

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, 2001

OR

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

FOR THE TRANSITION PERIOD FROM _____ TO _____

COMMISSION FILE 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) 875-6000
SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

TITLE OF EACH CLASS	NAME OF EACH EXCHANGE ON WHICH REGISTERED
NONE	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.

The aggregate market value of the voting stock held by non-affiliates of the registrant based upon the closing price of the registrant's stock, as of September 14, 2001, was \$8,317,338,669. 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 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 188,175,083 shares of Common Stock outstanding as of September 14, 2001.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Annual Meeting of Stockholders ("Proxy Statement") to be held on November 9, 2001, and to be filed pursuant to Regulation 14A within 120 days after registrant's fiscal year ended June 30, 2001, are incorporated by reference into Part III of this Report.

<TABLE>
<CAPTION>

	Page
<S>	----
<C>	<C>
PART I	
Item 1. Business	3
Item 2. Properties	19
Item 3. Legal Proceedings	21
Item 4. Submission of Matters to a Vote of Security Holders	21
PART II	
Item 5. Matters for the Registrant's Common Stock and Related Shareholder Matters.....	22
Item 6. Selected Financial Data	22
Item 7. Management's Discussion and Analysis of Results of Operations and Financial Condition.....	24
Item 7A. Quantitative and Qualitative Disclosures About Market Risk ...	37
Item 8. Financial Statements and Supplementary Data	38
Consolidated Balance Sheets at June 30, 2000 and June 30, 2001	39
Consolidated Statements of Operations for each of the three years in the period ended June 30, 2001	40
Consolidated Statements of Stockholders' Equity for each of the three years in the period ended June 30, 2001 ...	41
Consolidated Statements of Cash Flows for each of the three years in the period ended June 30, 2001	42
Notes to Consolidated Financial Statements.....	43
Quarterly Results of Operations (Unaudited).....	65
Report of Independent Accountants.....	68
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	69
PART III	
Item 10. Directors and Executive Officers of the Registrant	70
Item 11. Executive Compensation	72
Item 12. Security Ownership of Certain Beneficial Owners and Management	72
Item 13. Certain Relationships and Related Transactions	72
PART IV	
Item 14. Exhibits, Financial Statements, Schedules, and Report on Form 8-K.....	73
Signatures.....	76
Schedule II Valuation and Qualifying Accounts.....	78
Exhibits.....	79

</TABLE>

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 included in or incorporated by reference in this Annual Report on Form 10-K, other than statements of historical fact, are forward-looking statements. Such forward-looking statements include, among others, those statements regarding the future results of our operations; technological trends in the semiconductor industry; our future product offerings and product features, as well as industry adoption of new technology; anticipated revenue from various domestic and international regions; international sales and operations; maintenance of competitive advantage; success of our product offerings; completion of backlog; creation of development and engineering programs for research and development; attraction and retention of 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; construction of our new Livermore, California campus; the outcome of any litigation to which we are a party; 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; 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 Results of Operations and Financial Condition" 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 2002. You are cautioned not to place undue reliance on these forward-looking statements.

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 manufacturers manage yield throughout the entire wafer fabrication process - from research and development to final mass production yield analysis.

3

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

KLA-Tencor Corporation 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 July 1975 and Tencor Instruments 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 Corporation.

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 one surface, upon which the circuits are made.

The fabrication of an integrated circuit ("IC" or "chip") is accomplished by depositing a series of film layers upon a silicon wafer 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 performs the "smart" functions of the chip; and the upper structure, typically consisting of "interconnect" circuitry, which connects the components in the lower structure.

Current Trends

Companies that anticipate future market demands by developing and refining new technologies and manufacturing processes, and bringing them into production, are better positioned to lead in the semiconductor market. During previous industry cycles, semiconductor manufacturers generally had to contend 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 three key new technologies into production at the same time: copper interconnects; deep-sub-wavelength

4

lithography (0.13-micron design rules and below); and 300mm (the next larger wafer size, from which more than twice as many ICs can be produced as on 200mm wafers).

While each of these three technologies has been adopted at the development and pilot production stages, several significant challenges and risks associated with each one 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 become more sensitive to such parameters as linewidth, film thickness variation, and other factors. Copper introduces both new defects that are harder to find within the interconnect structure, as well as electrical defects, which cannot be detected using conventional optical inspection systems. 300mm wafers are more susceptible to damage than 200mm 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 all three of these advanced technologies into production at once only adds to the risk that chipmakers face, since technical challenges in bringing any one of these into production could also be a factor in slowing the adoption of the other two.

Our key activities during fiscal year 2001 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 applications-focused technologies and our dedicated yield consulting expertise, we are in a unique 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 the performance requirements of the capital equipment used to manufacture these devices. Construction of an advanced wafer fabrication facility can cost over \$2 billion, a substantial increase over the cost of prior-generation facilities. As a result, chipmakers are demanding increased productivity and higher returns from their manufacturing equipment. Because our process control and yield management equipment typically represents only a small percentage of the total investment required to build a fabrication facility, our customers are able to better leverage these increasingly expensive facilities and significantly improve their returns on investment.

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 and with higher performance characteristics increases the revenue a manufacturer can obtain from each semiconductor wafer. KLA-Tencor systems are used to analyze product and process quality at all critical points in the 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 semiconductor manufacturers to improve control over their manufacturing processes, as well as increase their yields and device value--thus maximizing the return on their investments and lowering their manufacturing costs.

5

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 off-line 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.

In-line 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, in-line 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 when production is started at new factories and when chips or wafers are first built. 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 life cycle--the time when they are likely to generate the greatest profits.

KLA-Tencor is the leader in the design, manufacture, marketing and service of process monitoring and yield management systems for the semiconductor

industry. Our technical expertise and understanding of customer needs enable us to provide unique yield management solutions and one of the broadest lines of process monitoring and yield management function systems available in the semiconductor industry. Our systems are used to analyze product and process quality at critical points in the IC manufacturing process, as well as provide feedback to our customers that can be used to identify, address, contain and eliminate fabrication problems.

PRODUCTS

We market and sell products to all major semiconductor, wafer, photomask and data storage manufacturers worldwide. We combine our hardware--consisting of patterned and unpatterned wafer inspection, optical overlay metrology, e-beam review, reticle and photomask inspection, spectroscopic and scanning electron microscope critical dimension (CD SEM) metrology, and film and surface measurement tools--with our advanced process control (APC), yield analysis and defect classification software, into fab-wide yield management solutions that are optimized for each of the manufacturing process cells used in IC production, including lithography, etch, deposition and chemical mechanical planarization (CMP).

6

Defect Inspection

Our defect inspection tools are used to detect, count, classify and characterize particles and pattern defects in off-line engineering applications, as well as in-line at various stages during the wafer, semiconductor and reticle manufacturing processes. We pioneered the market for automated defect inspection of semiconductor wafers and reticles more than two decades ago. Our portfolio includes all the tools necessary for our customers to detect, correlate and analyze defects, as well as determine and correct their cause.

High-Resolution Imaging Inspection

In 1997, we introduced the 2138 wafer inspection system--a new member of our established 21xx series, which combines high-speed image processing with an ultra-broadband brightfield illumination source and our unique Segmented Auto Threshold technology to provide unprecedented sensitivity for inspecting patterned wafers. In 1999, we introduced the model 2139, which extended the capability of the 21xx product line to 0.18-micron processes and incorporated additional sensitivity and ease-of-use enhancements. In 2000, we introduced the 2350, the first ultraviolet ("UV") inspection system to feature ultra-broadband brightfield illumination--enabling the resolution of circuit patterns and defects for 0.13-micron and smaller processes. The 2350 delivers a two-fold increase in throughput over the previous generation 21xx platform.

High-Speed Laser Scattering Inspection

In 1995, we introduced the AIT wafer inspection system, a platform designed with high throughput and low cost of ownership ("CoO") for 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 uses patented double-darkfield technology, which is a low-angle illumination technique particularly effective for detecting defects on planar surfaces such as post-CMP wafers. In 1998, we introduced the AIT II, which expanded on the capabilities of the AIT through increased sensitivity and throughput. In 2000, we introduced the AIT III, providing the high-throughput inspection needed for 0.13-micron and smaller design rules. In June 2001, we unveiled the AIT XP, which took our AIT inspection family to a whole new level in terms of speed and sensitivity performance. Incorporating our proprietary NexTek(TM) technology, the AIT XP can scan an entire wafer in as little as 80 seconds in a single pass, with the sensitivity needed to inspect advanced devices incorporating 100nm (0.10 micron) and smaller design rules.

E-Beam Inspection

Scanning Electron Microscopes ("SEMs") use an electron beam to image and measure surface features on a semiconductor wafer at a much higher resolution than images captured by optical microscopes. As the industry moves deeper into the sub-0.18-micron copper-device realm, SEM-based inspection becomes mandatory for accelerating yield

7

ramps. KLA-Tencor pioneered this market with the introduction of the industry's first e-beam inspection system more than 8 years ago. In

1999, we unveiled the eS20, the first scanning e-beam wafer inspection system optimized for use in full-volume production. In 2000, we introduced the eS20XP, which delivers further improvements in sensitivity while increasing throughput to enable true production line monitoring of sub-0.13-micron semiconductor manufacturing. KLA-Tencor leveraged more than 25 years of experience in wafer inspection to bring this latest tool to market.

Unpatterned Wafer Inspection

In 1997, we introduced the Surfscan SP1(TM) for bare wafer qualification, process monitoring and equipment monitoring applications. It provides the high sensitivity, fast throughput and low CoO required in a production environment, and is used in virtually all semiconductor manufacturing processes. The SP1(TBI) ("Triple Beam Illumination") was introduced in 1998 and was designed with additional optical configurations needed to detect sub-micron defects on metal films and rough surfaces while still providing sensitivity below 100 nm on polished silicon. The SP1TBI is also used for detecting defects on non-uniform films, a critical requirement for CMP applications. In 1999, we introduced a Surface Nanotopography Measurement capability for the SP1, enhancing lithography and CMP process monitoring for 0.13-micron process development. In June 2001, we unveiled the SP1DLS, the first 300 mm tool to provide brightfield, darkfield and nanotopography defect information in a single scan. It has the sensitivity to capture the widest variety of defects as small as 50 nm at high throughput speeds of up to 125 wafers per hour.

Macro After-Develop Inspection

In 1999, we became the first to automate after-develop inspection ("ADI") for macro defects with the introduction of the 2401 macro defect inspection system. Designed to replace inefficient manual macro ADI, the 2401 is the industry's first fully automated inspection system able to detect and classify front-end macro lithographic defects, which are 50 microns and larger in size. Current manual ADI methods may capture only 20 percent of photo-related defects as a result of wafer complexity, background patterning noise, and human boredom and fatigue. In contrast, the 2401 captures more than 90 percent of all critical macro ADI defects, while providing comprehensive defect classification and yield information to dramatically reduce scrap and enable continuous process improvements.

Reticle Inspection

Our reticle inspection systems look for possible defects that could be transmitted to the design pattern on the wafer. 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. Error-free reticles are the first step in ensuring high yields in the manufacturing process since defects in reticles can be replicated on wafers. Reticle inspection is becoming increasingly critical as the industry

moves to deep sub-wavelength lithography (0.13 micron and below), where the feature sizes printed on wafers are significantly smaller than the wavelength of light used in the stepper or scanner. This extension of the lithography process results in a phenomenon known as 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. We pioneered the market for automated inspection of reticles and photomasks for the semiconductor manufacturing industry over two decades ago, and continue to be a market leader in addressing our customers' evolving inspection requirements.

Our 3XX product family incorporates both a reference database generator and a data preparation system, which add full die-to-database functionality to the inspection. This permits inspection against the ideal reticle pattern as specified by the user's CAD program. We have continued to develop enhancements to the 3XX to improve performance, serviceability and reliability. In 1997, for example, we introduced the Advanced Performance Algorithm and the STARlight(TM) high-resolution option. These enhancements enable highly accurate and reliable inspection of next-generation sub-0.25-micron reticles, including reticles with complex optical proximity correction (OPC) geometries. In 1999, we introduced the 365UV-HR, a deep ultraviolet ("DUV") reticle pattern inspection tool for both high-volume manufacturing of 0.18-micron devices and early development of 0.13-micron processes.

In September 2000, we unveiled our new Tera(TM) family of reticle

inspection systems, which have the capability to inspect up to a terapixel (one million by one million pixels) per reticle. The TeraStar(TM) SLF27, a key member of the Tera family, provides a three-fold increase in throughput compared to previous generation systems, and can detect critical killer defects as small as 100nm--making it ideal for inspecting advanced multi-die reticles used in high-volume IC production. In July 2001, we unveiled our new Printability Analysis Stepper Simulator(TM) (PASS) software tool, which enables photomask manufacturers to achieve significant time and cost savings by automating the reticle defect analysis process and reducing the amount of repair work needed for sub-wavelength photomasks. PASS is compatible with all current KLA-Tencor reticle inspection tools.

Optical and E-beam Defect Review

Our defect review capability includes optical confocal technology, as well as e-beam scanning for higher sensitivity. In 1995, we introduced the CRS(TM) optical review system, which offers high throughput and low CoO. In 2000, we introduced the eV300 defect review system--an advanced, automated SEM designed to gather and analyze defect excursion information, as well as report the results with the improved sensitivity required at smaller design rules. The eV300 supplements optical review by providing topographical information, enabling more accurate defect classification than can be achieved by optical review systems alone.

9

Process Window Optimization

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

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 within-wafer and wafer-to-wafer uniformity of the process is of paramount importance to semiconductor manufacturers--enabling them to achieve high device performance characteristics at the lowest possible cost.

In 1995, we introduced the UV-1250SE, which brought a powerful new technology to production, called spectroscopic ellipsometry ("SE"). KLA-Tencor has shipped more than 500 "UV-SE" systems since the technology was first introduced. Our third generation "SE" tool, the ASET-F5, addressed the difficult film measurement needs that came from the continuing evolution of film development driven by shorter linewidths. In 1999, we introduced an enhanced version of our award-winning ASET-F5 thin film measurement system, known as the ASET-F5x. It incorporates a single wavelength ellipsometry ("SWE") option to complement the industry-leading "SE" and dual-beam spectrophotometry ("DBS") technologies incorporated in the ASET-F5. These combined capabilities provide the accuracy, repeatability and system-to-system matching required for the production of advanced ICs with geometries as small as 100 nm.

Contamination Monitoring

Our Quantox(R) product is a non-contact, electrical performance metrology system for gate dielectric films. Gate dielectric quality is critical to the speed and reliability of an IC. Quantox measures key parameters, such as contamination and oxide thickness, which are used for gate dielectric process control to help maximize device yield. KLA-Tencor acquired the Quantox product line from Keithley Instruments in 1998. Since that time, it has continued to remain an integral component of our portfolio of yield acceleration solutions.

In-situ CMP End-Point Detection

In copper deposition, metal film thickness and uniformity can vary significantly from wafer to wafer. To compensate for these variances during CMP, chipmakers have traditionally had to either take copper wafers off line, which dramatically slows the production process, or have used optical-only in-situ metrology methods, which provide limited information and unreliable end-point data. In March 2001, we unveiled Precice(TM),

the industry's first production-worthy in-situ film thickness and end-point control system for copper CMP that provides highly-accurate measurements in real time. Precice reduces the risk of process errors due to non-uniform polishing, thereby speeding the ramp of new copper processes and maximizing copper yields.

E-Beam Metrology

The critical dimension ("CD") of a semiconductor device refers to a circuit line, element, or feature that must be manufactured to tight specifications. Semiconductor circuits can be very sensitive to the widths of their features. Even small variations can affect the speed of the circuit, or whether the circuit works at all. Control of linewidth errors is critical to the manufacturing process. Our CD SEM metrology systems measure selected linewidth features on a chip, thus enabling control of the manufacturing process.

In 1999, we introduced the 8100XP CD SEM, designed to address the new metrology challenges associated with manufacturing ICs with 0.18-micron and smaller design rules. Providing maximum flexibility for both photomask manufacturers and advanced lithography development fabs, the 8100XP can measure both reticles and wafers without requiring any hardware or software changeover. Later that year, we enhanced our 8100 CD SEM family with our new Pattern Quality Confirmation ("pQC" (TM)) software. With pQC, the 8100 CD SEM family combines in-line, real-time metrology with process inspection, enabling the detection of systematic lithography and etch related problems that can go undetected by traditional CD SEM measurements.

In 2000, we introduced our latest-generation wafer CD SEMs, the 8200 series (for 200mm wafers) and the 8400 series (for 300mm wafers). These tools combine high throughput, advanced imaging, superior measurement precision and enhanced productivity capabilities in a new Windows NT-based platform. We also introduced the 8250-R reticle CD control system, which is based on the 8200/8400 CD SEM platform. The 8250-R provides extremely precise and high-throughput measurements on advanced reticles used in the production of sub-0.13-micron devices.

Spectroscopic CD Metrology

New materials that are used in advanced IC production, such as low-k dielectrics and photoresists for 193nm lithography, are difficult to control during lithography and etch processes. As a result, they require more comprehensive data to be taken on device features and linewidths in order to identify and correct process variations and remain within process windows. Our new SpectraCD(TM) system, introduced in June 2001, provides non-destructive simultaneous and extensive CD, feature shape, and film-thickness measurements from a single tool, making it one of the industry's lowest cost-of-ownership, production-worthy CD metrology systems for 193nm lithography applications and sub-100nm device production.

Optical Overlay

Decreasing linewidths, larger die sizes and additional layers also affect the tolerances for layer-to-layer matching ("Overlay"). Overlay misregistration errors are a crucial cause of yield loss. Metrology systems are needed to measure the alignment between different layers of the semiconductor device. Our 5000 Series overlay metrology systems, which are more tolerant of process and substrate reflectivity variations than other optical systems, provide the measurements that our customers need to fine-tune the stepper program to compensate for these errors and improve process yield. In 1999, we introduced the 5300 overlay system, which provides enhanced performance compared to previous generation tools and is designed to handle both 200mm and 300mm wafers. In February 2001, we unveiled the Archer 10, which incorporates additional sensitivity, throughput and performance enhancements to enable highly precise and accurate measurements to within 2nm. The Archer 10 provides one of the industry's most competitive cost-of-ownership overlay tools for sub-0.13-micron and 300mm production.

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. In 1999, we introduced the HRP-240(ETCH), the latest generation of our award-winning HRP(R)

high resolution profilers. This system 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. 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 the new Wafer Bow Wafer Stress option for our ASET-F5x thin film metrology tool, which detect reliability-related problems such as film cracking, voiding and lifting.

Fab-wide Yield Management Solutions

We offer analysis systems comprised of hardware and software to translate raw inspection data into patterns that reveal process problems. Our software productivity and analysis systems capture, store and analyze data--collected by inspection, measurement and test equipment--to show defect trends and help semiconductor manufacturers develop long-term yield improvement strategies. In addition, we enhance the value of our products through our Customer Service and Support programs, which provide comprehensive worldwide service and support across all KLA-Tencor product lines. We also offer a yield management consulting service to improve our customers' return on investment.

12

Yield/Data Analysis and Management

In 1999, we acquired Taiwan-based ACME Systems, Inc., a leading 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 process problems. Other acquisitions soon followed that continued to enhance our fab-wide yield management portfolio. With our acquisition of FINLE Technologies in 2000, we developed our Klarity ProData lithography modeling and analysis software, which helps manufacturers reduce their advanced lithography development time and cost. Also in 2000, we acquired Fab Solutions, which added advanced process control ("APC") software into our product portfolio. APC allows our customers to employ techniques that can automatically compensate for variances in the IC manufacturing process, and significantly reduce their yield losses.

In 1997, we introduced IMPACT(TM) automated defect classification ("ADC"), enabling semiconductor manufacturers to utilize software systems both within and between fabrication facilities to accelerate the ramp to higher process yields. With IMPACT ADC, semiconductor manufacturers can develop a defect classification recipe on one system and then export it to any other system or fabrication facility running identical processes. In 1999, we introduced IMPACT XP, incorporating improved optics support and a new SmartGallery(TM) setup tool, which reduces the setup time associated with ADC implementation in fabs by as much as 70 percent. This is a critical requirement, particularly for foundries and application specific integrated circuit ("ASIC") manufacturers, who specialize in short runs of multiple products. In 2000, we introduced IMPACT SEM XP, bringing to our eV300 SEM review tool the same production-proven ADC capabilities already implemented on our high-resolution optical wafer inspection platforms. With these new capabilities, customers can optimize the eV300 for use in classifying and reviewing the extremely small defects associated with advanced semiconductor manufacturing processes, including 0.13-micron and smaller design rules, thus dramatically reducing the CoO of SEM review.

Real-time defect classification capability, first introduced on both the AIT II and 2139 products, continues to be a critical feature on all of our next-generation optical inspection tools, including the AIT III and 2350. Called iADC (i for "integrated" into the inspection tool), provides classification and binning of defect types in real time during inspection, thus providing better organized information in less time and at a lower cost.

In June 2001, we introduced our new recipe management service, called iRecipe(TM), which 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 cost of ownership, as well as improve their overall fab efficiency.

13

Customer Service and Support

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.

As part of our customer support program, we offer iSupport(TM), a fast, comprehensive and secure on-line customer support offering that enables KLA-Tencor's technical support and applications engineers to remotely access data from KLA-Tencor tools and operate them in real time to diagnose and rapidly resolve problems when they occur all via a secure on-line connection controlled by the customer at all times. In May 2001, KLA-Tencor sold certain intellectual property rights relating to iSupport to Brooks Automation, a leader in factory automation solutions. With the iSupport infrastructure now part of Brooks' product portfolio, remote diagnostics can be more rapidly adopted industry wide--enabling IC manufacturers, as well as KLA-Tencor and other OEM tool suppliers, to more readily achieve the benefits of remote diagnostics, including improved tool productivity and overall equipment effectiveness, as well as lower CoO.

Our Worldwide Support Operations Educational Services offers a comprehensive selection of technical courses from maintenance and service training to basic and advanced applications and operation. We offer standard and customized courses for individuals and groups both at the user's location and in one of our three training facilities. We also offer self-paced learning packages, including video, computer-based training and study plans.

Yield Management Consulting

Our yield management consulting practice 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 for maximum return on investment.

Data Storage Industry

Outside the semiconductor industry, KLA-Tencor manufactures, sells and services yield management solutions to the data storage market.

In April 2001, the Company acquired Phase Metrics, the leading supplier of inspection/certification technologies to the data storage industry. The acquisition marks the latest move in the Company's plan to leverage its core competencies and leadership position in the global

14

semiconductor industry to create similar industry-leading positions in other advanced technology markets.

Phase Metrics' tools and technologies complement the world-class KLA-Tencor systems that already serve as benchmarks for disk and thin film head metrology. Whereas KLA-Tencor's demonstrated technology and expertise focuses on front-end data storage metrology and inspection, Phase Metrics' efforts have been focused on data storage back-end inspection and test. By leveraging the naturally synergistic products and services from both companies, in tandem with their joint sales, marketing and customer support channels, the newly combined entity is expected to create the single largest yield management force in the data storage industry.

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 2001, 2000 and 1999, no single customer accounted for more than 10 percent of our 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 U.S., Europe, Asia-Pacific and Japan. We maintain an export compliance program that is designed to fully meet the requirements of the U.S. Departments of Commerce and State.

We have over 2,770 sales and related personnel, service engineers and applications engineers. We maintain sales and service offices throughout the U.S. In addition, we conduct sales, marketing and services out of wholly-owned subsidiaries or branches of U.S. subsidiaries in a variety of

15

countries, including China, France, Germany, Israel, Italy, Japan, South Korea, Malaysia, Singapore, Switzerland, Taiwan, Thailand and the United Kingdom. International sales accounted for approximately 66%, 70%, and 60% of our revenues in fiscal 2001, 2000, and 1999 respectively. Additional information regarding our revenues from foreign operations for our last three fiscal years is incorporated by reference from Note 9 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 U.S. will continue to be a significant percentage of our 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 Japan, Taiwan 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," 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 totaled \$724 million at June 30, 2001, compared to \$982 million at June 30, 2000. We include in our backlog only those customer orders for which we have accepted purchase orders and assigned shipment dates within twelve months. We expect to fill the present backlog of orders during fiscal 2002; 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 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.

Key activities during fiscal year 2001 involved development of process control and yield management equipment for smaller feature sizes, copper-based devices and 300mm 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 Results of Operations and Financial Condition" 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 Bedford, Massachusetts, San Diego, Hayward and Fremont, California, and Migdal Ha'Emek, Israel. We employ approximately 1,300 manufacturing and 1,370 engineering personnel.

Many of the parts, components and subassemblies (collectively "parts") are standard commercial products, although certain items are made to KLA-Tencor 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 and have a material adverse effect on our results of operations and damage customer relationships.

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, which 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 KLA-Tencor is a strong competitor with respect to both its 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 continue to pursue a course of strategic acquisitions and alliances to expand our technologies, product offerings and distribution capabilities. In fiscal 2001, we acquired substantially all of the assets of Phase Metrics, Inc. ("Phase Metrics"), a supplier of inspection/certification technologies to the data storage industry.

The financial position and results of operations of this acquisition were immaterial in relation to those of KLA-Tencor and this transaction was accounted for as a purchase. Further details of our acquisitions during the last three fiscal years are incorporated by reference from Note 3 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.

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.

18

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 U.S. and foreign patents and other proprietary rights of third parties.

Due to the rapid pace of innovation within the process control and yield management systems industry, management believes 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 thereunder 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, 2001, we employed a total of approximately 6,400 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, 2001 is set forth below:

LOCATION	TYPE	PRINCIPAL USE	FOOTAGE	OWNERSHIP
Phoenix, AZ	Office	Sales and Service	9,736	Leased
Fremont & Hayward, CA	Office, plant and	Research, Engineering, Marketing,	85,560	Leased

19

LOCATION	TYPE	PRINCIPAL USE	FOOTAGE	OWNERSHIP
Livermore, CA	Office	Sales and Service	19,604	Leased
Milpitas, CA	Office, plant and warehouse	Research and Engineering, Marketing, Manufacturing, Sales and Service and Sales Administration	728,902	Owned
San Diego, CA	Office, plant and warehouse	Research, Engineering, Marketing, Manufacturing and Service	41,365	Leased
San Jose, CA	Office, plant and warehouse	Corporate Headquarters, Research and Engineering, Marketing, Manufacturing, Sales and Service and Sales Administration	224,143	Leased
Scotts Valley, CA	Office, plant	Research and Development	9,945	Leased
Colorado Springs, CO	Office	Sales and Service	6,902	Leased
Bedford, MA	Office, plant	Administration, Manufacturing, Sales and Service	50,000	Owned
Portsmouth, NH	Office	Sales and Service	6,000	Leased
Beaverton, OR	Office	Sales and Service	13,075	Leased
Austin, TX	Office	Sales and Service, Training	74,000	Leased
Richardson, TX	Office	Sales and Service, Training	15,833	Leased
Basingstoke and Wokingham, England	Office, plant	Sales and Service, Warehouse	16,475	Leased
Slough, England	Office	Research and Engineering	15,504	Leased
Dresden and Puchheim, Germany	Office	Sales and Service	14,975	Leased
Meylan and Evry, France	Office	Sales and Service	11,870	Leased
Yokohama, Japan	Office	Sales and Service	71,794	Leased
Kiheung, South Korea	Office	Sales and Service	11,579	Leased
Hsinchu, Taiwan	Office	Sales and Service	33,571	Leased
Tainan, Taiwan	Office	Sales and Service	6,492	Leased
Migdal Ha'Emek and Herzliya, Israel	Office	Research and Engineering, Marketing, Manufacturing and Sales and Service and Sales Administration	53,800	Leased

</TABLE>

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, 2012 with renewal options at the fair market value for additional periods up to five years. Additional information of these leases is incorporated by reference from Note 7 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 defenses in each of the cases set forth below and are vigorously contesting each of these matters.

ADE Corporation

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. We filed a counterclaim in the same court alleging that ADE has infringed four of our patents. We claimed damages and a permanent injunction against ADE. In addition, we are seeking a declaration from the District Court that ADE's patent is invalid and not infringed by KLA-Tencor. While these matters are in a preliminary stage and we cannot predict the outcome, we believe that we have valid defenses and further believe that our counterclaims have merit.

Schlumberger, Inc. and Rigg Systems, Inc.

On August 30, 1999, we were named as a defendant in a lawsuit in which Schlumberger, Inc. alleges trade secret misappropriation, unfair competition and trade slander. On July 21, 2000, the court granted our motion for summary judgment dismissing the case. Schlumberger, Inc. subsequently filed a motion for reconsideration of that dismissal and its request for reconsideration was denied. Schlumberger has now appealed. Although the outcome of these claims cannot be predicted with certainty, we do not believe that this legal matter will have a material adverse effect on our financial condition even if plaintiff prevails. On January 26, 2000, we filed a complaint against Philip Rigg, RIGG Systems and Schlumberger, Inc. for misappropriation of trade secrets, breach of contract, breach of fiduciary duty, interference with contract, and unfair competition. The defendants filed cross-complaints on June 5, 2000 asserting various statutory and common law theories. Although the outcome of these claims cannot be predicted with certainty, we do not believe that these legal matters will have a material adverse effect on our financial condition or results of operations even if the plaintiff prevails.

Although we cannot predict the outcome of these claims, management does not believe that any of these legal matters will have a material adverse effect on KLA-Tencor. Were an unfavorable ruling to occur in one or more of the pending claims, there exists the possibility of a material impact on our operating results for the period in which the ruling occurred.

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

None.

PART II

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON STOCK AND RELATED STOCKHOLDER MATTERS

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.

<TABLE> <CAPTION> 2000	High	Low
<S>	<C>	<C>
First Quarter	\$ 36 11/16	\$ 31 11/32
Second Quarter	55 11/16	33 1/8
Third Quarter	91 1/8	49 11/32
Fourth Quarter	97 7/16	44 1/8

<TABLE> <CAPTION> 2001	High	Low
------------------------------	------	-----

<S>	<C>	<C>
First Quarter	\$ 66 13/16	\$ 39 13/16
Second Quarter	40 11/16	26 1/4
Third Quarter	46 1/16	34 1/8
Fourth Quarter	60 21/32	32 3/4

The stock prices shown above have been restated to reflect KLA-Tencor's two-for-one stock dividend, effective January 18, 2000.

As of August 31, 2001, there were 1,327 stockholders of record of our common stock. The closing price for our common stock as reported by the NASDAQ National Market as of the close of business on August 31, 2001 was \$49 9/64 per share.

We have never paid cash dividends to our stockholders and do not presently plan to pay cash dividends in the foreseeable future.

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 the Consolidated Financial Statements and notes thereto, and with Item 7, "Management's Discussion and Analysis of Results of Operations and Financial Condition" in this Annual Report on Form 10-K

22

<TABLE> <CAPTION> Year ended June 30, (in thousands, except per share data)	1997	1998	1999	2000	2001
<S>	<C>	<C>	<C>	<C>	<C>
CONSOLIDATED STATEMENTS OF OPERATIONS:					
Revenues	\$1,031,824	\$1,166,325	\$ 843,181	\$1,498,812	
\$2,103,757					
Income (loss) from operations	145,832	164,631	(10,334)	311,541	
458,468					
Income before cumulative effect of change in accounting principles	105,396	134,096	39,212	253,798	
373,058					
Cumulative effect of change in accounting principle, net of tax (306,375)	--	--	--	--	
Net income	105,396	134,096	39,212	253,798	
66,683					
Earnings per share:					
Income before cumulative effect of change in accounting principles (1)					
Basic	0.65	0.79	0.22	1.39	
2.01					
Diluted	0.62	0.76	0.21	1.32	
1.93					
Cumulative effect of change in accounting principle, net of tax (1)					
Basic	--	--	--	--	
(1.65)					
Diluted	--	--	--	--	
(1.59)					
Net income (1)					
Basic	0.65	0.79	0.22	1.39	
0.36					
Diluted	0.62	0.76	0.21	1.32	
0.34					

(1) The per share data shown above have been restated to reflect KLA-Tencor's two-for-one stock dividend, effective January 18, 2000.

Pro forma amounts for the periods beginning before July 1, 2000 have not been presented as the effect of the change in accounting principle could not be reasonably determined. See Note 1 of the Notes to the Consolidated Financial Statements.

<TABLE> <CAPTION> June 30, (in thousands)	1997	1998	1999	2000	2001
<S>	<C>	<C>	<C>	<C>	<C>
CONSOLIDATED BALANCE SHEETS:					

Cash, cash equivalents and marketable securities	\$ 687,249	\$ 723,481	\$ 755,183	\$ 964,383	\$1,146,860
Working capital	531,313	605,688	590,024	1,056,927	912,861
Total assets	1,343,307	1,548,397	1,584,900	2,203,503	2,744,551
Stockholders' equity	1,014,613	1,197,714	1,232,583	1,708,676	1,760,466

</TABLE>

23

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

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 report.

RESULTS OF OPERATIONS

KLA-Tencor Corporation 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 manufacturers manage yield throughout the entire wafer fabrication process -- from research and development to final mass production yield analysis.

In the last half of fiscal 2001, a worldwide softening in demand for semiconductors resulted in excess capacity and reduced demand for semiconductor manufacturing equipment. Consequently, we experienced reduced order levels and some cancellation in orders through the last half of fiscal 2001, resulting in a lower backlog. In fiscal Q1 2002, we expect orders to be flat to down 10%, as compared to the prior quarter.

Despite the market fluctuations, our financial position has remained strong and we continue to have no long-term debt. In response to the downturn in the semiconductor industry, we have implemented initiatives to reduce costs and control spending. However, we have increased our new product development by investing in leading edge technologies and by strategic acquisitions and alliances. These investments should position our extensive product line to address the critical initiatives that are key to our customers.

In December 1999, the staff of the Securities and Exchange Commission (SEC) issued Staff Accounting Bulletin ("SAB") No. 101, "Revenue Recognition in Financial Statements." The SEC Staff addressed several issues in SAB 101, including the timing of revenue recognition for sales that involve contractual customer acceptance provisions and installation of the product if these events occur after shipment and transfer of title. Historically we recognized system revenue when the product was shipped, risk of loss had passed to the customer and collection of the resulting receivable was probable. Under the new accounting method adopted retroactive to July 1, 2000, we changed our method of accounting for system sales to generally recognize revenue upon a positive affirmation by the customer that the system has been installed and is operating according to pre-determined specifications. In the fourth fiscal quarter of 2001, we implemented the provisions of SAB 101, retroactive to the beginning of fiscal 2001. This was reported as a cumulative effect of a

24

change in accounting principle as of July 1, 2000. The results for the first three quarters of fiscal year ended June 30, 2001 have been restated in accordance with SAB 101. This change resulted in a cumulative deferred revenue of \$660.9 million as of June 30, 2000, which translated into a net non-cash charges of \$306.4 million (after reduction for income taxes of \$147.5 million) or a charge of \$1.59 per share. Pro forma amounts for the periods beginning before July 1, 2000 have not been presented as the effect of the change in accounting principle could not be reasonably determined.

SAB 101 adds an additional cycle time between order acceptance (booking) and revenue. Our goal is to minimize the impact of cycle time, but our systems are complex instruments and can require lengthy installation and integration in the fab. Therefore, we expect that SAB 101 will result in a slower revenue ramp when bookings are accelerating and a slower revenue decline when bookings are decelerating.

REVENUES AND GROSS MARGIN

In fiscal 2001, revenues increased \$605 million, or 40% to a record

\$2.10 billion, from \$1.50 billion in fiscal 2000. Revenues of \$2.10 billion in fiscal 2001 reflect KLA-Tencor's adoption of SAB 101. In fiscal 2000 revenues increased \$656 million, or 78% to \$1.50 billion, from \$843 million in fiscal 1999. We experienced revenue increases for two consecutive years across nearly all product lines as a result of the increased capital spending by major semiconductor manufacturers for additional capacity and new technology. In fiscal 2001, international revenues decreased to 66% of revenues, from 70% in fiscal 2000, due to lower demand in Japan and Taiwan partially offset by higher demand in Western Europe and Asia Pacific. In fiscal 2000, international revenues increased to 70% of revenues, from 60%, due to higher demand in Taiwan, Asia Pacific, Japan and Western Europe.

Gross margins as a percentage of revenues were 55%, 55% and 47% in fiscal 2001, 2000 and 1999, respectively. The gross margin ratio in fiscal 2001 remained flat year to year. The increase in fiscal 2000 compared to fiscal 1999 was due primarily to increased capacity utilization resulting from higher unit volume, as well as faster growth of higher-margin product revenue.

ENGINEERING, RESEARCH AND DEVELOPMENT

Net engineering, research and development expenses were \$356 million, \$246 million, and \$165 million, or 17%, 16% and 20% of revenues in fiscal 2001, 2000, and 1999, respectively. The dollar increase in fiscal 2001, compared to fiscal 2000, and fiscal 2000, compared to fiscal 1999, was primarily attributable to increased investment in new technologies associated with our ongoing efforts to develop products which address new market segments, enhancements to existing products including next-generation 300mm products, and inspection enhancements for sub-quarter micron technology.

Net engineering, research and development expenses were partially offset by \$8 million, \$16 million and \$14 million in external funding received under certain strategic development programs conducted with several of our customers in fiscal 2001, 2000 and 1999, respectively.

25

Our future operating results will depend significantly on our ability to produce products and 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 requirements of 0.18 micron and 0.13 micron feature sizes, real-time review, and the transition to copper technology. Our investments in new technology and existing product enhancements are intended to enable our customers to achieve higher productivity through cost-effective, leading edge technology solutions.

SELLING, GENERAL AND ADMINISTRATIVE

Selling, general and administrative expenses were \$354 million, \$268 million and \$199 million, or 17%, 18% and 24% of revenues, in fiscal 2001, 2000, and 1999, respectively. The increase in dollars in fiscal 2001, as compared to fiscal 2000, was primarily due to increased costs associated with the growth in revenues. The increase in dollars in fiscal 2000, as compared to fiscal 1999, was primarily due to increases in our selling and marketing infrastructure and commissions paid.

NON-RECURRING ACQUISITION, RESTRUCTURING AND OTHER CHARGES

Non-recurring acquisition, restructuring and other charges (credits) were \$(2) million, \$(5) million and \$43 million in fiscal 2001, 2000, and 1999, respectively. These charges (credits) are directly attributable to non-recurring acquisition charges incurred as we continue to pursue a course of strategic acquisitions and alliances to expand our technologies, product offerings and distribution capabilities and to restructuring charges incurred in connection with our fiscal 1999 and fiscal 2001 restructure plans that are offset by non-recurring income in fiscal 2001.

Non-recurring acquisition charges for the year ended June 30, 2001

In April 2001, we purchased substantially all of the assets of Phase Metrics, Inc. ("Phase Metrics"), a privately held company, for a total of approximately \$18.9 million in cash, including approximately \$1.3 million in acquisition costs. Phase Metrics is a supplier of inspection/certification technologies to the data storage industry. The total purchase price was allocated to the net tangible assets of \$13.1 million, identifiable intangible assets of \$4.9 million, in-process research and development of \$0.7 million, on the basis of their relative fair values, with the excess of \$0.2 million to goodwill.

In-process research and development represented the value of products that were not considered to have reached technological feasibility. To determine the value of the in-process technology of the fiscal 2001 acquisition, the expected future cash flows attributable to the in-process technology were

discounted at 30%, taking into account the percentage of completion, utilization of pre-existing technology, risks related to the characteristics and applications of the technology, existing and future markets, and technological risk associated with completing the development of the technology. The valuation approach used was a form of discounted cash flow

26

approach commonly known as the "percentage of completion" approach whereby the cash flows from the technology are multiplied by the percentage of completion of the in-process technology.

Non-recurring acquisition charges for the year ended June 30, 2000

In March 2000, we purchased the assets and related technology of Fab Solutions, a division of ObjectSpace, Inc. for an aggregate purchase price of \$8 million. Fab Solutions is a leading provider of advanced process control software solutions used to respond to yield-impacting parametric data in near-real time. We recorded a charge of \$0.8 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In February 2000, we acquired software developer FINLE Technologies, Inc., a supplier of lithography modeling and data analysis software used to speed development of advanced lithography processes required to develop and produce integrated circuits with 0.12 micron and smaller geometries, for an aggregate purchase price of \$5 million. We recorded a charge of \$0.5 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In November 1999, we acquired software developer ACME Systems, Inc., a leading supplier of yield engineering analysis software used to correlate parametric electrical test and wafer sort yield data with in-line work in process and metrology data, for an aggregate purchase price of \$6.9 million. We recorded a charge of \$1.9 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

To determine the value of the in-process technology of the fiscal 2000 acquisitions, the expected future cash flow attributable to the in-process technology was discounted, taking into account the percentage of completion, utilization of pre-existing technology, risks related to the characteristics and applications of the technology, existing and future markets, and technological risk associated with completing the development of the technology. The valuation approach used was a form of discounted cash flow approach commonly known as the "percentage of completion" approach whereby the cash flows from the technology are multiplied by the percentage of completion of the in-process technology. In each acquisition, the value of tangible net assets acquired was nominal.

Non-recurring acquisition charges for the year ended June 30, 1999

In December 1998, we purchased assets and related technology from Uniphase Corporation for an aggregate purchase price of \$3 million. The confocal laser review station technology acquired is currently used for analysis of defects on silicon wafers. Assets acquired of \$3 million consisted primarily of inventory.

In November 1998, we purchased assets and technology from Keithley Instruments, Inc. for an aggregate purchase price of \$10 million. The corona wire gate oxide monitoring tool technology

27

we acquired had not yet reached the alpha stage and the cost to complete the development of this equipment was estimated at the time of acquisition to be \$1 million. We recorded a charge of \$8 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In June 1998, we acquired Groff Associates, Inc. (dba VARS Inc.) for an aggregate purchase price of \$13 million. The digital and in-line-monitoring image archiving retrieval software technology we acquired had not yet reached the alpha stage and the cost to complete the development of these software products was estimated at the time of acquisition to be \$2 million. We recorded a charge of \$13 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In May 1998 we acquired DeviceWare, Inc., a company in its development stage, for an aggregate purchase price of \$3 million. The bit mapping defect characterization technology acquired had not yet reached the alpha stage and the

cost to complete the development of this software product was estimated at the time of acquisition to be \$1 million. We recorded a charge of \$3 million for purchased in-process research and development, representing the appraised value of product that was not considered to have reached technological feasibility.

For each of the above three fiscal 1999 transactions, the appraised value under the income approach used for our calculation did not differ materially from the result under the percentage of completion approach preferred by the Securities and Exchange Commission. The value of the tangible net assets acquired was nominal.

Each of the above acquisitions was accounted for using the purchase method of accounting and the developmental products acquired were evaluated in the context of Interpretation 4 of SFAS 2 and SFAS 86. The allocation of the purchase price to in-process research and development cost was determined by identifying research projects in areas for which technological feasibility had not been established and no alternative future uses existed. Substantially all of the in-process research and development projects acquired were expected to be complete and generating revenues within the 24 months following the acquisition date.

Development of acquired technologies remains a significant risk due to the remaining effort required to achieve technical feasibility, rapidly changing customer markets and significant competitive threats from numerous companies. Failure to bring any of these products to market in a timely manner could adversely affect our sales and profitability in the future. Additionally, the value of net assets and other intangible assets acquired may become impaired.

Restructuring and Other Charges (Credits)

During fiscal 2001, in response to the downturn in the semiconductor industry we implemented a restructuring plan to control spending. Our restructuring plan included three main categories: facilities of \$4.7 million, severance and benefits of \$1.6 million, and other costs of \$1.0 million. Due to our downsizing and consolidation of certain of our operations, we will vacate two of

28

our leased office buildings and have 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. We have reduced our workforce by approximately 5%, primarily in the manufacturing areas and recorded severance charges related to these terminations. In addition, during the fourth fiscal quarter of 2001, KLA-Tencor sold software and intellectual property associated with its iSupport(TM) on-line customer support technology and recorded \$10.0 million pretax, non-recurring income, which was netted with the other non-recurring charges.

During fiscal 1999, we implemented a restructuring plan to address the impact on our business of the downturn in the semiconductor industry. Estimated restructuring costs of \$35 million were classified in four main categories: facilities, inventory, severance and benefits, and other restructuring costs. Facilities costs of \$12 million included \$8 million for lease expense resulting from consolidation and closure of certain offices located primarily in the United States and Japan; \$3 million for leasehold improvements impaired in those facilities; and \$1 million in other facilities-related exit costs. Inventory-related costs of \$10 million resulted from impaired assets related to unique parts and non-cancelable purchase commitments of certain development programs, which were terminated as part of the realignment and streamlining of our product lines. Severance and benefit-related costs of \$8 million included involuntary termination of approximately 250 personnel from manufacturing, engineering, sales, marketing, and administration throughout the United States, Japan and Europe. Other restructuring costs of \$5 million related primarily to the write-off of software licenses and related non-cancelable maintenance contracts for closed locations. During fiscal year 2000, KLA-Tencor management determined that \$7.8 million of the restructure reserve would not be utilized because of a change in management's plans for utilization of certain facilities resulting from an increase in demand for the Company's products. Accordingly, the restructuring reserve reversal was included in the determination of income from operations for the year ended June 30, 2000.

INTEREST INCOME AND OTHER, NET

Interest income and other, net was \$54 million, \$42 million and \$61 million in fiscal 2001, 2000, and 1999, respectively. Interest income and other, net is comprised primarily of gains realized on sales of marketable securities, interest income earned on the investment and cash portfolio and income recognized upon settlement of certain foreign currency contracts. The increase in fiscal 2001 as compared to fiscal 2000 was primarily due to increased interest income resulting from higher interest rate and higher average investment balances. The decrease in fiscal 2000 as compared to fiscal 1999 was primarily due to \$17 million in gains realized on the sale of equity securities

held in former supplier company in fiscal 1999.

PROVISION FOR INCOME TAXES

KLA-Tencor's effective income tax rate was 27%, 28% and 22% in fiscal 2001, 2000 and 1999, respectively. In general, our effective income tax rate differs from the statutory rate of 35% largely as a function of benefits realized from our Foreign Sales Corporation, research and development tax credits, income derived from tax exempt interest, and foreign taxes. During fiscal

29

1999, income related to tax exempt interest increased as a component of total net income in addition to the impact of restructuring, which resulted in a significantly lower effective tax rate as compared to fiscal 2000 and 2001.

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.

LIQUIDITY AND CAPITAL RESOURCES

Working capital was \$913 million as of June 30, 2001 compared to \$1.06 billion as of June 30, 2000. Cash, cash equivalents and short-term marketable securities increased to \$697 million from \$598 million at June 30, 2000. In addition, we maintained \$450 million and \$366 million in marketable securities classified as long-term as of June 30, 2001 and 2000, respectively.

Cash provided by operating activities was \$408 million, \$253 million, and \$122 million in fiscal 2001, 2000 and 1999, respectively. The increase in cash provided by operating activities in fiscal 2001 compared to fiscal 2000 was primarily due to increased income before cumulative effect of accounting change, lower accounts receivable and increased other current liabilities, partially offset by increased inventory, decreased deferred profit and deferred income taxes. The increase in cash provided by operating activities in fiscal 2000 compared to fiscal 1999 was primarily due to the increase in net income and other current liabilities, offset by increased levels of accounts receivable, inventories and deferred taxes.

Cash used in investing activities was \$295 million, \$96 million and \$38 million in fiscal 2001, 2000 and 1999, respectively. Investing activities typically consist of purchases and sales or maturity 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.

We used \$58 million of cash in financing activities in fiscal 2001, generated \$61 million in fiscal 2000 and used \$16 million in fiscal 1999. Financing activities typically include sales and repurchases of our common stock, as well as borrowings and repayments of debt. Issuance of common stock, net of repurchases, used \$60 million in fiscal 2001, provided \$79 million in fiscal 2000 and used \$7 million in fiscal 1999.

During fiscal 2001 and 2000, we sold trade notes and accounts receivable from Japanese customers. At June 30, 2001 and 2000, \$52.4 million and \$51.9 million, respectively, of these receivables were outstanding.

During fiscal 1998, we entered into certain lease arrangements in Milpitas and San Jose, California. In connection with these agreements, we have a contingent liability to the lessor for \$100 million in residual value guarantees of the properties under lease. The impact of these agreements is not expected to be material to our liquidity.

30

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. In fiscal 2001, we repurchased 4,580,000 shares of our common stock at an average price of \$33.54 per share, for a total cash outlay of \$154 million. In fiscal 2000, we repurchased 520,000 shares of our common stock at an average price of \$53.80 per share, for a total cash outlay of \$28 million. In fiscal 1999, we repurchased 2,152,000 shares of our common stock at an average price of \$22.66 per share, for a total cash outlay of \$49 million. Since the inception of the repurchase program in 1997 through June 30, 2001, we have repurchased a total of 8,008,000 shares at an average price of \$30.77 per share. All such shares remain as treasury shares.

At June 30, 2001, our principle sources of liquidity consisted of \$1.15 billion of cash, cash equivalents, and investments.

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 the next 12 months.

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 a wide variety of 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 make our results fluctuate and difficult to predict include:

- o the cyclical nature of the semiconductor industry;
- o the reduction in the price and the profitability of our products;
- o our timing of new product introductions;
- o our ability to develop and implement new technologies;
- o the change in customers' schedules for fulfillment of orders;
- o the cancellation of contracts by major customers;
- o the shortage of qualified workers in the areas we operate; and
- o our ability to manage our manufacturing requirements.

31

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 revenues, 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 revenues 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.

Currently we are in an industry down cycle. During a down cycle, the semiconductor industry typically experiences excess production capacity that causes semiconductor manufacturers to decrease capital spending. We generally do not have long-term volume production contracts with our customers, and we do not control the timing or volume of orders placed by our customers. Whether and to what extent our customers place orders for any specific products, as well as the mix and quantities of products included in those orders, are factors beyond our control. Insufficient orders, especially in our down cycles, will result in under-utilization of our manufacturing facilities and infrastructure and will negatively affect our operating results and financial condition.

International Trade and Economic Conditions

Ours is an increasingly global market. A majority of our revenues are

derived from outside the United States, and we expect that international revenues will continue to represent a substantial percentage of our revenues. Our international revenues and operations are affected by economic conditions specific to each country and region. Because of our significant dependence on international revenues, 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

32

cause capital equipment investment patterns to vary significantly from period to period. Periodic local or international economic downturns, trade balance issues, political instability 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 services 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 impact our prices, customer orders, revenues, 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 and has begun to commercialize the process of copper-based interconnects. 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 professional staffing. 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 revenues from future products or product enhancements will be sufficient to recover the development costs associated with such products or

33

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 our products are not accepted by the market in which we operate.

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 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. There can be no assurance that our business will not be harmed if we do not receive sufficient parts to meet our production requirements in a timely and cost-effective manner.

Operations at our primary manufacturing facilities and our assembly subcontractors are subject to disruption for a variety of reasons, including work stoppages, fire, earthquake, 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 a disruption could result in cancellation of orders or loss of customers and could seriously harm our business.

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 that are similar or superior to our technology or may design around the patents we own.

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.

34

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 agreements with our customers, suppliers, employees and consultants and through other security measures. We also rely on trade secret protection for our technology, in part through confidentiality agreements with our employees, consultants and third parties. 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 litigation or other administrative proceedings will not occur. The inability to obtain necessary licenses or other rights on reasonable terms 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. We may not be able to attract, assimilate or retain additional highly qualified employees in the future. These factors could seriously harm our business.

Acquisitions

We seek to develop new technologies from both internal and 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 that alleges infringement of intellectual property rights and other claims. Litigation tends to be expensive and requires significant management time and attention. If we lose in a dispute concerning

35

intellectual property, a court could require us to pay substantial damages and/or royalties or could issue an injunction prohibiting us from using essential technologies. For these and other reasons, this type of litigation could have a material adverse effect on our business, financial condition and results of operations. Also, although we may seek to obtain a license under a third party's intellectual property rights in order to bring an end to certain claims or actions asserted against us, we may not be able to obtain such a license on reasonable terms or at all.

Regional Electric Shortages

Recently, California has been experiencing a shortage of electric power supply that has resulted in intermittent loss of power in some areas in the form of rolling blackouts. While we have not experienced any power failures to date, a blackout may affect our ability to manufacture products and meet scheduled deliveries. If blackouts were to interrupt our power supply, we would be temporarily unable to continue operations at some of our facilities. Any such interruption in our ability to continue operations at our facilities could damage our reputation, harm our ability to retain existing customers and to obtain new customers, and could result in lost revenue, any of which could substantially harm our business and results of operations.

Euro Conversion

A new European currency was implemented commencing in January 1999 to replace the separate currencies of eleven western European countries. This requires changes in our operations as we modify systems and commercial arrangements to deal with the new currency. Modifications are necessary in operations such as payroll, benefits and pension systems, contracts with suppliers and customers, and internal financial reporting systems. During the three-year transition period in which transactions may also be made in the old currencies, we must maintain dual currency processes for our operations. We have identified the issues created by this problem, and the cost of this effort is not expected to have a material effect on our business or results of operations. We cannot be certain, however, that all problems will be foreseen and corrected or that no material disruption of our business will occur as a result of this currency change.

EFFECTS OF RECENT ACCOUNTING PRONOUNCEMENTS

In July 2001, the Financial Accounting Standards Board (FASB) issued FASB Statements Nos. 141 and 142 (SFAS 141 and SFAS 142), "Business Combinations" and "Goodwill and Other Intangible Assets," respectively. SFAS 141 replaces APB 16 and eliminates pooling-of-interests accounting prospectively. It also provides guidance on purchase accounting related to the recognition of intangible assets and accounting for negative goodwill. SFAS 142 changes the accounting for goodwill from an amortization method to an impairment-only approach. Under SFAS 142, goodwill will be tested annually and whenever events or circumstances occur indicating that goodwill might be impaired. SFAS 141 and SFAS 142 are required to be adopted for fiscal years beginning after December 15, 2001 but must be applied to all business combinations completed after June 30, 2001. Upon adoption of SFAS 142, amortization of goodwill recorded for business combinations consummated prior to July 1, 2001 will cease, and intangible assets acquired prior to July 1, 2001 that do not meet the criteria for recognition under SFAS 141 will be reclassified to goodwill.

36

Companies are required to adopt SFAS 142 for fiscal years beginning after December 15, 2001, but early adoption is permitted. In connection with the adoption of SFAS 142, we will be required to perform a transitional goodwill impairment assessment. We are currently studying these standards and have not

yet determined what impact they will have on our results of operations and financial position.

In August 2001, the FASB issued Statement No. 143 ("SFAS 143"), "Accounting for Asset Retirement Obligations," which is effective for fiscal years beginning after June 15, 2002. SFAS 143 addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The Statement applies to all entities. It applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development, and (or) the normal operation of a long-lived asset, except for certain obligations of lessees. We do not expect the adoption of SFAS 143 will have a significant impact on our financial position and 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, 2001. Actual results may differ materially.

At the end of fiscal 2001, we had an investment portfolio of fixed income securities of \$575 million, excluding those classified as cash and cash equivalents (Detail of these securities is incorporated by reference from 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, 2001, the fair value of the portfolio would decline by \$5 million.

As of June 30, 2001 we had net forward contracts to sell \$159 million in foreign currency in order to hedge currency exposures (Detail of these contracts is incorporated by reference from Note 1 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). If we had entered into these contracts on June 30, 2001, the U.S. dollar equivalent would be \$151 million. The fair market value we would have received if we had sold the contracts on June 30, 2001, would have been \$8 million. A 10% adverse move in currency exchange rates affecting the contracts would decrease the fair value of the contracts by \$19 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 to income or cash flows.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

<TABLE>	
<S>	<C>
Consolidated Balance Sheets at June 30, 2000 and June 30, 2001	39
Consolidated Statements of Operations for each of the three years in the period ended June 30, 2001	40
Consolidated Statements of Stockholders' Equity for each of the three years in the period ended June 30, 2001	41
Consolidated Statements of Cash Flows for each of the three years in the period ended June 30, 2001	42
Notes to Consolidated Financial Statements.....	43
Quarterly Results of Operations (Unaudited).....	67
Report of Independent Accountants.....	70
</TABLE>	

CONSOLIDATED BALANCE SHEETS

<TABLE>		
<CAPTION>		
June 30, (in thousands, except per share data)	2000	2001
-----	-----	-----
<S>	<C>	<C>

Assets

Current assets:		
Cash and cash equivalents	\$ 478,212	\$ 529,674
Marketable securities	119,932	167,421
Accounts receivable, net	481,950	402,013
Inventories	282,489	394,406
Deferred income taxes	164,294	360,079
Other current assets	24,877	43,353

Total current assets	1,551,754	1,896,946

Land, property and equipment, net	199,719	290,254
Marketable securities	366,239	449,765
Other assets	85,791	107,586

Total assets	\$2,203,503	\$2,744,551
=====		

Liabilities and Stockholders' Equity

Current liabilities:		
Accounts payable	\$ 55,016	\$ 60,740
Deferred profit	--	422,054
Other current liabilities	439,811	501,291

Total current liabilities	494,827	984,085

Commitments and contingencies (Note 7)

Stockholders' equity:		
Preferred stock, \$0.001 par value, 1,000 shares authorized, none outstanding	--	--
Common stock, \$0.001 par value, 500,000 shares authorized, 187,465 and 187,779 shares issued and outstanding	187	188
Capital in excess of par value	717,978	714,145
Retained earnings	976,846	1,043,529
Accumulated other comprehensive income	13,665	2,604

Total stockholders' equity	1,708,676	1,760,466

Total liabilities and stockholders' equity	\$2,203,503	\$2,744,551
=====		

</TABLE>

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF OPERATIONS

<TABLE>			
<CAPTION>			
Year ended June 30,			
(in thousands, except per share data)			
	1999	2000	2001

<S>	<C>	<C>	<C>
Revenues	\$ 843,181	\$ 1,498,812	\$ 2,103,757

Costs and operating expenses:			
Cost of goods sold	447,059	677,805	937,152
Engineering, research and development	164,699	246,227	355,772
Selling, general and administrative	199,057	267,877	354,368
Non-recurring acquisition, restructuring and other	42,700	(4,638)	(2,003)

Total costs and operating expenses	853,515	1,187,271	1,645,289

Income (loss) from operations	(10,334)	311,541	458,468
Interest income and other, net	60,643	41,536	54,116

Income before income taxes and cumulative effect of change in accounting principle	50,309	353,077	512,584
Provision for income taxes	11,097	99,279	139,526

Income before cumulative effect of change in accounting principle	39,212	253,798	373,058

Cumulative effect of change in accounting principle, net of tax	--	--	(306,375)

Net income	\$ 39,212	\$ 253,798	\$ 66,683
=====			
Net income per share:			
Basic			
Income before cumulative effect of change in accounting principle	\$ 0.22	\$ 1.39	\$ 2.01
Cumulative effect of change in accounting principle, net of tax	--	--	(1.65)

Basic net income per share	\$ 0.22	\$ 1.39	\$ 0.36
=====			
Diluted			
Income before cumulative effect of change in accounting principle	\$ 0.21	\$ 1.32	\$ 1.93
Cumulative effect of change in accounting principle, net of tax	--	--	(1.59)

Diluted net income per share	\$ 0.21	\$ 1.32	\$ 0.34
=====			
Weighted average number of shares:			
Basic			
	175,474	182,177	185,860
=====			
Diluted			
	183,344	192,564	193,435
=====			

</TABLE>

See accompanying notes to consolidated financial statements.

40

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in thousands)	Common Stock and Capital in Excess of Par Value		Retained Earnings	Accumulated Other Compre- hensive Income
	Shares	Amount		

Totals				

<S>	<C>	<C>	<C>	<C>
<C>				
Balances at June 30, 1998	174,888	\$ 497,583	\$ 683,836	\$ 16,295
\$ 1,197,714				
Components of comprehensive income:				
Net income	--	--	39,212	--
39,212				
Change in unrealized gain on investments	--	--	--	(14,877)
(14,877)				
Currency translation adjustments	--	--	--	3,765
3,765				

Total comprehensive income	--	--	--	--
28,100				

Net issuance under employee stock plans	4,628	41,324	--	--
41,324				
Repurchase of common stock	(2,152)	(48,767)	--	--
(48,767)				
Tax benefits of stock option transactions	--	14,212	--	--
14,212				

Balances at June 30, 1999	177,364	504,352	723,048	5,183
1,232,583				
Components of comprehensive income:				
Net income	--	--	253,798	--
253,798				

5,580	Change in unrealized gain on investments	--	--	--	5,580
2,902	Currency translation adjustments	--	--	--	2,902

262,280	Total comprehensive income	--	--	--	--

109,951	Net issuance under employee stock plans	10,621	109,951	--	--
(27,978)	Repurchase of common stock	(520)	(27,978)	--	--
131,840	Tax benefits of stock option transactions	--	131,840	--	--

1,708,676	Balances at June 30, 2000	187,465	718,165	976,846	13,665

Components of comprehensive income:					
66,683	Net income	--	--	66,683	--
(2,485)	Change in unrealized gain on investments	--	--	--	(2,485)
(12,008)	Currency translation adjustments	--	--	--	(12,008)
3,432	Gains on cash flow hedging instruments	--	--	--	3,432

55,622	Total comprehensive income	--	--	--	--

93,756	Net issuance under employee stock plans	4,894	93,756	--	--
(153,632)	Repurchase of common stock	(4,580)	(153,632)	--	--
56,044	Tax benefits of stock option transactions	--	56,044	--	--

\$ 1,760,466	Balances at June 30, 2001	187,779	\$ 714,333	\$ 1,043,529	\$ 2,604
=====					

</TABLE>

See accompanying notes to consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

<TABLE>				
<CAPTION>				
Year ended June 30, (in thousands)	1999	2000	2001	

<S>				
Cash flows from operating activities:	<C>	<C>	<C>	
Net income	\$ 39,212	\$ 253,798	\$ 66,683	
Adjustments to reconcile net income to net cash provided by operating activities:				
Cumulative effect of accounting change, net of tax benefit	--	--	306,375	
Depreciation and amortization	48,217	63,338	55,649	
Restructuring charges	35,000	(7,838)	(4,297)	
In-process research and development	7,700	3,200	698	
Net (gain) loss on sale of marketable securities	(18,819)	5,306	(7,703)	
Deferred income taxes	(27,930)	(60,522)	(56,939)	
Changes in assets and liabilities, net of assets acquired and liabilities assumed in business combinations:				
Accounts receivable	40,898	(185,262)	83,761	
Inventories	30,834	(95,780)		
(101,750)	Other assets	(15,449)	(13,549)	
(14,522)	Accounts payable	(12,145)	18,969	
(31,835)	Deferred profit	--	5,723	
		--	--	

Other current liabilities	(5,172)	270,857	106,075

Net cash provided by operating activities	122,346	252,517	407,918

Cash flows from investing activities:			
Acquisitions, net of cash received	(10,047)	(19,925)	(20,818)
Purchase of property and equipment	(60,736)	(78,694)	(162,195)
Purchase of marketable securities	(598,170)	(667,887)	(913,096)
Proceeds from sale or maturity of marketable securities	631,188	670,052	801,001

Net cash used in investing activities	(37,765)	(96,454)	(295,108)

Cash flows from financing activities:			
Issuance of common stock, net	41,324	106,999	93,756
Stock repurchases	(48,767)	(27,978)	(153,632)
Net borrowings (payments) under short term debt obligations	(8,714)	(18,316)	1,670

Net cash provided by (used in) financing activities	(16,157)	60,705	(58,206)

Effect of exchange rate changes on cash and cash equivalents	(12,906)	(10,044)	(3,142)

Net increase in cash and cash equivalents	55,518	206,724	51,462
Cash and cash equivalents at beginning of period	215,970	271,488	478,212

Cash and cash equivalents at end of period	\$ 271,488	\$ 478,212	\$ 529,674

Supplemental cash flow disclosures:			
Income taxes paid, net of refunds	\$ 10,437	\$ 1,243	\$ 133,710
Interest paid	\$ 2,073	\$ 1,131	\$ 916
Supplemental non-cash investing activities:			
Software and technology exchanged for common stock of public company	\$ --	\$ --	\$ 14,309

</TABLE>

See accompanying notes to consolidated financial statements.

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 and its wholly-owned subsidiaries. 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. The amounts reported as investments and bank borrowings reasonably estimate their fair value. The fair value of KLA-Tencor's cash, cash equivalents, accounts receivable, accounts payable and other current liabilities approximates the carrying amount due to the relatively short maturity of these items.

CASH EQUIVALENTS Cash equivalents consist of highly liquid investments that are valued at amortized cost, which approximates market value, and have maturity dates of three months or less from the date of acquisition.

MARKETABLE SECURITIES Short-term marketable securities include debt and equity securities acquired with maturities exceeding three months but less than one year from the date of acquisition. Non-current marketable securities include debt securities acquired with maturities exceeding one year from the date of acquisition. While KLA-Tencor's intent is to hold debt securities to maturity, consistent with Statement of Financial Accounting Standards (SFAS) No. 115, "Accounting for Certain Investments in Debt and Equity Securities," KLA-Tencor has classified all debt securities and all investments in equity securities that have readily determinable fair values as available-for-sale, as the sale of such securities may be required prior to maturity to implement management strategies. Such securities are reported at fair value, with unrealized gains or losses excluded from earnings and included in "Accumulated other comprehensive income," net of applicable taxes, until realized. The cost of securities sold is based on the specific identification method. Realized gains or losses and declines in value, if any, judged to be other than temporary are reported in "Interest income and other, net" in the Consolidated Statements of Operations.

43

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.

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 30 years for buildings, 10 years for building 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.

INTANGIBLE ASSETS Purchased technology, workforce, trademarks and goodwill are presented at cost, net of accumulated amortization, and are amortized over their estimated useful lives of two to five years 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, 2000 and 2001, there were no amounts capitalized as KLA-Tencor's current development process is essentially complete concurrent with the establishment of technological feasibility.

IMPAIRMENT OF LONG-LIVED ASSETS KLA-Tencor evaluates the carrying value of its long-lived assets, including goodwill and other identifiable intangibles assets, whenever events or changes in circumstances indicate that the carrying value of the asset may be impaired in accordance with the provisions of SFAS 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed of, and Accounting Principles Board (APB) Opinion No. 17, Intangible 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, which potentially subject KLA-Tencor to credit risk, consist principally of investments, accounts receivable and derivative financial instruments used in hedging activities.

Investments are maintained with high-quality institutions, and the composition and maturities of investments are regularly monitored by management. Generally, these securities are traded in a highly liquid market, may be redeemed upon demand and bear minimal risk. KLA-Tencor, by policy, limits the amount of credit exposure to any one financial institution or commercial issuer. KLA-Tencor has not experienced any material losses on its investments.

A majority of KLA-Tencor's trade receivables are derived from sales to large multinational semiconductor manufacturers 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

44

condition. KLA-Tencor maintains a provision for potential credit losses based upon expected collectibility of all accounts receivable.

KLA-Tencor is exposed to credit loss in the event of nonperformance by counterparties on the foreign exchange contracts used in hedging activities. KLA-Tencor does not anticipate nonperformance by these counterparties.

FOREIGN CURRENCY The functional currencies of KLA-Tencor's significant foreign subsidiaries are 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." Currency transaction gains and losses have not been significant.

DERIVATIVE INSTRUMENTS KLA-Tencor's foreign subsidiaries operate and sell KLA-Tencor's products in various global markets. As a result, KLA-Tencor is exposed to changes in foreign currency exchange rates. KLA-Tencor utilizes foreign currency forward exchange contracts to hedge against certain future movements in foreign exchange rates that affect certain foreign currency denominated sales and purchase transactions. KLA-Tencor attempts to match the forward contracts with the underlying items being hedged in terms of currency, amount, and maturity. KLA-Tencor does not use derivative financial instruments for speculative or trading purposes. Since the impact of movements in currency exchange rates on forward contracts offsets most of the related impact on the exposures hedged, these financial instruments generally do not subject KLA-Tencor to speculative risk that would otherwise result from changes in currency exchange rates.

KLA-Tencor discontinues hedge accounting prospectively when (1) it is determined that a derivative is no longer effective in offsetting changes in the cash flows of a hedged item; (2) the derivative expires or is sold, terminated or exercised; (3) the derivative is discontinued as a hedge instrument because it is unlikely the underlying hedged transaction will occur; (4) because a hedged firm commitment no longer meets the definition of a firm commitment; or (5) management determines that designation of the derivative as a hedge instrument is no longer appropriate.

In all situations in which hedge accounting is discontinued, the derivative will be carried at its fair value on the balance sheet, with changes in its fair value recognized in current period earnings. When hedge accounting is discontinued because it is probable that a forecasted transaction will not occur, the related amounts that were accumulated in other comprehensive income are recognized immediately in earnings.

At June 30, 2001, KLA-Tencor had foreign exchange forward contracts maturing throughout fiscal 2002 to sell and purchase \$219 million and \$60 million, respectively, in foreign currency, primarily Japanese yen. At June 30, 2000, KLA-Tencor had foreign exchange forward contracts maturing throughout fiscal 2001 to sell and purchase \$289 million and \$85 million, respectively, in foreign currency, primarily Japanese yen. All foreign exchange forward contracts are carried on the consolidated balance sheets at fair market value.

45

See Note 8 for further information related to derivatives and hedging activities.

WARRANTY KLA-Tencor generally warrants its systems for a period of 12 months for material and labor to repair and service the system. A provision for the estimated cost of warranty is recorded when initial revenue is recognized on the system.

REVENUE RECOGNITION In December 1999, the staff of the Securities and Exchange Commission (SEC) issued Staff Accounting Bulletin ("SAB") No. 101, "Revenue Recognition in Financial Statements." The SEC Staff addressed several issues in SAB 101, including the timing of revenue recognition for sales that involve contractual customer acceptance provisions and installation of the product if these events occur after shipment and transfer of title. KLA-Tencor implemented the provisions of SAB 101 in the fourth fiscal quarter of 2001, retroactive to July 1, 2000.

KLA-Tencor derives revenues from four sources -- system sales, spare part sales, service contracts and software license fees. SAB 101 has no impact on KLA-Tencor's revenue recognition policy for spare part sales, service contracts and software license fees.

For system sales, historically, system revenue was recognized when the product was shipped, risk of loss had passed to the customer and collection of the resulting receivable was probable. Effective July 1, 2000, KLA-Tencor changed its method of accounting for system sales to generally recognize revenue upon a positive affirmation by the customer that the system has been installed and is operating according to pre-determined specifications. In addition, KLA-Tencor does not recognize any revenue on shipments until legal title passes to the customer. In practice, this affects primarily shipments to Japan where

legal title generally does not pass until technical acceptance. In certain limited cases, KLA-Tencor may deviate from the need for a written acceptance by the customer. Examples of these cases include:

- When the system requires no installation or integration, revenue is recognized on shipment.
- When the customer fab has already accepted the same tool, with the same specifications, for the same application, revenue due on shipment of the product is recognized at the time of shipment.
- When the system is performing in production to published and contractually agreed specifications and customer signature is withheld due to warranty or other limited issues, revenue may be recognized.

Spares 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 license agreement, amounts related to maintenance are allocated based on vendor specific objective evidence. In situations where

46

maintenance is to be provided over a period beyond twelve months from the balance sheet date, the portion of revenue relating to those services is classified as noncurrent deferred revenue. Consulting and training revenue is recognized when the related services are performed.

Revenue from license fees is typically recognized upon shipment of the software 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. To date, revenues from license fees have been less than ten percent of total revenues.

As a result of implementing SAB 101, KLA-Tencor changed its method of accounting for revenue recognition. This change resulted in a cumulative deferred revenue of \$660.9 million as of June 30, 2000, which was recorded as a non-cash charge of \$306.4 million (after reduction for income taxes of \$147.5 million), or a charge of \$1.59 per share, to reflect the cumulative effect of the accounting change as of the beginning of the fiscal year. The deferred profit balances as of July 1, 2000 was \$453.9 million. Deferred profit equals the amount of system revenue that was shipped, but deferred under SAB 101 less all applicable product and warranty costs. Of the \$453.9 million in deferred profit, \$411.9 million was recognized as gross profit in fiscal 2001. The results for the first three quarters of fiscal year ended June 30, 2001 have been restated in accordance with SAB 101. Pro forma amounts for the periods beginning before July 1, 2000 have not been presented as the effect of the change in accounting principle could not be reasonably determined.

ADVERTISING EXPENSES KLA-Tencor expenses advertising costs as incurred. Advertising expenses for fiscal 2001, 2000 and 1999 were approximately \$6 million, \$6 million and \$4 million respectively.

STRATEGIC DEVELOPMENT AGREEMENTS Net engineering, research and development expenses were partially offset by \$8 million, \$16 million and \$14 million in external funding received under certain strategic development programs conducted with several of KLA-Tencor's customers in fiscal 2001, 2000 and 1999, 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 computed 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 computed 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 4,459,862, 211,009 and 1,520,574 shares were outstanding at June 30, 2001, 2000 and 1999 respectively, but not included in the computation of diluted EPS 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 \$44.69 to \$68.00, \$56.31 to \$68.00 and \$21.13 to \$34.94 at June 30, 2001, 2000 and 1999, respectively.

STOCK-BASED COMPENSATION PLANS KLA-Tencor accounts for its employee stock option plans and employee stock purchase plan in accordance with provisions of APB 25, "Accounting for Stock Issued to Employees." KLA-Tencor provides additional pro forma disclosure required by SFAS 123, "Accounting for Stock-Based Compensation" (see Note 6).

RECLASSIFICATIONS Certain amounts in fiscal years prior to 2001 have been reclassified to conform to the current financial statement presentation.

RECENT ACCOUNTING PRONOUNCEMENTS In July 2001, the Financial Accounting Standards Board (FASB) issued Statement Nos. 141 and 142 (SFAS 141 and SFAS 142), "Business Combinations" and "Goodwill and Other Intangible Assets," respectively. SFAS 141 replaces APB 16 and eliminates pooling-of-interests accounting prospectively. It also provides guidance on purchase accounting related to the recognition of intangible assets and accounting for negative goodwill. SFAS 142 changes the accounting for goodwill from an amortization method to an impairment-only approach. Under SFAS 142, goodwill will be tested annually and whenever events or circumstances occur indicating that goodwill might be impaired. SFAS 141 and SFAS 142 are effective for all business combinations completed after June 30, 2001. Upon adoption of SFAS 142, amortization of goodwill recorded for business combinations consummated prior to July 1, 2001 will cease, and intangible assets acquired prior to July 1, 2001 that do not meet the criteria for recognition under SFAS 141 will be reclassified to goodwill. Companies are required to adopt SFAS 142 for fiscal years beginning after December 15, 2001, but early adoption is permitted. In connection with the adoption of SFAS 142, KLA-Tencor will be required to perform a transitional goodwill impairment assessment. KLA-Tencor is currently studying these standards and has not yet determined what impact they will have on its results of operations and financial position.

In August 2001, the FASB issued Statement No. 143 ("SFAS 143"), "Accounting for Asset Retirement Obligations," which is effective for fiscal years beginning after June 15, 2002. SFAS 143 addresses financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement costs. The Statement applies to all entities. It applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development, and (or) the normal operation of a long-lived asset, except for certain obligations of lessees. KLA-Tencor does not expect the adoption of SFAS 143 to have a significant impact on its financial position and results of operations.

NOTE 2 -- FINANCIAL STATEMENT COMPONENTS

BALANCE SHEETS

<TABLE>

<CAPTION>

June 30, (in thousands)	2000	2001
<S>	<C>	<C>
Accounts receivable, net		
Accounts receivable, gross	\$ 496,739	\$ 417,025
Allowance for doubtful accounts	(14,789)	(15,012)
	\$ 481,950	\$ 402,013
Inventories:		
Customer service parts	\$ 54,442	\$ 99,099
Raw materials	83,103	140,765
Work-in-process	82,922	61,453
Demonstration equipment	50,817	60,228
Finished goods	11,205	32,861
	\$ 282,489	\$ 394,406
Property and equipment:		

Property and equipment:

Land	\$ 16,187	\$ 30,968
Buildings and improvements	20,860	49,102
Machinery and equipment	183,985	267,030
Office furniture and fixtures	26,977	35,571
Leasehold improvements	94,466	100,494
	-----	-----
	342,475	483,165
Less: accumulated depreciation and amortization	(142,756)	(192,911)
	-----	-----
	\$ 199,719	\$ 290,254

Other current liabilities:		
Warranty, installation and retrofit	\$ 79,874	\$ 85,300
Compensation and benefits	180,365	186,699
Unearned revenue	22,412	70,974
Income taxes payable	88,037	91,239
Restructuring accrual	1,686	2,235
Other accrued expenses	67,437	64,844
	-----	-----
	\$ 439,811	\$ 501,291

</TABLE>

49

<TABLE>		
<CAPTION>		
June 30, (in thousands)	2000	2001
	-----	-----
<S>	<C>	<C>
Accumulated other comprehensive income:		
Currency translation adjustments	\$ (3,146)	\$ (15,154)
Gains on cash flow hedging instruments	--	3,432
Unrealized gains on investments, net of taxes of \$10,613 in 2000 and \$9,044 in 2001	16,811	14,326
	-----	-----
	\$ 13,665	\$ 2,604

</TABLE>

STATEMENTS OF OPERATIONS

<TABLE>			
<CAPTION>			
Year ended June 30, (in thousands)	1999	2000	2001
	-----	-----	-----
<S>	<C>	<C>	<C>
Interest income and other, net			
Interest income	\$ 38,403	\$ 39,335	\$ 39,652
Interest expense	(1,293)	(698)	(1,057)
Foreign exchange gain	1,136	3,791	8,478
Realized gain (loss) on sale of marketable securities	18,819	(5,306)	7,703
Other	3,578	4,414	(660)
	-----	-----	-----
	\$ 60,643	\$ 41,536	\$ 54,116

</TABLE>

NOTE 3 - NON-RECURRING ACQUISITION, RESTRUCTURING AND OTHER CHARGES (CREDITS)

Non-recurring acquisition, restructuring and other charges (credits) were \$(2) million, \$(5) million and \$43 million in fiscal 2001, 2000, and 1999, respectively. These charges (credits) are directly attributable to non-recurring acquisition charges incurred as KLA-Tencor continues to pursue a course of strategic acquisitions and alliances to expand its technologies, product offerings and distribution capabilities and to restructuring charges incurred in connection with its fiscal 1999 and fiscal 2001 restructure plans that are offset by non-recurring income in fiscal 2001.

Non-recurring acquisition charges for the year ended June 30, 2001

In April 2001, KLA-Tencor purchased substantially all of the assets of Phase Metrics, Inc. ("Phase Metrics"), a privately held company, for a total of approximately \$18.9 million in cash, including approximately \$1.3 million in acquisition costs. Phase Metrics is a supplier of inspection/certification technologies to the data storage industry. The total purchase price was allocated to the net tangible assets of \$13.1 million, identifiable intangible assets of \$4.9 million, in-process research and development of \$0.7 million, on the basis of their relative fair values, with the excess of \$0.2 million to goodwill.

No supplemental pro forma information is presented due to the immaterial effect on prior period results of operations.

In-process research and development represented the value of products that were not considered to have reached technological feasibility. To determine the value of the in-process technology of the fiscal 2001 acquisition, the expected future cash flows attributable to the in-process technology were discounted at 30%, taking into account the percentage of completion, utilization of pre-existing technology, risks related to the characteristics and applications of the technology, existing and future markets, and technological risk associated with completing the development of the technology. The valuation approach used was a form of discounted cash flow approach commonly known as the "percentage of completion" approach whereby the cash flows from the technology are multiplied by the percentage of completion of the in-process technology.

Non-recurring acquisition charges for the year ended June 30, 2000

In March 2000, KLA-Tencor purchased assets and related technology of Fab Solutions, a division of ObjectSpace, Inc. for an aggregate purchase price of \$8 million. Fab Solutions is a leading provider of advanced process control software solutions used to respond to yield-impacting parametric data in near-real time. KLA-Tencor recorded a charge of \$0.8 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In February 2000, KLA-Tencor acquired software developer FINLE Technologies, Inc., a supplier of lithography modeling and data analysis software used to speed development of advanced lithography processes required to develop and produce integrated circuits with 0.12 micron and smaller geometries, for an aggregate purchase price of \$5 million. KLA-Tencor recorded a charge of \$0.5 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In November 1999, KLA-Tencor acquired software developer ACME Systems, Inc., a leading supplier of yield engineering analysis software used to correlate parametric electrical test and wafer sort yield data with in-line work in process and metrology data, for an aggregate purchase price of \$6.9 million. KLA-Tencor recorded a charge of \$1.9 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

No supplemental pro forma information is presented due to the immaterial effect on prior period results of operations.

To determine the value of the in-process technology of the fiscal 2000 acquisitions, the expected future cash flow attributable to the in-process technology was discounted, taking into account the percentage of completion, utilization of pre-existing technology, risks related to the characteristics and applications of the technology, existing and future markets, and technological risk associated with completing the development of the technology. The valuation approach used was a form of discounted cash flow approach commonly known as the "percentage of completion"

approach whereby the cash flows from the technology are multiplied by the percentage of completion of the in-process technology. In each acquisition, the value of tangible net assets acquired was nominal.

Non-recurring acquisition charges for the year ended June 30, 1999

In December 1998, KLA-Tencor purchased assets and related technology from Uniphase Corporation for an aggregate purchase price of \$3 million. The confocal laser review station technology acquired is currently used for analysis of defects on silicon wafers. Assets acquired of \$3 million consisted primarily of inventory.

In November 1998, KLA-Tencor purchased assets and technology from Keithley Instruments, Inc. for an aggregate purchase price of \$10 million. The corona wire gate oxide monitoring tool technology KLA-Tencor acquired had not yet reached the alpha stage and the cost to complete the development of this equipment was estimated at the time of acquisition to be \$1 million. KLA-Tencor recorded a charge of \$8 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In June 1998, KLA-Tencor acquired Groff Associates, Inc. (dba VARS Inc.) for an aggregate purchase price of \$13 million. The digital and in-line-monitoring image archiving retrieval software technology KLA-Tencor

acquired had not yet reached the alpha stage and the cost to complete the development of these software products was estimated at the time of acquisition to be \$2 million. KLA-Tencor recorded a charge of \$13 million for purchased in-process research and development, representing the appraised value of products that were not considered to have reached technological feasibility.

In May 1998 KLA-Tencor acquired DeviceWare, Inc., a company in its development stage, for an aggregate purchase price of \$3 million. The bit mapping defect characterization technology acquired had not yet reached the alpha stage and the cost to complete the development of this software product was estimated at the time of acquisition to be \$1 million. KLA-Tencor recorded a charge of \$3 million for purchased in-process research and development, representing the appraised value of product that was not considered to have reached technological feasibility.

No supplemental pro forma information is presented due to the immaterial effect on prior period results of operations.

For each of the above three fiscal 1999 transactions, the appraised value under the income approach used for its calculation did not differ materially from the result under the percentage of completion approach preferred by the Securities and Exchange Commission. The value of the tangible net assets acquired was nominal.

Each of the above acquisitions was accounted for using the purchase method of accounting and the developmental products acquired were evaluated in the context of Interpretation 4 of SFAS 2 and SFAS 86. The allocation of the purchase price to in-process research and development cost was

52

determined by identifying research projects in areas for which technological feasibility had not been established and no alternative future uses existed. Substantially all of the in-process research and development projects acquired were expected to be complete and generating revenues within the 24 months following the acquisition date.

Development of acquired technologies remains a significant risk due to the remaining effort required to achieve technical feasibility, rapidly changing customer markets and significant competitive threats from numerous companies. Failure to bring any of these products to market in a timely manner could adversely affect its sales and profitability in the future. Additionally, the value of net assets and other intangible assets acquired may become impaired.

Restructuring and Other Charges (Credits)

During fiscal 2001, in response to the downturn in the semiconductor industry KLA-Tencor implemented a restructuring plan to control spending. Its restructuring plan included three main categories: facilities of \$4.7 million, severance and benefits of \$1.6 million, and other costs of \$1.0 million. Due to its downsizing and consolidation of certain of its operations, KLA-Tencor will vacate two of its leased office buildings and have 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. KLA-Tencor has reduced its workforce by approximately 5%, primarily in the manufacturing areas and recorded severance charges related to this termination. As of June 30, 2001 the accrual associated with this restructuring aggregated \$2.0 million. In addition, during the fourth fiscal quarter of 2001, KLA-Tencor sold software and intellectual property associated with its iSupport(TM) on-line customer support technology and recorded \$10.0 million pretax, non-recurring income, which was netted with the other non-recurring charges.

During fiscal 1999, KLA-Tencor implemented a restructuring plan to address the impact on its business of the downturn in the semiconductor industry. Estimated restructuring costs of \$35 million were classified in four main categories: facilities, inventory, severance and benefits, and other restructuring costs. Facilities costs of \$12 million included \$8 million for lease expense resulting from consolidation and closure of certain offices located primarily in the United States and Japan; \$3 million for leasehold improvements impaired in those facilities; and \$1 million in other facilities-related exit costs. Inventory-related costs of \$10 million resulted from impaired assets related to unique parts and non-cancelable purchase commitments of certain development programs, which were terminated as part of the realignment and streamlining of its product lines. Severance and benefit-related costs of \$8 million included involuntary termination of approximately 250 personnel from manufacturing, engineering, sales, marketing, and administration throughout the United States, Japan and Europe. Other restructuring costs of \$5 million related primarily to the write-off of software licenses and related non-cancelable maintenance contracts for closed locations. During fiscal year 2000, KLA-Tencor management determined that \$7.8 million of the restructure reserve would not be utilized because of a change in management's plans for utilization of certain facilities resulting from an increase in demand for the Company's products. Accordingly, the restructuring reserve reversal was included in the determination of income from operations for

the year ended June 30, 2000.

NOTE 4 -- MARKETABLE SECURITIES

The amortized costs and estimated fair value of securities available for sale as of June 30, 2000 and 2001 are as follows:

53

<TABLE>
<CAPTION>

June 30, 2000 (in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
<S>	<C>	<C>	<C>	<C>
U.S. Treasuries	\$ 33,545	\$ 24	\$ 348	\$ 33,221
Mortgage-backed securities	37,282	2	663	36,621
Municipal bonds	580,328	633	1,236	579,725
Corporate debt securities	187,919	28	563	187,384
Corporate equity securities	26,047	14,427	45	40,429
Other	33,216	--	--	33,216
	898,337	15,114	2,855	910,596
Less: Cash equivalents	424,429	--	4	424,425
Short-term marketable securities	105,569	14,455	92	119,932
Long-term marketable securities	\$ 368,339	\$ 659	\$ 2,759	\$ 366,239

</TABLE>

<TABLE>
<CAPTION>

June 30, 2001 (in thousands)	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
<S>	<C>	<C>	<C>	<C>
U.S. Treasuries	\$ 27,973	\$ 272	\$ 17	\$ 28,228
Mortgage-backed securities	39,134	515	40	39,608
Municipal bonds	756,756	5,150	33	761,873
Corporate debt securities	25,795	272	24	26,043
Corporate equity securities	24,442	17,273	--	41,715
Other	147,872	--	--	147,872
	1,021,972	23,482	114	1,045,339
Less: Cash equivalents	428,153	--	--	428,153
Short-term marketable securities	149,148	18,273	--	167,421
Long-term marketable securities	\$ 444,671	\$ 5,209	\$ 114	\$ 449,765

</TABLE>

The contractual maturities of securities classified as available for sale as of June 30, 2001, regardless of the consolidated balance sheet classification, are as follows:

<TABLE>
<CAPTION>

June 30, 2001 (in thousands)	Estimated Fair Value
<S>	<C>
Due within one year	\$ 557,321
Due after one year through five years	434,886
Due after five years	11,417
	\$ 1,003,624

</TABLE>

54

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 and losses for the years ended June 30, 2000 and 2001 were 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:

Year ended June 30, (in thousands)	1999	2000	2001
Domestic income before income taxes	\$ 30,097	\$ 311,240	\$ 437,329
Foreign income before income taxes	20,212	41,837	75,255
Total net income before taxes	\$ 50,309	\$ 353,077	\$ 512,584

The provision (benefit) for income taxes are comprised of the following:

Year ended June 30, (in thousands)	1999	2000	2001
Current:			
Federal	\$ 22,902	\$ 121,639	\$ 162,491
State	7,040	23,187	15,129
Foreign	9,085	14,975	17,578
	39,027	159,801	195,198
Deferred:			
Federal	(22,256)	(44,893)	(51,782)
State	(6,273)	(13,958)	(4,549)
Foreign	599	(1,671)	659
	(27,930)	(60,522)	(55,672)
Provision for income taxes	\$ 11,097	\$ 99,279	\$ 139,526

Actual current tax liabilities are lower than reflected above for fiscal years 2001, 2000 and 1999 by \$56 million, \$132 million and \$14 million, respectively, due 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:

June 30, (in thousands)	2000	2001
Deferred tax assets:		
Federal and state loss and credit carryforwards	\$ 37,796	\$ 19,123
Employee benefits accrual	32,834	34,789
Non-deductible reserves and other	144,065	226,425
Deferred profit	--	164,753

55

	2000	2001
Deferred tax liabilities:		
Depreciation	(7,473)	(3,638)
Unremitted earnings of foreign subsidiaries not permanently reinvested	(12,070)	(12,114)
Unrealized gain on investments	(10,613)	(9,037)
Other	(4,952)	(35,952)
	(35,108)	(60,741)
Total net deferred tax assets	\$ 179,587	\$ 384,349

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

<TABLE>
<CAPTION>

Year ended June 30,	1999	2000	2001
<S>	<C>	<C>	<C>
Federal statutory rate	35.0%	35.0%	35.0%
State income taxes, net of federal benefit	1.0	1.7	1.3
Effect of foreign operations taxed at various rates	4.8	(0.6)	(1.6)
Benefit from Foreign Sales Corporation	(3.3)	(2.9)	(3.7)
Research and development tax credit	(1.2)	(2.5)	(3.0)
Tax exempt interest	(11.8)	(1.6)	(1.5)
Other	(2.4)	(1.0)	0.7
Provision for Income Taxes	22.1%	28.1%	27.2%

</TABLE>

Undistributed earnings of certain of KLA-Tencor's foreign subsidiaries, which United States federal income taxes of approximately \$15.4 million have not been provided for, aggregated \$44 million at June 30, 2001.

NOTE 6 - STOCKHOLDERS' EQUITY AND EMPLOYEE BENEFITS

STOCKHOLDER'S 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. In fiscal years 2001, 2000 and 1999, KLA-Tencor repurchased 4,580,000, 520,000 and 2,152,000 shares at an average price of \$33.54, \$53.80 and

56

\$22.66 per share, respectively. Since the inception of the repurchase program in 1997 through June 30, 2001, KLA-Tencor has repurchased a total of 8,008,000 shares at an average price of \$30.77 per share. All such shares remain as treasury shares.

STOCK SPLIT For stockholders of record on January 4, 2000, KLA-Tencor effected a two-for-one stock split of its common stock in the form of a 100 percent stock dividend. The stock dividend was paid on January 18, 2000. All prior-period share and per share amounts have been adjusted to reflect this transaction retroactively.

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. No compensation expense is recorded in connection with the plan. In fiscal years 2001, 2000 and 1999, employees purchased 1,275,837, 1,935,031 and 1,639,334 at a weighted average fair value of shares issued of \$28.59, \$13.28 and \$5.24, respectively. At June 30, 2001, 757,614 shares were reserved and available for issuance under this plan.

STOCK OPTION AND INCENTIVE PLANS KLA-Tencor has authorized various stock option and management incentive plans for selected employees, officers, directors, and consultants. The plans provide for awards in the form of stock options, stock appreciation rights, stock purchase rights, and performance shares. As of June 30, 2001, only stock options have been awarded under the plans.

Under KLA-Tencor's stock option plans, options generally have vesting periods of four or 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.

In fiscal 2001, KLA-Tencor's Board of Directors approved an additional stock option plan authorizing 5,600,000 options. Officer and directors are not eligible to receive options granted under this plan.

In December 2000, employees of KLA-Tencor were offered the opportunity to exchange their stock options with exercise prices over \$55.00 per share and all subsequently issued options for a promise to issue new options no sooner than six months after the cancellation of the forfeited options. The new options were granted on July 10, 2001 with an exercise price equal to the NASDAQ closing

price on the same day. The terms of the new option would replicate the surrendered option. A total of 278 employees canceled 722,814 options with exercise prices ranging from \$26.25 to \$68.00 per share.

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

57

<TABLE>
<CAPTION>

	Available For Grant	Options Outstanding	Weighted- Average Price
<S>	<C>	<C>	<C>
Balances at June 30, 1998	3,498,526	23,189,530	\$ 14.56
Additional shares reserved	7,237,674	--	--
Options granted	(15,311,226)	15,311,226	12.12
Options canceled/expired	11,083,092	(11,083,092)	21.03
Options exercised	--	(2,989,360)	7.71
Balances at June 30, 1999	6,508,066	24,428,304	10.92
Additional shares reserved	5,320,924	--	--
Options granted	(8,165,856)	8,165,856	37.35
Options canceled/expired	1,483,568	(1,551,794)	18.62
Options exercised	--	(8,686,654)	9.50
Balances at June 30, 2000	5,146,702	22,355,712	20.23
Additional shares reserved	11,216,391	--	--
Options granted	(10,273,504)	10,273,504	37.09
Options canceled/expired	2,418,485	(2,418,485)	36.15
Options exercised	--	(3,921,145)	14.71
Balances at June 30, 2001	8,508,074	26,289,586	\$ 26.18

</TABLE>

The options outstanding at June 30, 2001 have been segregated into ranges for additional disclosure as follows:

<TABLE>
<CAPTION>

Options Outstanding				Options Vested and Exercisable	
Range of Exercise Prices	Number of Shares Outstanding at June 30, 2001	Weighted- Average Remaining Contract Life (in years)	Weighted- Average Exercise Price at June 30, 2001	Number Vested and Exercisable	Weighted- Average Exercise Price at June 30, 2001
<S>	<C>	<C>	<C>	<C>	<C>
\$ 1.88-\$ 9.31	1,353,862	3.20	\$ 8.31	1,350,189	\$ 8.31
\$ 9.53-\$10.63	6,513,811	7.13	\$10.60	3,771,571	\$ 10.59
\$10.81-\$22.56	2,635,338	6.30	\$14.32	1,851,472	\$ 13.86
\$23.25-\$28.06	3,001,576	9.07	\$26.17	308,792	\$ 24.63
\$28.22-\$32.75	2,825,351	9.50	\$32.34	149,439	\$ 30.36
\$33.75-\$44.13	5,133,256	8.39	\$34.56	1,816,051	\$ 34.36
\$44.69-\$44.69	3,641,130	9.12	\$44.69	309,625	\$ 44.69
\$46.28-\$68.00	1,185,262	9.16	\$50.72	250,111	\$ 50.93
\$ 1.88-\$68.00	26,289,586	7.93	\$26.18	9,807,250	\$ 18.14

</TABLE>

58

The weighted average fair value of options granted in fiscal years 2001, 2000 and 1999 was \$25.93, \$24.15 and \$7.47, respectively. Options exercisable were 9,807,250, 6,777,749 and 7,484,476 as of June 30, 2001, 2000 and 1999, respectively.

ACCOUNTING FOR STOCK-BASED COMPENSATION 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 for the single option approach with the following weighted-average assumptions:

<TABLE>
<CAPTION>

June 30,	1999	2000	2001
----------	------	------	------

<S>	<C>	<C>	<C>
Stock option plan:			
Expected stock price volatility	65.0%	70.0%	80.0%
Risk free interest rate	5.0%	6.3%	5.5%
Expected life of options (in years)	5.6	5.3	5.4
Stock purchase plan:			
Expected stock price volatility	65.0%	70.0%	80.0%
Risk free interest rate	4.8%	6.3%	4.3%
Expected life of options (in years)	1-2	1-2	1-2

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

<TABLE> <CAPTION> Year ended June 30, (in thousands, except per share data)			
	1999	2000	2001
<S>	<C>	<C>	<C>
Pro-forma income before cumulative effect of change in accounting principle	\$ 5,278	\$ 197,610	\$ 279,362
Pro-forma net income (loss) including cumulative effect of change in accounting principle	\$ 5,278	\$ 197,610	\$ (27,013)

59

<S>	<C>	<C>	<C>
Pro-forma earnings per share:			
Income before cumulative effect of change in accounting principle			
Basic	\$ 0.03	\$ 1.08	\$ 1.50
Diluted	\$ 0.03	\$ 1.05	\$ 1.50
Net income (loss) including cumulative effect of change in accounting principle			
Basic	\$ 0.03	\$ 1.08	\$ (0.15)
Diluted	\$ 0.03	\$ 1.05	\$ (0.15)

The pro forma effect on net income and earnings per share for fiscal 1999 is not representative of the pro forma effect net income in future years because it does not take into consideration pro forma compensation expense related to grants made prior to fiscal 1996.

OTHER 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. During fiscal year 1999, KLA-Tencor matched up to a maximum of \$500 or 25% of the first \$2000 of an eligible employee's contribution. Starting fiscal year 2000, KLA-Tencor has matched up to a maximum of \$1,000 or 50% of the first \$2000 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 \$57 million, \$38 million and \$7 million in fiscal years 2001, 2000 and 1999, respectively.

KLA-Tencor has a non-qualified deferred compensation plan whereby certain key executives may defer a portion of their salary and bonus. Participants direct the investment of their account balances among mutual funds selected by the participants. Distributions from the plan commence the quarter following a participant's retirement or termination of employment. At June 30, 2001, KLA-Tencor had a deferred compensation liability under the plan of \$59 million.

FACTORING KLA-Tencor has agreements with two banks to sell certain of its trade receivables and promissory notes. During fiscal 2001, approximately \$124.2 million of receivables were sold under these arrangements. As of June 30, 2001, approximately \$52.4 million were outstanding. Of this amount, \$44.5 million of trade receivables sold is with recourse to KLA-Tencor and \$7.9 million of promissory notes sold is without recourse to KLA-Tencor. The total amount available under these facilities is the yen equivalent of \$60 million and \$24 million, respectively, based upon exchange rates as of June 30, 2001. KLA-Tencor does not believe it is materially at risk for any losses as a result of these agreements.

60

FACILITIES In November 1997, KLA-Tencor entered into a master operating lease for land, office and manufacturing facilities constructed for its use in Milpitas and San Jose, California. Monthly payments under this lease vary based upon the London Interbank Offering Rate (LIBOR) plus 0.42%. The lease runs through November of 2002, with an option to extend up to two more years. Under the terms of the lease, KLA-Tencor, at its option, can acquire the properties at their original cost or arrange for the properties to be acquired. In April 1999, KLA-Tencor chose to exercise its option to purchase certain of the land and facilities for a total aggregate value of approximately \$27.4 million. If KLA-Tencor does not purchase the remaining properties by the end of the lease, KLA-Tencor will be contingently liable to the lessor for residual value guarantees aggregating up to approximately \$100.2 million. In addition, under the terms of the lease, KLA-Tencor must maintain compliance with certain financial covenants. As of June 30, 2001, KLA-Tencor was in compliance with all of its covenants. Based on current market conditions, management does not believe that KLA-Tencor will have to make any significant payments under the contingent liability relating to the residual value guarantees.

KLA-Tencor leases several other facilities under operating leases that expire at various times through fiscal 2012, with renewal options at the fair market value for additional periods up to five years. KLA-Tencor also leases equipment and other facilities under operating leases.

Total rent expense under all operating leases was approximately \$21.8 million, \$17.5 million and \$17.7 million for the years ended June 30, 2001, 2000 and 1999, respectively (which includes lease payments for KLA-Tencor's Milpitas and San Jose, California facilities).

Future minimum lease commitments under these operating leases at June 30, 2001 (which include estimated lease payments for KLA-Tencor's Milpitas and San Jose, California, facilities using a LIBOR of 3.81% plus 0.42% and total construction costs of \$119.3 million), are approximately \$15.3 million, \$12.5 million, \$6.7 million, \$3.4 million, \$1.5 million, and \$2.3 million in fiscal 2002 through 2007 and thereafter, respectively.

LAND PURCHASE In May 2000, KLA-Tencor entered into an agreement to purchase up to 43 acres of land in Livermore, California to build a new campus. The initial 31 acre parcel of land was purchased in the first quarter of fiscal 2001, for approximately \$15.1 million. KLA-Tencor holds an option to purchase the remaining 12 acres for approximately \$5.7 million, which will expire at the end of calendar 2001. KLA-Tencor is obligated for assessments not to exceed approximately \$3.4 million and \$1.3 million for construction on the 31 acre and 12 acre lots, respectively.

LEGAL MATTERS From time to time KLA-Tencor is named 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. KLA-Tencor believes that it has defenses in each of the cases set forth below and is vigorously contesting each of these matters.

61

ADE Corporation

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. KLA-Tencor filed a counterclaim in the same court alleging that ADE has infringed four of its patents. KLA-Tencor claimed damages and a permanent injunction against ADE. In addition, KLA-Tencor is seeking a declaration from the District Court that ADE's patent is invalid and not infringed by KLA-Tencor. While these matters are in a preliminary stage and KLA-Tencor cannot predict the outcome, KLA-Tencor believes it has valid defenses and further believes that its counterclaims have merit.

Schlumberger, Inc. and Rigg Systems, Inc.

On August 30, 1999, KLA-Tencor was named as a defendant in a lawsuit in which Schlumberger, Inc. alleges trade secret misappropriation, unfair competition and trade slander. On July 21, 2000, the court granted its motion for summary judgment dismissing the case. Schlumberger, Inc. subsequently filed a motion for reconsideration of that dismissal and its request for reconsideration was denied. Schlumberger has now appealed. Although the outcome of these claims cannot be predicted with certainty, KLA-Tencor does not believe that this legal matter will have a material adverse effect on its financial condition even if the plaintiff prevails. On January 26, 2000, KLA-Tencor filed a complaint against Philip Rigg, RIGG Systems and Schlumberger, Inc. for misappropriation of trade secrets, breach of contract, breach of fiduciary duty, interference with contract, and unfair competition. The defendants filed cross-complaints on June 5, 2000 asserting various statutory and common law theories. Although the outcome of these claims cannot be predicted with certainty, KLA-Tencor does not believe that these legal matters will have a material adverse effect on its financial condition or results of operations even if the plaintiff prevails.

Although KLA-Tencor cannot predict the outcome of these claims, management does not believe that any of these legal matters will have a material adverse effect on KLA-Tencor. Were an unfavorable ruling to occur in one or more of the pending claims, there exists the possibility of a material impact on KLA-Tencor's operating results for the period in which the ruling occurred.

NOTE 8 -- 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 12 months.

On July 1, 2001, KLA-Tencor adopted SFAS 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.

Cashflow Hedges

KLA-Tencor's international sales are primarily denominated in US 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 US 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. An immaterial amount of ineffectiveness was recognized during the year. 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, 2001 are anticipated to be reclassified to revenue within 12 months. OCI activity during the year (in thousands):

<S>	<C>
Balance, June 30, 2000	\$ --
Effective portion of cash flow hedging instruments	3,643
Reclassified to revenue	(211)

Balance, June 30, 2001	\$ 3,432
	=====

</TABLE>

Fair Value Hedges

Upon adoption of SFAS 133, KLA-Tencor hedged foreign currency denominated sales as fair value exposures. The exposures were defined as the US dollar value of foreign currency sales for which KLA-Tencor has received a firm commitment to purchase from the customer. Upon receipt of the firm commitment from the customer, a forward sales contract was entered into in order to protect the US dollar value of the related revenue. Critical terms of the forward contract and related underlying exposure were matched at hedge inception. Periodic changes in value of both the underlying exposure and the forward contract were recorded on the balance sheet and in "Interest income and other, net" in the Consolidated Statements of Operations. Upon recognition of the underlying exposure, accumulated gains or losses from the effective portion of the hedge contract were recorded in revenue. Net gains from fair value hedge contracts recorded in revenue during the year totaled \$10.3 million. Any measured ineffectiveness is recognized immediately on the Interest Income and Other, net line of the Income statement. An immaterial amount of ineffectiveness was recognized during the year.

Other Foreign Currency Hedges

KLA-Tencor hedges its monetary non-functional assets and liabilities, and those of its subsidiaries. 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

63

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.

NOTE 9 -- SEGMENT REPORTING AND GEOGRAPHIC INFORMATION

In fiscal 1999, KLA-Tencor adopted SFAS 131, "Disclosures about Segments of an Enterprise and Related Information." SFAS 131 establishes standards for reporting information about operating segments in annual financial statements and requires that certain selected information about operating segments be reported in interim financial reports. It also establishes standards for related disclosures about products and services, and geographic areas. Operating segments are defined as components of an enterprise about which separate financial information is evaluated regularly by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. KLA-Tencor's chief operating decision makers are the Chief Executive Officer and the Chief Operating 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. No single customer accounted for 10% or more of net revenues or accounts receivable in any of the periods presented. Long-lived assets consist of net property and equipment, goodwill, capitalized software and other intangibles, and other long-term assets, excluding long-term deferred tax assets 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 1999, 2000 and 2001.

64

<TABLE> <CAPTION> Year ended June 30, (in thousands)	1999	2000	2001
-----	-----	-----	-----
<S>	<C>	<C>	<C>
Revenues:			
United States	\$ 338,791	\$ 448,022	\$ 714,517

Western Europe	133,099	222,186	401,764
Japan	198,196	309,062	591,408
Taiwan	87,883	299,442	138,508
Asia Pacific	85,212	220,100	257,560
	-----	-----	-----
Total	\$ 843,181	\$ 1,498,812	\$ 2,103,757
	=====	=====	=====

</TABLE>

<TABLE>

<CAPTION>

June 30, (in thousands)	1999	2000	2001
	-----	-----	-----
<S>	<C>	<C>	<C>
Long-lived assets:			
United States	\$ 183,332	\$ 240,148	\$ 344,444
Western Europe	7,785	8,059	9,257
Japan	13,068	11,012	8,874
Taiwan	1,162	2,469	2,596
Asia Pacific	3,439	5,703	5,551
	-----	-----	-----
Total	\$ 208,786	\$ 267,391	\$ 370,722
	=====	=====	=====

</TABLE>

NOTE 10 - QUARTERLY CONSOLIDATED RESULTS OF OPERATIONS (UNAUDITED)

The following table presents certain unaudited consolidated quarterly financial information for the eight quarters ended June 30, 2001. In its 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.

<TABLE>

<CAPTION>

(In thousands, except per share data)

	September 30	December 31	March 31	June 30
	-----	-----	-----	-----
<S>	<C>	<C>	<C>	<C>
Fiscal 2000:				
Revenues	\$ 272,989	\$ 330,757	\$ 413,017	\$ 482,049
Gross profit	136,872	177,384	231,645	275,106
Income from operations	42,740	61,550	91,147	116,104
Net income	39,502	49,249	73,347	91,700
Net income per share:				
Basic	\$ 0.22	\$ 0.27	\$ 0.40	\$ 0.49
Diluted	\$ 0.21	\$ 0.26	\$ 0.38	\$ 0.47

</TABLE>

KLA-Tencor implemented the provisions of SAB 101 in the fourth fiscal quarter of 2001, retroactive to July 1, 2000. As a result, KLA-Tencor changed its method of accounting for revenue recognition. KLA-Tencor recorded a non-cash charge of \$306.4 million (after reduction for income taxes of \$147.5 million), or a loss of \$1.59 per share, to reflect the cumulative effect of the

65

accounting change as of the beginning of the fiscal year. The results for the first three quarters of fiscal year ended June 30, 2001 have been restated in accordance with SAB 101. Pro forma amounts for the periods beginning before July 1, 2000 have not been presented as the effect of the change in accounting principle could not be reasonably determined.

<TABLE>

<CAPTION>

(In thousands, except per share data)

	September 30	December 31	March 31	June 30
	-----	-----	-----	-----
<S>	<C>	<C>	<C>	<C>
Fiscal 2001:				
Revenues				
As previously reported	\$ 534,590	\$ 573,056	\$ 528,790	\$ 602,642
Effect of change in accounting principle	(151,875)	(72,223)	88,777	--
	-----	-----	-----	-----
As restated in first three quarters and reported in fourth quarter	382,715	500,833	617,567	602,642
	-----	-----	-----	-----

Gross profit

As previously reported	306,514	328,620	286,097	333,473
Effect of change in accounting principle	(106,808)	(43,687)	62,396	--
As restated in first three quarters and reported in fourth quarter	199,706	284,933	348,493	333,473
Income from operations				
As previously reported	134,969	137,883	112,353	161,362
Effect of change in accounting principle	(106,808)	(43,687)	62,396	--
As restated in first three quarters and reported in fourth quarter	28,161	94,196	174,749	161,362
Net income				
As previously reported	105,818	109,306	91,410	129,954
Effect of change in accounting principle	(76,901)	(31,455)	44,926	--
Cumulative effect of change in accounting principle	(306,375)	--	--	--
As restated in first three quarters and reported in fourth quarter	\$ (277,458)	\$ 77,851	\$ 136,336	\$ 129,954

</TABLE>

66

(In thousands, except per share data)	September 30	December 31	March 31	June 30
<S>	<C>	<C>	<C>	<C>
Earning per basic share:				
Income before cumulative effect of change in accounting principles				
As previously reported	\$ 0.57	\$ 0.59	\$ 0.50	\$ 0.70
Effect of change in accounting principle	\$ (0.42)	\$ (0.17)	\$ 0.24	\$ --
As restated in first three quarters and reported in fourth quarter	\$ 0.15	\$ 0.42	\$ 0.74	\$ 0.70
Cumulative effect of change in accounting principle	\$ (1.63)	\$ --	\$ --	\$ --
Net income	\$ (1.48)	\$ 0.42	\$ 0.74	\$ 0.70
Earning per diluted share:				
Income before cumulative effect of change in accounting principles				
As previously reported	\$ 0.54	\$ 0.57	\$ 0.48	\$ 0.67
Effect of change in accounting principle	\$ (0.39)	\$ (0.16)	\$ 0.23	\$ --
As restated in first three quarters and reported in fourth quarter	\$ 0.15	\$ 0.41	\$ 0.71	\$ 0.67
Cumulative effect of change in accounting principle	\$ (1.56)	\$ --	\$ --	\$ --
Net income	\$ (1.41)	\$ 0.41	\$ 0.71	\$ 0.67

</TABLE>

67

REPORT OF INDEPENDENT ACCOUNTANTS

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

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of stockholders' equity and of cash flows present fairly, in all material respects, the financial position of KLA-Tencor Corporation and its subsidiaries at June 30, 2001 and 2000, and the results of their operations and their cash flows for each of the three years in the period ended June 30, 2001, in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally

accepted in the United States of America which 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.

As discussed in Note 1 to the Consolidated Financial Statements, effective July 1, 2000, the Company changed its method of accounting for revenue recognition in accordance with guidance in Securities and Exchange Commission Staff Accounting Bulletin No. 101 (SAB 101), "Revenue Recognition in Financial Statements."

/s/ PricewaterhouseCoopers LLP

San Jose, California
July 31, 2001

68

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

None.

69

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

Set forth below are the names of the present directors and executive officers of KLA-Tencor as of September 21, 2001, their ages and positions held. Additional information required by Item 405 of Regulation S-K of the Securities Act of 1933, as amended, is incorporated herein by reference to our Proxy Statement.

<TABLE>

<CAPTION>

Name	Age	Position
----	---	-----
<S>	<C>	<C>
Kenneth Levy	58	Chairman of the Board
Kenneth L. Schroeder	55	President and Chief Executive Officer
Gary E. Dickerson	44	Chief Operating Officer
John H. Kispert	37	Executive Vice President, and Chief Financial Officer
Rodney M. Browning	39	Vice President, Customer Group
J. Peter Campagna	49	Corporate Vice President and Treasurer
Dennis J. Fortino	55	Executive Vice President, Optical Surface Inspection and Measurement Group
Samuel A. Harrell	61	Senior Vice President, Strategic Business Development
Maureen L. Lamb	40	Vice President, Finance and Accounting
Stuart J. Nichols	41	Vice President, General Counsel
Neil Richardson	46	Executive Vice President, E-Beam Inspection and Metrology Group
Richard P. Wallace	41	Executive Vice President, Wafer Inspection Group

</TABLE>

Kenneth Levy is a co-founder of KLA-Tencor and since July 1, 1999 has been Chairman of the Board and a Director. From July 1998 until June 30, 1999, he was the Chief Executive Officer and a Director. From April 30, 1997 until June 30, 1998 he was Chairman of the Board. From 1975 until April 30, 1997 he was Chairman of the Board and Chief Executive Officer. He currently serves on the boards of directors of Ultratech Stepper, Inc., SpeedFam-IPEC, Inc. and is a Director Emeritus of SEMI, an industry trade association.

Kenneth L. Schroeder has been President and Chief Executive Officer and a Director of KLA-Tencor since July 1999. From November 1991 until June 30, 1999, he was President and Chief Operating Officer and a Director. He currently

serves on the board of directors of SEMI, an industry trade association.

Gary E. Dickerson has been Chief Operating Officer since July 1999. Mr. Dickerson joined KLA-Tencor in January 1986 and has held a series of management positions. From July 1997 until June 30, 1999, he was Executive Vice President of the Customer Group. In January 1996, he was

70

promoted to Group Vice President for the Wafer Inspection Group. In July 1994 he became the General Manager of the Wisard Division.

John H. Kispert became Chief Financial Officer in July 2000. Before becoming CFO, Mr. Kispert was Vice President of Finance and Accounting since July 1999. From February 1998 to July 1999 he was Vice President of Operations for the Wafer Inspection Group. From August 1997 to February 1998 he was Director of Operations. Mr. Kispert joined KLA-Tencor in February 1995 and has held a series of other management positions within the Company. Prior to KLA-Tencor, Mr. Kispert was with IBM for 6 years.

Rodney M. Browning became Vice President of the Customer Group of KLA-Tencor since November 2000. From November 1998 until November 2000 he was the Vice President and General Manager of the WIN Division of KLA-Tencor. From January 1997 to November 1998 he was the Vice President and General Manager of the AIT Division. Mr. Browning joined KLA-Tencor in 1985 and has held a series of other management positions at the company.

J. Peter Campagna joined KLA-Tencor as Corporate Vice President and Treasurer in October 2000. From August 1998 to October 2000, he was Corporate Vice President and Treasurer of Adaptec, Inc. From November 1994 to August 1998, he was Director of Tax for Adaptec, Inc. Prior to joining Adaptec, Inc., Mr. Campagna held a series of management positions at Intel Corp. and Watkins-Johnson Company.

Dennis J. Fortino has been Executive Vice President of the Optical Surface Inspection and Measurement Group since July 1999. From August 1997 to June 1999, he served as Vice President and General Manager of the Surfscan Division and from November 1995 to July 1997 as the Vice President and General Manager of the Surface Metrology Division. Mr. Fortino served as Vice President and General Manager for Spectra-Physics Lasers from July 1991 to October 1995.

Dr. Samuel A. Harrell joined KLA-Tencor in September 1995 as Senior Vice President of Strategic Business Development. Dr. Harrell is responsible for strategic corporate development. Dr. Harrell served from October 1992 to December 1995 as the Senior Vice President and Chief Strategy Officer of SEMATECH. From August 1987 to September 1992 he served as President of SEMI/SEMATECH.

Maureen L. Lamb became Vice President, Finance and Accounting in July 2000. She was the Corporate Controller from January 1999 to July 2000. Prior to joining KLA-Tencor, Ms. Lamb was an investment banker at Morgan Stanley Dean Witter & Co. and The Goldman Sachs Group, Inc. in New York.

Stuart J. Nichols joined KLA-Tencor in October 1999 as Vice President, General Counsel. Before KLA-Tencor, Mr. Nichols served from May 1997 to October 1999 as Vice President, General Counsel and Secretary of Phoenix Technologies Ltd. Mr. Nichols also served as General Counsel of Samsung Semiconductor, Inc. from August 1995 to May 1997.

71

Dr. Neil Richardson has been Executive Vice President of E-Beam Inspection and Metrology Group since May 1998. He was Executive Vice President of the Metrology Group from February 1997 to April 1998. He joined KLA-Tencor in June 1993 as Vice President and General Manager of the Metrology Division.

Richard P. Wallace became Executive Vice President of the Wafer Inspection Group in July 2000. From July 1999 to June 2000, he was the Group Vice President for Lithography and Films. From April 1998 to June 1999 he was Vice President and General Manager of the Mirage Group. From 1995 to March 1998 he was Vice President and General Manager of the Wisard division. Mr. Wallace joined KLA-Tencor in 1988 and has held a series of other management positions.

For additional information required by this item see "Compliance with Section 16(a) Beneficial Ownership Reporting Compliance" in the Proxy Statement, which is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

For the information required by this Item, see "Executive Compensation" 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 - Principal Stockholders and Security Ownership of 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" in the Proxy Statement, which is incorporated herein by reference.

72

PART IV

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

(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, 2000 and 2001
- Consolidated Statements of Operations for each of the three years in the period ended June 30, 2001
- Consolidated Statements of Stockholders' Equity for each of the three years in the period ended June 30, 2001
- Consolidated Statements of Cash Flows for each of the three years in the period ended June 30, 2001
- Notes to Consolidated Financial Statements
- Report of Independent Accountants

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

<TABLE>
<CAPTION>

EXHIBIT NO. -----	DESCRIPTION -----
<S>	<C>
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)

</TABLE>

73

<TABLE>
<CAPTION>

EXHIBIT NO. -----	DESCRIPTION -----
<S>	<C>

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	1990 Outside Directors Stock Option Plan (6)
10.3	Tencor Instruments 1993 Nonemployee Directors Stock Option Plan (7)
10.4	1997 Employee Stock Purchase Plan (8)
10.5	Second Amended and Restated 1981 Employee Stock Purchase Plan (9)
10.6	Tencor Instruments Amended and Restated 1993 Equity Incentive Plan (10)
10.7	1993 Employee Incentive Stock Option Plan of Prometrix Corporation (11)
10.8	Tencor Instruments Second Amended and Restated 1984 Stock Option Plan (12)
10.9	1983 Employee Incentive Stock Option Plan of Prometrix Corporation (13)
10.10	Restated 1982 Stock Option Plan, as amended November 18, 1996 (14)
10.11	Excess Profit Stock Plan (15)
10.12	Form of KLA-Tencor Corporation Corporate Officers Retention Plan (16)
10.13	Form of Retention and Non-Competition Agreement (17)
10.14	Form of Indemnification Agreement (18)
10.15	Separation Agreement between Graham Siddall and the Company (19)
10.16	Livermore Land Purchase and Sale Agreement (20)
21.1	List of Subsidiaries
23.1	Consent of Independent Accountants

</TABLE>

<TABLE>
<CAPTION>

NOTES

<S> <C>

- (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.

</TABLE>

<TABLE>
<S>

- (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 4.6 to the Company's Annual Report on Form 10-K for the year ended June 30, 1991.
- (7) Filed as Exhibit 10.3 to the Company's Registration

Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.

- (8) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-8 filed January 30, 1998, SEC File No. 333-45271.
- (9) Filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 filed January 30, 1998, SEC File No. 333-45271.
- (10) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (11) Filed as Exhibit 10.7 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (12) Filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (13) Filed as Exhibit 10.6 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (14) Filed as Exhibit 10.74 to the Company's Registration Statement on Form S-8 filed March 7, 1997, SEC File No. 333-22941.
- (15) Filed as Exhibit 10.15 to the Company's Registration Statement on Form S-8 filed August 7, 1998, SEC File No. 333-60887.
- (16) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-4 filed March 11, 1997, SEC File No. 333-23075.
- (17) Filed as Exhibit 10.1 to the Company's Registration Statement on Form S-4 filed March 11, 1997, SEC File No. 333-23075.
- (18) Filed as Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended June 30, 1997.
- (19) Filed as Exhibit 10.15 to the Company's Annual Report on Form 10-K for the year ended June 30, 1999.
- (20) Filed as Exhibit 10.16 to the Company's Annual Report on Form 10-K for the year ended June 30, 2000.

</TABLE>

(b) Reports on Form 8-K

None

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 September 21, 2001.

KLA-Tencor Corporation

By: /s/ KENNETH LEVY

Kenneth Levy
Chairman of the Board

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.

<TABLE>
<CAPTION>

SIGNATURE -----	TITLE -----	DATE ----
<S> /s/ KENNETH LEVY	<C> Chairman of the Board and Director	<C> September 21, 2001

----- Kenneth Levy -----		
/s/ KENNETH L. SCHROEDER ----- Kenneth L. Schroeder	President, Chief Executive Officer and Director (Principle Executive Officer)	September 21, 2001
/s/ JOHN H. KISPERT ----- John H. Kispert	Executive Vice President and Chief Financial Officer (Principal Accounting Officer)	September 21, 2001
/s/ EDWARD W. BARNHOLT ----- Edward W. Barnholt	Director	September 21, 2001
/s/ H. RAYMOND BINGHAM ----- H. Raymond Bingham	Director	September 21, 2001
/s/ ROBERT T. BOND ----- Robert T. Bond	Director	September 21, 2001
/s/ RICHARD J. ELKUS, Jr. ----- Richard J. Elkus, Jr.	Director	September 21, 2001
/s/ DEAN O. MORTON ----- Dean O. Morton	Director	September 21, 2001
/s/ JON D. TOMPKINS ----- Jon D. Tompkins	Director	September 21, 2001
/s/ LIDA URBANEK ----- Lida Urbanek	Director	September 21, 2001

</TABLE>

76

Report of Independent Accountants on
Financial Statement Schedule

To the Board of Directors
of KLA-Tencor Corporation

Our audits of the Consolidated Financial Statements referred to in our report dated July 31, 2001, also included an audit of the financial statement schedule listed in Item 14(a)2 on this Form 10-K. In our opinion, this financial statement schedule presents fairly, in all material respects, the information set forth therein when read in conjunction with the related Consolidated Financial Statements.

/s/ PricewaterhouseCoopers LLP

San Jose, California
July 31, 2001

77

SCHEDULE II

Valuation and Qualifying Accounts

<TABLE>
<CAPTION>

Balance at		Balance
Beginning	Charged to	At End

(n thousands)	of Period	Expense	Deductions	of Period
-----	-----	-----	-----	-----
<S>	<C>	<C>	<C>	<C>
Year Ended December 31, 1999:				
Allowance for Doubtful Accounts	\$ 8,262	\$ 19,271	\$ 10,895	\$ 16,638
Year Ended December 31, 2000:				
Allowance for Doubtful Accounts	\$ 16,638	\$ 13,731	\$ 15,580	\$ 14,789
Year Ended December 31, 2001:				
Allowance for Doubtful Accounts	\$ 14,789	\$ 7,728	\$ 7,505	\$ 15,012

</TABLE>

78

EXHIBITS

As required under Item 14, "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:

<TABLE>

<CAPTION>

Exhibit Number	Description
-----	-----
<S>	<C>
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	1990 Outside Directors Stock Option Plan (6)
10.3	Tencor Instruments 1993 Nonemployee Directors Stock Option Plan (7)
10.4	1997 Employee Stock Purchase Plan (8)
10.5	Second Amended and Restated 1981 Employee Stock Purchase Plan (9)
10.6	Tencor Instruments Amended and Restated 1993 Equity Incentive Plan (10)
10.7	1993 Employee Incentive Stock Option Plan of Prometrix Corporation (11)
10.8	Tencor Instruments Second Amended and Restated 1984 Stock Option Plan (12)
10.9	1983 Employee Incentive Stock Option Plan of Prometrix Corporation (13)
10.10	Restated 1982 Stock Option Plan, as amended November 18, 1996 (14)
10.11	Excess Profit Stock Plan (15)
10.12	Form of KLA-Tencor Corporation Corporate Officers Retention Plan (16)
10.13	Form of Retention and Non-Competition Agreement (17)

10.14	Form of Indemnification Agreement (18)
10.15	Separation Agreement between Graham Siddall and the Company (19)
10.16	Livermore Land Purchase and Sale Agreement (20)
21.1	List of Subsidiaries

79

23.1 Consent of Independent Accountants

<TABLE>
<CAPTION>

NOTES

<S> <C>

- (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 4.6 to the Company's Annual Report on Form 10-K for the year ended June 30, 1991.
- (7) Filed as Exhibit 10.3 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (8) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-8 filed January 30, 1998, SEC File No. 333-45271.
- (9) Filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 filed January 30, 1998, SEC File No. 333-45271.
- (10) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (11) Filed as Exhibit 10.7 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (12) Filed as Exhibit 10.1 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (13) Filed as Exhibit 10.6 to the Company's Registration Statement on Form S-8 filed May 8, 1997, SEC File No. 333-26681.
- (14) Filed as Exhibit 10.74 to the Company's Registration Statement on Form S-8 filed March 7, 1997, SEC File No. 333-22941.
- (15) Filed as Exhibit 10.15 to the Company's Registration Statement on Form S-8 filed August 7, 1998, SEC File No. 333-60887.
- (16) Filed as Exhibit 10.2 to the Company's Registration Statement on Form S-4 filed March 11, 1997, SEC File No. 333-23075.

</TABLE>

80

<TABLE>
<CAPTION>

NOTES

<S> <C>

- (17) Filed as Exhibit 10.1 to the Company's Registration Statement on Form S-4 filed March 11, 1997, SEC File No. 333-23075.
- (18) Filed as Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended June 30, 1997.
- (19) Filed as Exhibit 10.15 to the Company's Annual Report on Form 10-K for the year ended June 30, 1999.
- (20) Filed as Exhibit 10.16 to the Company's Annual Report on Form 10-K for the year ended June 30, 2000.

</TABLE>

<TABLE> <S> KLA-Tencor Subsidiaries	<C> State or Other Jurisdiction of Incorporation
Name	
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 (Thailand Branch) Corporation	California
VLSI Standards, Inc.	California
Finle Technologies, Inc.	Texas
INTERNATIONAL SUBSIDIARIES	
KLA-Tencor (Cayman) Limited I	Cayman Islands
KLA-Tencor (Cayman) Limited II	Cayman Islands
KLA-Tencor (Cayman) Limited III	Cayman Islands
KLA-Tencor (Cayman) Limited IV	Cayman Islands
KLA-Tencor (Israel) Corporation	Israel
KLA-Tencor Holding Corporation 1987 Limited	Israel
KLA-Tencor Corporation 1992 Limited	Israel
KLA-Tencor Italy S.R.L.	Italy
KLA-Tencor Japan, Ltd.	Japan
Phase Metrics Japan Co., Inc.	Japan
KLA-Tencor Foreign Sales Corporation	Barbados
KLA-Tencor GmbH	Germany
KLA-Tencor France SARL	France
KLA-Tencor Korea, Inc.	Korea
Phase Metrics Korea Co., Ltd.	Korea
KLA-Tencor Limited	United Kingdom
KLA-Tencor (Malaysia) Sdn Bhd	Malaysia
Phase Metrics Malaysia, Sdn, Bhd	Malaysia
KLA-Tencor (Singapore) PTE, Ltd.	Singapore
Phase Metrics Pacific PTE, Ltd.	Singapore
KLA-Tencor (Service) Limited	United Kingdom
VLSI Standards, KK	Japan
KLA-Tencor International Trading (Shanghai) Co. Ltd.	China
KLA-Tencor Microelectronics Equipment (Tianjin) Co., LTD	China
KLA Instruments Switzerland, S.A.	Switzerland
Nanopro GmbH	Germany
Yield Analysis Software Technologies, Ins.	Taiwan
Lee Ta Technologies (BVI), Inc.	British Virgin Islands
Phase Metrics Thailand Co., Ltd.	Thailand

</TABLE>

Consent of Independent Accountants

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 33-15784, No. 2-71584, No. 2-75314, 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, and No. 333-60866) 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 July 31, 2001 relating to the financial statements and the financial statement schedule, which appear in this Annual Report on Form 10-K.

/s/ PricewaterhouseCoopers LLP

San Jose, California
September 21, 2001