gross margins partially offset by increased engineering, selling, general and administrative expenses due to the ramp up in customer demand. Accounts receivable increased primarily due to higher shipments, partially offset by strong collection efforts. The increase in accounts payable and inventory was driven primarily due to a ramp up of production in response to increase in customer demand for our products. The decrease in cash provided by operating activities in fiscal year 2003 compared to fiscal year 2002 was primarily due to a decline in net income, increase in gains from sale of investments and other long-term assets partially offset by lower accounts receivable and inventory balances. Net income decreased in fiscal year 2003 compared to fiscal year 2002 primarily due to declining shipments, revenues and gross margins partially offset by decreased engineering, selling, general and administrative expenses associated with cost saving measures in response to the industry slowdown. Gains from the sale of investments increased due to investment decision regarding the timing of realizing gains and losses on these investments. Accounts receivable declined primarily due to strong collection efforts, as well as lower shipments. The reduction in inventory primarily occurred in production inventory, where stringent processes have been put in place for managing material procurement.

We have agreements with three banking institutions to sell without recourse certain of our trade receivables and promissory notes from Japanese customers. During fiscal year 2004 and 2003 we sold \$116 million and \$99 million, respectively, of trade receivables and promissory notes from Japanese customers, under these arrangements. At June 30, 2004 and 2003, \$51 million and \$27 million, respectively, of these receivables and notes were outstanding, which have not been included in our consolidated balance sheet. The total amount available under the facilities is the Japanese yen equivalent of \$138 million based upon exchange rates as of June 30, 2004. We do not believe we are materially at risk for any losses as a result of these agreements. In addition, from time to time we will discount without recourse Letters of Credit ("LCs") received from customers in payment of goods. During the fiscal year 2004 several LCs were sold with proceeds totaling \$42 million. Discounting fees of \$0.2 million for fiscal year 2004 were equivalent to interest expense and were recorded in interest and other income net.

Cash used in investing activities was \$274 million, \$99 million and \$362 million in fiscal year 2004, 2003 and 2002, respectively. Investing activities typically consist of purchases and sales or maturities of marketable securities, purchases of capital assets to support long-term growth and acquisitions of technology or other companies to allow access to new market segments or emerging technologies. Additions of capital assets during fiscal year 2003 consisted mainly of the purchase of certain of our leased buildings in November 2002 compared to fiscal year 2002 additions that consisted mainly of the planned completion of our Livermore, California facilities.

We generated \$113 million and \$27 million of cash from financing activities in fiscal year 2004 and 2003, respectively, compared with \$9 million of cash used in financing activities in fiscal year 2002. Financing activities typically include sales and repurchases of our common stock, as well as borrowings and repayments of debt. Issuance of common stock provided \$169 million, \$92 million and \$115 million in fiscal year 2004, 2003 and 2002, respectively. We used \$56 million, \$66 million and \$123 million in fiscal year 2004, 2003 and 2002, respectively to repurchase shares of our common stock under the stock repurchase program initiated in 1997.

We have adopted a plan for the systematic repurchase of shares of our common stock in the open market to reduce the dilution created by our stock-based employee benefit and incentive plans. Since the inception of the repurchase program in 1997 through June 30, 2004 our Board of Directors has authorized us to repurchase a total of 17.8 million shares, including 5 million shares authorized in October 2002. In fiscal year 2004, we repurchased 1,175,000 shares of our common stock at an average price of \$47.49 per share, for a total of \$56 million. In fiscal year 2003, we repurchased 1,972,000 shares of our common stock at an average price of \$33.42 per share, for a total of \$66 million. In fiscal year 2002, we repurchased 3,341,000 shares of our common stock at an average price of \$36.89 per share, for a total of \$123 million. Since the inception of the repurchase program in 1997 through June 30, 2004, we have repurchased a total of 14,496,000 shares at an average price of \$33.90 per share, with an additional 3.3 million shares available for repurchase under the plan. All repurchased shares remain as treasury shares.

Certain of our leased facilities qualify for operating lease accounting treatment under Statement of Financial Accounting Standard 13, "Accounting for Leases," and, as such, the facilities were not included on our Consolidated Balance Sheet. The lease agreement for certain Milpitas and San Jose, California facilities had a term of five years ending in November 2002, with an option to extend up to two more years. Under the terms of the lease, we, at our option, could acquire the properties at their original cost or arrange for the properties to be acquired. In November 2002, we purchased these facilities at the end of the lease term. The purchase transaction increased land and property by approximately \$120 million and decreased cash by the same amount.

At June 30, 2004, our principal sources of liquidity consisted of \$1.9 billion of cash, cash equivalents, and marketable securities. Our liquidity is affected by many factors, some of which are based on the normal ongoing operations of the business, and others of which relate to the uncertainties of global economies and the semiconductor and the semiconductor equipment industries. Although cash requirements will fluctuate based on the timing and extent of these factors, our management believes that cash generated from operations, together with the liquidity provided by existing cash balances, will be sufficient to satisfy our liquidity requirements for at least the next twelve months.

The following is a schedule summarizing our significant operating lease commitments as of June 30, 2004 (in millions):

	Payments Due by Fiscal Year						
	Total	2005	2006	2007	2008	2009	Thereafter
Operating leases	\$ 23.9	\$ 8.5	\$ 5.6	\$ 2.8	\$ 1.8	\$ 1.5	\$ 3.7

Additionally, we maintain certain open inventory purchase commitments with our suppliers to help ensure a smooth and continuous supply chain for key components. Our liability in these purchase commitments is generally restricted to a forecasted time-horizon as mutually agreed upon between the parties. This forecast time-horizon and penalties under cancellation provisions can vary amongst different suppliers. As such, it is difficult to report accurately our true open commitments at any particular point in time. However, we estimate our open inventory purchase commitment as of June 30, 2004 to be approximately \$131 million.

FACTORS AFFECTING RESULTS, INCLUDING RISKS AND UNCERTAINTIES

Fluctuations in Operating Results and Stock Price

Our operating results have varied widely in the past, and our future operating results will continue to be subject to quarterly variations based upon numerous factors, including those listed in this section and throughout this Annual Report on Form 10-K. In addition, future operating results may not follow any past trends. We believe the factors that could make our results fluctuate and difficult to predict include:

- the cyclical nature of the semiconductor industry;
- global economic uncertainty;
- changing international economic conditions;
- competitive pressure;
- our ability to develop and implement new technologies and introduce new products;
- our customers' acceptance and adoption of our new products and technologies;
- our ability to manage our manufacturing requirements;
- our ability to protect our intellectual property;
- our ability to attract, retain, and replace key employees;
- worldwide political instability;
- earthquake and other uninsured risks; and
- future changes in accounting and tax standards or practices

Operating results also could be affected by sudden changes in customer requirements, currency exchange rate fluctuations and other economic conditions affecting customer demand and the cost of operations in one or more of the global markets in which we do business. As a result of these or other factors, we could fail to achieve our expectations as to future revenue, gross profit and income from operations. Our failure to meet the performance expectations set and published by external sources could result in a sudden and significant drop in the price of our stock, particularly on a short-term basis, and could negatively affect the value of any investment in our stock.

Semiconductor Equipment Industry Volatility

The semiconductor equipment industry is highly cyclical. The purchasing decisions of our customers are highly dependent on the economies of both the local markets in which they are located and the semiconductor industry worldwide. The timing, length and severity of the up-and-down cycles in the semiconductor equipment industry are difficult to predict. This cyclical nature of the industry in which we operate affects our ability to accurately predict future revenue and, thus, future expense levels. When cyclical fluctuations result in lower than expected revenue levels, operating results may be adversely affected and cost reduction measures may be necessary in order for us to remain competitive and financially sound. During a down cycle, we must be in a position to adjust our cost and expense structure to prevailing market conditions and to continue to motivate and retain our key employees. In addition, during periods of rapid growth, we must be able to increase manufacturing capacity and personnel to meet customer demand. We can provide no assurance that these objectives can be met in a timely manner in response to industry cycles. If we fail to respond to industry cycles, our business could be seriously harmed.

Global Economic Uncertainty

Our business is ultimately driven by the global demand for electronic devices by consumers and businesses. This end-user demand has been significantly depressed over the last few quarters and there has been very limited visibility as to the timing of turnaround in demand growth and from which sector this growth will come. A protracted global economic slowdown will continue to exacerbate this issue and may adversely affect our business and results of operation.

International Trade, Operations and Economic Conditions

We serve an increasingly global market. A majority of our annual revenue is derived from outside the United States, and we expect that international revenue will continue to represent a substantial percentage of our revenue. Our international revenue and operations are affected by economic conditions specific to each country and region. Because of our significant dependence on international revenue, a decline in the economies of any of the countries or regions in which we do business could negatively affect our operating results.

Managing global operations and sites located throughout the world presents challenges associated with, among other things, cultural diversity and organizational alignment. Moreover, each region in the global semiconductor equipment market exhibits unique characteristics that can cause capital equipment investment patterns to vary significantly from period to period. Periodic local or international economic downturns, trade balance issues, political instability or terrorism in regions where we have operations and fluctuations in interest and currency exchange rates could negatively affect our business and results of operations. Although we attempt to manage near-term currency risks through the use of hedging instruments, there can be no assurance that such efforts will be adequate.

Competition

Our industry includes large manufacturers with substantial resources to support customers worldwide. Our future performance depends, in part, upon our ability to continue to compete successfully worldwide. Some of our competitors are diversified companies with greater financial resources and more extensive research, engineering, manufacturing, marketing and customer service and support capabilities than we can provide. We face competition from companies whose strategy is to provide a broad array of products and services, some of which compete with the products and service that we offer. These competitors may bundle their products in a manner that may discourage customers from purchasing our products. In addition, we face competition from smaller emerging semiconductor equipment companies whose strategy is to provide a portion of the products and services, which we offer, using innovative technology to sell products into specialized markets. Loss of competitive position could negatively affect our prices, customer orders, revenue, gross margins, and market share, any of which would negatively affect our operating results and financial condition. Our failure to compete successfully with these other companies would seriously harm our business.

Technological Change and Customer Requirements

Success in the semiconductor equipment industry depends, in part, on continual improvement of existing technologies and rapid innovation of new solutions. For example, the semiconductor industry continues to shrink the size of semiconductor devices, transition to copper and other new materials, and transition to new 300-millimeter fabs. While we expect these trends will increase our customers' reliance on our diagnostic products, we cannot ensure that they will directly improve our business. These and other evolving customer needs require us to respond with continued development programs and to cut back or discontinue older programs, which may no longer have industry-wide support. Technical innovations are inherently complex and require long development cycles and appropriate staff of highly qualified employees. Our competitive advantage and future business success depend on our ability to accurately predict evolving industry standards, to develop and introduce new products which successfully address changing customer needs, to win market acceptance of these new products and to manufacture these new products in a timely and cost-effective manner. If we do not develop and introduce new products and technologies in a timely manner in response to changing market conditions or customer requirements, our business could be seriously harmed.

In this environment, we must continue to make significant investments in research and development in order to enhance the performance and functionality of our products, to keep pace with competitive products and to satisfy customer demands for improved performance, features and functionality. There can be no assurance that revenue from future products or product enhancements will be sufficient to recover the development costs associated with such products or enhancements or that we will be able to secure the financial resources necessary to fund future development. Substantial research and development costs typically are incurred before we confirm the technical feasibility and commercial viability of a product, and not all development activities result in commercially viable products. In addition, we cannot ensure that these products or enhancements will receive market acceptance or that we will be able to sell these products at prices that are favorable to us. Our business will be seriously harmed if we are unable to sell our products at favorable prices or if the market in which we operate does not accept our products.

Key Suppliers

We use a wide range of materials in the production of our products, including custom electronic and mechanical components, and we use numerous suppliers to supply these materials. We generally do not have guaranteed supply arrangements with our suppliers. Because of the variability and uniqueness of customers' orders, we do not maintain an extensive inventory of materials for manufacturing. We seek to minimize the risk of production and service interruptions and/or shortages of key parts by selecting and qualifying alternative suppliers for key parts, monitoring the financial stability of key suppliers and maintaining appropriate inventories of key parts. Although we make reasonable efforts to ensure that parts are available from multiple suppliers, key parts may be available only from a single supplier or a limited group of suppliers. Our business would be harmed if we do not receive sufficient parts to meet our production requirements in a timely and cost-effective manner.

Manufacturing Disruption

Most of our manufacturing facilities are located in the United States, with a small operation located in Israel. Operations at our manufacturing facilities and our assembly subcontractors are subject to disruption for a variety of reasons, including work stoppages, acts of war, terrorism, fire, earthquake, energy shortages, flooding or other natural disasters. Such disruption could cause delays in shipments of products to our customers. We cannot ensure that alternate production capacity would be available if a major disruption were to occur or that, if it were available, it could be obtained on favorable terms. Such disruption could result in cancellation of orders or loss of customers and could seriously harm our business. We currently are in the initial stages of design and implementation of a new integrated financial and supply chain management system. Disruptions or delays in making changes to our integrated financial and supply chain management system could adversely impact our operations and our ability to forecast sales demand, ship products, manage our product inventory and record and report financial and management information on a timely and accurate basis.

Intellectual Property Obsolescence and Infringement

Our success is dependent in part on our technology and other proprietary rights. We own various United States and international patents and have additional pending patent applications relating to some of our products and technologies. The process of seeking patent protection is lengthy and expensive, and we cannot be certain that pending or future applications will actually result in issued patents or that issued patents will be of sufficient scope or strength to provide meaningful protection or commercial advantage to us. Other companies and individuals, including our larger competitors, may develop technologies and obtain patents relating to our technology that are similar or superior to our technology or may design around the patents we own, adversely affecting our business.

We also maintain trademarks on certain of our products and services and claim copyright protection for certain proprietary software and documentation. However, we can give no assurance that our trademarks and copyrights will be upheld or successfully deter infringement by third parties.

While patent, copyright and trademark protection for our intellectual property is important, we believe our future success in highly dynamic markets is most dependent upon the technical competence and creative skills of our personnel. We attempt to protect our trade secrets and other proprietary information through confidentiality and other agreements with our customers, suppliers, employees and consultants and through other security measures. We also maintain exclusive and non-exclusive licenses with third parties for strategic technology used in certain products. However, these employees, consultants and third parties may breach these agreements and we may not have adequate remedies for wrongdoing. In addition, the laws of certain territories in which we develop, manufacture or sell our products may not protect our intellectual property rights to the same extent as do the laws of the United States.

As is typical in the semiconductor equipment industry, from time to time we have received communications from other parties asserting the existence of patent rights, copyrights, trademark rights or other intellectual property rights which they believe cover certain of our products, processes, technologies or information. Our customary practice is to evaluate such assertions and to consider whether to seek licenses where appropriate. However, we cannot ensure that licenses can be obtained or, if obtained, will be on acceptable terms or that costly litigation or other administrative proceedings will not occur. The inability to obtain necessary licenses or other rights on reasonable terms, or instigation of litigation or other administrative proceedings could seriously harm our operating results and financial condition.

Key Employees

Our employees are vital to our success, and our key management, engineering and other employees are difficult to replace. We generally do not have employment contracts with our key employees. Further, we do not maintain key person life insurance on any of our employees. The expansion of high technology companies worldwide has increased demand and competition for qualified personnel. If we are unable to retain key personnel, or if we are not able to attract, assimilate or retain additional highly qualified employees to meet our needs in the future, our business and operations could be harmed.

Acquisitions

In addition to our efforts to develop new technologies from internal sources, we also seek to acquire new technologies from external sources. As part of this effort, we may make acquisitions of, or significant investments in, businesses with complementary products, services and/or technologies. Acquisitions involve numerous risks, including management issues and costs in connection with the integration of the operations and personnel, technologies and products of the acquired companies, the possible write-downs of impaired assets, and the potential loss of key employees of the acquired companies. The inability to manage these risks effectively could seriously harm our business.

Litigation

From time to time we are involved in litigation of various types, including litigation alleging infringement of intellectual property rights and other claims. Litigation tends to be expensive and requires significant management time and attention and could have a negative effect on our results of operations or business if we lose or have to settle a case on significantly adverse terms.

Compliance with Internal Controls Evaluations and Attestation Requirements

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we will be required, beginning in fiscal 2005, to perform an evaluation of our internal controls over financial reporting and have our auditor publicly attest to such evaluation. We have prepared an internal plan of action for compliance, which includes a timeline and scheduled activities, although as of the date of this filing we have not yet prepared the evaluation. Compliance with these requirements is expected to be expensive and time-consuming. If we fail to timely complete this evaluation, or if our registered independent accounting firm cannot timely attest to our evaluation, we could be subject to regulatory scrutiny and a loss of public confidence in our internal controls. In addition, any failure to implement required new or improved controls, or difficulties encountered in their implementation, could harm our operating results or cause us to fail to meet our reporting obligations.

Terrorism and Political Instability

The threat of terrorism targeted at the regions of the world in which we do business, including the United States, increases the uncertainty in our markets and may delay any recovery in the general economy. Any delay in the recovery of the economy and the semiconductor industry could adversely affect our business. Increased international political instability, as demonstrated by the September 2001 terrorist attacks, disruption in air transportation and further enhanced security measures as a result of the terrorist attacks, and the continuing instability in the Middle East, may hinder our ability to do business and may increase our costs of operations. Such continuing instability could cause us to incur increased costs in transportation, make such transportation unreliable, increase our insurance costs, and cause international currency markets to fluctuate. This same instability could have the same effects on our suppliers and their ability to timely deliver their products. If this international political instability continues or increases, our business and results of operations could be harmed.

Earthquake and Other Uninsured Risks

We purchase insurance to help mitigate the economic impact of certain insurable risks, however, certain other risks that are uninsurable or are insurable only at significant costs are not mitigated via insurance. An earthquake could significantly disrupt our manufacturing operations, most of which are conducted in California. It could also significantly delay our research and engineering effort on new products, most of which is also conducted in California. We take steps to minimize the damage that would be caused by an earthquake, but there is no certainty that our efforts will prove successful in the event of an earthquake. We self insure earthquake risks because we believe this is the prudent financial decision based on our large cash reserves and the high cost and limited coverage available in the earthquake insurance market. Certain other risks are also self insured either based on a similar cost benefit analysis, or based on the unavailability of insurance. If one or more of the uninsured events occurs, we could suffer major financial loss.

Future Changes in Accounting and Taxation Standards or Practices

A change in accounting standards or practices or a change in existing taxation rules or practices can have a significant effect on our reported results and may even affect our reporting of transactions completed before the change is effective. New accounting pronouncements and taxation rules and varying interpretations of accounting pronouncements and taxation practice have occurred and may occur in the future. Changes to existing rules or the questioning of current practices may adversely affect our reported financial results or the way we conduct our business.

For example, any changes requiring that we record compensation expense in the statement of operations for employee stock options using the “fair value” method or changes in existing taxation rules related to stock options could have a significant negative effect on our reported results. Several agencies and entities are considering, and the Financial Accounting Standards Board (“FASB”) has announced, proposals to change generally accepted accounting principles in the United States that, if implemented, would require us to record charges to earnings for employee stock option grants. This pending requirement would negatively impact our earnings.

Effects of Recent Accounting Pronouncements

In December 2003, Statement of Financial Accounting Standard No. 132 (revised 2003), “Employers’ Disclosures about Pensions and Other Postretirement Benefits,” (SFAS 132) was issued and amends further the annual disclosure requirements and requires new quarterly disclosures for pensions and other postretirement benefits. The revised Statement addresses disclosures only. It does not address liability measurement or expense recognition, which is determined in accordance with SFAS 87, “Employers’ Accounting for Pensions” (SFAS 87). We have provided the amended annual disclosures pursuant to SFAS 132 in Note 7 to the Notes to the Consolidated Financial Statements found under Item 8, “Financial Statements and Supplementary Data” in this Annual Report on Form 10-K.

In March 2004, the FASB issued a proposed Statement, “Share-Based Payment, an amendment of FASB Statements Nos. 123 and 95,” that addresses the accounting for share-based payment transactions in which a company receives employee services in exchange for either equity instruments of the company or liabilities that are based on the fair value of the company’s equity instruments or that may be settled by the issuance of such equity instruments. The proposed statement would eliminate the ability to account for share-based compensation transactions using the intrinsic method that we currently use and generally would require that such transactions be accounted for using a “fair-value”-based method and recognized as expense in our consolidated statement of operations. The recommended effective date of the proposed statement is currently for fiscal years beginning after December 15, 2004. Should this proposed statement be finalized in its current form, it will have a significant impact on our consolidated statement of operations as we will be required to expense the “fair value” of our stock option grants and stock purchases under our employee stock purchase plan. In addition the proposed standard may have a significant impact on our consolidated cash flows from operations (no impact to our total consolidated cash flows) as, under this proposed standard, we will be required to reclassify a portion of our tax benefit on the exercise of employee stock options from cash flows from operating activities to cash flows from financing activities.

In March 2004, the Emerging Issues Task Force (“EITF”) reached a consensus on recognition and measurement guidance previously discussed under EITF Issue No. 03-01, “The Meaning of Other-Than-Temporary Impairment and Its Application to Certain Investments.” (“EITF 03-01”). The consensus clarifies the meaning of other-than-temporary impairment and its application to investments in debt and equity securities, in particular investments within the scope of FASB Statement No. 115, “Accounting for Certain Investments in Debt and Equity Securities,” and investments accounted for under the cost method. This consensus is to be applied to other-than-temporary impairment evaluations in reporting periods beginning after June 15, 2004. We do not believe that this consensus will have a material impact on our consolidated results of operations

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURE ABOUT MARKET RISK

We are exposed to financial market risks, including changes in interest rates, foreign currency exchange rates and marketable equity security prices. To mitigate these risks, we utilize derivative financial instruments. We do not use derivative financial instruments for speculative or trading purposes. All of the potential changes noted below are based on sensitivity analyses performed on our financial position at June 30, 2004. Actual results may differ materially.

At the end of fiscal year 2004, we had an investment portfolio of fixed income securities of \$1.07 billion, excluding those classified as cash and cash equivalents (detail of these securities is included in Note 4 of the Notes to Consolidated Financial Statements found under Item 8, “Financial Statements and Supplementary Data” in this Annual Report on Form 10-K). These securities, as with all fixed income instruments, are subject to interest rate risk and will fall in value if market interest rates increase. If market interest rates were to increase immediately and uniformly by 10% from levels as of June 30, 2004, the fair value of the portfolio would have declined by \$3 million.

As of June 30, 2004, we had net forward contracts to sell \$107 million in foreign currency in order to hedge currency exposures (detail of these contracts is included in Note 1 of the Notes to the Consolidated Financial Statements under “Derivative Instruments.” If we had entered into these contracts on June 30, 2004, the U.S. dollar equivalent would be \$133 million. A 10% adverse move in all currency exchange rates affecting the contracts would decrease the fair value of the contracts by \$29 million. However, if this occurred, the fair value of the underlying exposures hedged by the contracts would increase by a similar amount. Accordingly, we believe that the hedging of our foreign currency exposure should have no material impact on income or cash flows.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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KLA-Tencor Corporation
Consolidated Balance Sheets

June 30, (in thousands, except per share data)

	2004	2003
<i>Assets</i>		
Current assets:		
Cash and cash equivalents	\$ 802,678	\$ 606,903
Marketable securities	330,476	350,061
Accounts receivable, net	372,773	223,535
Inventories	337,414	258,799
Deferred income taxes	310,150	324,098
Other current assets	38,011	42,987
Total current assets	2,191,502	1,806,383
Land, property and equipment, net	376,052	382,729
Marketable securities	743,202	530,919
Other assets	228,423	146,566
Total assets	\$ 3,539,179	\$ 2,866,597
<i>Liabilities and Stockholders' Equity</i>		
Current liabilities:		
Accounts payable	\$ 63,991	\$ 33,893
Deferred system profit	284,813	177,486
Unearned revenue	57,318	48,203
Other current liabilities	505,507	391,474
Total current liabilities	911,629	651,056
Commitments and contingencies (Note 8)		
Stockholders' equity:		
Preferred stock, \$0.001 par value, 1,000 shares authorized, none outstanding	—	—
Common stock, \$0.001 par value, 500,000 shares authorized, 196,836 and 191,733 shares issued and outstanding	196	192
Capital in excess of par value	984,608	814,776
Retained earnings	1,640,587	1,396,886
Accumulated other comprehensive income	2,159	3,687
Total stockholders' equity	2,627,550	2,215,541
Total liabilities and stockholders' equity	\$ 3,539,179	\$ 2,866,597

See accompanying notes to consolidated financial statements.

KLA-Tencor Corporation
Consolidated Statements of Operations

Year ended June 30,
(in thousands, except per share data)

	2004	2003	2002
Revenues:			
Product	\$ 1,200,160	\$ 1,060,142	\$ 1,428,107
Service	296,558	262,907	209,175
Total revenues	1,496,718	1,323,049	1,637,282
Costs and operating expenses:			
Cost of revenues	670,013	671,505	814,393
Engineering, research and development	280,641	268,291	287,408
Selling, general and administrative	248,706	253,933	290,588
Non-recurring restructuring and other	—	(9,402)	—
Total costs and operating expenses	1,199,360	1,184,327	1,392,389
Income from operations	297,358	138,722	244,893
Interest income and other, net	27,358	41,796	42,563
Income before income taxes	324,716	180,518	287,456
Provision for income taxes	81,015	43,327	71,290
Net income	\$ 243,701	\$ 137,191	\$ 216,166
Net income per share:			
Basic			
Basic net income per share	\$ 1.25	\$ 0.72	\$ 1.15
Diluted			
Diluted net income per share	\$ 1.21	\$ 0.70	\$ 1.10
Weighted average number of shares:			
Basic	194,976	189,817	187,667
Diluted	201,799	194,785	196,594

See accompanying notes to consolidated financial statements.

KLA-Tencor Corporation
Consolidated Statements of Stockholders' Equity

(in thousands)	Common Stock and Capital in Excess of Par Value		Retained Earnings	Accumulated Other Compre- hensive Income	Totals
	Shares	Amount			
Balances at June 30, 2001	187,779	\$ 714,333	\$ 1,043,529	\$ 2,604	\$ 1,760,466
Components of comprehensive income:					
Net income	—	—	216,166	—	216,166
Change in unrealized gain on investments	—	—	—	(1,048)	(1,048)
Currency translation adjustments	—	—	—	7,455	7,455
Deferred losses on cash flow hedging instruments	—	—	—	(4,424)	(4,424)
Total comprehensive income	—	—	—	—	218,149
Net issuance under employee stock plans	5,314	115,136	—	—	115,136
Repurchase of common stock	(3,341)	(123,220)	—	—	(123,220)
Tax benefits of stock option transactions	—	59,697	—	—	59,697
Balances at June 30, 2002	189,752	\$ 765,946	\$ 1,259,695	\$ 4,587	\$ 2,030,228
Components of comprehensive income:					
Net income	—	—	137,191	—	137,191
Change in unrealized gain on investments	—	—	—	(7,281)	(7,281)
Currency translation adjustments	—	—	—	5,136	5,136
Deferred gains on cash flow hedging instruments	—	—	—	1,245	1,245
Total comprehensive income	—	—	—	—	136,291
Net issuance under employee stock plans	3,953	92,499	—	—	92,499
Repurchase of common stock	(1,972)	(65,912)	—	—	(65,912)
Tax benefits of stock option transactions	—	22,435	—	—	22,435
Balances at June 30, 2003	191,733	\$ 814,968	\$ 1,396,886	\$ 3,687	\$ 2,215,541
Components of comprehensive income:					
Net income	—	—	243,701	—	243,701
Change in unrealized gain on investments	—	—	—	(9,724)	(9,724)
Currency translation adjustments	—	—	—	10,009	10,009
Deferred losses on cash flow hedging instruments	—	—	—	(1,813)	(1,813)
Total comprehensive income	—	—	—	—	242,173
Net issuance under employee stock plans	6,278	168,812	—	—	168,812
Repurchase of common stock	(1,175)	(55,806)	—	—	(55,806)
Tax benefits of stock option transactions	—	56,830	—	—	56,830
Balances at June 30, 2004	196,836	\$ 984,804	\$ 1,640,587	\$ 2,159	\$ 2,627,550

See accompanying notes to consolidated financial statements.

KLA –Tencor Corporation
Consolidated Statements of Cash Flows

Year ended June 30, (in thousands)

	2004	2003	2002
Cash flows from operating activities:			
Net income	\$ 243,701	\$ 137,191	\$ 216,166
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	82,926	71,448	69,590
Non-recurring (income) restructuring charges	—	(11,912)	—
Net (gain) loss on sale of investments and property plant & equipment	(8,889)	(24,082)	(7,573)
Deferred income taxes	(24,578)	(10,629)	36,037
Tax benefit from employee stock options	56,830	22,435	59,697
Changes in assets and liabilities, net of assets acquired and liabilities assumed in business combinations:			
Accounts receivable	(149,240)	53,468	125,005
Inventories	(78,616)	64,215	71,430
Other assets	(26,291)	(17,183)	(4,974)
Accounts payable	30,104	(19,093)	(7,754)
Deferred profit	107,327	(16,366)	(228,202)
Other current liabilities	116,403	(3,235)	(59,238)
Net cash provided by operating activities	<u>349,677</u>	<u>246,257</u>	<u>270,184</u>
Cash flows from investing activities:			
Acquisitions, net of cash received	—	—	(4,035)
Purchase of property, plant and equipment	(55,528)	(133,766)	(68,658)
Proceeds from sale of property, plant and equipment	—	3,197	—
Purchase of available-for-sale securities	(1,736,822)	(1,288,151)	(2,127,460)
Proceeds from sale of available-for-sale securities	1,354,651	1,240,437	1,619,111
Proceeds from maturity of available-for-sale securities	163,823	79,769	218,706
Net cash used in investing activities	<u>(273,876)</u>	<u>(98,514)</u>	<u>(362,336)</u>
Cash flows from financing activities:			
Issuance of common stock	168,812	92,499	115,136
Stock repurchases	(55,806)	(65,912)	(123,220)
Net payments under short term debt obligations	—	—	(448)
Net cash provided by (used in) financing activities	<u>113,006</u>	<u>26,587</u>	<u>(8,532)</u>
Effect of exchange rate changes on cash and cash equivalents	<u>6,968</u>	<u>2,753</u>	<u>830</u>
Net increase (decrease) in cash and cash equivalents	195,775	177,083	(99,854)
Cash and cash equivalents at beginning of period	606,903	429,820	529,674
Cash and cash equivalents at end of period	<u>\$ 802,678</u>	<u>\$ 606,903</u>	<u>\$ 429,820</u>
Supplemental cash flow disclosures:			
Income taxes paid (refunded)	\$ 11,899	\$ 7,053	\$ (19,875)
Interest paid	\$ 647	\$ 352	\$ 779
Supplemental non-cash investing activities:			
Software and technology exchanged for common stock of public company	—	\$ 15,152	\$ —

See accompanying notes to consolidated financial statements.

KLA-TENCOR CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Description of Operations and Principles of Consolidation KLA-Tencor Corporation ("KLA-Tencor") is a global provider of process control and yield management solutions for the semiconductor manufacturing and related microelectronics industries. Headquartered in San Jose, California, KLA-Tencor has subsidiaries both in the United States and in key markets throughout the world.

The Consolidated Financial Statements include the accounts of KLA-Tencor, its wholly-owned subsidiaries and its partially owned, non-controlled, equity affiliate where KLA-Tencor is deemed to be the primary beneficiary under FASB Interpretation No. 46 "Consolidation of Variable Interest Entities – an interpretation of ARB No. 51" (FIN 46(R)). For additional information regarding variable interest entities and the impact of the adoption of FIN 46(R), see below for disclosure on Variable Interest Entities. All significant intercompany balances and transactions have been eliminated.

Management Estimates The preparation of the Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Fair Value of Financial Instruments KLA-Tencor has evaluated the estimated fair value of financial instruments using available market information and valuation methodologies as provided by the custodian. The use of different market assumptions and/or estimation methodologies could have a significant effect on the estimated fair value amounts. The fair value of KLA-Tencor's cash, cash equivalents, accounts receivable, accounts payable and other current liabilities approximate their carrying amounts due to the relatively short maturity of these items.

Cash Equivalents and Marketable Securities All highly liquid debt instruments with original or remaining maturities of less than three months at the date of purchase are considered to be cash equivalents. Investments not classified as cash equivalents, with remaining maturities of less than one year from the balance sheet date are considered to be short-term marketable securities. Non-current marketable securities include debt securities with maturities exceeding one year from the balance sheet date. Short-term and non-current marketable securities are generally classified as available-for-sale and are reported at fair value, with unrealized gains and losses, net of tax, presented as a separate component of accumulated other comprehensive income. KLA-Tencor has classified some equity securities that have readily determinable fair values in a similar manner. The fair value of marketable securities is based on quoted market prices. All realized gains and losses and unrealized losses and declines in fair value that are other than temporary are recorded in earnings in the period of occurrence. The specific identification method is used to determine the realized gains and losses on investments. Certain equity securities were classified as trading securities. These trading securities were reported at fair value determined based on quoted market prices at the reporting date for those instruments, with unrealized gains or losses included in earnings for the applicable period. The net amount of such gains and losses for the twelve months June 30, 2004 were not material. As of December 31, 2003, all of the trading securities had been sold.

Non Marketable Equity Securities and Other Investments KLA-Tencor acquires certain equity investments for the promotion of business and strategic objectives, and to the extent these investments continue to have strategic value, KLA-Tencor typically does not attempt to reduce or eliminate the inherent market risks. Non-marketable equity securities and other investments are accounted for at historical cost. KLA-Tencor's proportionate share of income or losses from investments is accounted for under the equity method and any gain or loss is recorded in interest income and other, net. Non-marketable equity securities, equity-method investments, and other investments are included in "Other assets" on the balance sheet. Non-marketable equity securities are subject to a periodic impairment review; however, there are no open-market valuations, and the impairment analysis requires significant judgment. This analysis includes assessment of the investee's financial condition, the business outlook for its products and technology, its projected results and cash flow, the likelihood of obtaining subsequent rounds of financing and the impact of any relevant contractual equity preferences held by KLA-Tencor or others. If an investee obtains additional funding at a valuation lower than KLA-Tencor's carrying amount, it is presumed that the investment is other than temporarily impaired, unless specific facts and circumstances indicate otherwise, for example if KLA-Tencor holds contractual rights that include a preference over the rights of other investors. Impairment of non-marketable equity securities is recorded in interest income and other, net.

Inventories Inventories are stated at the lower of cost (on a first-in, first-out basis) or market. Demonstration units are stated at their manufacturing cost and reserves are recorded to state the demonstration units at their net realizable value. KLA-Tencor reviews the adequacy of its inventory reserves on a quarterly basis. Its methodology involves matching its on-hand and on-order inventory with its demand forecast. For parts that are in excess of its forecasted demand, KLA-Tencor takes appropriate reserves to reflect risk of obsolescence. If actual demand declined below its forecast, KLA-Tencor may need to take additional inventory reserves.

Property and Equipment Property and equipment are recorded at cost. Depreciation of property and equipment is based on the straight-line method over the estimated useful lives of the assets, which are thirty to thirty-five years for buildings, ten to fifteen years for leasehold improvements, five to seven years for furniture and fixtures, and three to five years for machinery and equipment. Leasehold improvements are amortized by the straight-line method over the shorter of the life of the related asset or the term of the underlying lease. Construction in process does not depreciate until the assets are placed in service.

Intangible Assets Purchased technology, patents, trademarks, favorable leases and goodwill are presented at cost, net of accumulated amortization. Effective July 1, 2001, KLA-Tencor replaced ratable amortization of goodwill with annual testing of goodwill during the third fiscal quarter, or earlier if indicators for potential impairment exist, for impairment in accordance with the provisions

of Statement of Financial Accounting Standard No. 142, "Goodwill and Intangible Assets." Intangible assets other than goodwill are amortized over their estimated useful lives using the straight-line method.

Software Development Costs Development costs incurred in the research and development of new software products are expensed as incurred until technological feasibility of the product has been established. Software development costs incurred after technological feasibility has been established are capitalized up to the time the product is available for general release to customers. At June 30, 2004 and 2003, there were no amounts capitalized as KLA-Tencor's current development process is essentially completely concurrent with the establishment of technological feasibility.

KLA-Tencor also capitalizes certain internal and external costs incurred to acquire and create internal use software in accordance with AICPA Statement of Position 98-1, "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use." Capitalized software is included in property and equipment and is depreciated over three to five years when development is complete.

Impairment of Long-Lived Assets KLA-Tencor evaluates the carrying value of its long-lived assets whenever events or changes in circumstances indicate that the carrying value of the asset may be impaired in accordance with the provisions of Statement of Financial Accounting Standard No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." An impairment loss is recognized when estimated future cash flows expected to result from the use of the asset including disposition, is less than the carrying value of the asset.

Concentration of Credit Risk Financial instruments that potentially subject KLA-Tencor to significant concentrations of credit risk consist principally of cash equivalents, short-term and non-current marketable securities, trade accounts receivable and derivative financial instruments used in hedging activities. KLA-Tencor invests in a variety of financial instruments, such as, but not limited to, certificates of deposit, corporate and municipal bonds, United States Treasury and agency securities, equity securities and, by policy, limits the amount of credit exposure with any one financial institution or commercial issuer. KLA-Tencor has not experienced any material credit losses on its investments.

A majority of KLA-Tencor's trade receivables are derived from sales to large multinational semiconductor manufacturers located throughout the world. Concentration of credit risk with respect to trade receivables is considered to be limited due to its customer base and the diversity of its geographic sales areas. KLA-Tencor performs ongoing credit evaluations of its customers' financial condition and generally requires no collateral to secure accounts receivable. KLA-Tencor maintains an allowance for potential credit losses based upon expected collectibility of all accounts receivable. In addition, KLA-Tencor may utilize letters of credit or non-recourse factoring to mitigate credit risk when considered appropriate.

KLA-Tencor is exposed to credit loss in the event of nonperformance by counterparties on the foreign exchange contracts used in hedging activities. These counterparties are large international financial institutions and to date, no such counterparty has failed to meet its financial obligations to us.

Foreign Currency The functional currencies of KLA-Tencor's significant foreign subsidiaries are generally the local currencies. Accordingly, all assets and liabilities of the foreign operations are translated to U.S. dollars at current period end exchange rates, and revenues and expenses are translated to U.S. dollars using average exchange rates in effect during the period. The gains and losses from foreign currency translation of these subsidiaries' financial statements are recorded directly into a separate component of stockholders' equity under the caption "Accumulated other comprehensive income."

KLA-Tencor's subsidiaries in Israel use the U.S. dollar as their functional currency. Accordingly, assets and liabilities of these subsidiaries are translated using exchange rates in effect at the end of the period, except for non-monetary assets, such as inventories and property, plant and equipment that are translated using historical exchange rates. Revenues and costs are translated using average exchange rates for the period, except for costs related to those balance sheet items that are translated using historical exchange rates. The resulting translation gains and losses are included in the Consolidated Statements of Operations as incurred.

Derivative Financial Instruments KLA-Tencor uses financial instruments, such as forward exchange contracts, to hedge a portion of, but not all, existing and anticipated foreign currency denominated transactions expected to occur within twelve months. The purpose of KLA-Tencor's foreign currency program is to manage the effect of exchange rate fluctuations on certain foreign currency denominated revenues, costs and eventual cash flows. The effect of exchange rate changes on forward exchange contracts is expected to offset the effect of exchange rate changes on the underlying hedged items. KLA-Tencor believes these financial instruments do not subject it to speculative risk that would otherwise result from changes in currency exchange rates. KLA-Tencor does not use derivative financial instruments for speculative or trading purposes.

All of KLA-Tencor's derivative financial instruments are recorded at fair value based upon quoted market prices for comparable instruments. For derivative instruments designated and qualifying as cash flow hedges of anticipated foreign currency denominated transactions, the effective portion of the gain or loss on these hedges is reported as a component of accumulated other comprehensive income in stockholders' equity, and is reclassified into earnings when the hedged transaction affects earnings. If the transaction being hedged fails to occur, or if a portion of any derivative is ineffective, the gain or loss on the associated financial instrument is recorded immediately in earnings. For derivative instruments used to hedge existing foreign currency denominated assets or liabilities, the gain or loss on these hedges is recorded immediately in earnings to offset the changes in the fair value of the assets or liabilities being hedged.

At June 30, 2004, KLA-Tencor had foreign exchange forward contracts maturing throughout fiscal year 2005 to sell \$334 million and purchase \$227 million, in foreign currency, primarily Japanese yen. At June 30, 2003, KLA-Tencor had foreign exchange forward contracts maturing throughout fiscal year 2004 to sell \$215 million and purchase \$159 million, in foreign currency, primarily Japanese yen. All foreign exchange forward contracts are carried on the consolidated balance sheets at fair value. See Note 9 for further information related to derivatives and hedging activities.

Warranty KLA-Tencor provides standard warranty coverage on its systems for twelve months, providing labor and parts necessary to repair the systems during the warranty period. KLA-Tencor accounts for the estimated warranty cost as a charge to cost of revenues when revenue is recognized. The estimated warranty cost is based on historical product performance and field expenses. Utilizing actual service records, KLA-Tencor calculates the average service hours and parts expense per system and applies the actual labor and overhead rates to determine the estimated warranty charge. KLA-Tencor updates these estimated charges every quarter. The actual product performance and/or field expense profiles may differ, and in those cases KLA-Tencor adjusts warranty accruals accordingly (see Note 8 “Commitments and Contingencies”).

Revenue Recognition KLA-Tencor recognizes revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the seller’s price is fixed or determinable, and collectibility is reasonably assured. KLA-Tencor derives revenue from four sources – system sales, spare part sales, service contracts and software license fees. System sales include hardware and software that is incidental to the product. KLA-Tencor recognizes revenue for system sales upon a positive affirmation by the customer that the system has been installed and is operating according to predetermined specifications. This positive affirmation is generally evidenced by an acceptance document signed by the customer. In certain limited cases, KLA-Tencor may deviate from the need for a written acceptance by the customer, as follows:

- When system sales to independent distributors have no installation, contain no acceptance agreement, and 100% payment is due upon shipment, revenue is recognized on shipment;
- When the system requires no integration and installation is inconsequential, revenue is recognized on shipment. In these cases KLA-Tencor is required to perform the installation but KLA-Tencor considers installation not essential to the functionality of the equipment, and there are no additional tests required to be performed on-site. In addition, third party distributors and customers regularly complete the installation of these tools;
- When the customer fab has already accepted the same tool, with the same specifications on the same process, for the same application, and it can be objectively demonstrated that it meets all of the required acceptance criteria upon shipment, a portion of revenue can be recognized at the time of shipment. Revenue recognized upon shipment is exclusive of the amount allocable to the installation element. Revenue attributable to the installation element represents the fair value of installation;
- When the system is performing in production and meets all published and contractually agreed specifications, but the customer withholds signature on our acceptance document due to warranty or other issues unrelated to product performance;
- When the system is damaged during transit, revenue is recognized upon receipt of cash payment from the customer.

Total revenue recognized under conditions where KLA-Tencor deviates from the need for a written acceptance by the customer were approximately 4.9% of total revenue for fiscal year 2004, 3.1% of total revenue for fiscal year 2003 and 2.5% of total revenue for fiscal years 2002. Shipping charges billed to customers are included in system revenue and the related shipping costs are included in cost of revenues.

KLA-Tencor also allows for multiple element revenue arrangements in cases where certain elements of a sales contract are not delivered and accepted at the same time. In such cases, KLA-Tencor defers the fair value of the unaccepted element until that element is delivered to and accepted by the customer. To be considered a separate element, the product or service in question must represent a separate earnings process, and is not essential to the functionality of the delivered and accepted portion of the same sales contract. If the unaccepted element is essential to the functionality of the delivered and accepted portion, the whole amount of the sales contract is deferred until all elements are accepted.

Spare parts revenue is recognized when the product has been shipped, risk of loss has passed to the customer and collection of the resulting receivable is probable.

Service and maintenance contract revenue is recognized ratably over the term of the maintenance contract. If maintenance is included in an arrangement, which includes a software license agreement, amounts related to maintenance are allocated based on vendor specific objective evidence. Non-standard warranty includes services incremental to the standard 40-hour per week coverage for twelve months. Non-standard warranty is deferred as unearned revenue and is recognized ratably as revenue when the applicable warranty term period commences. Consulting and training revenue is recognized when the related services are performed.

Revenue from software license fees is typically recognized upon shipment if collection of the resulting receivable is probable, the fee is fixed or determinable, and vendor-specific objective evidence exists to allocate a portion of the total fee to any undelivered elements of the arrangement. Such undelivered elements in these arrangements typically consist of services and/or upgrades. If vendor-specific objective evidence does not exist for the undelivered elements of the arrangement, all revenue is deferred until such evidence does exist, or until all elements are delivered, whichever is earlier. In instances where an arrangement to deliver software requires significant modification or customization, license fees are recognized under the percentage of completion method of contract accounting. Allowances are established for potential product returns and credit losses.

The deferred profit balance as of June 30, 2004 and 2003 was \$285 million and \$177 million, respectively and equals the amount of system revenue that was invoiced and due on shipment but deferred, less applicable product and warranty costs. KLA-Tencor also defers the fair value of non-standard warranty bundled with equipment sales as unearned revenue. The unearned revenue balance as of June 30, 2004 and 2003 was \$57 million and \$48 million, respectively.

Strategic Development Agreements Gross engineering, research and development expenses were partially offset by \$11 million, \$18 million and \$14 million in external funding received under certain strategic development programs conducted with several of KLA-Tencor's customers and government grants in fiscal year 2004, 2003 and 2002, respectively.

Income Taxes KLA-Tencor accounts for income taxes under an asset and liability approach. Deferred tax liabilities are recognized for future taxable amounts and deferred tax assets are recognized for future deductions.

Earnings Per Share Basic earnings per share is calculated by dividing net income available to common stockholders by the weighted average number of common shares outstanding during the period. Diluted earnings per share is calculated by using the weighted average number of common shares outstanding during the period and gives effect to all dilutive potential common shares outstanding during the period. The reconciling difference between the computation of basic and diluted earnings per share for all periods presented is the inclusion of the dilutive effect of stock options issued to employees under employee stock option plans.

Options to purchase 2,169,521, 5,270,681 and 282,746 shares of KLA-Tencor's common stock were outstanding at June 30, 2004, 2003 and 2002 respectively, but not included in the computation of diluted earnings per share because the exercise price was greater than the average market price of common shares in each respective year. The exercise price ranges of these options were \$53.86 to \$68.00, \$39.35 to \$68.00 and \$52.75 to \$68.00 at June 30, 2004, 2003 and 2002, respectively.

Accounting for Stock-Based Compensation Plans KLA-Tencor accounts for its employee stock option and employee stock purchase plans under the recognition and measurement principles of APB Opinion No. 25, Accounting for Stock Issued to Employees, and related Interpretations. No stock-based employee compensation is reflected in net income, as all options granted under those plans had an exercise price equal to the market value of the underlying common stock on the date of grant. In December 2002, FASB issued Statement of Financial Accounting Standards No. 148 (SFAS 148), "Accounting for Stock-Based Compensation Transition and Disclosure." This Statement amends Statement of Financial Accounting Standard 123 "*Accounting for Stock-Based Compensation*" (SFAS 123), to provide alternative methods of transition for an entity that voluntarily changes to the fair value based method of accounting for stock-based employee compensation. It also amends the disclosure provisions of that statement to require prominent disclosure about the effects on reported net income of an entity's accounting policy decisions with respect to stock-based employee compensation. Finally, this statement amends APB Opinion No. 28, Interim Financial Reporting, to require disclosure about those effects in interim financial information. Since KLA-Tencor continues to account for stock-based compensation according to APB 25, its adoption of SFAS 148 required the KLA-Tencor to provide prominent disclosures about the effects of SFAS 123 on reported income and required the KLA-Tencor to disclose these effects in the financial statements as well.

Pro forma information regarding net income and net income per share is required by SFAS 123, and has been determined as if KLA-Tencor had accounted for its employee stock purchase plan and employee stock options granted subsequent to June 30, 1995, under the fair value method of SFAS 123. The fair value of each option grant is estimated on the date of grant using the Black-Scholes option valuation model and the single option approach that assumes no expected dividends with the following weighted-average assumptions:

<i>June 30,</i>	2004	2003	2002
Stock option plan:			
Expected stock price volatility	67%	70.0%	80.0%
Risk free interest rate	2.8 - 4.0%	2.8%	4.4%
Expected life of options (in years)	5.5	5.4	5.4
Stock purchase plan:			
Expected stock price volatility	47%	75.0%	80.0%
Risk free interest rate	1.2 - 2.1%	2.2%	2.2%
Expected life of options (in years)	1-2	1-2	1-2

SFAS 123 requires the use of option pricing models that were not developed for use in valuing employee stock options. The Black-Scholes option-pricing model was developed for use in estimating the fair value of short-lived exchange traded options that have no vesting restrictions and are fully transferable. In addition, option-pricing models require the input of highly subjective assumptions, including the option's expected life and the price volatility of the underlying stock. Because the company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in the opinion of management, the existing models do not necessarily provide a reliable single measure of the fair value of employee stock options.

For purposes of pro forma disclosures required by SFAS 123, the estimated fair value of the options is amortized to expense over the options' vesting periods using straight-line method. KLA-Tencor's pro forma information is as follows:

<i>Year ended June 30, (in thousands, except per share data)</i>	2004	2003	2002
Net income, as reported	\$ 243,701	\$ 137,191	\$ 216,166
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	(82,446)	(90,880)	(123,802)
Pro forma net income	\$ 161,255	\$ 46,311	\$ 92,364

Earnings per share:

Net Income as reported						
Basic	\$	1.25	\$	0.72	\$	1.15
Diluted	\$	1.21	\$	0.70	\$	1.10
Pro forma net income						
Basic	\$	0.83	\$	0.24	\$	0.49
Diluted	\$	0.80	\$	0.24	\$	0.47

Variable Interest Entities In December 2003, FASB revised FIN 46(R). FIN 46(R) requires that if an entity is the primary beneficiary of a variable interest entity, the assets, liabilities, and results of operations of the variable interest entity should be included in the consolidated financial statements of the entity. KLA-Tencor adopted FIN 46(R) effective March 31, 2004. KLA-Tencor has a minority equity interest in a development stage company for which KLA-Tencor is considered to be the primary beneficiary within the provisions of FIN 46(R). KLA-Tencor consolidated this entity as of March 31, 2004. The impact of the consolidation did not have a material impact on KLA-Tencor's financial position or results of operations. KLA-Tencor has concluded that the rest of its equity investments, which are not material to KLA-Tencor's financial position, do not require consolidation as they are either not variable interest entities or in the event they are variable interest entities, that KLA-Tencor is not considered to be the primary beneficiary.

Reclassifications Certain prior year balances have been reclassified to conform to the current financial statement presentation. These reclassifications had no impact on previously reported results of operations or stockholders' equity.

Recent Accounting Pronouncements In December 2003, SFAS 132 was issued and amends further the annual disclosure requirements and requires new quarterly disclosures for pensions and other postretirement benefits. The revised Statement addresses disclosures only. It does not address liability measurement or expense recognition, which is determined in accordance with SFAS 87.

In March 2004, the FASB issued a proposed Statement, "Share-Based Payment, an amendment of FASB Statements Nos. 123 and 95," that addresses the accounting for share-based payment transactions in which a Company receives employee services in exchange for either equity instruments of the Company or liabilities that are based on the fair value of the Company's equity instruments or that may be settled by the issuance of such equity instruments. The proposed statement would eliminate the ability to account for share-based compensation transactions using the intrinsic method that KLA-Tencor currently uses and generally would require that such transactions be accounted for using a fair-value-based method and recognized as expense in KLA-Tencor's consolidated statement of operations. The recommended effective date of the proposed standard is currently for fiscal years beginning after December 15, 2004. Should this proposed statement be finalized in its current form, it will have a significant impact on KLA-Tencor's consolidated statement of operations as KLA-Tencor will be required to expense the fair value of KLA-Tencor's stock option grants and stock purchases under KLA-Tencor's employee stock purchase plan.

In addition the proposed standard may have a significant impact on KLA-Tencor's consolidated cash flows from operations (no impact to total consolidated cash flows) as, under this proposed standard, KLA-Tencor will be required to reclassify a portion of its tax benefit on the exercise of employee stock options from cash flows from operating activities to cash flows from financing activities.

In March 2004, the EITF reached a consensus on recognition and measurement guidance previously discussed under EITF 03-01. The consensus clarifies the meaning of other-than-temporary impairment and its application to investments in debt and equity securities, in particular investments within the scope of FASB Statement No. 115, "Accounting for Certain Investments in Debt and Equity Securities," and investments accounted for under the cost method. This consensus is to be applied to other-than-temporary impairment evaluations in reporting periods beginning after June 15, 2004. KLA-Tencor does not believe that this consensus will have a material impact on its consolidated results of operations.

NOTE 2 – FINANCIAL STATEMENT COMPONENTS

Balance Sheets

<i>June 30, (in thousands)</i>	2004	2003
Accounts receivable, net		
Accounts receivable, gross	\$ 385,171	\$ 236,152
Allowance for doubtful accounts	(12,398)	(12,617)
	<u>\$ 372,773</u>	<u>\$ 223,535</u>
Inventories:		
Customer service parts	\$ 104,445	\$ 107,709
Raw materials	68,994	30,558
Work-in-process	85,461	57,819
Demonstration equipment	58,912	40,732
Finished goods	19,602	21,981
	<u>\$ 337,414</u>	<u>\$ 258,799</u>

<i>June 30, (in thousands)</i>	2004	2003
Property and equipment:		
Land	\$ 84,053	\$ 78,364
Buildings and improvements	149,813	127,970
Machinery and equipment	254,753	222,267
Office furniture and fixtures	41,251	39,486
Leasehold improvements	135,622	132,908
Construction in process	14,672	43,437
	680,164	644,432
Less: accumulated depreciation	(304,112)	(261,703)
	\$ 376,052	\$ 382,729

<i>June 30, (in thousands)</i>	2004	2003
Other assets		
Goodwill & other intangibles	\$ 20,621	\$ 20,278
Other long-term investments	110,287	75,463
Deferred tax assets – long-term	88,593	43,032
Other	8,922	7,793
	\$ 228,423	\$ 146,566

<i>June 30, (in thousands)</i>	2004	2003
Other current liabilities:		
Warranty, and retrofit	\$ 44,497	\$ 36,827
Compensation and benefits	224,191	168,499
Income taxes payable	146,632	111,778
Restructuring accrual	821	3,240
Other accrued expenses	89,366	71,130
	\$ 505,507	\$ 391,474

<i>June 30, (in thousands)</i>	2004	2003
Accumulated other comprehensive income (loss):		
Currency translation adjustments	\$ 7,446	\$ (2,563)
Gains (losses) on cash flow hedging instruments	(1,560)	253
Unrealized gains (losses) on investments, net of taxes of \$(2,353) in 2004 and \$3,786 in 2003	(3,727)	5,997
	\$ 2,159	\$ 3,687

Statements of Operations

Year ended June 30, (in thousands)

	2004	2003	2002
Interest income and other, net			
Interest income	\$ 20,359	\$ 24,466	\$ 32,680
Interest expense	(519)	(386)	(594)
Foreign exchange gain (loss)	3,527	(3,058)	3,897
Realized gains on sale of investments	8,889	21,780	7,573
Other	(4,898)	(1,006)	(993)
	<u>27,358</u>	<u>\$ 41,796</u>	<u>\$ 42,563</u>

NOTE 3 - NON-RECURRING RESTRUCTURING AND OTHER CHARGES

Restructuring and Other Charges

In fiscal year 2004, there were no restructuring actions. In fiscal year 2003, KLA-Tencor restructured certain of its operations to realign costs with planned business levels in light of the industry downturn. Restructuring costs were classified into two main categories: facilities and other charges of \$4.6 million and severance and benefits of \$1.1 million. As part of the facilities consolidation, KLA-Tencor exited several of its leased buildings and has included the remaining net book value of the related leasehold improvements as well as the future lease payments, net of anticipated sublease revenue, in the charge. Severance and benefit charges were related to the involuntary termination of approximately 70 employees from manufacturing, engineering, sales, marketing, and administration in the United States, Japan and Europe. The restructuring actions taken in fiscal year 2003 are proceeding as planned, with the termination of employees having been completed and the facilities related lease payments KLA-Tencor expects to complete by the end of fiscal year 2006. In addition, during the first fiscal quarter of 2003, KLA-Tencor received \$15.2 million as a second and final installment on the sale of software and intellectual property associated with its *iSupport*TM on-line customer support technology, which was netted against the above non-recurring charges, resulting in a reported net gain of \$9.4 million. In addition to the restructuring action, KLA-Tencor also recorded severance charges totaling \$10.9 million in operating expenses, throughout fiscal year 2003, relating to a series of involuntary employee terminations.

In fiscal year 2002, there were no restructuring charges. KLA-Tencor recorded severance charges of \$8.5 million in operating expenses relating to a series of involuntary employee terminations throughout fiscal year 2002.

The following table shows the details of the facilities, severance and other restructuring costs accrual as of the fiscal year ended June 30, 2004:

<i>(in thousands)</i>	Balance at June 30, 2003	Utilized	Balance at June 30, 2004
Facilities and other	\$ 3,193	\$ (2,372)	\$ 821
Severance and benefits	47	(47)	—
Total	\$ 3,240	\$ (2,419)	\$ 821

NOTE 4 – MARKETABLE SECURITIES

The amortized costs and estimated fair value of securities available-for-sale as of June 30, 2004 and 2003 are as follows:

<i>June 30, 2004 (in thousands)</i>	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasuries	\$ 113,873	\$ 298	\$ (596)	\$ 113,575
Mortgage-backed securities	15,215	18	(85)	15,148
Municipal bonds	1,406,776	604	(6,496)	1,400,884
Corporate equity securities	928	250	(73)	1,105
Money market bank deposits and other	212,307	—	—	212,307
	1,749,099	1,170	(7,250)	1,743,019
Less: Cash equivalents	669,427	0	(86)	669,341
Short-term marketable securities	328,070	(84)	2,490	330,476
Long-term marketable securities	\$ 751,602	\$ 1,254	\$ (9,654)	\$ 743,202

<i>June 30, 2004 (in thousands)</i>	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
U.S. Treasuries	\$ 5,113	\$ 26	\$ —	\$ 5,139
Mortgage-backed securities	21,982	283	(2)	22,263
Municipal bonds	1,100,074	6,473	(695)	1,105,852
Corporate debt securities	15,078	99	—	15,177
Corporate equity securities	19,368	3,662	(63)	22,967
Money market bank deposits and other	218,717	—	—	218,717
	1,380,332	10,543	(760)	1,390,115
Less: Cash equivalents	509,193	12	(70)	509,135
Short-term marketable securities	345,386	4,733	(58)	350,061
Long-term marketable securities	\$ 525,753	\$ 5,798	\$ (632)	\$ 530,919

KLA-Tencor's investment portfolio consists of both corporate and government securities that have a maximum maturity of 5.5 years. The longer the duration of these securities, the more susceptible they are to changes in market interest rates and bond yields. As yields increase, those securities with a lower yield-at-cost show a mark-to-market unrealized loss. All unrealized losses are due to changes in interest rates and bond yields. We have the ability to realize the full value of all these investments upon maturity. The following table summarizes the fair value and gross unrealized losses of our long-term investments, aggregated by investment instrument and length of time that the individual securities have been in a continuous unrealized loss position at June 30, 2004:

<i>June 30, 2004 (in thousands)</i>	Total in a loss position ⁽¹⁾	
	FMV	Gross Unrealized Losses
U.S Government and agency securities	\$ 38,647	\$ (596)
Asset-backed securities	9,651	(85)
Corporate equity	40	(73)
Municipal bonds	708,119	(6,495)
Total	\$ 756,456	\$ (7,250)

⁽¹⁾ Of the total gross unrealized losses approximately \$0.4 million of gross unrealized losses relates primarily to municipal bonds with a fair value of \$59 million that have been in a loss position for 12 months or more.

The contractual maturities of debt securities classified as available-for-sale as of June 30, 2004, regardless of the consolidated balance sheet classification, are as follows:

<i>June 30, 2004 (in thousands)</i>	Cost	Estimated Fair Value
Due within one year	\$ 978,671	\$ 978,462
Due after one year through three years	617,731	613,509
Due after three years	151,769	149,942
	\$ 1,748,171	\$ 1,741,913

Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. Net realized gains for the years ended June 30, 2004 and 2003 were approximately \$9 million and \$22 million, respectively. Net realized gains and losses for the years ended June 30, 2002 was not material to KLA-Tencor's financial position or results of operations.

NOTE 5 - INCOME TAXES

The components of income before income taxes are as follows:

<i>Year ended June 30, (in thousands)</i>	2004	2003	2002
Domestic income before income taxes	\$ 258,744	\$ 151,229	\$ 256,926
Foreign income before income taxes	65,972	29,289	30,530
Total net income before taxes	\$ 324,716	\$ 180,518	\$ 287,456

The provision for income taxes is comprised of the following:

<i>Year ended June 30, (in thousands)</i>	2004	2003	2002
Current:			
Federal	\$ 73,256	\$ 33,665	\$ (1,252)
State	11,911	3,157	19,374
Foreign	20,754	17,207	17,131
	105,921	54,029	35,253
Deferred:			
Federal	(14,311)	(2,726)	60,076
State	(10,299)	(4,602)	(20,576)
Foreign	(296)	(3,374)	(3,463)
	(24,906)	(10,702)	36,037
Provision for income taxes	\$ 81,015	\$ 43,327	\$ 71,290

Actual current tax liabilities are lower than reflected above for fiscal years 2004, 2003 and 2002 by \$57 million, \$22 million and \$60 million, respectively, due primarily to the stock option deduction benefits recorded as credits to capital in excess of par value.

The significant components of deferred income tax assets (liabilities) are as follows:

<i>June 30, (in thousands)</i>	2004	2003
Deferred tax assets:		
Federal and state credit carryforwards	\$ 124,825	\$ 129,217
Employee benefits accrual	52,917	43,446
Depreciation	7,423	3,109
Non-deductible reserves and other	108,585	140,862
Deferred profit	129,816	77,337
	<u>\$ 423,566</u>	<u>\$ 393,971</u>
Deferred tax liabilities:		
Unremitted earnings of foreign subsidiaries not permanently reinvested	(11,437)	(12,148)
Unrealized (loss) gain on investments	2,353	(3,786)
Other	(19,171)	(13,772)
	<u>(28,255)</u>	<u>(29,706)</u>
Total net deferred tax assets	<u>\$ 395,311</u>	<u>\$ 364,265</u>

The reconciliation of the United States federal statutory income tax rate to KLA-Tencor's effective income tax rate is as follows:

<i>Year ended June 30,</i>	2004	2003
Federal statutory rate	35.0%	35.0%
State income taxes, net of federal benefit	0.3	(0.5)
Effect of foreign operations taxed at various rates	(1.6)	1.9
Export sales benefit	(3.8)	(5.2)
Research and development tax credit	(2.1)	(3.3)
Tax exempt interest	(1.8)	(3.8)
Other	(1.0)	(0.1)
	<u>25.0%</u>	<u>24.0%</u>
Provision for Income Taxes	<u>25.0%</u>	<u>24.0%</u>

United States federal income taxes have not been provided for the undistributed earnings of two of KLA-Tencor's foreign subsidiaries. These undistributed earnings aggregated \$44 million at June 30, 2004, and it is the KLA-Tencor's intention that such undistributed earnings be permanently reinvested. KLA-Tencor has tax credits at June 30, 2004 totaling \$132 million, of which \$18 million will begin to expire in 2021. KLA-Tencor enjoys tax holidays in Israel where it manufactures certain of its products. These tax holidays are scheduled to expire at varying times within the next ten years.

NOTE 6 - STOCKHOLDERS' EQUITY

Stockholders' Rights Plan In March 1989, KLA-Tencor implemented a plan to protect stockholders' rights in the event of a proposed takeover of KLA-Tencor. Each stockholder under the plan is entitled to one right per common stock owned. The Plan was amended in April 1996.

The Plan provides that if any person or group acquires 15% or more of KLA-Tencor's common stock, each right not owned by such person or group will entitle its holder to purchase, at the then-current exercise price, KLA-Tencor's common stock at a value of twice that exercise price. As amended to date, under the Plan, the rights are redeemable at KLA-Tencor's option for \$0.01 per right and expire in April 2006.

Stock Repurchase Program In July 1997, the Board of Directors authorized KLA-Tencor to systematically repurchase shares of its common stock in the open market. This plan was entered into to reduce the dilution from KLA-Tencor's employee benefit and incentive plans such as the stock option and employee stock purchase plans. Since the inception of the repurchase program in 1997 through June 30, 2004 the Board of Directors had authorized KLA-Tencor to repurchase a total of 17.8 million shares, including 5 million shares authorized in October 2002. In fiscal years 2004, 2003 and 2002, KLA-Tencor repurchased 1,175,000, 1,972,000 and 3,341,000 shares at an average price of \$47.49, \$33.42 and \$36.89 per share, respectively. Since the inception of the repurchase program in 1997 through June 30, 2004, KLA-Tencor has repurchased a total of 14,496,000 shares at an average price of \$33.90 per share, with an additional 3.3 million available for repurchase under the plan. All such shares remain as treasury shares.

Employee Stock Purchase Plan KLA-Tencor's employee stock purchase plan provides that eligible employees may contribute up to 10% of their eligible earnings toward the semi-annual purchase of KLA-Tencor's common stock. The employee's purchase price is derived from a formula based on the fair market value of the common stock at the time of enrollment into the offering period versus the fair market value on the date of purchase. Offering periods are generally two years in length. As the plan is non-compensatory under APB 25, no compensation expense is recorded in connection with the plan. In fiscal years 2004, 2003 and 2002 employees purchased 958,698, 1,071,571 and 1,155,213 of shares issued at a weighted average fair value of \$31.99, \$30.26 and \$29.72, respectively. The plan shares are replenished annually on the first day of each fiscal year by virtue of an evergreen provision. The provision allows for share replenishment equal to the lesser of 2,000,000 shares or the number of shares which the KLA-Tencor estimates will be required to issue under the plan during the forthcoming fiscal year. At June 30, 2004, a total of 872,071 shares were reserved and available for issuance under this plan.

Stock Option and Incentive Plans KLA-Tencor's stock option program is a broad-based, long-term retention program that is intended to attract and retain qualified management and technical employees ("knowledge employees"), and align stockholder and employee interests. Under KLA-Tencor's stock option plans, options generally have a vesting period of five years, are exercisable for a period not to exceed ten years from the date of issuance and are granted at prices not less than the fair market value of KLA-Tencor's common stock at the grant date. This program consists of three plans: one under which non-employee directors may be granted options to purchase shares of KLA-Tencor stock, another in which officers, key employees, consultants and all other employees may be granted options to purchase shares of KLA-Tencor common stock and a third in which consultants and all employees other than directors and officers may be granted options to purchase shares of KLA-Tencor common stock. Substantially all of KLA-Tencor employees that meet established performance goals and that qualify as knowledge employees participate in one of KLA-Tencor's stock option plans. Options granted to officers and employees from fiscal year 2001 through June 30, 2004 are summarized as follows (in thousands):

	2004	2003	2002	2001
Weighted average shares outstanding	194,976	189,817	187,667	185,860
Total options granted during the period	6,298	4,922	9,760	10,274
Less options forfeited	(978)	(2,416)	(1,786)	(2,418)
Net options granted	5,320	2,506	7,974	7,856
Net grants during the period as % of weighted average shares outstanding	2.7%	1.3%	4.2%	4.2%
Grants to top 5 officers during the period as a % of weighted average shares outstanding	0.3%	0.2%	0.3%	0.2%
Grants to top 5 officers during the period as a % of total options granted	8.2%	6.0%	6.0%	4.0%

During fiscal year 2004, KLA-Tencor granted options to purchase approximately 6.3 million shares of stock to employees. After deducting options forfeited the net grant of options was 5.3 million shares. The net options granted after forfeiture represented 2.7% of weighted average outstanding shares of approximately 195.0 million as of June 30, 2004.

Options granted to the top five officers, who represent the chief executive officer and each of the four other most highly compensated executive officers whose salary plus bonus exceeded \$100,000 for the fiscal year ended June 30, 2004, as a percentage of the total options granted to all employees vary from year to year. In fiscal year 2004, there were 518,950 options granted to the top five officers. In fiscal year 2004, options granted to the top five officers were a higher percentage of the total grants than in the other years shown because the Board of Directors approved additional grants to the CEO in recognition of his future potential to lead KLA-Tencor. The additional grants to the CEO totaled 83,380 options with vesting on said grants extended for up to a seven-year period.

All stock option grants to officers are approved by the Compensation Committee of the Board of Directors. All members of the Compensation Committee are independent directors, as defined in the applicable rules for issuers traded on the NASDAQ Stock Market.

The following table summarizes KLA-Tencor's stock option plans as of June 30, 2004:

	Number of securities to be issued upon exercise of outstanding options	Weighted-average exercise price of outstanding options	Number of securities remaining available for future issuance under stock option and ESPP plans
Stock option plan approved by stockholders ⁽¹⁾	20,879,143	\$ 34.00	14,252,016
Stock option plan not approved by stockholders ⁽²⁾	8,816,802	37.95	3,098,870
Total	29,695,945	\$ 35.11	17,350,886

(1) In July 2004, KLA-Tencor reserved an additional 5,903,603 shares of its common stock in accordance with the provisions of the 1982 Stock Option Plan.

(2) On November 10, 2000 the Board approved the 2000 Nonstatutory Stock Option Plan (the "2000 Plan") and amended it on November 6, 2002. The goals for the 2000 Plan is for the issuance of nonstatutory stock options to employees and consultants of the Company or any parent or subsidiary corporation; however, officers and directors of the Company are not eligible to receive options under the 2000 Plan. Options granted under the 2000 Plan have an exercise price and a term that is determined by the plan administrator and generally vest in accordance with a schedule determined by the plan administrator at the time of grant.

Upon cessation of service to the Company, the optionee will have a limited period of time, generally 90 days, in which to exercise his or her outstanding options that are vested at that time; usually this period of time is longer in the event of an optionee's death or disability. Options granted under the 2000 Plan generally are not transferable during the lifetime of an optionee; however, the plan administrator may permit the optionee to transfer all or a portion of an option to a member of the optionee's immediate family, or to a limited liability corporation, trust or partnership for the benefit of an immediate family member.

In the event that the Company is acquired by merger or asset sale, the vesting of each outstanding option under the 2000 Plan which is not to be assumed by the successor corporation will automatically accelerate in full, and all unvested shares will immediately vest and become exercisable for a period of 15 days after the optionee has been sent a notice of the acceleration. At the end of the 15-day period, unexercised options will terminate. The Board generally is authorized to amend, alter, suspend or terminate the 2000 Plan at any time, but no amendment, alteration, suspension or termination of the 2000 Plan may adversely affect any option previously granted under the plan without the written consent of the optionee. Unless sooner terminated by the Board, the 2000 Plan will terminate in 2010.

The activity under the option plans, combined, was as follows:

	Available For Grant	Options Outstanding	Weighted Average Price
Balances at June 30, 2001	8,508,074	26,289,586	\$ 26.18
Additional shares reserved	5,610,752	—	—
Options granted	(9,760,303)	9,760,303	31.83
Options canceled/expired	1,786,295	(1,786,295)	32.55
Options exercised	—	(4,173,887)	19.36
Balances at June 30, 2002	6,144,818	30,089,707	\$ 28.60
Additional shares reserved	13,280,928	—	—
Options granted	(4,922,001)	4,922,001	35.26
Options canceled/expired	2,415,973	(2,415,973)	35.16
Options exercised	—	(2,861,777)	20.94
Balances at June 30, 2003	16,919,718	29,733,958	\$ 29.94
Additional shares reserved	5,751,033	—	—
Options granted ⁽¹⁾	(6,298,343)	6,298,343	52.09
Options canceled/expired	978,478	(978,478)	38.66
Options exercised	—	(5,357,878)	25.74
Balances at June 30, 2004	17,350,886	29,695,945	\$ 35.11

(1) In addition in August 2004, KLA-Tencor granted 639,000 stock options (551,000 to non-executive employees and 88,000 to executive employees) as part of the fiscal year 2003 annual performance cycle review of KLA-Tencor.

The options outstanding at June 30, 2004 have been segregated into ranges for additional disclosure as follows:

Range of Exercise Prices	Options Outstanding			Options Vested and Exercisable	
	Number of Shares Outstanding at June 30, 2004	Weighted- Average Remaining Contract Life (in years)	Weighted- Average Exercise Price at June 30, 2004	Number Vested and Exercisable	Weighted- Average Exercise Price at June 30, 2004
\$6.66 - \$16.97	3,900,135	3.78	\$ 11.52	3,900,135	\$ 11.52
\$17.03-\$29.26	1,733,479	5.94	\$ 25.88	1,300,177	\$ 25.73
\$29.31-\$29.31	5,721,554	7.26	\$ 29.31	2,517,240	\$ 29.31
\$29.96-\$33.75	4,262,175	5.95	\$ 33.13	3,497,596	\$ 33.38
\$34.67-\$37.05	3,937,944	8.46	\$ 35.51	1,204,510	\$ 35.58
\$39.08-\$45.16	4,005,244	7.56	\$ 44.61	2,331,777	\$ 44.51
\$45.84-\$53.86	4,696,480	8.55	\$ 51.42	1,425,042	\$ 48.67
\$56.31-\$68.00	1,438,934	9.07	\$ 58.20	262,120	\$ 58.68
\$6.66- \$68.00	29,695,945	7.03	\$ 35.11	16,438,597	\$ 30.43

The weighted average fair value of options granted in fiscal years 2004, 2003 and 2002 was \$29.09, \$21.93 and \$21.87 respectively. Options exercisable were 16,438,597, 16,526,585 and 13,436,155 as of June 30, 2004, 2003 and 2002, respectively.

NOTE 7 EMPLOYEE BENEFIT PLANS

KLA-Tencor has a profit sharing program for eligible employees, which distributes on a quarterly basis, a percentage of pretax profits. In addition, KLA-Tencor has an employee savings plan that qualifies as a deferred salary arrangement under Section 401(k) of the Internal Revenue Code. Starting fiscal year 2000, KLA-Tencor has matched up to a maximum of \$1,000 or 50% of the first \$2,000 of an eligible employee's contribution, with \$500 of the amount funded from the profit sharing program. The total charge to operations under the profit sharing and 401(k) programs aggregated \$9 million, \$10 million and \$3 million in fiscal years 2004, 2003 and 2002, respectively. KLA-Tencor has no defined benefit plans in the United States. In addition to the profit sharing plan and the United States employee saving plan, several of KLA-Tencor's foreign subsidiaries have retirement plans for their full time employees, several of which are defined benefit plans.

Net periodic pension cost for defined benefit pension plans is determined in accordance with FAS 87 *Employers' Accounting for Pensions*, and is made up of several components that reflect different aspects of KLA-Tencor's pension-related financial arrangements and the cost of benefits earned by participating employees. These components are determined using certain actuarial assumptions. Summary data relating to the KLA-Tencor's foreign defined benefit pension plans, including key weighted average assumptions used is provided in the following tables:

<i>June 30 (in thousands)</i>	2004	2003
Change in projected benefit obligation		
Projected benefit obligation at beginning of fiscal year	\$ 12,625	\$ 9,521
Service cost, including plan participant contributions	2,174	2,177
Interest cost	338	378
Actuarial (gain) loss	75	556
Benefit payments	(786)	(115)
Foreign currency changes	964	108
Projected benefit obligation at the end of the fiscal year	<u>\$ 15,390</u>	<u>\$ 12,625</u>

Change in fair value of plan assets and funded status		
Fair value of plan assets at beginning of fiscal year	\$ 2,682	\$ 1,942
Actual return on plan assets	26	23
Employer contributions	646	666
Benefit and expense payments	(77)	(39)
Foreign currency changes	105	91
	<hr/>	<hr/>
Fair value of plan assets at end of fiscal year	3,382	2,682
Projected benefit obligation at the end of the fiscal year	15,390	12,625
	<hr/>	<hr/>
Projected benefit obligation in excess of fair value of plan assets	(12,008)	(9,943)
Unamortized net obligation (asset)	775	963
Intangible asset	—	(206)
Unrecognized net actuarial loss	2,461	1,759
	<hr/>	<hr/>
(Accrued) prepaid benefit cost at end of fiscal year	\$ (8,772)	\$ (7,427)
	<hr/>	<hr/>

June 30 (in thousands)

	2004	2003
Amount recognized in the statement of financial position		
Accrued benefit cost	\$ (8,772)	\$ (7,427)
Intangible assets	—	206
	<hr/>	<hr/>
Net amount recognized	\$ (8,772)	\$ (7,221)
	<hr/>	<hr/>

The accumulated benefit obligation for all defined benefit plans was \$11 million and \$9 million at June 30, 2004 and 2003, respectively.

June 30 (in thousands)

	2004	2003
Plans with accumulated benefit obligations in excess of plan assets		
Accumulated benefit obligation	9,544	9,182
Projected benefit obligation	14,176	12,625
Plan assets at fair value	2,208	2,682

June 30,

	2004	2003	2002
Weighted –average assumptions			
Discount rate	1.50 -5.25%	3.50 - 5.25%	3.5 - 4.5%
Expected return on assets	3.50 -5.25%	3.75 - 5.25%	4.5%
Rate of compensation increases	2.00 -3.25%	0 - 3.25%	3.0%

The components of KLA-Tencor's net periodic cost relating to its foreign subsidiaries defined pension plans are as follow:

<i>June 30 (in thousands)</i>	2004	2003	2002
Components of net periodic pension cost			
Service cost, net of plan participant contributions	\$ 2,174	\$ 2,177	\$ 1,609
Interest cost	338	378	245
Return on plan assets	(75)	(115)	(55)
Amortization of net transitional obligation	248	231	227
Amortization of net gain (loss)	37	17	14
Net periodic pension cost	\$ 2,722	\$ 2,688	\$ 2,040

KLA-Tencor has a non-qualified deferred compensation plan whereby certain executives may defer a portion of their salary and bonus. Participants are credited with returns based on their allocation of their account balances among mutual funds. KLA-Tencor controls the investment of these funds and the participants remain general creditors of KLA-Tencor. Distributions from the plan commence the quarter following a participant's retirement or termination of employment. At June 30, 2004, KLA-Tencor had a deferred compensation liability under the plan of \$100 million included as a component of other current liabilities on the consolidated balance sheet.

NOTE 8 - COMMITMENTS AND CONTINGENCIES

Factoring KLA-Tencor has agreements with three banking institutions to sell certain of its trade receivables and promissory notes from Japanese customers, without recourse. During fiscal year 2004 and 2003, approximately \$116 million and \$99 million of receivables were sold under these arrangements, respectively. As of June 30, 2004 and 2003, approximately \$51 million and \$27 million were outstanding, respectively, and were not included in the consolidated balance sheet as the criteria for sale treatment established by Statement of Financial Accounting Standards No. 140 (SFAS 140) "Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liability" have been met. Under SFAS 140, after a transfer of financial assets, an entity derecognizes financial assets when control has been surrendered, and derecognizes liabilities when extinguished. The total amount available under the facility is the Japanese yen equivalent of \$138 million based upon exchange rates as of June 30, 2004. KLA-Tencor does not believe it is materially at risk for any losses as a result of these agreements. In addition, from time to time KLA-Tencor will discount without recourse Letters of Credit ("LCs") received from customers in payment of goods. During the fiscal year 2004 several LCs were sold with proceeds totaling \$42 million. Discounting fees of \$0.2 million for fiscal year 2004 were equivalent to interest expense and were recorded in interest and other income net.

Facilities KLA-Tencor leases certain of its facilities under operating leases, which qualify for operating lease accounting treatment under Statement of Financial Accounting Standard 13, "Accounting for Leases," and, as such, these facilities are not included on its Condensed Consolidated Balance Sheet. Rent expense was approximately \$12.4 million, \$16.2 million and \$20.3 million for the years ended June 30, 2004, 2003 and 2002, respectively.

The following is a schedule of operating leases payments (in thousands):

Fiscal year ended June 30,	Amount
2005	\$ 8,515
2006	5,631
2007	2,809
2008	1,833
2009	1,468
Thereafter	3,659
Total minimum lease payments	\$ 23,915

The lease agreement for certain Milpitas and San Jose, California facilities had a term of five years ending in November 2002, with an option to extend up to two more years. Under the terms of the lease, KLA-Tencor, at its option, could acquire the properties at their original cost or arrange for the properties to be acquired. In November 2002, the Company purchased these facilities at the end of the lease term. The purchase transaction increased land and property by approximately \$120 million and decreased cash by the same amount.

Purchase Commitments KLA-Tencor maintains certain open inventory purchase commitments with its suppliers to ensure a smooth and continuous supply chain for key components. KLA-Tencor's liability in these purchase commitments is generally restricted to a forecasted time-horizon as mutually agreed upon between the parties. This forecast time-horizon can vary amongst different suppliers. The Company's open inventory purchase commitments were approximately \$131 million as of June 30, 2004.

Guarantees Financial Accounting Standards Board Interpretation No. 45 ("FIN 45"), "Guarantor's Requirements for Guarantees, including Indirect Indebtedness of Others." FIN 45 requires disclosures concerning KLA-Tencor's obligations under certain guarantees.

The following table provides the changes in the product warranty accrual, as required by FIN 45 for the fiscal year ended June 30, 2004:

<i>(in thousands)</i>	Amount of Liability
Balance at June 30, 2003	\$ 33,226
Accruals for warranties issued during the period	41,326
Changes in liability related to pre-existing warranties	(6,179)
Settlements made during the period	(29,508)
Balance at June 30, 2004	\$ 38,865

In connection with certain business combinations and purchased technology transactions, KLA-Tencor was subject to certain contingent consideration arrangements at June 30, 2004. These arrangements are based upon sales volume or the occurrence of other events subsequent to the acquisition and lapse in fiscal year 2005. The payment of the contingency would result in an increase to goodwill or operating expenses. Amounts paid under these arrangements have not been and are not expected to have a material effect on KLA-Tencor's financial condition or results of operations and could be \$1.1 million.

Subject to certain limitations, KLA-Tencor indemnifies its current and former officers and directors for certain events or occurrences. Although the maximum potential amount of future payments KLA-Tencor could be required to make under these agreements is theoretically unlimited, based on prior experience, KLA-Tencor believes the fair value of this liability is de minimis and no liability has been recorded.

Legal Matters KLA-Tencor is named from time to time as a party to lawsuits in the normal course of its business. Litigation, in general, and intellectual property and securities litigation in particular, can be expensive and disruptive to normal business operations. Moreover, the results of complex legal proceedings are difficult to predict.

On October 11, 2000, ADE Corporation (“ADE”), a competitor, filed a patent infringement lawsuit against KLA-Tencor in the U.S. District Court in Delaware. ADE claimed damages and sought an injunction under U.S. Patent No. 6,118,525 (“‘525 patent”). KLA-Tencor filed a counterclaim in the same court alleging that ADE has infringed four of KLA-Tencor’s patents. KLA-Tencor is seeking damages and a permanent injunction against ADE. In addition, KLA-Tencor is seeking a declaration from the District Court that the ‘525 patent is invalid. On October 22, 2001, KLA-Tencor filed a separate action for declaratory judgment against ADE in the Northern District of California requesting a declaration that U.S. Patent No. 6,292,259 (“‘259 patent”) is invalid and not infringed. That action was consolidated with the prior action in the Delaware proceeding and ADE amended its complaint in that proceeding to allege that KLA-Tencor is infringing the ‘259 patent. On August 8, 2002, the magistrate presiding over the action in the U.S. District Court in Delaware issued a recommendation that the court enter summary judgment in KLA-Tencor’s favor on the issue of non-infringement under ADE’s ‘525 patent. On the same day, the magistrate issued recommendations that the court enter summary judgment in favor of ADE on the issue of non-infringement of two of KLA-Tencor’s patents. The district court judge subsequently substantially adopted the recommendations of the magistrate regarding claims construction. The district court judge has ruled in KLA-Tencor’s favor and granted summary judgment of non-infringement regarding both the ‘525 and ‘259 patents. KLA-Tencor has voluntarily withdrawn one of its patents from this suit, and KLA-Tencor continued to pursue its claim that ADE infringes KLA-Tencor’s US Patent No. 6,215,551 (“‘551 patent”). KLA-Tencor’s case against ADE’s alleged infringement of KLA-Tencor’s patent went to trial on January 27, 2004 and on February 4, 2004, the court entered judgment in favor of ADE, ruling that the ‘551 patent is invalid. KLA-Tencor has filed post-trial motions and is evaluating appeals, if needed.

NOTE 9 – DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

Under its foreign-currency risk management strategy, KLA-Tencor utilizes derivative instruments to protect its interests from unanticipated fluctuations in earnings and cash flows caused by volatility in currency exchange rates. This financial exposure is monitored and managed by KLA-Tencor as an integral part of its overall risk management program which focuses on the unpredictability of financial markets and seeks to reduce the potentially adverse effects that the volatility of these markets may have on its operating results. KLA-Tencor continues its policy of hedging its current and anticipated foreign currency exposures with hedging instruments having tenors of up to twelve months.

KLA-Tencor accounts for derivatives in accordance with Statement of Financial Accounting Standard 133, "Accounting for Derivative Instruments and Hedging Activities" (SFAS 133). SFAS 133 requires that all derivatives be recorded on the balance sheet at fair value. Changes in the fair value of derivatives which do not qualify, or are not effective as hedges must be recognized currently in earnings. Upon adoption KLA-Tencor recognized the fair value of foreign currency forward contracts, previously held off balance sheet, and reflected their fair value on the balance sheet. These were principally offset by recording on the balance sheet the change in value of the hedged item, generally forecasted shipments. KLA-Tencor did not separately report a cumulative transition adjustment to earnings upon adoption of the standard as the impact was immaterial. All derivatives were reflected at fair value on the balance sheet at that date.

Cash flow Hedges

KLA-Tencor's international sales are primarily denominated in U.S. dollars. For foreign currency denominated sales, however, the volatility of the foreign currency markets represents risk to KLA-Tencor's margins. KLA-Tencor defines its exposure as the risk of changes in the functional-currency-equivalent cash flows (generally U.S. dollar) attributable to changes in the related foreign currency exchange rates. Upon forecasting the exposure, KLA-Tencor hedges with forward sales contracts whose critical terms are designed to match those of the underlying exposure. These hedges are evaluated for effectiveness at least quarterly using regression analysis. Ineffectiveness is measured by comparing the change in value of the forward contracts to the change in value of the underlying transaction, with the effective portion of the hedge accumulated in Other Comprehensive Income (OCI). Any measured ineffectiveness is included immediately in "Interest income and other, net" in the Consolidated Statements of Operations. Deferred hedge gains and losses and OCI associated with hedges of foreign currency sales are reclassified to revenue upon recognition in income of the underlying hedged exposure. All amounts reported in OCI at June 30, 2004 are anticipated to be reclassified to revenue within twelve months. At June 30, 2004, KLA-Tencor had cash flow hedge contracts, maturing throughout fiscal year 2004 to sell \$122 million and purchase \$15 million, in foreign currency, primarily in Japanese yen. The following table summarizes hedging activity in the OCI account during the years ended June 30, (in thousands):

	2004	2003
Beginning Balance	\$ 253	\$ (992)
Effective portion of cash flow hedging instruments	(8,233)	3,069
Reclassified to revenue upon revenue recognition	6,421	(1,824)
Ending Balance	\$ (1,559)	\$ 253

Other Foreign Currency Hedges

KLA-Tencor hedges its monetary non-functional assets and liabilities, and those of its subsidiaries. Statement of Financial Accounting Standard 52 *Foreign Currency Translation* (SFAS 52) requires that such monetary assets and liabilities be remeasured periodically for changes in the rate of exchange against the entities' functional currency. Changes in value of these assets and liabilities are recorded in "Interest income and other, net" in the Consolidated Statements of Operations. The volatility of the non-functional currencies together with the requirement to remeasure non-functional assets and liabilities may result in some volatility to KLA-Tencor's Consolidated Statements of Operations if left unhedged. In order to mitigate these effects, KLA-Tencor enters into remeasurement hedges which are forward contracts used to offset the foreign currency positions represented by non-functional monetary assets and liabilities. Remeasurement hedges are not SFAS 133 designated hedges, thus changes in value of the remeasurement hedges are recorded currently in earnings. Changes in the values of underlying monetary non-functional assets and liabilities are also recorded currently in earnings and should offset the change in value of the hedges. At June 30, 2004, KLA-Tencor had other foreign currency hedge contracts maturing throughout fiscal year 2004 to sell \$212 million and purchase \$212 million, in foreign currency, primarily in Japanese yen.

NOTE 10 – GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill

KLA-Tencor accounts for goodwill and intangibles in accordance with Statement of Financial Accounting Standards No. 141, "Business Combinations," (SFAS 141) and No. 142, "Goodwill and Other Intangible Assets" (SFAS 142). The carrying value of goodwill was \$17.6 million as of June 30, 2004 and was allocated to KLA-Tencor's reporting units pursuant to SFAS 142. In accordance with SFAS 142, KLA-Tencor evaluated during the three months ended December 31 2003, the goodwill by reporting unit for impairment and concluded there was no impairment of goodwill.

Other Intangible Assets

The following table reflects the components of other intangible assets as of June 30, 2004 (in thousands):

	Gross Carrying Amount	Accumulated Amortization	Net Amount
Existing technology	\$ 1,852	\$ 992	860
Patents	4,761	2,823	1,938
Trademark	625	417	208
Subtotal	\$ 7,238	\$ 4,232	\$ 3,006

Intangible assets other than goodwill are amortized on a straight-line basis over their estimated useful lives. For the fiscal year ended June 30, 2004 amortization expense for other intangible assets was \$1.5 million. During the fiscal year ended June 30, 2003, as a result of the discontinuation of a product, management evaluated certain intangible assets for impairment. Using a fair-value approach based on discounted future cash flows, management determined that these assets were impaired. For the fiscal year ended June 30, 2003 amortization expense for other intangible assets was \$4.2 million, including an impairment charge of \$2.0 million. For the years ended June 30, 2002, amortization expense for other intangible assets was \$2.1 million. KLA-Tencor will continue to review the carrying value of the other intangible assets in relation to the fair value of the discounted cash flows. Based on intangibles assets recorded at June 30, 2004, and assuming no subsequent addition to or impairment of the underlying assets, the annual estimated amortization expense is expected to be as follows (in thousands):

Fiscal year ended June 30:	Amount
2005	\$ 1,633
2006	889
2007	62
2008 and thereafter	422
Subtotal	\$ 3,006

NOTE 11 – SEGMENT REPORTING AND GEOGRAPHIC INFORMATION

KLA-Tencor operates in one segment in accordance with the provisions of SFAS 131, “Disclosures about Segments of an Enterprise and Related Information.” Operating segments are defined as components of an enterprise about which separate financial information is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. KLA-Tencor’s chief operating decision maker is the Chief Executive Officer.

KLA-Tencor is engaged primarily in designing, manufacturing, and marketing yield management and process monitoring systems for the semiconductor industry. All operating units have been aggregated due to their inter-dependencies, commonality of long-term economic characteristics, products and services, the production processes, class of customer and distribution processes. Since KLA-Tencor operates in one segment, all financial segment information required by SFAS 131 can be found in the Consolidated Financial Statements.

KLA-Tencor's significant operations outside the United States include a manufacturing facility in Israel and sales, marketing and service offices in Western Europe, Japan, and the Asia Pacific region. For geographical reporting, revenues are attributed to the geographic location in which the customer is located. Long-lived assets consist primarily of net property and equipment and are attributed to the geographic location in which they are located. The following is a summary of operations by entities located within the indicated geographic areas for fiscal years 2004, 2003 and 2002.

<i>Year ended June 30, (in thousands)</i>	2004	2003	2002
Revenues:			
United States	\$ 342,678	\$ 407,225	\$ 539,952
Europe & Israel	186,424	193,264	238,897
Japan	394,740	276,321	350,668
Taiwan	263,386	253,218	268,492
Asia Pacific	309,490	193,021	239,273
Total	\$ 1,496,718	\$ 1,323,049	\$ 1,637,282
June 30, (in thousands)			
Long-lived assets:			
United States	\$ 367,547	\$ 372,441	\$ 285,125
Europe & Israel	6,263	6,460	8,077
Japan	4,280	4,757	8,878
Taiwan	2,348	2,520	3,732
Asia Pacific	4,536	4,383	5,436
Total	\$ 384,974	\$ 390,561	\$ 311,248

The following is a summary of major product revenues by reporting unit for fiscal years 2004, 2003 and 2002 (as a percentage of total revenue).

	2004	2003	2002
Defect Inspection	61%	57%	66%
Metrology	15%	17%	15%
Service	20%	20%	13%
Software and other	4%	6%	6%
	100%	100%	100%

For the fiscal period ended June 30, 2004, no customer accounted for more than 10% of net revenues and one customer accounted for 10% of net accounts receivable. For the fiscal period ended June 30, 2003, one customer accounted for 11% of revenues and two customers accounted for 13% and 11% of net accounts receivable. No single customer accounted for 10% or more of net revenues or net accounts receivable for the fiscal period ended June 30, 2002.

NOTE 12 - QUARTERLY CONSOLIDATED RESULTS OF OPERATIONS (UNAUDITED)

The following table presents certain unaudited consolidated quarterly financial information for the eight quarters ended June 30, 2004. In management's opinion, this information has been prepared on the same basis as the audited Consolidated Financial Statements appearing elsewhere in this Form 10-K and includes all adjustments (consisting only of normal recurring adjustments) necessary to present fairly the unaudited quarterly results of operations set forth herein.

(In thousands, except per share data)

	September 30	December 31	March 31	June 30
Fiscal 2004:				
Revenues	\$ 317,970	\$ 338,538	\$ 389,772	\$ 450,438
Gross profit	162,429	182,169	219,167	262,940
Income from operations	36,968	51,062	87,753	121,575
Net income	36,837	44,515	66,182	96,167
Net income per share:				
Basic	\$ 0.19	\$ 0.23	\$ 0.34	\$ 0.49
Diluted	\$ 0.18	\$ 0.22	\$ 0.33	\$ 0.48
Fiscal 2003:				
Revenues	\$ 375,520	\$ 334,918	\$ 304,298	\$ 308,313
Gross profit	189,176	163,780	147,567	151,021
Income from operations	57,284	26,756	25,600	29,082
Net income	51,265	29,228	27,339	29,359
Net income per share:				
Basic	\$ 0.27	\$ 0.15	\$ 0.14	\$ 0.15
Diluted	\$ 0.26	\$ 0.15	\$ 0.14	\$ 0.15

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of KLA-Tencor Corporation

In our opinion, the consolidated financial statements listed in the index appearing under Item 8 present fairly, in all material respects, the financial position of KLA-Tencor Corporation and its subsidiaries at June 30, 2004 and 2003, and the results of their operations and their cash flows for each of the three years in the period ended June 30, 2004, 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 under Item 15(a) (2) presents 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 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 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.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP

San Jose, California
August 18, 2004

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

Our management evaluated, with the participation of our Chief Executive Officer and our Chief Financial Officer, the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, our Chief Executive Officer and our Chief Financial Officer have concluded that our disclosure controls and procedures are effective to ensure that information we are required to disclose in reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms.

Changes in internal controls over financial reporting

There was no change in our internal controls over financial reporting that occurred during the fourth fiscal quarter of fiscal year 2004 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

For the information required by this Item, see “Information About Executive Officers”, “Section 16(a) Beneficial Ownership Reporting Compliance”, and “Our Corporate Governance Practices – Standards of Business Conduct” in the Proxy Statement, which is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

For the information required by this Item, see “Executive Compensation And Other Matters” in the Proxy Statement, which is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

For the information required by this Item, see “Security Ownership of Certain Beneficial Owners and Management” in the Proxy Statement, which is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

For the information required by this Item, see “Certain Transactions and Other Matters” in the Proxy Statement, which is incorporated herein by reference.

ITEM 14. PRINCIPAL INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEES AND SERVICES

For the information required by this Item, see “Ratification of Appointment of Accountants” in the Proxy Statement, which is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

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

1. Financial Statements:

The following financial statements and schedules of the Registrant are contained in Item 8 of this Annual Report on Form 10-K:

Consolidated Balance Sheets at June 30, 2004 and 2003
Consolidated Statements of Operations for each of the three years in the period ended June 30, 2004
Consolidated Statements of Stockholders’ Equity for each of the three years in the period ended June 30, 2004
Consolidated Statements of Cash Flows for each of the three years in the period ended June 30, 2004

2. Financial Statement Schedules:

The following financial statement schedule of the Registrant is filed as part of this Annual Report on Form 10-K and should be read in conjunction with the financial statements:

Schedule II – Valuation and Qualifying Accounts

All other schedules are omitted because they are either not applicable or the required information is shown in the Consolidated Financial Statements or notes thereto.

3. Exhibits

Exhibit No	Description
3.1	Amended and Restated Certificate of Incorporation (1)
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation (2)
3.3	Bylaws, as amended November 17, 1998 (3)
4.1	Amended and Restated Rights Agreement dated as of August 25, 1996 between the Company and First National Bank of Boston, as Rights Agent. The Agreement includes the Form of Right Certificate as Exhibit A and the Summary of Terms of Rights as Exhibit B (4)
10.1	1998 Outside Director Option Plan (5)*
10.2	1997 Employee Stock Purchase Plan (6)*
10.3	Tencor Instruments Amended and Restated 1993 Equity Incentive Plan (7)
10.4	Restated 1982 Stock Option Plan, as amended November 18, 1996 (8)*
10.5	Excess Profit Stock Plan (9)*
10.6	Form of KLA-Tencor Corporation Corporate Officers Retention Plan (10)*
10.7	Form of Indemnification Agreement (11)*
10.8	Livermore Land Purchase and Sale Agreement (12)
10.9	Severance Agreement and General Release
21.1	List of Subsidiaries
23.1	Consent of Independent Registered Public Accounting Firm

- 31.1 Certification of Chief Executive Officer Pursuant to Rule 13a-14 under the Securities Exchange Act of 1934
31.2 Certification of Chief Financial Officer Pursuant to Rule 13a-14 under the Securities Exchange Act of 1934
32 Certifications Pursuant to 18 U.S.C. Section 1350
* Denotes a management contract or compensatory plan or arrangement.

Notes

- (1) Filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 1997
- (2) Filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended December 31, 2000
- (3) Filed as Exhibit 3.2 to the Company's Registration Statement on Form S-8 filed December 4, 1998, SEC File No. 333-68415.
- (4) Filed as Exhibit 1 to the Company's report on form 8-A/A, Amendment No. 2 to the Registration Statement on Form 8-A filed September 24, 1996, SEC File No. 0-9992.
- (5) Filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 filed December 4, 1998, SEC File No. 333-68423.
- (6) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-8 filed January 30, 1998, SEC File No. 333-45271.
- (7) Filed as Exhibit 10.75 to the Company's Registration Statement on Form S-8 filed March 7, 1997, SEC File No. 333-22939.
- (8) Filed as Exhibit 10.74 to the Company's Registration Statement on Form S-8 filed March 7, 1997, SEC File No. 333-22941.
- (9) Filed as Exhibit 10.15 to the Company's Registration Statement on Form S-8 filed August 7, 1998, SEC File No. 333-60883.
- (10) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-4 filed March 11, 1997, SEC File No. 333-23075.
- (11) Filed as Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended June 30, 1997.
- (12) Filed as Exhibit 10.16 to the Company's Annual Report on Form 10-K for the year ended June 30, 2000.

(b) Reports on Form 8-K

On April 21, 2004, KLA-Tencor furnished a report on Form 8-K relating to its financial information for the quarter and nine months ended March 31, 2004, as presented in a press release on April 21, 2004.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on August 30, 2004.

KLA-TENCOR CORPORATION

By: /s/ KENNETH L. SCHROEDER

Kenneth L. Schroeder
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ KENNETH LEVY</u> Kenneth Levy	Chairman of the Board and Director	August 30, 2004
<u>/s/ KENNETH L. SCHROEDER</u> Kenneth L. Schroeder	President, Chief Executive Officer and Director (Principal Executive Officer)	August 30, 2004
<u>/s/ JOHN H. KISPERT</u> John H. Kispert	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	August 30, 2004
<u>/s/ EDWARD W. BARNHOLT</u> Edward W. Barnholt	Director	August 30, 2004
<u>/s/ H. RAYMOND BINGHAM</u> H. Raymond Bingham	Director	August 30, 2004
<u>/s/ ROBERT T. BOND</u> Robert T. Bond	Director	August 30, 2004
<u>/s/ RICHARD J. ELKUS, Jr.</u> Richard J. Elkus, Jr.	Director	August 30, 2004
<u>/s/ STEPHEN P. KAUFMAN</u> Stephen P. Kaufman	Director	August 30, 2004
<u>/s/ MICHAEL E. MARKS</u> Michael E. Marks		August 30, 2004
<u>/s/ JON D. TOMPKINS</u> Jon D. Tompkins	Director	August 30, 2004
<u>/s/ LIDA URBANEK</u> Lida Urbaneck	Director	August 30, 2004

SCHEDULE II

Valuation and Qualifying Accounts

<i>(in thousands)</i>	Balance at Beginning of Period	Charged to Expense	Deductions	Balance At End of Period
Year Ended June 30, 2002:				
Allowance for Doubtful Accounts	\$ 15,012	\$ 1,464	\$ (3,085)	\$ 13,391
Year Ended June 30, 2003:				
Allowance for Doubtful Accounts	\$ 13,391	\$ 192	\$ (966)	\$ 12,617
Year Ended June 30, 2004:				
Allowance for Doubtful Accounts	\$ 12,617	\$ 57	\$ (276)	\$ 12,398

EXHIBIT

As required under Item 15, "Exhibits, Financial Statement Schedules and Reports on Form 8-K," the exhibits filed as part of this report are provided in this separate section. The exhibits included in this section are as follows:

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation (1)
3.2	Certificate of Amendment of Amended and Restated Certificate of Incorporation (2)
3.3	Bylaws, as amended November 17, 1998 (3)
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- (7) Filed as Exhibit 10.75 to the Company's Registration Statement on Form S-8 filed March 7, 1997, SEC File No. 333-22939.
- (8) Filed as Exhibit 10.74 to the Company's Registration Statement on Form S-8 filed March 7, 1997, SEC File No. 333-22941.
- (9) Filed as Exhibit 10.15 to the Company's Registration Statement on Form S-8 filed August 7, 1998, SEC File No. 333-60883.
- (10) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-4 filed March 11, 1997, SEC File No. 333-23075.
- (11) Filed as Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended June 30, 1997.
- (12) Filed as Exhibit 10.16 to the Company's Annual Report on Form 10-K for the year ended June 30, 2000.

SEVERANCE AGREEMENT AND GENERAL RELEASE

This Severance Agreement and General Release ("Agreement") is made and entered into by and between KLA-Tencor Corporation, a Delaware corporation, (the "Company"), and Gary E. Dickerson, an individual ("Employee").

WHEREAS, Employee is presently employed by the Company as President and Chief Operating Officer; and,

WHEREAS, the Company and Employee have agreed that (i) Employee shall resign his current position with the Company effective as of April 30, 2004, (ii) Employee shall be provided with the benefits specified herein, (iii) Employee shall release the Company from any and all claims arising out of or relating to his employment to date with the Company, and (iv) following April 30, 2004, Employee shall continue employment with the Company in a different capacity consistent with terms described herein;

NOW THEREFORE, in consideration of the mutual promises made herein and the benefits provided pursuant to such promises, the Company and Employee (jointly referred to as "the Parties") hereby agree as follows:

1. Employment Until Resignation Date.
 - a. Resignation and Title. Employee hereby resigns from his position of President and Chief Operating Officer as of April 30, 2004 (the "Resignation Date").
 - b. Payment of Salary. Through and including the Resignation Date, the Company shall pay Employee all salary and wages, and shall permit Employee to participate in any and all other benefits programs for which Employee is eligible.
 - c. Termination of Change of Control Agreement. Effective immediately on the Resignation Date, Employee's "Management Retention Agreement" dated November 26, 2001 shall terminate and be of no further force or effect.
2. Employment After Resignation Date.
 - a. Title After Resignation Date. From May 1, 2004 until the termination of this Agreement, Employee's job title will be "Senior Vice President, New Business Operations". After the Resignation Date, Employee will continue to report to the Company's Chief Executive Officer.

- b. PTO Period. Commencing on May 1, 2004 and continuing until June 30, 2004 (the "PTO Period"), Employee shall exhaust his accrued personal time off ("PTO"). During the PTO Period, Employee shall remain a full time employee of the Company and will receive compensation, stock option vesting and health care benefits at the same level and amount as he received prior to the Resignation Date.
- c. Severance Pay Period. From July 1, 2004 through the earlier of the termination of this Agreement or March 31, 2006 (the "Severance Pay Period"), Employee shall continue as a regular employee of the Company and shall provide to the Company such employment services as the Company and Employee may agree. The Company will provide Employee with an office, computer, phone, and such other items and materials as are reasonably necessary for Employee to perform the agreed upon services and assignments.
 - i. Compensation. As compensation to Employee for services rendered to the Company during the Severance Pay Period, the Company shall pay to Employee a salary equal to one half of his current base salary effective as of the Resignation Date.
 - ii. Healthcare and Other Benefits. During the Severance Pay Period, Employee shall continue to receive all medical, dental, life, accident, and disability insurances and benefits that Employee was receiving from the Company as of the Resignation Date; provided, however, Employee will not accrue PTO.
- d. Termination for Accepting Other Employment. During the Severance Pay Period the Employee shall advise the Company if Employee performs any work or services as an employee or independent contractor for any third party (including, but not limited to, a corporation, partnership, limited liability company, or other entity or individual). If during the Severance Pay Period the Employee performs any such work or services for a third party, this Agreement shall automatically terminate, Employee's employment with the Company shall terminate and Employee shall no longer receive benefits under this Agreement.
- e. Non-Solicit. Employee agrees that for a period of twenty-four months from the Resignation Date, Employee will not directly or indirectly solicit for hire any employees of the Company.
- f. Public Announcement. On the Resignation Date, Company agrees to announce Employee's resignation from his duties as Chief Operating Officer (the "Resignation") by releasing the press release contained in the form of the attached Appendix A. In responding to any questions regarding the Resignation, the Company will direct questions to Employee and will not respond in substance about Employee's reasons for the Resignation.

g. Confidentiality and Non-Disparagement. Employee and Company agree that neither shall directly or indirectly disclose any of the terms of this Agreement to anyone other than his immediate family or counsel, or other necessary parties, except as such disclosure may be required for accounting or tax advice or reporting purposes, or as otherwise may be required by law. Each party agrees that it will refrain from making any disparaging remarks about the other that might negatively affect relationships with third parties.

3. Stock Option Vesting. Except as otherwise provided in Paragraph 2 above, all outstanding stock options which had been granted to the Employee by the Company prior to the Resignation Date shall continue to vest in accordance with the terms and conditions of the applicable original option agreements relating to such options; provided that the vesting rate shall continue as though Employee were employed on a full-time basis through the PTO Period and the Severance Pay Period. Employee shall not be eligible for and shall not receive any further stock option grants from and after the Resignation Date. Employee's outstanding stock options and their vesting provisions are set forth in Appendix B. Company will provide Employee at least 20 days notice of the termination or expiration of any stock option.

4. Bonus. Employee shall be eligible to receive applicable full year bonus payments for Fiscal Year 2004, including bonuses under the Management Bonus Program and Executive Supplemental Bonus Program. The timing and amount, if any, of such bonus payment shall be based on the terms of the respective bonus programs for which Employee is eligible. Employee will not be eligible to receive bonuses for fiscal years after Fiscal Year 2004.

5. Outplacement. Employee will be eligible to receive Company-paid outplacement services valued at no more than \$5,000 from an outplacement services provider selected by Employee.

6. Release of Claims. Employee agrees that the foregoing consideration represents payment and settlement in full of any and all outstanding obligations owed to Employee by the Company. Employee, on behalf of Employee and his heirs, executors and assigns, on the one hand, and the Company and its officers, directors, employees, agents, investors, stockholders, administrators, predecessor and successor corporations, and assigns, on the other hand, hereby mutually fully and forever release one another of and from any claim, duty, obligation or cause of action relating to any matters of any kind, or nature whatsoever, whether presently known or unknown, suspected or unsuspected, that any of them may possess arising from any omissions, acts or facts that have occurred up until and including the Effective Date of this Agreement including, without limitation:

- (a) any and all claims relating to or arising from Employee's employment relationship with the Company or its predecessor corporations and the termination of that relationship;
- (b) any and all claims relating to, or arising from, Employee's right to purchase, or actual purchase of shares of stock of the Company or the stock of its predecessor corporations (other than rights under outstanding stock options);
- (c) any and all claims for wrongful discharge of employment; breach of contract, both express and implied; breach of a covenant of good faith and fair dealing, both express and implied; negligent or intentional infliction of emotional distress; negligent or intentional misrepresentation; negligent or intentional interference with contract or prospective economic advantage; and defamation;
- (d) any and all claims for violation of any federal, state or municipal statute, including, but not limited to, Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, the Age Discrimination in Employment Act of 1967, the Americans with Disabilities Act of 1990, and the California Fair Employment and Housing Act;
- (e) any and all claims arising out of any other case law, laws and regulations relating to employment or employment discrimination;
- (f) **any rights Employee may have under the Age Discrimination in Employment Act of 1967 ("ADEA"). Employee further acknowledges that he has been advised by this writing that (i) he should consult with an attorney prior to executing this Agreement; (ii) he has at least twenty-one (21) days within which to consider this Agreement; (iii) he has at least seven (7) days following the execution of this Agreement by the Parties to revoke the Agreement; and (iv) this Agreement shall not be effective until the revocation period has expired; and**
- (g) any and all claims for attorneys' fees and costs.

The Company and Employee agree that the release set forth in this section shall be and remain in effect in all respects as a complete general release as to the matters released. Employee understands the significance of and expressly waives the provisions of California Civil Code Section 1542 which provides that:

"A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

This release does not extend to any obligations incurred under this Agreement.

7. Tax Consequences. The Company makes no representations or warranties with respect to the tax consequences of the payment of any sums to Employee under the terms of this Agreement. Employee agrees and understands that he is responsible for payment, if any, of local, state and/or federal taxes on the sums paid hereunder by the Company and any penalties or assessments thereon. All payments made to Employee pursuant to this Agreement shall be subject to applicable state and federal payroll and withholding taxes.

8. No Admission of Liability. No action taken by the Parties hereto either previously or in connection with this Agreement shall be deemed or construed to be (a) an admission of the truth or falsity of any claims heretofore made or (b) an acknowledgment or admission by either party of any fault or liability whatsoever to the other party or to any third party.

9. Costs. The Parties shall each bear their own costs, expert fees, attorneys' fees and other fees incurred in connection with this Agreement.

10. Arbitration and Equitable Relief.

(a) The Parties agree that any dispute or controversy arising out of, relating to, or in connection with this Agreement, or the interpretation, validity, construction, performance, breach, or termination thereof shall be settled by binding arbitration to be held in Santa Clara County, California, in accordance with the National Rules for the Resolution of Employment Disputes then in effect of the American Arbitration Association (the "Rules"). The arbitrator may grant injunctions or other relief in such dispute or controversy. The decision of the arbitrator shall be final, conclusive and binding on the Parties. Judgment may be entered on the arbitrator's decision in any court having jurisdiction.

(b) The arbitrator shall apply California law to the merits of any dispute or claim, without reference to rules of conflict of law. The arbitration proceedings shall be governed by federal arbitration law and by the Rules, without reference to state arbitration law. The Parties expressly consent to the personal jurisdiction of the state and federal courts located in California for any action or proceeding arising from or relating to this Agreement and/or relating to any arbitration in which the Parties are participants.

(c) The Company and Employee shall each pay one-half of the costs and expenses of such arbitration, and shall separately pay their own counsel fees and expenses.

(d) THE PARTIES HERETO HAVE READ AND UNDERSTAND SECTION 10, WHICH DISCUSSES ARBITRATION. THE PARTIES HERETO UNDERSTAND THAT BY SIGNING THIS AGREEMENT, THEY AGREE TO SUBMIT ANY FUTURE CLAIMS ARISING OUT OF, RELATING TO, OR IN CONNECTION WITH THIS AGREEMENT, OR THE INTERPRETATION, VALIDITY, CONSTRUCTION, PERFORMANCE, BREACH, OR TERMINATION THEREOF TO BINDING ARBITRATION, AND THAT THIS ARBITRATION CLAUSE CONSTITUTES A WAIVER OF THEIR RIGHT TO A JURY TRIAL AND RELATES TO THE RESOLUTION OF ALL DISPUTES RELATING TO ALL ASPECTS OF THE EMPLOYER/EMPLOYEE RELATIONSHIP, INCLUDING BUT NOT LIMITED TO, THE FOLLOWING CLAIMS:

(i) ANY AND ALL CLAIMS FOR WRONGFUL DISCHARGE OF EMPLOYMENT; BREACH OF CONTRACT, BOTH EXPRESS AND IMPLIED; BREACH OF THE COVENANT OF GOOD FAITH AND FAIR DEALING, BOTH EXPRESS AND IMPLIED; NEGLIGENT OR INTENTIONAL INFLICTION OF EMOTIONAL DISTRESS; NEGLIGENT OR INTENTIONAL MISREPRESENTATION; NEGLIGENT OR INTENTIONAL INTERFERENCE WITH CONTRACT OR PROSPECTIVE ECONOMIC ADVANTAGE; AND DEFAMATION;

(ii) ANY AND ALL CLAIMS FOR VIOLATION OF ANY FEDERAL STATE OR MUNICIPAL STATUTE, INCLUDING, BUT NOT LIMITED TO, TITLE VII OF THE CIVIL RIGHTS ACT OF 1964, THE CIVIL RIGHTS ACT OF 1991, THE AGE DISCRIMINATION IN EMPLOYMENT ACT OF 1967, THE AMERICANS WITH DISABILITIES ACT OF 1990, THE FAIR LABOR STANDARDS ACT, THE CALIFORNIA FAIR EMPLOYMENT AND HOUSING ACT, AND LABOR CODE SECTION 201, *et seq.* AND

(iii) ANY AND ALL CLAIMS ARISING OUT OF ANY OTHER CASE LAW, LAWS, AND REGULATIONS RELATING TO EMPLOYMENT OR EMPLOYMENT DISCRIMINATION.

11. Authority. The Company represents and warrants that the undersigned has the authority to act on behalf of the Company and to bind the Company and all who may claim through it to the terms and conditions of this Agreement. Employee represents and warrants that he has the capacity to act on his own behalf and on behalf of all who might claim through Employee to bind them to the terms and conditions of this Agreement.

12. No Representations. Each party represents that it has had the opportunity to consult with an attorney, and has carefully read and understands the scope and effect of the provisions of this Agreement. Neither party has relied upon any representations or statements made by the other which are not specifically set forth in this Agreement.

13. Severability. In the event that any provision hereof becomes or is declared by a court of competent jurisdiction to be illegal, unenforceable or void, this Agreement shall continue in full force and effect without said provision.

14. Entire Agreement. This Agreement constitutes the entire agreement and understanding between the Company and Employee concerning Employee's separation from the Company, and supersedes and replaces any and all prior agreements and understandings concerning Employee's relationship with the Company and its predecessor corporations and compensation from the Company and its predecessor corporations.

15. No Oral Modification. This Agreement may only be amended in writing signed by Employee and the President or Chief Executive Officer of the Company.

Form of Press Release

Options

KLA-Tencor Subsidiaries

Name	State or Other Jurisdiction of Incorporation
DOMESTIC SUBSIDIARIES	
International Sales & Business, Inc.	California
KLA-Tencor Building Corporation	California
KLA-Tencor DISC Corporation	California
KLA-Tencor International Corporation	California
KLA-Tencor Klinnik Corporation	California
KLA-Tencor Technologies Corporation	California
KLA-Tencor China Corporation	California
KLA-Tencor Asia-Pac Distribution Corporation	Delaware
VLSI Standards, Inc.	California
INTERNATIONAL SUBSIDIARIES	
KLA-Tencor Corporation (Cayman) Limited, I	Cayman Islands
KLA-Tencor Corporation (Cayman) Limited, II	Cayman Islands
KLA-Tencor Corporation (Cayman) Limited, III	Cayman Islands
KLA-Tencor (Cayman) Limited IV	Cayman Islands
KLA-Tencor Corporation (Israel) Ltd.	Israel
KLA-Tencor Holding Limited	Israel
KLA-Tencor Corporation 1992 Ltd.	Israel
KLA-Tencor Integrated Metrology (Israel) (2002) Ltd.	Israel
KLA-Tencor Italy S.R.L.	Italy
KLA-Tencor Japan, Ltd.	Japan
VLSI Standards, K.K.	Japan
KLA-Tencor GmbH	Germany
KLA-Tencor France SARL	France
KLA-Tencor Korea, Inc.	Korea
KLA-Tencor Limited	United Kingdom
KLA-Tencor (Services) Limited	United Kingdom
KLA-Tencor (Malaysia) Sdn Bhd	Malaysia
KLA-Tencor (Singapore) PTE, Ltd.	Singapore
KLA-Tencor International Trading (Shanghai) Co., Ltd.	China
KLA-Tencor Microelectronics Equipment (Tianjin) Co., Ltd.	China
KLA-Tencor Semiconductor Equipment Technology (Shanghai) Co., Ltd.	China
KLA Instruments S.A.	Switzerland
Yield Analysis Software Technologies, Inc.	Taiwan
Lee Ta Technologies (BVI), Inc.	British Virgin Islands
KLA-Tencor (Thailand) Ltd.	Thailand
KLA-Tencor Software India Private Limited	India

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 333-113358, No. 333-100166, No. 33-26002, No. 33-42973, No. 33-42982, No. 33-42975, No. 33-55362, No. 33-88662, No. 333-03003, No. 333-22939, No. 333-22941, No. 333-26681, No. 333-32537, No. 333-45271, No. 333-60887, No. 333-60883, No. 333-68423, No. 333-68415, No. 333-85121, No. 333-85123, No. 333-46598, No. 333-49766, No. 333-49828, No. 333-60864, No. 333-60866, and No. 333-75944) and in the Prospectus constituting part of the Registration Statement on Form S-3 (No. 333-52393) of KLA-Tencor Corporation of our report dated August 18, 2004 relating to the financial statements and the financial statement schedule, which appears in this Annual Report on Form 10-K.

/s/ PRICEWATERHOUSECOOPERS LLP

San Jose, California
August 27, 2004

**Certification of Chief Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Kenneth L. Schroeder certify that:

1. I have reviewed this annual report on Form 10-K of KLA-Tencor Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over the financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

August 30, 2004

(Date)

/s/ KENNETH L. SCHROEDER

**Kenneth L. Schroeder
President and
Chief Executive Officer
(Principal Executive Officer)**

**Certification of Chief Financial Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, John H. Kispert certify that:

1. I have reviewed this annual report on Form 10-K of KLA-Tencor Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over the financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

August 30, 2004

(Date)

/s/ JOHN H. KISPERT

**John H. Kispert
Executive Vice President
and Chief Financial Officer
(Principal Accounting Officer)**

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Kenneth L. Schroeder, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of KLA-Tencor Corporation on Form 10-K for the fiscal year ended June 30, 2004 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of KLA-Tencor Corporation.

August 30, 2004

Dated

By: /s/ KENNETH L. SCHROEDER

Name: Kenneth L. Schroeder
Title: President and
Chief Executive Officer

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, John H. Kispert, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Annual Report of KLA-Tencor Corporation on Form 10-K for the fiscal year ended June 30, 2004 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Annual Report on Form 10-K fairly presents in all material respects the financial condition and results of operations of KLA-Tencor Corporation.

August 30, 2004

Dated

By: /s/ JOHN H. KISPERT

Name: John H. Kispert
Title: Executive Vice President and
Chief Financial Officer