

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

Commission File Number: 0-18032

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED  
DECEMBER 29, 2001

LATTICE SEMICONDUCTOR CORPORATION

(Exact name of Registrant as specified in its Charter)

Delaware  
(State of Incorporation)

93-0835214  
(I.R.S Employer Identification No.)

5555 NE Moore Court, Hillsboro, Oregon  
(Address of principal executive offices)

97124-6421  
(Zip Code)

Registrant's telephone number, including area code: (503) 268-8000

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

Title of Class  
Common Stock, \$.01 par value

Name of Exchange  
NASDAQ

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

Yes  No

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

Yes  No

As of March 15, 2002, the aggregate market value of the shares of voting stock of the Registrant held by non-affiliates was approximately \$1.337 billion. Shares of Common Stock held by each officer and director and by each person who owns 5% or more of the outstanding Common Stock have been excluded in that such persons may be deemed affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 15, 2002, 109,635,440 shares of the Registrant's common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

1. Portions of the Annual Report to Stockholders for the fiscal year ended December 29, 2001 are incorporated by reference in Part II hereof.
2. Portions of the definitive proxy statement of the Registrant to be filed pursuant to Regulation 14A for the 2002 Annual Meeting of Stockholders to be held on May 7, 2002 are incorporated by reference in Part III hereof.

LATTICE SEMICONDUCTOR CORPORATION  
FORM 10-K  
ANNUAL REPORT  
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## Item 1. Business.

### BUSINESS

Lattice Semiconductor Corporation designs, develops and markets high performance programmable logic devices, or PLDs, and related software. Programmable logic devices are widely-used semiconductor components that can be configured by end customers as specific logic circuits, and thus enable shorter design cycle times and reduced development costs. Our end customers are primarily original equipment manufacturers in the communications, computing, industrial, military and consumer end markets.

In January 2002, we acquired the field programmable gate array ("FPGA") business of Agere Systems, Inc. ("Agere"). This acquisition increased our share of the PLD market, accelerated our entry into the FPGA segment and provided us with additional technical employees and intellectual property. In 1999, we acquired Vantis Corporation ("Vantis"), the programmable logic device subsidiary of Advanced Micro Devices ("AMD"). This acquisition also increased our share of the PLD market, accelerated development of new products and broadened our customer base.

#### Change in Fiscal Reporting Period

We report based on a 52 or 53 week year ending on the Saturday closest to December 31. For ease of presentation, we have adopted the convention of using March 31, June 30, September 30 and December 31 as period end dates for all financial statement captions. In the fourth quarter of 1999, we changed our fiscal year end from March 31 to December 31. The nine month fiscal period ended January 1, 2000 is referred to as "the nine months ended December 31, 1999" or "fiscal period 1999."

#### PLD Market Background

Three principal types of digital integrated circuits are used in most electronic systems: microprocessors, memory and logic. Microprocessors are used for control and computing tasks, memory is used to store programming instructions and data, and logic is employed to manage the interchange and manipulation of digital signals within a system. Logic contains interconnected groupings of simple logical "and" and logical "or" functions, commonly described as "gates." Typically, complex combinations of individual gates are required to implement the specialized logic functions required for systems applications. While system designers use a relatively small number of standard architectures to meet their microprocessor and memory needs, they require a wide variety of logic circuits in order to achieve end product differentiation.

Logic circuits are found in a wide range of today's digital electronic equipment including communication, computing, industrial, military and consumer systems. According to World Semiconductor Trade Statistics, a semiconductor industry association, logic accounted for approximately 28% of the estimated \$118 billion worldwide digital integrated circuit market in 2001. The logic market encompasses, among other segments, standard logic, custom-designed application specific integrated circuits, or ASICs, which include conventional gate-arrays, standard cells and full custom logic circuits, and PLDs.

Manufacturers of electronic equipment are challenged to bring differentiated products to market quickly. These competitive pressures often preclude the use of custom-designed ASICs, which generally entail significant design risks, non-recurring costs and time delays. Standard logic products, an alternative to custom-designed ASICs, limit a manufacturer's flexibility to adequately customize an end system. PLDs address this inherent dilemma. PLDs are standard products, purchased by systems manufacturers in a "blank" state, that can be custom configured into a virtually unlimited number of specific logic functions by programming the device with electrical signals. PLDs give system designers the ability to quickly create custom logic functions to provide product differentiation without sacrificing rapid time to market. Certain PLD

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products, including our own, are reprogrammable, meaning that the logic configuration can be modified, if needed, after the initial programming. ISP<sup>TM</sup> PLDs, pioneered by us, extend the flexibility of standard reprogrammable PLDs by allowing the system designer to configure and reconfigure logic functions using standard power supplies and without removing the PLD from the system board.

According to Gartner, the PLD market was approximately \$2.6 billion in 2001. Within this market there are two main segments, complex PLD ("CPLD") and FPGA, each representing a distinct silicon architectural approach. In 2001, CPLD was a \$0.7 billion market while FPGA was a \$1.9 billion market.

Products based on the two alternative PLD architectures are generally optimal for different types of logic functions, although many logic functions can be implemented using either architecture. CPLDs are characterized by a regular building block structure of wide-input logic cells, called macrocells, and use of a centralized logic interconnect scheme. FPGAs are characterized by a narrow-input logic cell and use a distributed interconnect scheme. FPGAs may also contain dedicated blocks of fixed circuits such as memory, high-speed interface logic or processing engines. Although CPLDs and FPGAs are typically suited for use in distinct types of logic applications, we believe that a substantial portion of PLD customers utilize both CPLD and FPGA architectures within a single system design, partitioning logic functions across multiple devices to optimize overall system performance and cost.

A growing percentage of the PLD market is made up of devices that operate using 3.3-volt, or lower, power supplies. Lower voltage PLDs benefit end users by consuming less power and providing compatibility with other advanced electronic components.

#### Technology

We believe that our proprietary E<sup>2</sup>CMOS<sup>Å</sup> technology is the preferred process technology for CPLD products due to its inherent performance, reprogrammability and testability benefits. E<sup>2</sup>CMOS technology, through its fundamental ability to be programmed and erased electronically, serves as the foundation for our ISP products.

We pioneered the development of in-system programmability<sup>TM</sup> which has become an industry standard feature in the PLD market. Our ISP devices use either 5-volt or 3.3-volt programming signals and, as a result, can be configured and reconfigured by a system designer without being removed from the printed circuit board. Standard E<sup>2</sup>CMOS PLDs require a 12-volt programming signal and therefore must be removed from the printed circuit board and programmed using specialized hardware. Our ISP devices offer enhanced flexibility compared to standard PLDs and provide significant benefits to our customers. Our ISP devices can allow customers to reduce design cycle times, accelerate time to market, reduce prototyping costs, reduce manufacturing costs and lower inventory requirements. Our ISP devices can also provide customers the opportunity to perform simplified and cost-effective field reconfiguration through a data file transferred by computer disk or serial data signal.

#### Products

We strive to offer innovative and differentiated programmable solutions based on our proprietary technology.

##### CPLD Products

Since 1992, we have focused on developing a leadership portfolio of CPLD products and increasing the percentage of our overall revenue derived from this attractive market. During 2001, approximately 76% of our revenue was derived from CPLD products, as compared to 66% in calendar 1999 and essentially zero in 1992. At present we offer the industry's broadest line of CPLDs based on our 16 families of ispLSI<sup>®</sup> and ispMACH<sup>®</sup> products which include 75 devices. In the future, we plan to continue to introduce new families of innovative CPLD products, as well as improve the performance and

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reduce the manufacturing cost of our existing product families based on market needs.

Our newest CPLD product families use innovative architectures and are targeted towards the low voltage portion of the market. We believe that our multiple families of leadership CPLD products provide us a competitive advantage in this market. The key features of these families are described in the table below:

CPLD Family	Operating Voltage	Maximum Speed (MHz)	Minimum Prop Delay (Nanoseconds)	Logic (Macrocells)	I/O Pins
IspLSI 2000VE/VL	3.3/2.5	300	3.0	32 — 192	32-128
IspLSI 5000VE	3.3	180	5.0	128 — 512	72-256
IspMACH 5000VG	3.3	178	5.0	768 — 1024	196-384
IspMACH 4000B/C	2.5/1.8	350	2.5	32 — 512	30-208

##### FPGA Products

In 2002, we entered the FPGA market as a result of our acquisition of the FPGA business of Agere. At present we offer over 40 FPGA devices within our three ORCA<sup>®</sup> product families. These products are targeted toward the mainstream FPGA market. In the future, we plan to introduce new families of innovative, high performance and higher density FPGAs. Key features of our currently available FPGA families are described in the table below:

FPGA Family	Operating Voltage	Logic (LUTs)	Logic (Gates)	Max RAM (kB)	I/O Pins
ORCA 2	5.0/3.3	400 — 3,600	5K — 100K	58	44-128
ORCA 3	5.0/3.3/2.5	1,152 — 11,552	18K — 340K	185	44-208
ORCA 4	1.5	4,992 — 16,192	260K — 1.1M	404	128-388

In addition, we currently offer a groundbreaking new category of FPGA products called field programmable system chips ("FPSC"). FPSCs, which combine generic FPGA logic and embedded intellectual property cores on a single programmable chip, offer customers the ability to quickly implement complex system-level designs in a flexible manner. Currently, we offer four FPSC devices, the ORT82G5, ORT8850L, ORL110G and ORL112G, based on our ORCA 4 FPGA platform. These devices incorporate high-speed interface protocols, offering up to 3.125 Gbs SERDES, and other application-specific circuit blocks that allow customers to develop high performance designs to implement 10 Gigabit ethernet and SONET applications within advanced communications systems.

We also offer two additional product families, ispGDX and ispGD XV, that target a unique aspect of the programmable logic market. These families extend in-system programmability to the circuit board level using an innovative digital cross-point switch architecture. Offered with propagation delays as low as 3.5 nanoseconds, up to 240 input/output pins and complete pin-to-pin signal routing, both the 5-volt ispGDX and the 3.3-volt ispGD XV are targeted towards digital signal interconnect and interface applications.

### **Mixed Signal Products**

During 1999, we added mixed signal products to our portfolio as we believe these devices provide an opportunity to extend our proprietary technology to an untapped potential market. Our five device ispPAC<sup>®</sup> family extends in-system programmability to the analog market. The innovative architecture of our ispPAC products allow designers to quickly and easily program resistor and capacitor values, gain and signal polarity and circuit interconnect to implement a wide variety of analog circuits. Our initial ispPAC products are targeted towards filtering and signal conditioning applications and can

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replace numerous discrete analog components. ispPAC designs are implemented and programmed via a personal computer using our software development tool, PAC-Designer<sup>®</sup>.

### **Software Development Tools**

All Lattice ISP products are supported by our new ispLEVER<sup>™</sup> software development tool suite. The ispLEVER software, our fifth generation design environment, features several important enhancements including a logic module generator, an improved constraints editor, HTML-based reporting and navigation and an automated update facility. Supporting both the PC and UNIX platforms, ispLEVER allows our customers to enter, verify and synthesize a design, perform logic simulation and timing analysis, assign input/output pins, designate critical paths, debug, execute automatic timing-driven place and route tasks and download a program to one of our ISP devices. Seamlessly integrated with third-party electronic design automation environments, ispLEVER provides a front-to-back design flow that leverages a customer's prior investment in tools offered by Aldec, Cadence, Mentor Graphics, Synopsys and Synplicity. In the future, we plan to continue to enhance and expand the capability of our software development tool suite.

We also provide a variety of software algorithms that support in-system programming of our ISP devices through an interface cable or directly from a system microprocessor.

### **Low Density PLD Products**

We offer the industry's broadest line of low-density CMOS PLDs based on our 18 families of GAL<sup>®</sup> products offered in over 200 speed, power, package and temperature range combinations. These devices range in complexity from approximately 200 to 1,000 logic gates and are typically assembled in 20-, 24- and 28-pin standard dual in-line packages and in 20- and 28-pin standard plastic leaded chip carrier packages. We offer the standard 16V8, 20V8 and 22V10 architectures in a variety of speed grades, with propagation delays as low as 3.5 nanoseconds, the highest performance in the industry. In addition, we offer several proprietary extension architectures, the isp22V10, 6001/2, 16VP8, 16V8Z, 18V10, 20VP8, 20V8Z, 20RA10, 20XV10 and 26V12, each of which is optimized for specific applications. We also offer a full range of 3.3-volt standard architectures, the isp22LV10, 16LV8, 20LV8, 22LV10 and 26CLV12, in a variety of speed grades, with propagation delays as low as 3.5 nanoseconds, the highest performance in the industry.

### **Product Development**

We place substantial emphasis on new product development and believe that continued investment in this area is required to maintain our competitive position. Our product development activities emphasize new proprietary products, enhancement of existing products and process technologies and improvement of software development tools. Product development activities occur in Hillsboro, Oregon; San Jose, California; Boulder, Colorado; Colorado Springs, Colorado; Naperville, Illinois; Allentown, Pennsylvania; Austin, Texas; Salt Lake City, Utah; Shanghai, China and Corsham, England.

Research and development expenses were \$45.9 million in fiscal period 1999, \$77.1 million in 2000 and \$71.7 million in 2001. We expect to continue to make significant future investments in research and development.

### **Operations**

We do not manufacture our own silicon wafers. We maintain strategic relationships with large semiconductor manufacturers to source our finished silicon wafers. This strategy allows us to focus our internal resources on product, process and market development, and eliminates the fixed cost of owning and operating manufacturing facilities. We are also able to take advantage of the ongoing advanced process technology dedicated development efforts of semiconductor manufacturers. In addition, all of our assembly operations are performed by outside suppliers. We perform certain test operations and reliability and quality assurance processes internally. We have achieved an ISO 9001 quality certification, an

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indication of our high internal operational standards.

### **Wafer Fabrication**

We source silicon wafers from our foundry partners, Seiko Epson in Japan, UMC in Taiwan and Chartered Semiconductor in Singapore, pursuant to agreements with each company and their respective affiliates. We negotiate wafer volumes, prices and other terms with our foundry partners and their respective affiliates on a periodic basis. We also source a small portion of our wafer requirements from AMD and Agere Systems in order to support ongoing manufacturing requirements for certain of our mature product lines we obtained as a result of our acquisitions.

### **Assembly**

After wafer fabrication and initial testing, we ship wafers to independent subcontractors for assembly. During assembly, wafers are separated into individual die and encapsulated in plastic or ceramic packages. Presently, we have qualified long-term assembly partners in China, Malaysia, the Philippines, Singapore, South Korea, Taiwan and Thailand.

### **Testing**

We electrically test the die on each wafer prior to shipment for assembly. Following assembly, prior to customer shipment, each product undergoes final testing and quality assurance procedures. Final testing on certain products is performed by independent contractors in China, Malaysia, the Philippines, South Korea, Singapore, Taiwan, Thailand and the United States.

### **Marketing, Sales and Customers**

We sell our products directly to end customers through a network of independent manufacturers' representatives and indirectly through a network of independent distributors. We also employ a direct sales management and field applications engineering organization to support our end customers and indirect sales resources. Our end customers are primarily original equipment manufacturers in the communication, computing, industrial, military and consumer end markets.

As of December 2001, we used 20 manufacturers' representatives and two distributors, Arrow Electronics and Avnet, in North America. We have also established export sales channels in over 30 foreign countries through a network of over 30 sales representatives and distributors. Approximately one-half of our North American sales and the majority of our export sales are made through distributors.

We protect each of our North American distributors and some of our foreign distributors against reductions in published prices, and expect to continue this policy in the foreseeable future. We also allow returns from these distributors of unsold products under certain conditions. For these reasons, we do not recognize revenue until products are resold by these distributors to an end customer.

We provide technical and marketing support to our end customers with engineering staff based at our headquarters, design centers and selected field sales offices. We maintain numerous domestic and international field sales offices in major metropolitan areas.

Export sales as a percentage of our total revenue were 53% in fiscal period 1999, 57% in 2000 and 54% in 2001. Both export and domestic sales are denominated in U.S. dollars, with the exception of sales to Japan, which are dominated in yen. If our export sales decline significantly there would be a material adverse impact on our business and results of operations.

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Our products are sold to a large and diverse group of customers. No individual end customer accounted for more than 10% of total revenue in fiscal period 1999, 2000 or 2001. No export sales to any given country accounted for more than 10% of total revenue in fiscal period 1999, 2000 or 2001.

### **Backlog**

Our backlog of scheduled and released orders as of December 31, 2001 was approximately \$25.8 million as compared to approximately \$85.9 million as of December 31, 2000. This backlog consists of direct customer and distributor orders scheduled for delivery within the next 90 days. Distributor orders accounted for the majority of the backlog in both periods. Direct customer orders may be changed, rescheduled or cancelled under certain circumstances without penalty prior to shipment. Additionally, distributor orders generally may be changed, rescheduled or cancelled without penalty prior to shipment. Furthermore, distributor shipments are subject to rights of return and price adjustment. Revenue associated with distributor shipments is not recognized until the product is resold to an end customer. Typically, the majority of our revenue results from orders placed and filled within the

same period. Such orders are referred to as “turns orders.” By definition, turns orders are not captured in a backlog measurement made at the beginning of a period. We do not anticipate a significant change in this business pattern. For all these reasons, backlog as of any particular date should not be used as a predictor of revenue for any future period.

## **Competition**

The semiconductor industry is intensely competitive and characterized by rapid rates of technological change, product obsolescence and price erosion. Our current and potential competitors include a broad range of semiconductor companies from emerging companies to large, established companies, many of which have greater financial, technical, manufacturing, marketing and sales resources.

The principal competitive factors in the PLD market include product features, price, customer support, and sales, marketing and distribution strength. The availability of competitive software development tools is also critical. In addition to product features such as density, speed, power consumption, reprogrammability, design flexibility and reliability, competition in the PLD market occurs on the basis of price and market acceptance of specific products and technology. We believe that we compete favorably with respect to each of these factors. We intend to continue to address these competitive factors by working to continually introduce product enhancements and new products, by seeking to establish our products as industry standards in their respective markets, and by working to reduce the manufacturing cost of our products.

In the PLD market, we directly compete primarily with Actel, Altera and Xilinx, all of whom offer competing products. We also indirectly compete with other PLD suppliers as well as other semiconductor companies who provide non-PLD based logic solutions. Although to date we have not experienced significant competition from companies located outside the United States, such companies may become a more significant competitive factor in the future. Competition may also increase as PLD companies seek to expand our markets. Any such increases in competition could have a material adverse effect on our operating results.

## **Patents**

We seek to protect our products and wafer fabrication process technologies primarily through patents, trade secrecy measures, copyrights, mask work protection, trademark registrations, licensing restrictions, confidentiality agreements and other approaches designed to protect proprietary information. There can be no assurance that others may not independently develop competitive technology not covered by our intellectual property rights or that measures we take to protect our technology will be effective.

We hold numerous domestic, European and Asian patents and have patent applications pending in the United States,

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Asia and Europe. There can be no assurance that pending patent applications or other applications that may be filed will result in issued patents, or that any issued patents will survive challenges to their validity. Although we believe that our patents have value, there can be no assurance that our patents, or any additional patents that may be issued in the future, will provide meaningful protection from competition. We believe that our success will depend primarily upon the technical expertise, experience, creativity and the sales and marketing abilities of our personnel.

Patent and other proprietary rights infringement claims are common in our industry. There can be no assurance that, with respect to any claim made against us, we could obtain a license on terms or under conditions that would not harm our business.

## **Licenses and Agreements**

### ***Seiko Epson/Epson Electronics America***

Epson Electronics America (“EEA”), an affiliated U.S. distributor of Seiko Epson, has agreed to provide us with manufactured wafers in quantities based on six-month rolling forecasts. We have committed to buy certain minimum quantities of wafers per month. Wafers for our products are manufactured in Japan at Seiko Epson’s wafer fabrication facilities and are delivered to us by Epson Electronics America. Prices for the wafers obtained from Epson Electronics America are reviewed and adjusted periodically.

In 1997, and as subsequently amended in January 2002, we entered into an advance production payment agreement with Seiko Epson and EEA under which we agreed to advance approximately \$69 million, payable upon completion of specific milestones, to Seiko Epson to finance construction of an eight-inch sub-micron semiconductor wafer manufacturing facility. The timing of the payments is related to certain milestones in the development of the facility. Under the terms of the agreement, the advance is to be repaid with semiconductor wafers over a multi-year period. The agreement calls for wafers to be supplied by Seiko Epson through EEA pursuant to purchase agreements concluded with EEA. Payments of approximately \$51.2 million have been made under this agreement.

### ***UMC Group***

Beginning in 1995, we entered into a series of agreements with UMC pursuant to which we agreed to make several equity investments in entities now directly owned by UMC. Under the terms of these agreements, we invested approximately \$68.5 million for the right to purchase a percentage of UMC’s wafer production at market prices.

We currently own approximately 84 million shares of UMC common stock. We will retain the right to purchase a certain percentage of UMC’s wafer production as long as we retain a certain percentage of these shares.

### ***Chartered Semiconductor***

In 2002, in order to support our acquired FPGA products, Chartered Semiconductor and its affiliates agreed to provide us with manufactured wafers in quantities based on six-month rolling forecasts. Wafers for our products are manufactured at the facilities of Chartered and its affiliates in Singapore. We have committed to buy certain minimum quantities of wafers per month.

### ***Advanced Micro Devices***

In 1999, as part of our acquisition of Vantis, we entered into an agreement with AMD pursuant to which we have cross-licensed Vantis patents with AMD patents, having an effective filing date on or before June 15, 1999, related to PLD products. This cross-license was made on a worldwide, non-exclusive and royalty-free basis.

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As part of our acquisition of Vantis Corporation, we acquired certain third-party license rights held by Vantis prior to the acquisition. Included are rights to use certain Xilinx patents to manufacture, market and sell products.

### ***Agere Systems***

In January 2002, as part of our acquisition of the FPGA business of Agere, we entered into a series of agreements with Agere to support the continuing operations of this business. Pursuant to these agreements, for a limited period of time, Agere is providing us with certain manufacturing, engineering and transition services and sub-leased office space.

We also entered into an intellectual property agreement with Agere and Agere Systems Guardian Corporation. Pursuant to this agreement, these Agere companies assigned or licensed to us certain FPGA and FPSC patents, trademarks, software and other intellectual property rights and technology, and we licensed back rights in these same assets. These cross-licenses were made on a worldwide and royalty-free basis.

### ***Altera***

In July 2001, we entered into a comprehensive, royalty-free patent cross-license agreement and a multi-year patent peace agreement.

## **Employees**

As of December 31, 2001 we had 1,004 full-time employees. We believe that our future success will depend, in part, on our ability to continue to attract and retain highly skilled technical and management personnel. None of our employees is subject to a collective bargaining agreement. We have never experienced a work stoppage and consider our employee relations good.

## **Item 2. Properties.**

Our corporate headquarters consists of land and 200,000 square feet of buildings we own in Hillsboro, Oregon. We also own a 13,000 square foot research and development facility and approximately 6,000 square feet of dormitory facilities in Shanghai, China. We lease (through 2008) a 133,000 square foot research and development facility in San Jose, California. We also lease, on a short-term basis, research and development facilities in Colorado, Illinois, Pennsylvania, Texas, Utah and the United Kingdom. We also lease, on a short-term basis, office facilities in multiple metropolitan locations, for our domestic and international sales staff. Additionally, we lease (through 2006) an 80,000 square foot facility in Sunnyvale, California which has been subleased to a third party through the end of the lease term.

## **Item 3. Legal Proceedings.**

We are not currently a party to any material legal proceedings.

## **Item 4. Submission of Matters to a Vote of Security Holders.**

Not applicable.

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**Item 4(a). Executive Officers of the Registrant.****MANAGEMENT**

The following individuals currently serve as our executive officers and directors:

<b>Name</b>	<b>Age</b>	<b>Position</b>
Cyrus Y. Tsui	56	Chief Executive Officer and Chairman of the Board
Steven A. Laub	43	President and Director
Stephen A. Skaggs	39	Senior Vice President, Chief Financial Officer and Secretary
Frank J. Barone	62	Corporate Vice President, Product Operations
Stephen M. Donovan	50	Corporate Vice President, Sales
Jonathan K. Yu	61	Corporate Vice President, Business Development
Martin R. Baker	46	Vice President and General Counsel
Randy D. Baker	43	Vice President and General Manager, Lattice Oregon
Albert L. Chan	52	Vice President and General Manager, Lattice Silicon Valley
Jan Johannessen	46	Vice President, Investments
Thomas J. Kingzett	55	Vice President, Reliability and Quality Assurance
Stanley J. Kopec	51	Vice President, Corporate Marketing
Andrew D. Robin	49	Vice President, New Venture Business
Rodney F. Sloss	58	Vice President, Finance
Kenneth K. Yu	54	Vice President and Managing Director, Lattice Asia
Mark O. Hatfield	79	Director
Daniel S. Hauer	65	Director
Soo Boon Koh	51	Director
Harry A. Merlo	76	Director
Larry W. Sonsini	60	Director

**Cyrus Y. Tsui** joined Lattice in September 1988 as President, Chief Executive Officer and Director, and in March 1991 was named Chairman of the Board. From 1987 until he joined, Mr. Tsui was Corporate Vice President and General Manager of the Programmable Logic Division of AMD. He was Vice President and General Manager of the Commercial Products Divisions of Monolithic Memories Incorporated (MMI) from 1983 until its merger with AMD in 1987. Mr. Tsui has held technical and managerial positions in the semiconductor industry for over 30 years and worked in the programmable logic industry since its inception.

**Steven A. Laub** joined Lattice in June 1990 as Vice President and General Manager. He was elected Senior Vice President and Chief Operating Officer in August 1996. In October 2001, he was promoted to President and elected to our Board of Directors.

**Stephen A. Skaggs** joined Lattice in December 1992 as Director, Corporate Development. He was elected Senior Vice President, Chief Financial Officer and Secretary in August 1996.

**Frank J. Barone** joined Lattice in June 1999 as a Corporate Vice President as a result of our Vantis acquisition. From September 1997 until he joined, Mr. Barone was Chief Operating Officer of Vantis. Prior thereto, Mr. Barone held various technical and managerial positions at AMD. He has worked in the programmable logic industry since 1978.

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**Stephen M. Donovan** joined Lattice in October 1989 and has served as Director of Marketing and Director of International Sales. He was elected Vice President, International Sales in August 1993. He was promoted to Corporate Vice President, Sales, in May 1998. Mr. Donovan has worked in the programmable logic industry since 1982.

**Jonathan K. Yu** joined Lattice in February 1992 as Vice President, Operations. He was elected Corporate Vice President, Business Development in August 1996. Mr. Yu has held technical and managerial positions in the semiconductor industry for over 30 years.

**Martin R. Baker** joined Lattice in January 1997 as Vice President and General Counsel. From 1991 until he joined Lattice, Mr. Baker held legal positions with Altera Corporation.

**Randy D. Baker** joined Lattice in April 1985 as Manager, Manufacturing and was promoted in 1988 to Director, Manufacturing. He was elected Vice President, Manufacturing in August 1996. In August 2001, he was promoted to Vice President and General Manager, Lattice Oregon.

**Albert L. Chan** joined Lattice in May 1989 as California Design Center Manager and was promoted in 1991 to Director, California Product Development Center. He was elected Vice President, California Product Development in August 1993. He was promoted to Vice President and General Manager, Lattice Silicon Valley, in August 1997. Mr. Chan has worked in the programmable logic industry since 1983.

**Jan Johannessen** rejoined Lattice in October 2001 as Vice President, Investments. Since 1993 he worked as an independent venture capitalist. He originally joined Lattice in 1983 and served as Vice President and Chief Financial Officer between 1987 and 1993.

**Thomas J. Kingzett** joined Lattice in July 1992 as Director, Reliability and Quality Assurance. He was elected Vice President, Reliability and Quality Assurance in May 1998. Mr. Kingzett has worked in the semiconductor industry for over 30 years.

**Stanley J. Kopec** joined Lattice in August 1992 as Director, Marketing. He was elected Vice President, Corporate Marketing in May 1998. Mr. Kopec has worked in the programmable logic industry since 1985.

**Andrew D. Robin** joined Lattice in June 1999 as Vice President, New Venture Business as a result of the Vantis acquisition. From March 1998 until he joined, Mr. Robin was Vice President, Marketing at Vantis. Prior thereto, Mr. Robin held various marketing and managerial positions at AMD and MMI. Mr. Robin has worked in the programmable logic industry since 1984.

**Rodney F. Sloss** joined Lattice in May 1994 as Vice President, Finance.

**Kenneth K. Yu** joined Lattice in January 1991 as Director of Process Technology. He has served as Managing Director, Lattice Asia since November 1992 and was elected Vice President, Lattice Asia in August 1993. Mr. Yu has held technical and managerial positions in the semiconductor industry for over 25 years.

**Mark O. Hatfield** has been a member of our board of directors since 1997. Mr. Hatfield is a former U.S. Senator from Oregon.

**Daniel S. Hauer** has been a member of our board of directors since 1987. Mr. Hauer is the former Chairman and Chief Executive Officer of Epson Electronics America.

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**Soo Boon Koh** joined our board of directors in August 2000. Ms. Koh is a general partner of iGlobe Ventures, a venture capital firm located in Singapore and the United States.

**Harry A. Merlo** was a founding member of our board of directors in 1983. Mr. Merlo is the President of Merlo Corporation and is the former founding President and Chairman of Louisiana-Pacific Corporation.

**Larry W. Sonsini** has been a member of our board of directors since 1991. Mr. Sonsini is Chairman of the Executive Committee of Wilson Sonsini Goodrich & Rosati, Professional Corporation, a law firm based in Palo Alto, California.

**PART II****Item 5. Market for the Registrant's Common Stock and Related Stockholder Matters.**

Our common stock is traded on the over-the-counter market and prices are quoted on the Nasdaq National Market under the symbol "LSCC." The following table sets forth the low and high sale prices for our common stock for the last two fiscal years and for the period since December 31, 2001. On March 15, 2002, the last reported sale price of our common stock was \$19.07. As of March 15, 2002, we had approximately 460 stockholders of record.

	<b>Low</b>		<b>High</b>	
<b>2000:</b>				
First Quarter	\$	20.44	\$	41.31
Second Quarter		22.78		41.69
Third Quarter		23.00		40.00
Fourth Quarter		15.00		29.63
<b>2001:</b>				
First Quarter	\$	16.76	\$	27.25

Second Quarter	15.88	27.65
Third Quarter	14.04	25.85
Fourth Quarter	14.36	22.65

2002:		
First Quarter (through March 15, 2002)	\$ 17.06	\$ 24.14

All share amounts have been adjusted retroactively to reflect our two-for-one stock split effected in the form of stock dividends of one share of common stock for each share of our outstanding common stock paid October 11, 2000.

The payment of dividends on our common stock is within the discretion of our Board of Directors. We intend to retain earnings to finance the growth of our business. We have not paid cash dividends and our Board of Directors does not expect to declare a cash dividend in the near future.

#### Item 6. Selected Financial Data.

The section entitled "Selected Financial Data" in our 2001 Annual Report to Stockholders at page 19 is incorporated herein by reference.

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#### Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

This report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Actual results could differ materially from those projected in the forward-looking statements as a result of the factors set forth in the section entitled "Factors Affecting Future Results" and elsewhere in the report.

Lattice Semiconductor Corporation designs, develops and markets high performance programmable logic devices, or PLDs, and related software. Programmable logic devices are widely-used semiconductor components that can be configured by the end customer as specific logic circuits, and enable the end customer to shorten design cycle times and reduce development costs. Our end customers are primarily original equipment manufacturers in the communications, computing, industrial, military and consumer end markets.

The 2001 and 2000 fiscal years are twelve-month periods, as compared to our nine-month fiscal period 1999.

#### Results of Operations

The following table sets forth, for the periods indicated, the percentage of revenue represented by selected items reflected in our Consolidated Statement of Operations:

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	Year ended Dec. 31, 2001	Year ended Dec. 31, 2000	Nine months ended Dec. 31, 1999
Revenue	100%	100%	100%
Costs and expenses:			
Cost of products sold	38	38	40
Research and development	24	14	17
Selling, general and administrative	18	14	19
In-process research and development	—	—	33
Amortization of intangible assets	29	15	17
Total costs and expenses	109	81	126
(Loss) income from operations	(9)	19	(26)
Other (expense) income, net	(50)	27	(2)
(Loss) income before (benefit) provision for income taxes	(59)	46	(28)
(Benefit) provision for income taxes	(22)	16	(11)
(Loss) income before extraordinary item	(37)	30	(17)
Extraordinary item, net of income taxes	—	—	(1)
Net (loss) income	(37)%	30%	(18)%

*Acquisition of Vantis* As discussed in more detail in note 4 to our Consolidated Financial Statements, we completed the acquisition of Vantis Corporation ("Vantis") from Advanced Micro Devices, Inc. ("AMD") on June 15, 1999. We paid approximately \$500.1 million in cash for all of the outstanding capital stock of Vantis, plus \$10.8 million in direct acquisition costs, \$5.4 million of accrued pre-acquisition contingencies, \$8.3 million of accrued exit costs, and assumed certain liabilities of \$34.5 million related to the Vantis business. In addition, we exchanged Lattice stock options for all of the outstanding stock options under the former Vantis employee stock plans with a calculated Black-Scholes value of \$24.0 million. The total purchase price for Vantis was \$583.1 million. The purchase price was allocated to the estimated fair value of assets acquired and liabilities assumed based on an independent appraisal and management estimates. In-process research & development (IPR&D) costs were appraised at \$89.0 million and charged to operations

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on the acquisition date. Remaining intangible asset costs are being amortized to operations over five years using the straight-line method (see *New Accounting Pronouncements* in note 1 to our Consolidated Financial Statements).

The purchase was financed using a combination of cash reserves and a credit facility bearing interest at adjustable rates. The credit facility was replaced with Convertible Subordinated Notes in November 1999 (see note 8 to our Consolidated Financial Statements).

*Revenue.* Revenue was \$295.3 million in 2001, a decrease of 48% from 2000. Fiscal 2000 revenue of \$567.8 million represented an increase of 111% from the \$269.7 million recorded in fiscal period 1999. Revenue from the sale of high-density products represented 76%, 76% and 68% of total revenue for 2001, 2000 and fiscal period 1999, respectively.

During 2001, the semiconductor and PLD markets experienced a significant downturn. Our revenue decrease in 2001 as compared to 2000, was a result of this downturn and the resultant decrease in demand for our products. Revenue declined across all geographies while the communications end market was particularly weak.

In addition to our acquisition of Vantis, the increase in revenue in 2000 was primarily attributable to increased sales of high density products, particularly our new low-voltage high density products, in all geographic regions. Additionally, 2000 was a twelve-month fiscal year, as opposed to our nine-month fiscal period 1999.

Our sales by geographic region were as follows:

	Year ended December 31, 2001	Year ended December 31, 2000 (in thousands)	Nine months ended December 31, 1999
United States	\$ 135,832	\$ 245,882	\$ 126,333
Export sales:			
Europe	81,177	158,591	70,641
Asia	62,582	120,285	55,003
Other	15,735	43,001	17,722
	159,494	321,877	143,366
	\$ 295,326	\$ 567,759	\$ 269,699

Revenue from export sales as a percentage of total revenue was approximately 54% for 2001, 57% for 2000 and 53% for fiscal period 1999. We expect export sales to continue to represent a significant portion of revenue.

The average selling price of our products was approximately flat in 2001 as compared to 2000, but increased in 2000 as compared to fiscal period 1999. The average selling price for our products decreased significantly in the second half of 2001 as a result of the significant downturn in the semiconductor and PLD markets. Other fluctuations in average selling price, including the overall increase in 2000, were due primarily to product mix changes and increased sales of high density products. Although selling prices of mature products generally decline over time, this decline is at times offset by higher selling prices of new products. Our ability to maintain or increase the level of our average selling price is dependent on the continued development, introduction and market acceptance of new products. See "Factors Affecting Future Results."

**Gross Margin.** Our gross margin was 62% for 2001, 62% for 2000 and 60% for fiscal period 1999. Continued reductions in our overall manufacturing costs and improvements in our product mix generally offset an increased proportion of fixed

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manufacturing costs in 2001. Product mix in 2001 was favorably affected by a higher ratio of previously deferred income compared to income from direct customer sales. The gross margin improvement in 2000 was primarily due to reductions in our manufacturing costs and improvements in our product mix. Reductions in manufacturing costs resulted primarily from on-going yield improvements, migration of products to more advanced technologies and smaller die sizes.

**Research and Development.** Research and development expense was \$71.7 million for 2001, \$77.1 million in 2000 and \$45.9 million in fiscal period 1999. The decrease in 2001 when compared to 2000 was attributable to a decrease in discretionary spending which more than offset headcount increases. In addition to our acquisition of Vantis, spending increases in 2000 were due to increased headcount and associated expenses related to development of new products. Additionally, 2000 was a twelve-month fiscal year, as opposed to our nine-month fiscal period 1999. We believe that a continued commitment to research and development is essential in order to maintain product leadership in our existing product families and provide innovative new product offerings, and therefore we expect to continue to make significant future investments in research and development.

**Selling, General and Administrative.** Selling, general and administrative expense was \$53.0 million in 2001, \$81.1 million in 2000 and \$50.7 million in fiscal period 1999. The decrease in 2001 when compared to 2000 was primarily due to lower variable costs associated with reduced revenue and profitability, reductions in discretionary spending and, to a lesser extent, the reversal in the third quarter of 2001 of \$2.8 million of reserves established in the Vantis acquisition related to the now-settled Altera litigation (see note 11 to our Consolidated Financial Statements). Increased expenses in 2000 were primarily due to increased variable costs associated with higher revenue levels and our Vantis acquisition. Additionally, 2000 was a twelve-month fiscal period, as opposed to the nine-month fiscal period 1999.

**In-Process Research and Development.** In-process research and development costs of approximately \$89.0 million were incurred on June 15, 1999 in connection with our acquisition of Vantis (see note 4 to our Consolidated Financial Statements).

**Amortization of Intangible Assets.** Amortization of intangible assets acquired in the Vantis acquisition and the acquisition of Integrated Intellectual Property, Inc. ("I2P") on March 16, 2001 was \$84.3 million in 2001, \$81.9 million in 2000 and \$45.8 million for fiscal period 1999. The increase in amortization for 2001 as compared to 2000 was primarily due to the I2P acquisition. The increase in amortization for 2000 was primarily due to a full year of amortization in 2000 as opposed to the approximately 6.5 months included in fiscal period 1999. The estimated weighted average useful life of the intangible assets for current technology, assembled workforce, customer lists, trademarks, patents and residual goodwill, created as a result of the acquisition, is approximately five years.

**(Loss) Gain on Foundry Investments.** The gain on foundry investments recorded in the first quarter of 2000 and the loss on foundry investments recorded in the third quarter of 2001 represent equity market appreciation and subsequent impairment loss on our UMC common shares (see note 5 to our Consolidated Financial Statements).

**Interest Income.** Interest income was \$17.7 million in 2001, \$16.2 million in 2000, and \$6.1 million in fiscal period 1999. The increase in 2001 when compared to 2000 was attributable to overall increased cash balances generated from our follow-on stock offering, completed in July 2000, which more than offset lower interest rates on invested balances in 2001. The 2000 interest income increase was due to our follow-on stock offering, cash generated from operations and stock option exercises. Additionally, 2000 was a twelve-month fiscal period as opposed to our nine-month fiscal period 1999.

**Interest Expense.** Interest expense was approximately \$14.0 million in both 2001 and 2000 and \$9.7 million in fiscal period 1999. Substantially all interest expense resulted from the debt issued to partially fund our Vantis acquisition. The 2000 interest expense increase of 44% was due to the fact that acquisition-related debt was outstanding for all of 2000, but only for 6.5 months in fiscal period 1999.

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**(Benefit) Provision for Income Taxes.** The benefit for income taxes for 2001 results in an effective tax rate of (37.0%), as compared to 35.9% in 2000 and (37.6%) for fiscal period 1999. The tax benefit in 2001 is the result of the pretax loss reported in the period. The rate associated with the tax benefit in 2001 is higher than the provision rate in 2000 because of the proportional impact of our marginal tax rate applied to the unrealized gain in 2000 and subsequent impairment loss in 2001 related to our foundry investments (see note 5 to our Consolidated Financial Statements) in comparison to taxes on operating income and non-taxable investment income. The benefit for income taxes for fiscal period 1999 was attributable to the tax effect of the in-process research and development cost recognized in conjunction with our Vantis acquisition. The effective rate for all periods presented is lower than the combined federal and state statutory rates primarily because of tax-exempt investment income and tax credits.

**Extraordinary Item, Net of Income Taxes.** The extraordinary item, net of income taxes, in fiscal period 1999 represents the writeoff of unamortized loan fees related to the early retirement of our credit facility in connection with the re-financing of our acquisition of Vantis.

## Factors Affecting Future Results

### A downturn in the communications equipment or computing end markets will cause a reduction in demand for our products and limit our ability to maintain or increase our revenue and profit levels.

A significant portion of our revenue is derived from customers in the communications equipment and computing end markets. A downturn in the overall global economy or in the economies of the countries where we derive significant revenue could lead to a contraction of capital spending on information technology. This in turn could lead to a reduction in the demand for communications or computing equipment and for our products.

Due to a deterioration in overall economic conditions and a significant reduction in information technology capital spending, the communications and computing end markets declined in 2001 when compared to prior years. In addition, the abrupt transition from an environment of rapid growth to the current environment in these end equipment markets has resulted in an excess of component inventory within our end customers. At present and in the future when these or other similar conditions exist, there is likely to be an adverse effect on our operating results.

### The cyclical nature of the semiconductor industry may limit our ability to maintain or increase revenue and profit levels during future industry downturns.

The semiconductor industry is highly cyclical, to a greater extent than other less dynamic or less technology-driven industries. Our financial performance has periodically been negatively affected by past downturns in the semiconductor industry. Factors that have contributed to these downturns include:

- the cyclical nature of the demand for the products of semiconductor customers;
- general reductions in inventory levels by customers;
- excess production capacity; and
- accelerated declines in average selling prices.

In 2001, the semiconductor industry experienced a significant downturn. At present and in the future when these or other similar conditions exist, there is likely to be an adverse effect on our operating results.

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### We may experience unexpected difficulties integrating the FPGA business we recently purchased from Agere Systems.

On January 18, 2002, we acquired the field programmable gate array ("FPGA") business of Agere Systems and are currently in the process of integrating this business with our operations. If our integration is unsuccessful, more difficult or more time consuming than originally planned, we may incur unexpected disruptions to our ongoing business. These disruptions could harm our operating results. Further, the following specific factors may adversely affect our ability to integrate the FPGA business of Agere:

- we may experience unexpected losses of key employees or customers;
- we may not be able to coordinate our new product and process development in a way which permits us to bring future new products to the market in a timely manner;
- we may experience unexpected costs and discover unexpected liabilities;
- we may not achieve expected levels of revenue growth, cost reduction and profitability improvement; and
- we may experience difficulties or delays in conforming the standards, processes, procedures and controls of our two businesses.

In addition, as part of our acquisition, we entered into agreements with Agere Systems to obtain certain manufacturing, intellectual property and transition support and services. In the event that Agere fails to provide this support and service, or provides such support and service at a level of quality and timeliness inconsistent with the historical delivery of such support and service, our ability to integrate the FPGA business will be hampered and our operating results may be harmed.

**We may be unsuccessful in defining, developing or selling new products required to maintain or expand our business.**

As a semiconductor company, we operate in a dynamic environment marked by rapid product obsolescence. Our future success depends on our ability to introduce new or improved products that meet customer needs while achieving acceptable margins. If we fail to introduce these new products in a timely manner or these products fail to achieve market acceptance, our operating results would be harmed.

The introduction of new products in a dynamic market environment presents significant business challenges. Product development commitments and expenditures must be made well in advance of product sales. The success of a new product depends on accurate forecasts of long-term market demand and future technology developments.

Our future revenue growth is dependent on market acceptance of our new product families and the continued market acceptance of our software development tools. The success of these products is dependent on a variety of specific technical factors including:

- successful product definition;
- timely and efficient completion of product design;
- timely and efficient implementation of wafer manufacturing and assembly processes;

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- product performance; and
  - the quality and reliability of the product.

If, due to these or other factors, our new products do not achieve market acceptance, our operating results would be harmed.

**Our products may not be competitive if we are unsuccessful in migrating our manufacturing processes to more advanced technologies or alternative fabrication facilities.**

To develop new products and maintain the competitiveness of existing products, we need to migrate to more advanced wafer manufacturing processes that use larger wafer sizes and smaller device geometries. We also may need to use additional foundries. Because we depend upon foundries to provide their facilities and support for our process technology development, we may experience delays in the availability of advanced wafer manufacturing process technologies at existing or new wafer fabrication facilities. As a result, volume production of our advanced process technologies at the new fabs of Seiko Epson, UMC or future foundries may not be achieved. This could harm our operating results.

In late 2001, UMC informed us that as part of an overall capacity rationalization they are planning to close certain of their fabrication facilities. We were developing an advanced wafer manufacturing process at one of the UMC fabs that has been closed. With UMC's support, we have transferred this process to alternative UMC fabs. However, transfer of a manufacturing process is a technically demanding and time intensive challenge. As a result, our new product introduction schedules have been delayed. This could harm our operating results.

**Our marketable securities, which we hold for strategic reasons, are subject to equity price risk and their value may fluctuate.**

Currently we hold substantial equity in UMC Corporation, which we acquired as part of a strategic investment to obtain certain manufacturing rights. The market price and valuation of these equity shares has fluctuated widely due to market and other conditions over which we have little control. During the quarter ended September 30, 2001, we recorded a \$152.8 million pre-tax impairment loss related to this investment. In the future, UMC shares may continue to experience significant price volatility. We have not attempted to reduce or eliminate this equity price risk through hedging or similar techniques and hence substantial, sustained changes in the market price of UMC shares could impact our financial results. To the extent that the market value of our UMC shares experiences further deterioration for an extended period of time, our net income could be reduced.

**Our future quarterly operating results may fluctuate and therefore may fail to meet expectations.**

Our quarterly operating results have fluctuated and may continue to fluctuate. Consequently, our operating results may fail to meet the expectations of analysts and investors. As a result of industry conditions and the following specific factors, our quarterly operating results are more likely to fluctuate and are more difficult to predict than a typical non-technology company of our size and maturity:

- general economic conditions in the countries where we sell our products;
- conditions within the end markets into which we sell our products;
- the cyclical nature of demand for our customers' products;

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- excessive inventory accumulation by our end customers;
  - the timing of our and our competitors' new product introductions;
  - product obsolescence;
  - the scheduling, rescheduling and cancellation of large orders by our customers;
  - our ability to develop new process technologies and achieve volume production at the new fabs of Seiko Epson, UMC or at other foundries;
  - changes in manufacturing yields;
  - adverse movements in exchange rates, interest rates or tax rates; and
  - the availability of adequate supply commitments from our wafer foundries and assembly and test subcontractors.

As a result of these factors, our past financial results are not necessarily a good predictor of our future results.

**Our stock price may continue to experience large short-term fluctuations.**

In recent years, the price of our common stock has fluctuated greatly. These price fluctuations have been rapid and severe and have left investors little time to react. The price of our common stock may continue to fluctuate greatly in the future due to a variety of company specific factors, including:

- quarter-to-quarter variations in our operating results;
- shortfalls in revenue or earnings from levels expected by securities analysts; and
- announcements of technological innovations or new products by other companies.

**Our wafer supply may be interrupted or reduced, which may result in a shortage of finished products available for sale.**

We do not manufacture finished silicon wafers. Currently, our silicon wafers are manufactured by Seiko Epson in Japan, UMC in Taiwan, Chartered Semiconductor in Singapore, Agere Systems and AMD in the United States. If Seiko Epson, through its U.S. affiliate, Epson Electronics America, UMC or Chartered significantly interrupts or reduces our wafer supply, our operating results could be harmed.

In the past, we have experienced delays in obtaining wafers and in securing supply commitments from our foundries. At present, we anticipate that our supply commitments are adequate. However, these existing supply commitments may not be sufficient for us to satisfy customer demand in future periods. Additionally, notwithstanding our supply commitments we may still have difficulty in obtaining wafer deliveries consistent



Many other factors that could disrupt our wafer supply are beyond our control. Since worldwide manufacturing capacity for silicon wafers is limited and inelastic, we could be harmed by significant industry-wide increases in overall wafer demand or interruptions in wafer supply. Additionally, a future disruption of Seiko Epson's, UMC's or Chartered's foundry operations as a result of a fire, earthquake or other natural disaster could disrupt our wafer supply and could harm our operating results.

**If our foundry partners experience quality or yield problems, we may face a shortage of finished products available for sale.**

We depend on our foundries to deliver reliable silicon wafers with acceptable yields in a timely manner. As is common in our industry, we have experienced wafer yield problems and delivery delays. If our foundries are unable to produce silicon wafers that meet our specifications, with acceptable yields, for a prolonged period, our operating results could be harmed.

The majority of our revenue is derived from products based on a specialized silicon wafer manufacturing process technology called E<sup>2</sup>CMOS. The reliable manufacture of high performance E<sup>2</sup>CMOS semiconductor wafers is a complicated and technically demanding process requiring:

- a high degree of technical skill;
- state-of-the-art equipment;
- the absence of defects in the masks used to print circuits on a wafer;
- the elimination of minute impurities and errors in each step of the fabrication process; and
- effective cooperation between the wafer supplier and the circuit designer.

As a result, our foundries may experience difficulties in achieving acceptable quality and yield levels when manufacturing our silicon wafers.

**If our assembly and test subcontractors experience quality or yield problems, we may face a shortage of finished products available for sale.**

We rely on subcontractors to assemble and test our devices with acceptable quality and yield levels. As is common in our industry, we have experienced quality and yield problems in the past. If we experience prolonged quality or yield problems in the future, our operating results could be harmed.

The majority of our revenue is derived from semiconductor devices assembled in advanced packages. The assembly of advanced packages is a complex process requiring:

- a high degree of technical skill;
- state-of-the-art equipment;
- the absence of defects in lead frames used to attach semiconductor devices to the package;
- the elimination of raw material impurities and errors in each step of the process; and

- effective cooperation between the assembly subcontractor and the device manufacturer.

As a result, our subcontractors may experience difficulties in achieving acceptable quality and yield levels when assembling and testing our semiconductor devices.

**Deterioration of conditions in Asia may disrupt our existing supply arrangements and result in a shortage of finished products available for sale.**

All three of our major silicon wafer suppliers operate fabs located in Asia. Our finished silicon wafers are assembled and tested by independent subcontractors located in China, Malaysia, the Philippines, Singapore, South Korea, Taiwan and Thailand. A prolonged interruption in our supply from any of these subcontractors could harm our operating results.

Economic, financial, social and political conditions in Asia have historically been volatile. Financial difficulties, governmental actions or restrictions, prolonged work stoppages or any other difficulties experienced by our suppliers may disrupt our supply and could harm our operating results.

Our wafer purchases from Seiko Epson are denominated in Japanese yen. The value of the dollar with respect to the yen fluctuates. Substantial deterioration of dollar-yen exchange rates could harm our operating results.

**Export sales account for a substantial portion of our revenues and may decline in the future due to economic and governmental uncertainties.**

Our export sales are affected by unique risks frequently associated with foreign economies including:

- changes in local economic conditions;
- exchange rate volatility;
- governmental controls and trade restrictions;
- export license requirements and restrictions on the export of technology;
- political instability or terrorism;
- changes in tax rates, tariffs or freight rates;
- interruptions in air transportation; and
- difficulties in staffing and managing foreign sales offices.

For example, our export sales have historically been affected by regional economic crises. Significant changes in the economic climate in the foreign countries where we derive our export sales could harm our operating results.

**We may not be able to successfully compete in the highly competitive semiconductor industry.**

The semiconductor industry is intensely competitive and many of our direct and indirect competitors have substantially greater financial, technological, manufacturing, marketing and sales resources. If we are unable to compete successfully in this environment, our future results will be adversely affected.

The current level of competition in the programmable logic market is high and may increase as our market expands. We currently compete directly with companies that have licensed our products and technology or have developed similar products. We also compete indirectly with numerous semiconductor companies that offer products and solutions based on alternative technologies. These direct and indirect competitors are established multinational semiconductor companies as well as emerging companies. We also may experience significant competition from foreign companies in the future.

**We may fail to retain or attract the specialized technical and management personnel required to successfully operate our business.**

To a greater degree than most non-technology companies or larger technology companies, our future success depends on our ability to attract and retain highly qualified technical and management personnel. As a mid-sized company, we are particularly dependent on a relatively small group of key employees. Competition for skilled technical and management employees is intense within our industry. As a result, we may not be able

to retain our existing key technical and management personnel. In addition, we may not be able to attract additional qualified employees in the future. If we are unable to retain existing key employees or are unable to hire new qualified employees, our operating results could be adversely affected.

**If we are unable to adequately protect our intellectual property rights, our financial results and competitive position may suffer.**

Our success depends in part on our proprietary technology. However, we may fail to adequately protect this technology. As a result, we may lose our competitive position or face significant expense to protect or enforce our intellectual property rights.

We intend to continue to protect our proprietary technology through patents, copyrights and trade secrets. Despite this intention, we may not be successful in achieving adequate protection. Claims allowed on any of our patents may not be sufficiently broad to protect our technology. Patents issued to us also may be challenged, invalidated or circumvented.

Finally, our competitors may develop similar technology independently. Companies in the semiconductor industry vigorously pursue their intellectual property rights. If we become involved in protracted intellectual property disputes or litigation we may utilize substantial financial and management resources, which could have an adverse effect on our operating results.

We may also be subject to future intellectual property claims or judgments. If these were to occur, we may not be able to obtain a license on favorable terms or without our operating results being adversely affected.

**Critical Accounting Policies**

On December 12, 2001 and again on February 13, 2002 the Securities and Exchange Commission proposed new corporate

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disclosure rules related to critical accounting policies. Critical Accounting Policies are those "that are both most important to the portrayal of a company's financial condition and results and require management's most difficult, subjective and complex judgements, often as a result of the need to make estimates about the effect of matters that are inherently uncertain." A description of our critical accounting policies follows.

**Revenue recognition.** Revenue from direct customers is recognized upon shipment provided that persuasive evidence of a sales arrangement exists, the price is fixed, title has transferred, collection of resulting receivables is probable, there are no customer acceptance requirements and no remaining significant obligations. Certain of our sales are made to distributors under agreements providing price protection and right of return on unsold merchandise. Revenue and costs relating to such distributor sales are deferred until the product is sold by the distributor and related revenue and costs are then reflected in income.

**Deferred income.** In determining the amount of deferred income related to sales to distributors, we make estimates regarding sales prices and margins to be earned by our distributors upon sales to our end customers.

**Inventory and inventory valuation allowances.** We value inventory at the lower of cost or market on a quarterly basis. In addition, we establish reserves for unproven, excess and obsolete inventories. To value our inventory, we make a number of estimates and assumptions including future price declines and forecasted demand for our products.

**Accounting for income taxes.** To report income tax expense related to operating results, we record current and deferred income tax assets and liabilities in our balance sheet. In determining the value of our deferred tax assets, we make estimates of future taxable income. We believe that it is more likely than not that we will earn sufficient future taxable income to realize these deferred tax assets, and therefore, we do not provide for valuation allowances on our deferred tax assets.

**New Accounting Pronouncements**

In June 1998, the FASB issued SFAS 133, "Accounting for Derivatives Instruments and Hedging Activities." SFAS 133 establishes new accounting treatment for derivatives and hedging activities and supersedes and amends a number of existing accounting standards. We adopted this pronouncement in the first quarter of 2001; such adoption did not and has not had a material effect on the consolidated financial statements.

In June 2001, the FASB issued SFAS 142, "Goodwill and Other Intangible Assets," which supersedes APB Opinion No. 17, "Intangible Assets." SFAS 142, among other things, establishes new standards for intangible assets acquired in a business combination, eliminates amortization of goodwill and sets forth requirements to periodically evaluate goodwill for impairment. We will adopt this statement during the first quarter of 2002, at which time goodwill and certain intangibles with indefinite lives will no longer be amortized, eliminating approximately \$8 million of existing quarterly amortization. Amortization expense for the fourth quarter of 2001 and for the year ended December 31, 2001 was approximately \$21.3 and \$84.3 million, respectively. As of December 31, 2001, the consolidated balance sheet caption "Intangible Assets" included approximately \$81.4 million of goodwill and \$125.1 million of net other intangible assets. We will complete an initial goodwill impairment assessment in 2002 to determine if a transition impairment charge should be recognized under SFAS 142. We do not anticipate a material impairment charge upon the completion of the initial impairment review.

In October 2001, the FASB issued SFAS 144, "Accounting for the Disposal of Long-Lived Assets," which supersedes SFAS 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of." SFAS 144 retains the fundamental provisions of SFAS 121 regarding the recognition and measurement of the impairment of long-lived assets to be held and used and the measurement of long-lived assets to be disposed by sale, but provides additional definition and measurement criteria for determining when an impairment has occurred. Goodwill and financial

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assets are excluded from the scope of SFAS 144, however amortizable intangible assets fall within its scope. We do not expect this pronouncement to materially affect our financial statements when we adopt it during the first quarter of 2002.

**Item 7(a) Quantitative and Qualitative Disclosures About Market Risk**

As of December 31, 2001 and December 31, 2000 our investment portfolio consisted of fixed income securities of \$508.2 million and \$507.3 million, respectively. As with all fixed income instruments, these securities are subject to interest rate risk and will decline in value if market interest rates increase. If market rates were to increase immediately and uniformly by 10% from levels as of December 31, 2001 and December 31, 2000 the decline in the fair value of our portfolio would not be material. Further, we have the ability to hold our fixed income investments until maturity and, therefore, we would not expect to recognize such an adverse impact in our income or cash flows.

We have international subsidiary and branch operations. Additionally, a portion of our silicon wafer purchases are denominated in Japanese yen. We therefore are subject to foreign currency rate exposure. To mitigate rate exposure with respect to our yen-denominated wafer purchases, we maintain yen-denominated bank accounts and bill our Japanese customers in yen. The yen bank deposits are utilized to hedge specific and firm yen-denominated wafer purchases. If the foreign currency rates were to fluctuate by 10% from rates at December 31, 2001 and December 31, 2000, the effect on our consolidated financial statements would not be material. However, there can be no assurance that there will not be a material impact in the future.

We are exposed to equity price risk due to our equity investment in UMC (see note 5 to our Consolidated Financial Statements). Neither a 10% increase nor a further 10% decrease in equity price related to this investment would have a material effect on our consolidated financial statements. We have not attempted to reduce or eliminate this equity price risk through hedging or similar techniques and hence substantial, sustained changes in the market price of UMC shares could impact our financial results. To the extent that the market value of our UMC shares experiences further deterioration for an extended period of time, our net income could be reduced.

**Liquidity and Capital Resources**

As of December 31, 2001, our principal source of liquidity was \$531.6 million of cash and short-term investments, a slight decrease from the balance of \$535.4 million at December 31, 2000. Working capital increased to \$617.2 million at December 31, 2001 from \$552.2 million at December 31, 2000. This increase was primarily due to decreases in deferred income, accounts payable and accrued expenses, which more than offset a decrease in our accounts receivable. These decreases were associated with the significant downturn in the semiconductor and PLD markets during 2001 and our lower revenue and operating expense levels. During 2001, we generated approximately \$7.0 million of cash and cash equivalents from our operations compared with \$114.3 million during 2000. This reduction in cash generation was driven primarily by reduced receipts from end customers and distributors in conjunction with lower revenue levels and reduced cash inflow from stock option exercises.

Accounts receivable at December 31, 2001 decreased by \$30.2 million, or 61%, as compared to the balance at December 31, 2000. This decrease was primarily due to decreased billings and revenue levels during the year. Inventories increased by \$5.4 million, or nine percent, as compared to the balance at December 31, 2000 primarily due to lower revenue levels and the continued receipt of wafers started in the last half of 2000. Wafer starts were significantly reduced throughout 2001 and inventory levels stabilized in the second half of 2001. Prepaid expenses and other current assets increased by approximately \$5.5 million, or 24%, as compared to the balance at December 31, 2000. This increase is due primarily to estimated income taxes paid in the first quarter of 2001 which are now refundable as a result of the pre-tax loss recorded in the second through fourth quarters of 2001. Current deferred tax assets decreased by approximately \$17.5 million, or 36%, as compared to the balance at December 31, 2000. This was primarily due to the decrease in deferred income on sales to distributors (which is recognized currently for income tax purposes), and to a lesser extent the timing of

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deductions for certain expenses and allowances. Foundry investments, advances and other assets decreased by approximately \$27.0 million, or 14% as compared to the balance at December 31, 2000. This decrease was primarily due to market value depreciation of our investment in UMC (see note 5 to our Consolidated Financial Statements). Net intangible assets decreased by \$79.9 million, or 28% as compared to the balance at December 31, 2000, primarily due to amortization of goodwill and other intangibles, partially offset by new intangible assets acquired during the period which are being amortized over four years. Amortization expense for these new assets totaled approximately \$1.4 million, including \$0.4 million of deferred compensation expense. The increase in non-current deferred income taxes of \$31.0 million, or 89%, at December 31, 2001 as compared to December 31, 2000 is due primarily to a reduction of the deferred tax liability originally recorded on January 3, 2000 in conjunction with the gain recognized on the appreciation of our UMC shares (see note 7 to our Consolidated Financial Statements). The balance of this deferred tax liability of \$27.9 million at December 31, 2000, was netted against non-current deferred income tax assets in our consolidated balance sheet. This liability was eliminated in the third quarter of 2001 as our impairment loss recognized in the third quarter of 2001 on the UMC shares was slightly in excess of the original gain recorded. In conjunction with the subsequent market

appreciation of the UMC shares in the fourth quarter of 2001, a deferred tax liability of \$13.3 million was recorded. The increase in non-current deferred taxes is also due, to a lesser extent, to the net tax effect of intangible asset amortization.

Accounts payable and accrued expenses at December 31, 2001 decreased by \$54.0 million, or 73%, as compared to the balance at December 31, 2000. This decrease is due primarily to decreased wafer purchases and contracted assembly activities in response to decreased customer demand and revenue levels. The \$6.7 million, or 71% decrease in income taxes payable at December 31, 2001 as compared to the balance at December 31, 2000 is primarily attributable to the net loss recorded in 2001 and to the timing of tax deductions and payments. Deferred income at December 31, 2001 decreased by \$40.1 million, or 69%, as compared to the balance at December 31, 2000, due primarily to decreased billings to distributors associated with decreased shipments and lower revenue levels.

On October 28, 1999, we issued \$260 million in 4 ¾ % convertible subordinated notes due on November 1, 2006. These notes require that we pay interest semi-annually on May 1 and November 1. Holders of these notes may convert them into shares of our common stock at any time on or before November 1, 2006, at a conversion price of \$20.72 per share, subject to adjustment in certain events. Beginning on November 6, 2002 and ending on October 31, 2003, we may redeem the notes in whole or in part at a redemption price of 102.71% of the principal amount. In the subsequent three twelve-month periods, the redemption price declines to 102.04%, 101.36% and 100.68% of principal, respectively. The notes are subordinated in right of payment to all of our senior indebtedness, and are subordinated to all liabilities of our subsidiaries. At December 31, 2001, we had no senior indebtedness and our subsidiaries had \$2.5 million of other liabilities. Issuance costs relative to the convertible subordinated notes are included in Other Assets and aggregated approximately \$6.9 million and are being amortized to expense over the life of the notes. Accumulated amortization amounted to approximately \$3.6 million at December 31, 2001.

On June 15, 1999, we entered into a credit agreement with a group of lenders and ABN AMRO Bank N.V. as administrative agent for the lender group. The credit agreement consisted of two credit facilities: a \$60 million unsecured revolving credit facility ("Revolver"), and a \$220 million unsecured reducing term loan ("Term Loan"), both expiring and due on June 30, 2002. On June 15, 1999, we borrowed \$220 million under the Term Loan and approximately \$33 million under the Revolver. The \$33 million Revolver was repaid in full during the third calendar quarter of 1999. In conjunction with the issuance of the convertible subordinated notes, we repaid the \$220 million Term Loan in full during the fourth calendar quarter of fiscal 1999. Remaining unamortized loan fees at the time of repayment, aggregating approximately \$2.6 million (\$1.665 million net of income taxes or a charge of \$0.02 for basic and diluted earnings per share), were written off and are reflected in our Consolidated Statement of Operations as an Extraordinary Item, Net of Income Taxes.

We do not have any financial partnerships with unconsolidated entities, such as entities often referred to as structured finance or special purpose entities, which are often established for the purpose of facilitating off-balance sheet

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arrangements or other contractually narrow or limited purposes. Accordingly, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had such relationships.

Capital expenditures were approximately \$13.8 million, \$25.9 million and \$15.7 million for 2001, 2000 and fiscal period 1999, respectively. We expect to spend approximately \$15 million to \$20 million for the fiscal year ending December 31, 2002.

Certain of our facilities and equipment are leased under operating leases, which expire at various times through 2008. Rental expense under the operating leases was approximately \$5.1 million, \$5.5 million and \$2.8 million for 2001, 2000, and fiscal period 1999, respectively. Future minimum lease commitments at December 31, 2001 are as follows (in thousands):

Year		
2002	\$	7,418
2003		6,903
2004		6,509
2005		5,903
2006		4,628
Later years		8,111
	\$	<u>39,472</u>

Included in these amounts are certain properties which are currently subleased. A portion of this sublease income is payable to the property owner. Future minimum sublease receipts, based on agreements in place at December 31, 2001, net of such payments are as follows (in thousands):

Year		
2002	\$	2,623
2003		2,473
2004		2,555
2005		2,622
2006		886
	\$	<u>11,159</u>

We currently own approximately 84 million shares of UMC common stock. Restrictions by UMC and the Taiwan government apply to approximately 28% of these shares. If we liquidate our UMC shares, it is likely that the amount of any future realized gain or loss will be different from the accounting gain or loss reported in prior periods.

In December 2000, our Board of Directors authorized management to repurchase up to five million shares of our common stock. As of December 31, 2001, we had repurchased 1,136,000 shares (596,000 in 2001) at an aggregate cost of approximately \$20.0 million (\$10.6 million in 2001).

In March 1997 and as subsequently amended in January 2002, we entered into an advance payment production agreement with Seiko Epson and Epson Electronics America, Inc. ("EEA") under which we agreed to advance approximately \$69 million, payable upon completion of specific milestones, to Seiko Epson to finance construction of an eight-inch sub-micron semiconductor wafer manufacturing facility. Under the terms of the agreement, the advance is to be repaid with semiconductor wafers over a multi-year period. No interest income is recorded. The agreement calls for wafers

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to be supplied by Seiko Epson through EEA pursuant to purchase agreements with EEA. Payments of approximately \$51.2 million have been made under this agreement. Approximately \$3.4 million of these advances are expected to be repaid with semiconductor wafers during fiscal year 2002 and are thus reflected as part of "Prepaid expenses and other current assets" in our Consolidated Balance Sheet.

On December 10, 2001, we announced a definitive agreement to acquire the FPGA business of Agere Systems, Inc. for \$250 million in cash. This acquisition was completed on January 18, 2002 and financed with cash on hand. The transaction will be accounted for as a purchase.

The acquisition includes a general purpose ORCA<sup>®</sup> FPGA product portfolio, a field programmable system chip (FPSC) product portfolio and all related software design tools. In addition, we also acquired certain intellectual property cores and patents unique to Agere's FPGA business and entered into a cross-license agreement with Agere covering certain FPGA and FPSC patents, intellectual property and technology. As part of the transaction, we also hired approximately 100 Agere product development, marketing and technical sales employees.

The \$250 million purchase price, associated costs and assumed liabilities are tax deductible (over 15 years for substantially all of the sum). Management, with the assistance of a third party valuation of intangible assets, attributed \$65 million to purchased technology, \$24 million to in-process research and development costs, and \$24 million to a non-compete agreement and to licensed technology. Value attributed to acquired tangible assets and assumed liabilities is not material to our financial statements. Goodwill is the difference between a) the sum of the purchase price, associated costs and assumed liabilities, and b) the fair value of acquired assets. Purchased and licensed (non-goodwill) intangible assets will be amortized over approximately 7 years on a straight line basis except in-process research and development costs which will be charged to operations in the March 2002 quarter.

We believe that our existing liquid resources, expected cash generated from operations and existing credit facilities combined with our ability to borrow additional funds will be adequate to meet our operating and capital requirements and obligations for the next 12 months, including our recent acquisition of the Agere FPGA business.

We may in the future seek new or additional sources of funding. In addition, in order to secure additional wafer supply, we may from time to time consider various financial arrangements including joint ventures, equity investments, advance purchase payments, loans, or similar arrangements with independent wafer manufacturers in exchange for committed wafer capacity. To the extent that we pursue any such additional financing arrangements, additional debt or equity financing may be required. There can be no assurance that such additional financing will be available when needed or, if available, will be on favorable terms. Any future equity financing will decrease existing stockholders' equity percentage ownership and may, depending on the price at which the equity is sold, result in dilution.

## Item 8. Financial Statements and Supplementary Data.

The section entitled "Consolidated Financial Statements" on pages 20 through 32 in our 2001 Annual Report to Stockholders is incorporated herein by reference.

### Consolidated Financial Statement Schedules:

Report of Independent Accountants on Financial Statement Schedule

S-1

Schedule II- Valuation and Qualifying Accounts

S-2

**Item 9. Changes in and Disagreements with Accountants On Accounting and Financial Disclosure.**

Not applicable.

With the exception of the information expressly incorporated by reference from the Annual Report to Stockholders into Parts II and IV of this Form 10-K, the Company's Annual Report to Stockholders is not to be deemed filed as part of this Report.

**PART III**

Certain information required by Part III is omitted from this Report in that the Company will file its definitive proxy statement for the Annual Meeting of Stockholders to be held on May 7, 2002, pursuant to Regulation 14A of the Securities Exchange Act of 1934 (the "Proxy Statement"), not later than 120 days after the end of the fiscal year covered by this Report, and certain information included in the Proxy Statement is incorporated herein by reference. With the exception of the information expressly incorporated by reference from the Proxy Statement, the Company's Proxy Statement is not to be deemed filed as a part of this report.

**Item 10. Directors and Executive Officers of the Registrant.**

The caption entitled "Proposal 1: Election of Directors" in the Company's Proxy Statement is incorporated herein by reference. Information with respect to executive officers of the Company is included under Item 4(a) of Part I of this Report and is incorporated herein by reference.

**Item 11. Executive Compensation.**

The caption entitled "Proposal 1: Election of Directors," "Executive Compensation" "Options Granted and Options Exercised in the Last Fiscal Year" and "Comparison of Total Cumulative Stockholder Return" in the Company's Proxy Statement is incorporated herein by reference.

**Item 12. Security Ownership of Certain Beneficial Owners and Management.**

The caption entitled "Security Ownership of Certain Beneficial Owners and Management" in the Company's Proxy Statement is incorporated herein by reference.

**Item 13. Certain Relationships and Related Transactions.**

The caption entitled "Proposal 1: Election of Directors - Transactions with Management" in the Company's Proxy Statement is incorporated herein by reference.

**PART IV****Item 14. Exhibits, Financial Statement Schedules and Reports on Form 8-K.****(a)(1) and (2) Financial Statements and Financial Statement Schedules.**

The information required by this Item is included under Item 8 of this Report.

**(a)(3) EXHIBITS.**

- 3.1 The Company's Certificate of Incorporation, as amended (Incorporated by reference to Exhibit 3.1 filed with the Company's Registration Statement on Form S-3 on July 11, 2000).
- 3.2 The Company's Bylaws, as amended and restated as of August 1, 2000, as further amended effective October 30, 2001.
- 4.2 Indenture between Lattice Semiconductor Corporation and State Street Bank and Trust Company of California, N.A., dated as of November 1, 1999 (Incorporated by reference to Exhibit 4.1 filed with the Company's Registration Statement on Form S-3 on December 21, 1999).
- 4.3 Form of Note for the Company's 4<sup>3/4</sup>% Convertible Subordinated Notes (Incorporated by reference to Exhibit 4.3 filed with the Company's Registration Statement on Form S-3 on December 21, 1999).
- 10.10 \* Form of Stock Option Agreement (Incorporated by reference to Exhibit 10.9, File No. 33-31231).
- 10.11 \* Employment Letter dated September 2, 1988 from Lattice Semiconductor Corporation to Cyrus Y. Tsui (Incorporated by reference to Exhibit 10.10, File No. 33-31231).
- 10.15 \* 1993 Outside Directors Stock Option Plan (Incorporated by reference to Exhibit 10.15 filed with the Company's Annual Report on Form 10-K for the fiscal year ended April 3, 1993).
- 10.16 \* Employee Stock Purchase Plan, as amended (Incorporated by reference to Exhibit 10.16 filed with the Company's Annual Report on Form 10-K for the fiscal year ended April 3, 1993).
- 10.20 Foundry Venture Side Letter dated September 13, 1995 among Lattice Semiconductor Corporation, United Microelectronics Corporation and FabVen (Incorporated by reference to Exhibit 10.2 filed with the Company's Current Report on Form 8-K dated September 28, 1995)(1).
- 10.21 FabVen Foundry Capacity Agreement dated as of August , 1995 among FabVen, United Microelectronics Corporation and Lattice Semiconductor Corporation (Incorporated by reference to Exhibit 10.3 filed with the Company's Current Report on Form 8-K dated September 28, 1995)(1).
- 10.22 Foundry Venture Agreement dated as of August , 1995, between Lattice Semiconductor Corporation and United Microelectronics Corporation (Incorporated by reference to Exhibit 10.4 filed with the Company's Current Report on Form 8-K dated September 28, 1995)(1).
- 10.23 Advance Production Payment Agreement dated March 17, 1997 among Lattice Semiconductor Corporation and Seiko Epson Corporation and S MOS Systems, Inc. (Incorporated by reference to Exhibit 10.23 filed with the Company's Annual Report on Form 10-K for the fiscal year ended March 29, 1997)(1).

- 10.24 \* Lattice Semiconductor Corporation 1996 Stock Incentive Plan (Incorporated by reference to Exhibit 4.1 filed on Form S-8 dated November 7, 1996).
- 10.30 Registration Rights Agreement by and among Lattice Semiconductor Corporation, Morgan Stanley & Co. Incorporated, Goldman Sachs & Co., BancBoston Robertson Stephens Inc. and ABN Amro Incorporated dated as of November 3, 1999 (Incorporated by reference to Exhibit 4.2 filed with the Company's Registration Statement on Form S-3 on December 21, 1999).
- 10.31 Asset Purchase Agreement by and between Agere Systems Inc. and Lattice Semiconductor Corporation, dated December 7, 2001 (Incorporated by reference to Exhibit 10.1 filed with the Company's Current Report on Form 8-K filed on December 18, 2001).
- 10.32 Amendment dated December 21, 2001 to Advance Production Payment Agreement dated March 17, 1997 among Lattice Semiconductor Corporation and Seiko Epson Corporation and S MOS Systems, Inc. (2)
- 10.33 \* 2001 Outside Directors' Stock Option Plan (Incorporated by reference to Appendix B filed with the Company's Definitive Proxy Statement on Schedule 14A filed on March 23, 2001).
- 10.34 \* 2001 Stock Option Plan (Incorporated by reference to Appendix C filed with the Company's Definitive Proxy Statement on Schedule 14A filed on March 23, 2001).
- 10.35 Intellectual Property Agreement by and between Agere Systems Inc. and Agere Systems Guardian Corporation and Lattice Semiconductor Corporation as Buyer, dated January 18, 2002).
- 13.1 2001 Annual Report to Stockholders.



## LATTICE SEMICONDUCTOR CORPORATION

## VALUATION AND QUALIFYING ACCOUNTS

(In thousands)

Column A	Column B	Column C	Column D	Column E	Column F
Classification	Balance at beginning of period	Charged to costs and expenses	Charged to other accounts (describe)	Write-offs net of recoveries	Balance at end of period
Fiscal period ended December 31, 1999:					
Allowance for deferred tax asset	\$ 1,655	\$ —	\$ —	\$ (1,655)	\$ —
Allowance for doubtful accounts	881	75	650	(23)	1,583
	<u>\$ 2,536</u>	<u>\$ 75</u>	<u>\$ 650</u>	<u>(1) \$ (1,678)</u>	<u>\$ 1,583</u>
Fiscal year ended December 31, 2000:					
Allowance for doubtful accounts	\$ 1,583	\$ 150	\$ —	\$ (33)	\$ 1,700
	<u>\$ 1,583</u>	<u>\$ 150</u>	<u>\$ —</u>	<u>\$ (33)</u>	<u>\$ 1,700</u>
Fiscal year ended December 31, 2001:					
Allowance for doubtful accounts	\$ 1,700	\$ (225)	\$ —	\$ —	\$ 1,475
	<u>\$ 1,700</u>	<u>\$ (225)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 1,475</u>

(1) Balance acquired in conjunction with our acquisition of Vantis Corporation on June 15, 1999.

## CERTIFICATE OF AMENDMENT OF BYLAWS

OF

LATTICE SEMICONDUCTOR CORPORATION

The undersigned hereby certifies (i) that he is the duly elected, qualified, and acting Secretary of Lattice Semiconductor Corporation, and (ii) that pursuant to action of the Board of Directors of Lattice Semiconductor Corporation at a meeting held October 30, 2001, the following amendment to the corporation's Bylaws was duly adopted:

**RESOLVED:** That the second sentence of Article III, Section 3.2 of the Company's Bylaws is hereby amended to read as follows: "The exact number of Directors shall be seven (7) until changed within the limits specified above by a bylaw amending this Section 3.2, duly adopted by the Board of Directors or the shareholders."

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and affixed the corporate seal this 4<sup>th</sup> day of January 2002.

/s/ Stephen A. Skaggs

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Stephen A. Skaggs, Secretary

## BYLAWS

OF

## LATTICE SEMICONDUCTOR CORPORATION

(As amended and restated as of August 1, 2000)

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## BYLAWS

OF

## LATTICE SEMICONDUCTOR CORPORATION

## ARTICLE I

## CORPORATE OFFICES

## 1.1 REGISTERED OFFICE

The registered office of the corporation shall be 100 West Tenth Street in the City of Wilmington, County of Newcastle, State of Delaware. The name of the registered agent of the corporation at such location is The Corporation Trust Company.



## 1.2 OTHER OFFICES

The board of directors may at any time establish other offices at such other places both within and without the State of Delaware as the Board at Directors may from time to time determine or the business of the corporation may require.

## ARTICLE II

### MEETINGS OF STOCKHOLDERS

#### 2.1 PLACE OF MEETINGS

Meetings of stockholders shall be held at any place, within or outside the State at Delaware, designated by the board of directors. In the absence of any such designation, stockholders' meetings shall be held at the principal office of the corporation in the city of Portland, State of Oregon.

#### 2.2 ANNUAL MEETING

An annual meeting of the stockholders shall be held on the second Monday in the month of August in each year at such time as designated in the notice of meeting, for the purpose of electing directors and for the transaction of such other business as may come before the meeting. If the day fixed for the annual meeting shall be a legal holiday in the State of Oregon, such meeting shall be held on the next succeeding business day.

#### 2.3 SPECIAL MEETING

Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by statute or by the Certificate of Incorporation, may be called by the Board of Directors,

the Chairman of the Board, or the President. Such request shall state the purpose or purposes of the proposed meeting.

Written notice of a special meeting stating the place, date and hour of the meeting and the purpose or purposes for which the meeting is called, shall be given to each stockholder entitled to vote at such meeting not less than ten nor more than sixty days before the date of the meeting.

Business transacted at any special meeting of stockholders shall be limited to the purposes stated in the notice.

#### 2.4 NOTICE OF STOCKHOLDERS' MEETINGS

All notices of meetings with stockholders shall be in writing and shall be sent or otherwise given in accordance with Section 2.5 of these bylaws not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting. The notice shall specify the place, date, and hour of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

#### 2.5 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE

Written notice of any meeting of stockholders, if mailed, is given when deposited in the United States mail, postage prepaid, directed to the stockholder at his address as it appears on the records of the corporation. An affidavit of the secretary or an assistant secretary or of the transfer agent of the corporation that the notice has been given shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

#### 2.6 QUORUM

The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by statute or by the certificate of incorporation. If, however, such quorum is not present or represented at any meeting of the stockholders, then the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present or represented. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally noticed.

When a quorum is present at any meeting, the vote of the holders of a majority of the stock having voting power present in person or represented by proxy shall decide any question brought before such meeting, unless the question is one upon which by express provision of the statutes or of the Certificate of Incorporation, a different vote is required in which case such express provision shall govern and control the decision of the question.

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#### 2.7 ADJOURNED MEETING; NOTICE

When a meeting is adjourned to another time or place, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time and place thereof are announced at the meeting at which the adjournment is taken. At the adjourned meeting the corporation may transact any business that might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

#### 2.8 VOTING

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.11 of these bylaws, subject to the provisions of Sections 217 and 218 of the General Corporation Law of Delaware (relating to voting rights of fiduciaries, pledgors and joint owners of stock and to voting trusts and other voting agreements).

Except as provided in the last paragraph of this Section 2.8, or as may be otherwise provided in the certificate of incorporation, each stockholder shall be entitled to one vote for each share of capital stock held by such stockholder.

#### 2.9 WAIVER OF NOTICE

Whenever notice is required to be given under any provision of the General Corporation Law of Delaware or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice at such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders need be specified in any written waiver of notice unless so required by the certificate of incorporation or these bylaws.

#### 2.10 STOCKHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING

Unless otherwise provided in the certificate of incorporation, any action required by this chapter to be taken at any annual or special meeting of stockholders of a corporation, or any action that may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice, and without a vote if a consent in writing, setting forth the action so taken, is signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing. If the action

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which is consented to is such as would have required the filing of a certificate under any section of the General Corporation Law of Delaware if such action had been voted on by stockholders at a meeting thereof, then the certificate filed under such section shall state, in lieu of any statement required by such section concerning any vote of stockholders, that written notice and written consent have been given as provided in Section 228 of the General Corporation Law of Delaware.

#### 2.11 RECORD DATE FOR STOCKHOLDER NOTICE; VOTING; GIVING CONSENTS

In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or entitled to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the board of directors may fix, in advance, a record date, which shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting, nor more than sixty (60) days prior to any other action.

If the board of directors does not so fix a record date:

(i) The record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held.

(ii) The record date for determining stockholders entitled to express consent to corporate action in writing without a meeting, when no prior action by the board of directors is necessary, shall be the day on which the first written consent is expressed.

(iii) The record date for determining stockholders for any other purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the board of directors may fix a new record date for the adjourned meeting.

## 2.12 PROXIES

Each stockholder entitled to vote at a meeting of stockholders or to express consent or dissent to corporate action in writing without a meeting may authorize another person or persons to act for him by a written proxy, signed by the stockholder and filed with the secretary of the corporation, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. A proxy shall be deemed signed if the stockholder's name is placed on the proxy (whether by manual signature, typewriting, telegraphic transmission or otherwise) by the stockholder or the stockholder's attorney-in-fact. The revocability of a proxy that states on its face

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that it is irrevocable shall be governed by the provisions of Section 212(c) of the General Corporation Law of Delaware.

## 2.13 LIST OF STOCKHOLDERS ENTITLED TO VOTE

The officer who has charge of the stock ledger of a corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting during ordinary business hours, for a period of at least ten (10) days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. Failure to comply with the requirements of this section shall not affect the validity of any action taken at such meeting.

## 2.14 ADVANCE NOTICE OF STOCKHOLDER NOMINEES

Only persons who are nominated in accordance with procedures set forth in this Section 2.14 shall be eligible for election as Directors. Nominations of persons for election to the Board of Directors of the Corporation may be made at a meeting of stockholders by or at the direction of the Board of Directors or by any stockholder of the corporation entitled to vote for the election of Directors at the meeting who complies with the notice procedures set forth in this Section 2.14. Such nominations, other than those made by or at the direction of the Board of Directors, shall be made pursuant to timely notice in writing to the Secretary of the corporation. To be timely, a stockholder's notice shall be delivered to or mailed and received at the principal executive offices of the corporation not less than 60 days nor more than 90 days prior to the meeting; provided, however, that in the event that less than 60 days' notice or prior public disclosure of the date of the meeting is given or made to stockholders, notice by the stockholder to be timely must be so received not later than the close of business on the 10th day following the day on which such notice of the date of the meeting was mailed or such public disclosure was made. Such stockholder's notice shall set forth (a) as to each person whom the stockholder proposes to nominate for election or re-election as a Director, (i) the name, age, business address and residence address of such person, (ii) the principal occupation or employment of such person, (iii) the class and number of shares of the corporation which are beneficially owned by such person and (iv) any other information relating to such person that is required to be disclosed in solicitations of proxies for election of Directors, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended (including without limitation such person's written consent to being named in the proxy statement as a nominee and to serving as a Director if elected); and (b) as to the stockholder giving the notice (i) the name and address, as they appear on the corporation's books, of such stockholder and (ii) the class and number of shares of the corporation which are beneficially owned by such stockholder. At the request of the Board of Directors any person nominated by the Board of Directors for election as a Director shall furnish to the Secretary of the corporation that information

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required to be set forth in a stockholder's notice of nomination which pertains to the nominee. No person shall be eligible for election as a Director of the corporation unless nominated in accordance with the procedures set forth in this Section 2.14. The Chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that a nomination was not made in accordance with the procedures prescribed by the Bylaws, and if he should so determine, he shall so declare to the meeting and the defective nomination shall be disregarded.

## ARTICLE III

### DIRECTORS

#### 3.1 POWERS

Subject to the provisions of the General Corporation Law of Delaware and any limitations in the certificate of incorporation or these bylaws relating to action required to be approved by the stockholders or by the outstanding shares, the business and affairs of the corporation shall be managed and all corporate powers shall be exercised by or under the director of the board of directors.

#### 3.2 NUMBER OF DIRECTORS

The number of directors of the corporation shall be not less than four (4) nor more than seven (7). The exact number of Directors shall be six

(6) until changed within the limits specified above by a bylaw amending this

Section 3.2, duly adopted by the Board of Directors or the shareholders. The indefinite number of directors may be changed, or a definite number may be fixed without provision for an indefinite number, by a duly adopted amendment to the Certificate of Incorporation or by an amendment to this bylaw duly adopted by the vote or written consent of holders of a majority of the outstanding shares entitled to vote.

No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

#### 3.3 ELECTION, QUALIFICATION AND TERM OF OFFICE OF DIRECTORS

Except as provided in Section 3.4 of these bylaws, directors shall be elected at each annual meeting of stockholders to hold office until the next annual meeting and until their successors shall have been elected and qualified. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws, wherein other qualifications for directors may be prescribed. Each director, including a director elected to fill a vacancy, shall hold office until his successor is elected and qualified or until his earlier resignation or removal.

Elections of directors need not be by written ballot.

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#### 3.4 RESIGNATION AND VACANCIES

Any director may resign at any time upon written notice to the corporation. When one or more directors so resigns and the resignation is effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in this section in the filling of other vacancies.

Vacancies and newly created directorships resulting from any increase in the authorized number of directors elected by all of the stockholders having the right to vote as a single class may be filled by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. A director elected to fill a vacancy shall serve until the next annual meeting of stockholders and until a successor shall be elected and qualified.

#### 3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE

The board of directors of the corporation may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the board of directors, or any committee designated by the board of directors, may participate in a meeting of the board of directors, or any committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

#### 3.6 FIRST MEETINGS

The first meeting of each newly elected board of directors shall be held at such time and place as shall be fixed by the vote of the stockholders at the annual meeting and no notice of such meeting shall be necessary to the newly elected directors in order legally to constitute the meeting, provided a quorum shall be present. In the event of the failure of the stockholders to fix the time or place of such first meeting or the newly elected board of directors, or in the event such meeting is not held at the time and place so fixed by the stockholders, the meeting may be held at such time and place as shall be specified in a notice given as hereinafter provided for special meetings at the board of directors, or as shall be specified in a written waiver signed by all of the directors.

### 3.7 REGULAR MEETINGS

Regular meetings of the board of directors may be held without notice at such time and at such place as shall from time to time be determined by the board.

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### 3.8 SPECIAL MEETINGS; NOTICE

Special meetings of the board may be called by the president on two (2) days' notice to each director, either personally or by mail, telegram, telex, or telephone; special meetings shall be called by the president or secretary in like manner and on like notice on the written request of one-third of the directors.

### 3.9 QUORUM

At all meetings of the board of directors, no less than a third of the authorized number of directors shall constitute a quorum for the transaction of business and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the board of directors, except as may be otherwise specifically provided by statute or by the certificate of incorporation. If a quorum is not present at any meeting of the board of directors, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

### 3.10 WAIVER OF NOTICE

Whenever notice is required to be given under any provision of the General Corporation Law of Delaware or of the certificate of incorporation or these bylaws, a written waiver thereof, signed by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the directors, or members of a committee of directors, need be specified in any written waiver of notice unless so required by the certificate of incorporation or these bylaws.

### 3.11 BOARD ACTION BY WRITTEN CONSENT WITHOUT A MEETING

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the board of directors, or of any committee thereof, may be taken without a meeting if all members of the board or committee, as the case may be, consent thereto in writing and the writing or writings are filed with the minutes of proceedings of the board or committee.

### 3.12 FEES AND COMPENSATION OF DIRECTORS

Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, the Board of Directors shall have the authority to fix the compensation of directors. The directors may be paid their expenses, if any, of attendance of each meeting of the Board of Directors and may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as director. No such payment shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor. Members of special or standing committees may be allowed like compensation for attending committee meetings.

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### 3.13 APPROVAL OF LOANS TO OFFICERS

The corporation may lend money to, or guarantee any obligation of, or otherwise assist any officer or other employee of the corporation or of its subsidiary, including any officer or employee who is a director of the corporation or its subsidiary, whenever, in the judgment of the directors, such loan, guaranty or assistance may reasonably be expected to benefit the corporation. The loan, guaranty or other assistance may be with or without interest and may be unsecured, or secured in such manner as the board of directors shall approve, including, without limitation, a pledge of shares of stock of the corporation. Nothing contained in this section shall be deemed to deny, limit or restrict the powers of guaranty or warranty of the corporation at common law or under any statute.

### 3.14 REMOVAL OF DIRECTORS

Unless otherwise restricted by statute, by the certificate of incorporation or by these bylaws, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors.

No reduction of the authorized number of directors shall have the effect of removing any director prior to the expiration of such director's term of office.

## ARTICLE IV

### COMMITTEES

#### 4.1 COMMITTEES OF DIRECTORS

The board of directors may, by resolution passed by a majority of the whole board, designate one or more committees, with each committee to consist of one or more of the directors of the corporation. The board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the board of directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the board of directors or in the bylaws of the corporation, shall have and may exercise all the powers and authority of the board of directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (i) amend the certificate of incorporation (except that a committee may, to the extent authorized in the resolution or resolutions providing for the issuance of shares of stock adopted by the board of directors as provided in Section 151(a) of the General Corporation Law of Delaware, fix any of the preferences or rights of such shares relating to dividends, redemption, dissolution, any distribution of assets of the corporation or the conversion into, or the exchange of such shares for, shares of any other class or classes or any other series of the same or any other class or classes of stock of the corporation), (ii) adopt an agreement of merger or consolidation under Sections 251 or 252 of the General Corporation Law of Delaware, (iii) recommend to the stockholders the sale, lease or exchange of all

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or substantially all of the corporation's property and assets, (iv) recommend to the stockholders a dissolution of the corporation or a revocation of a dissolution, or (v) amend the bylaws of the corporation; and, unless the board resolution establishing the committee, the bylaws or the certificate of incorporation expressly so provide, no such committee shall have the power or authority to declare a dividend, to authorize the issuance of stock, or to adopt a certificate of ownership and merger pursuant to Section 253 of the General Corporation Law of Delaware.

#### 4.2 COMMITTEE MINUTES

Each committee shall keep regular minutes of its meetings and report the same to the board of directors when required.

#### 4.3 MEETINGS AND ACTION OF COMMITTEES

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of Article III of these bylaws, Section 3.5 (place of meetings and meetings by telephone), Section 3.7 (regular meetings), Section 3.8 (special meetings and notice), Section 3.9 (quorum), Section 3.10 (waiver of notice), and Section 3.11 (action without a meeting), with such changes in the context of those bylaws as are necessary to substitute the committee and its members for the board of directors and its members; provided, however, that the time of regular meetings of committees may also be called by resolution of the board of directors and that notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The board of directors may adopt rules for the government of any committee not inconsistent with the provisions of these bylaws.

## ARTICLE V

### OFFICERS

#### 5.1 OFFICERS

The officers of the corporation shall be a president, one or more vice presidents, a secretary, and a treasurer. The corporation may also have, at the discretion of the board of directors, a chairman of the board, one or more assistant vice presidents, assistant secretaries, assistant treasurers, and any such other officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws. Any number of offices may be held by the same person.

#### 5.2 ELECTION OF OFFICERS

The officers of the corporation, except such officers as may be appointed in accordance with the provisions of Sections 5.3 or 5.5 of these bylaws, shall be chosen by the board of directors, subject to the rights, if any, of an officer under any contract of employment.

### 5.3 SUBORDINATE OFFICERS

The board of directors may appoint, or empower the president to appoint, such other officers and agents as the business of the corporation may require, each of whom shall hold office for such period, have such authority, and perform such duties as are provided in these bylaws or as the board of directors may from time to time determine.

### 5.4 REMOVAL AND RESIGNATION OF OFFICERS

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by an affirmative vote of the majority of the board of directors at any regular or special meeting of the board or, except in the case of an officer chosen by the board of directors, by any officer upon whom such power of removal may be conferred by the board of directors.

Any officer may resign at any time by giving written notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the corporation under any contract to which the officer is a party.

### 5.5 VACANCIES IN OFFICES

Any vacancy occurring in any office of the corporation shall be filled by the board of directors.

### 5.6 CHAIRMAN OF THE BOARD

The chairman of the board, if such an officer be elected, shall, if present, preside at meetings of the board of directors and exercise and perform such other powers and duties as may from time to time be assigned to him by the board of directors or as may be prescribed by these bylaws. If there is no president, then the chairman of the board shall also be the chief executive officer of the corporation and shall have the powers and duties prescribed in Section 5.7 of these bylaws.

### 5.7 PRESIDENT

Subject to such supervisory powers, if any, as may be given by the board of directors to the chairman of the board, if there be such an officer, the president shall be the chief executive officer of the corporation and shall, subject to the control of the board of directors, have general supervision, direction, and control of the business and the officers of the corporation. He shall preside at all meetings of the shareholders and, in the absence or nonexistence of a chairman of the board, at all meetings of the board of directors. He shall have the general powers and duties of management usually vested in the office of president of a corporation and shall have such other powers and duties as may be prescribed by the board of directors or these bylaws.

### 5.8 VICE PRESIDENT

In the absence or disability of the president, the vice presidents, if any, in order of their rank as fixed by the board of directors or, if not ranked, a vice president designated by the board of directors, shall perform all the duties of the president and when so acting shall have all the powers of, and be subject to all the restrictions upon, the president. The vice presidents shall have such other powers and perform such other duties as from time to time may be prescribed for them respectively by the board of directors, these bylaws, the president or the chairman of the board.

### 5.9 SECRETARY

The secretary shall keep or cause to be kept, at the principal executive office of the corporation or such other place as the board of directors may direct, a book of minutes of all meetings and actions of directors, committees of directors, and shareholders. The minutes shall show the time and place of each meeting, whether regular or special (and, if special, how authorized and the notice given), the names of those present at directors' meetings or committee meetings, the number of shares present or represented at shareholders' meetings, and the proceedings thereof.

The secretary shall keep, or cause to be kept, at the principal executive office of the corporation or at the office of the corporation's transfer agent or registrar, as determined by resolution of the board of directors, a share register, or a duplicate share register, showing the names of all shareholders and their addresses, the number and classes of shares held by each, the number and date of certificates evidencing such shares, and the number and date of cancellation of every certificate surrendered for cancellation.

The secretary shall give, or cause to be given, notice of all meetings of the shareholders and of the board of directors required to be given by law or by these bylaws. He shall keep the seal of the corporation, if one be adopted, in safe custody and shall have such other powers and perform such other duties as may be prescribed by the board of directors or by these bylaws.

### 5.10 TREASURER

The treasurer shall keep and maintain, or cause to be kept and maintained, adequate and correct books and records of accounts of the properties and business transactions of the corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital, retained earnings, and shares. The books of account shall at all reasonable times be open to inspection by any director.

The treasurer shall deposit all money and other valuables in the name and to the credit of the corporation with such depositories as may be designated by the board of directors. He shall disburse the funds of the corporation as may be ordered by the board of directors, shall render to the president and directors, whenever they request it, an account of all of his transactions as treasurer and of the financial condition of the corporation, and shall have such other powers and perform such other duties as may be prescribed by the board of directors or these bylaws.

### 5.11 ASSISTANT SECRETARY

The assistant secretary, or, if there is more than one, the assistant secretaries in the order determined by the stockholders or board of directors

(or if there be no such determination, then in the order of their election)

shall, in the absence of the secretary or in the event of his or her inability or refusal to act, perform the duties and exercise the powers of the secretary and shall perform such other duties and have such other powers as the board of directors or the stockholders may from time to time prescribe.

### 5.12 ASSISTANT TREASURER

The assistant treasurer, or, if there is more than one, the assistant treasurers, in the order determined by the stockholders or board of directors (or if there be no such determination, then in the order of their election), shall, in the absence of the treasurer or in the event of his or her inability or refusal to act, perform the duties and exercise the powers of the treasurer and shall perform such other duties and have such other powers as the board of directors or the stockholders may from time to time prescribe.

### 5.13 AUTHORITY AND DUTIES OF OFFICERS

In addition to the foregoing authority and duties, all officers of the corporation shall respectively have such authority and perform such duties in the management of the business of the corporation as may be designated from time to time by the board of directors or the stockholders.

## ARTICLE VI

### INDEMNITY

#### 6.1 INDEMNIFICATION OF DIRECTORS AND OFFICERS

The corporation shall, to the maximum extent and in the manner permitted by the General Corporation Law of Delaware, indemnify each of its directors and officers against expenses (including attorneys' fees), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent of the corporation. For purposes of this Section 6.1, a "director" or "officer" of the corporation includes any person

(i) who is or was a director or officer of the corporation, (ii) who is or was serving at the request of the corporation as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, or (iii) who was a director or officer of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

#### 6.2 INDEMNIFICATION OF OTHERS

directors and officers) against expenses (including attorneys' fees), judgments, fines, settlements, and other amounts actually and reasonably incurred in connection with any proceeding, arising by reason of the fact that such person is or was an agent or the corporation. For purposes of this Section 6.2, an "employee" or "agent" of the corporation (other than a director or officer) includes any person (i) who is or was an employee or agent of the corporation, (ii) who is or was serving at the request of the corporation as an employee or agent of another corporation, partnership, joint venture, trust or other enterprise, or (iii) who was an employee or agent of a corporation which was a predecessor corporation of the corporation or of another enterprise at the request of such predecessor corporation.

### 6.3 INSURANCE

The corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him and incurred by him in any such capacity, or arising out of his status as such, whether or not the corporation would have the power to indemnify him against such liability under the provisions of the General Corporation Law of Delaware.

## ARTICLE VII

### RECORDS AND REPORTS

#### 7.1 MAINTENANCE AND INSPECTION OF RECORDS

The corporation shall, either at its principal executive office or at such place or places as designated by the board of directors, keep a record of its shareholders listing their names and addresses and the number and class of shares held by each shareholder, a copy of these bylaws as amended to date, accounting books, and other records.

Any stockholder of record, in person or by attorney or other agent, shall, upon written demand under oath stating the purpose thereof, have the right during the usual hours for business to inspect for any proper purpose the corporation's stock ledger, a list of its stockholders, and its other books and records and to make copies or extracts therefrom. A proper purpose shall mean a purpose reasonably related to such person's interest as a stockholder. In every instance where an attorney or other agent is the person who seeks the right to inspection, the demand under oath shall be accompanied by a power of attorney or such other writing that authorizes the attorney or agent to so act on behalf of the stockholder. The demand under oath shall be directed to the corporation at its registered office in Delaware or at its principal place of business.

The officer who has charge of the stock ledger of a corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting, arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business

hours, for a period of at least ten (10) days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

#### 7.2 INSPECTION BY DIRECTORS

Any director shall have the right to examine the corporation's stock ledger, a list of its stockholders, and its other books and records for a purpose reasonably related to his position as a director. The Court of Chancery is hereby vested with the exclusive jurisdiction to determine whether a director is entitled to the inspection sought. The Court may summarily order the corporation to permit the director to inspect any and all books and records, the stock ledger, and the stock list and to make copies or extracts therefrom. The Court may, in its discretion, prescribe any limitations or conditions with reference to the inspection, or award such other and further relief as the Court may deem just and proper.

#### 7.3 ANNUAL STATEMENT TO STOCKHOLDERS

The board of directors shall present at each annual meeting, and at any special meeting of the stockholders when called for by vote of the stockholders, a full and clear statement of the business and condition of the corporation.

#### 7.4 REPRESENTATIONS OF SHARES OF OTHER CORPORATIONS

The chairman of the board, the president, any vice president, the treasurer, the secretary or assistant secretary of this corporation, or any other person authorized by the board of directors or the president or a vice president, is authorized to vote, represent, and exercise on behalf of this corporation all rights incident to any and all shares of any other corporation or corporations standing in the name of this corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

## ARTICLE VIII

### GENERAL MATTERS

#### 8.1 CHECKS

From time to time, the board of directors shall determine by resolution which person or persons may sign or endorse all checks, drafts, other orders for payment of money, notes or other evidences of indebtedness that are issued in the name of or payable to the corporation, and only the persons so authorized shall sign or endorse those instruments.

#### 8.2 EXECUTION OF CORPORATE CONTRACTS AND INSTRUMENTS

The board of directors, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the board of directors or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

#### 8.3 STOCK CERTIFICATES; PARTLY PAID SHARES

The shares of a corporation shall be represented by certificates, provided that the board of directors of the corporation may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the corporation. Notwithstanding the adoption of such a resolution by the board of directors, every holder of stock represented by certificates and upon request every holder of uncertificated shares shall be entitled to have a certificate signed by, or in the name of the corporation by the chairman or vice-chairman of the board of directors, or the president or vice-president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary of such corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if he were such officer, transfer agent or registrar at the date of issue.

The corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate issued to represent any such partly paid shares, upon the books and records of the corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the corporation shall declare a dividend upon partially paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

#### 8.4 SPECIAL DESIGNATION ON CERTIFICATES

If the corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the corporation shall issue to represent such class or series of stock; provided, however, that, except as otherwise provided in Section 202 of the General Corporation Law of Delaware, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the corporation shall issue to represent such class or series of stock

a statement that the corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

#### 8.5 LOST CERTIFICATES

Except as provided in this Section 8.5, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the corporation and cancelled at the same time. The corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the corporation may require the owner of the lost, stolen or destroyed certificate, or his legal representative, to give the corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

#### 8.6 CONSTRUCTION; DEFINITIONS

Unless the context requires otherwise, the general provisions, rules of construction, and definitions in the Delaware General Corporation Law shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

#### 8.7 DIVIDENDS

The directors of the corporation, subject to any restrictions contained in the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock pursuant to the General Corporation Law of Delaware. Dividends may be paid in cash, in property, or in shares of the corporation's capital stock.

The directors of the corporation may set apart out of any of the funds of the corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the corporation, and meeting contingencies.

#### 8.8 FISCAL YEAR

The fiscal year of the corporation shall be fixed by resolution of the board of directors and may be changed by the board of directors.

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#### 8.9 SEAL

The corporate seal shall have inscribed thereon the name of the corporation, the year of its organization and the words "Corporation Seal, Delaware." The seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

#### 8.10 TRANSFER OF STOCK

Upon surrender to the corporation or the transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignation or authority to transfer, it shall be the duty of the corporation to issue a new certificate to the person entitled thereto, cancel the old certificate, and record the transaction in its books.

#### 8.11 STOCK TRANSFER AGREEMENTS

The corporation shall have power to enter into and perform any agreement with any number of shareholders of any one or more classes of stock of the corporation to restrict the transfer of shares of stock of the corporation of any one or more classes owned by such stockholders in any manner not prohibited by the General Corporation Law of Delaware.

#### 8.12 REGISTERED STOCKHOLDERS

The corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner, shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

### ARTICLE IX

#### AMENDMENTS

The original or other bylaws of the corporation may be adopted, amended or repealed by the stockholders entitled to vote; provided, however, that the corporation may, in its certificate of incorporation, confer the power to adopt, amend or repeal bylaws upon the directors. The fact that such power has been so conferred upon the directors shall not divest the stockholders of the power, nor limit their power to adopt, amend or repeal bylaws.

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### CERTIFICATE OF AMENDMENT AND RESTATEMENT OF BYLAWS

OF

LATTICE SEMICONDUCTOR CORPORATION

CERTIFICATE BY SECRETARY OF AMENDMENT AND RESTATEMENT BY BOARD OF DIRECTORS

The undersigned hereby certifies that he is the duly elected, qualified, and acting Secretary of Lattice Semiconductor Corporation and that the foregoing restated Bylaws, containing all amendments through August 1, 2000, were adopted as the Bylaws of the corporation on August 1, 2000 by the Board of Directors of the corporation.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and affixed the corporate seal this 3rd day of August, 2000.

/s/ Steve Skaggs  
Steve Skaggs, Secretary

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AMENDMENT TO ADVANCE PRODUCTION PAYMENT AGREEMENT

THIS AMENDMENT TO THE ADVANCE PAYMENT AGREEMENT of March 17, 1997 (this "Amendment"), is entered into this 21st day of December, 2001, by and among SEIKO EPSON CORPORATION, a Japanese corporation having its principal place of business at 3-5, Owa 3-chome, Suwa-shi, Nagano-ken 392, Japan ("Epson"), EPSON ELECTRONICS AMERICA, INCORPORATED (formerly known as S MOS Systems Inc.), a California corporation, having a place of business at 150 River Oaks Parkway, San Jose, CA 95134-1951, U.S.A. ("EEA") and Lattice Semiconductor Corporation, a Delaware corporation, having a place of business at 5555 N.E. Moore Ct., Hillsboro, Oregon 97124-6421, U.S.A. ("Lattice").

RECITALS

WHEREAS the parties entered into an Advance Production Payment Agreement (the "Agreement") on or about March 17, 1997;

WHEREAS the parties desire to modify the Agreement and to set forth such mutually consensual modifications in writing by way of this Amendment pursuant to Article 15.16 of the Agreement;

WHEREAS the parties entered into a New Facility Wafer Purchase Agreement as well as a Six Inch Wafer Purchase Agreement, on or about July 25, 1997 ( respectively, "New Facility Wafer Purchase Agreement" and "Six Inch Wafer Purchase Agreement");

WHEREAS the parties will contemporaneously amend any relevant provisions of the New Facility Wafer Purchase Agreement so as to be consistent with this Amendment (the amended agreement is hereinafter referred to as the "Amended New Facility Wafer Purchase Agreement");

WHEREAS all references to headings and provisions thereto in this Amendment correspond to those in the Agreement;

NOW, THEREFORE, in consideration of the premises and mutual covenants set out in the Agreement and this Amendment, such Agreement is hereby amended and/or supplemented as follows:

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1 Background

1.2 EEA  
Epson Electronics America, Inc. ("EEA"), is the successor of the entity formerly known as S MOS Systems Inc. ("SMOS"). EEA is an affiliate of Epson and is Epson's authorized distributor in the United States for semiconductor devices. EEA is in the business of designing, testing, selling and distributing semiconductor devices. EEA conducts its business at its office located at 150 River Oaks Parkway, San Jose, CA 95134-1951, U.S.A. All references to SMOS in the Agreement and provisions of relevant Purchase Agreements and Existing Agreements shall be interpreted to refer to EEA where the context may so require.

2 Definitions

2.1 "APP" will mean the advance production payment of Eight Billion, Three Hundred Seventy-Six Million, Seven Hundred Thousand Japanese Yen (JPY8,376,700,000) made by Lattice to Epson in the manner described in Article 4.

2.9 "Products" will mean those specific types of New Facility Wafers fabricated using the same masks and the same process flow and identified by the same series or product name or number. The Products will be ordered, fabricated, delivered and sold pursuant to the terms and conditions of the Amended New Facility Wafer Purchase Agreement. The Products which the parties desire to fabricate at the New Facility will be agreed by and between Epson and Lattice, referring to the Process Road Map for Lattice attached hereto as Exhibit B, which may be reviewed and amended from time to time by mutual agreement of the parties. The parties acknowledge however, that the final determination of what Products will be fabricated may depend on the results of joint development and product qualification.

"Products" will also mean those 6 inch wafers fabricated by Epson for Lattice at Epson's S-Wing Fab that are credited against the APP pursuant to this Amendment and the Amended New Facility Wafer Purchase Agreement.

2.16 [ \* ] "Micron Process" will mean the [ \* ] CMOS process owned, licensed or developed by Epson which will be used at the New Facility, including the extension of the process to [ \* ]. The [ \* ] Micron Process will include (a) all process flow, process steps, process conditions, and modifications thereto,

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used to manufacture semiconductor wafers as well as (b) all methods, formulae, procedures, technology and know-how associated with such process steps and process conditions. The [ \* ] Micron Process will not include any methods, formulae, procedures, technology or know-how licensed or received from Lattice under this Agreement, the Existing Agreements or other agreements executed between the parties in the future unless otherwise agreed in writing. If the parties find it necessary or convenient to document process flow for any Product, such documentation will be signed by the parties and attached to the Amended New Facility Wafer Purchase Agreement as an exhibit.

2.18 "6 inch wafer(s)" will mean the semiconductor wafers to be fabricated by Epson for Lattice at Epson's S-Wing Fab.

2.19 "6 inch APP wafer(s)" will mean the semiconductor wafers to be fabricated by Epson for Lattice at Epson's S-wing Fab that are designated by Lattice to be credited against the APP pursuant to this Amendment and the Amended New Facility Wafer Purchase Agreement.

4 APP

4.1 APP  
Lattice shall pay to Epson an amount equal to Eight Billion, Three Hundred Seventy-Six Million, Seven Hundred Thousand Japanese Yen (JPY8,376,700,000) ("APP"), which APP will be credited against certain future purchases by Lattice of New Facility Wafers and 6 inch APP wafers as provided in Article 5. Lattice will pay the whole amount of APP in accordance with the payment schedule described in Exhibit C hereof. As of the Date of this Amendment, an aggregate of Six Billion, Two Hundred Eighty-Three Million, Seven Hundred Thousand Japanese Yen (JPY6,283,700,000) has been paid.

4.4 Additional APP  
This provision is hereby deleted in its entirety by this Amendment.

5 Credit of APP

5.1 Credit of APP  
The purchase price of all New Facility Wafers and 6 inch APP wafers purchased by Lattice

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under the Amended New Facility Wafer Purchase Agreement, will be credited against the amount of the APP until the aggregate Japanese Yen value of all New Facility Wafers (excluding the Free Wafers) and 6 inch APP wafers purchased and received by Lattice pursuant to the Amended New Facility Wafer Purchase Agreement, as calculated pursuant to Article 5.2, equals or exceeds the amount of the APP. It is the intention of the parties to accelerate the APP prepayment allocation using the 6 inch APP wafers as purchased under terms and conditions of the Amended New Facility Wafer Purchase Agreement. The criteria and time required for wafer acceptance by Lattice will be described in the Amended New Facility Wafer Purchase Agreement.

5.2 Calculation of Aggregate Credit Value  
The amount of APP will be offset and reduced on Japanese Yen to Japanese Yen basis, at the end of each calendar month of this Agreement, by an amount equal to the Price for the New Facility Wafers multiplied by the total number of New Facility Wafers (excluding the Free Wafers); plus the Price for the 6 inch APP wafers multiplied by the total number of 6 inch APP wafers shipped to Lattice pursuant to the Amended New Facility Wafer Purchase Agreement during the calendar month, with adjustment of the increase pursuant to the methods provided in the Amended New Facility Wafer Purchase Agreement; however under no circumstances shall the APP balance be increased, except as provided for in Article 14.8 of this Agreement. Unless elected by Lattice from time to time, the number of 6 inch APP wafers may not exceed [ \* ] wafers credited against the APP in any given quarter.

5.3 Invoices  
Epson will cause EEA to provide Lattice with invoices under the Amended New Facility Wafer Purchase Agreement which, for the purpose of APP application, will specify the purchase price of the New Facility Wafers and 6 inch APP wafers. Also, EEA shall provide Lattice and Epson with the monthly report describing, among others, the outstanding balance of the APP (after the application of all prior offsets, reductions and credits) as of the commencement of the month subject to the invoices, the number of New Facility Wafers and/or 6 inch APP wafers shipped to Lattice in accordance with the Amended New Facility Wafer Purchase Agreement during that calendar month and the applied Price, and the outstanding balance of the APP as of the end of such calendar month. Such report shall be signed by the respective responsible person at Epson, EEA and

and EEA, Lattice may request to make corrections to these invoices and reports.

5.4 Obligation after Completion of Off-setting the APP

Lattice will be required to pay for all New Facility Wafers in accordance with the Amended New Facility Wafer Purchase Agreement once the APP has been fully offset and reduced. Lattice will make the payments to Epson in Japanese Yen based on the Price. Further, Epson will be required to fulfill the Supply Commitment and Lattice will be required to fulfill the Purchase Commitment until Lattice has purchased [ \* ] New Facility Wafers. Thereafter, during the effective period of this Agreement, Epson and Lattice will continue to make efforts to supply and purchase at the rate to be mutually agreed under fair and competitive prices to be determined between the parties. Lattice will be required to pay for all 6-inch wafers in accordance with the Six Inch Wafer Purchase Agreement, once the APP has been fully offset and reduced.

6 Supply Commitment

6.1.1 No Supply Commitment for 6 inch wafers

Epson shall supply 6 inch wafers through EEA to Lattice in amounts and in installments as the parties may mutually agree to in writing.

6.2 Purchase Agreements

The Supply Commitment will apply to Products covered by the Amended New Facility Wafer Purchase Agreement with the exception of the 6 inch APP wafers. The parties anticipate that the Amended New Facility Wafer Purchase Agreement will apply to Products distributed by Lattice which require fabrication using the [ \* ] Micron Process and to the 6 inch APP wafers. However, the Six Inch Wafer Purchase Agreement shall apply to 6-inch wafer purchases not designated towards offsetting the APP.

7 Purchase Commitment

7.1.1 No Purchase Commitment for 6 inch wafers

Lattice shall purchase 6 inch wafers through EEA in amounts and in installments as the parties may mutually agree to in writing.

8 Free Wafers

As a consideration for Lattice's payment of APP, Epson shall provide Lattice with [ \* ] free [ \* ] wafers of a Product manufactured in the New Facility ("Free Wafers") through EEA pursuant to the Amended New Facility Wafer Purchase Agreement for every [ \* ] New Facility Wafers ordered by Lattice after the execution of this Agreement [ \* ] until Epson has supplied a total of [ \* ] Free Wafers. After Epson has supplied Lattice with a total of [ \* ] Free Wafers, Epson shall no longer be required to provide any free wafers for subsequent New Facility and 6 inch APP Wafer orders. For the purpose of calculating the number of Free Wafers earned by Lattice, two six inch APP wafers will be considered equal to [ \* ] New Facility Wafer.

10 Wafer Pricing and Payment

10.1 Determination of Price

The general method for determining the price of Products ("Price") shall be as set forth in Exhibit E. Epson agrees that at any time the Prices to Lattice [ \* ]. The Price herein shall be applicable until Lattice has completed the purchase of [ \* ] New Facility Wafers under the terms of this Agreement.

10.3 Payment

Unless otherwise stated in this Agreement or this Amendment, other than through offset of the APP, Lattice will not be required to pay for any New Facility Wafers or 6 inch APP wafers delivered under this Agreement or the Amended New Facility Wafer Purchase Agreement until the APP has been fully offset and reduced. Once the APP is fully offset and reduced, Lattice will be required to pay Epson for New Facility Wafers in the manner specified in the Amended New Facility Wafer Purchase Agreement based on the Price until Lattice has completed the purchase of [ \* ] New Facility Wafers under the terms of this Agreement. Once the APP has been fully offset and reduced, Lattice will be required to pay Epson for 6 inch wafers in the manner specified in the Six Inch Wafer Purchase Agreement.

15 Miscellaneous

15.1 Order of Precedence

In the event of any conflicts between this Amendment, the Agreement and the Amended New Facility Wafer Purchase Agreement and the Six Inch Wafer Purchase Agreement, any purchase orders, acceptances, correspondence, memoranda, listing sheets or other documents forming part of an order for the Products placed by Lattice and accepted by EEA (or Epson), priority will be given first to this Amendment, second to the Agreement, third to the Amended New Facility Wafer Purchase Agreement and the Six Inch Wafer Purchase Agreement, fourth to EEA's or Epson's acceptance, fifth to Lattice's order and then to any other documents. In no event, however, will either party's standard terms and conditions be applicable to the transactions between Lattice and EEA (or Epson) unless expressly accepted in writing by the other party.

15.6 Public Announcements

Neither party will publicly announce the execution or existence of this Agreement or disclose the terms and conditions of this Agreement without first submitting the text of such announcement to the other party and receiving the approval of the other party of such text, which approval, unless public disclosure is required by a court or a government agency, may be withheld for any reason. However, Lattice and/or Epson may disclose the existence and the terms of this Amendment and the Agreement in any document legitimately required to be filed with the U.S. Securities and Exchange Commission (and may file a copy of this Amendment and the Agreement required legitimately with such filing), the Japanese Securities and Exchange Commission or equivalent (and may file a copy of this Amendment and the Agreement required legitimately with such filing), as required to effectuate any private stock offering within or without the U.S. (including, but not limited to, Qualified Institutional Buyers) or in accordance with generally accepted accounting procedures under the rules of the Securities and Exchange Commission or the National Association of Securities Dealers Automated Quotations stock market.

15.7 Notices and Communications

Any notices required or permitted to be given hereunder will be in English and be sent by (I) registered airmail or (ii) cable, facsimile or telex to be confirmed by registered airmail, addressed to:

To Epson:

281 Fujimi, Fujimi-machi, Suwa-gun  
Nagano-ken 399-02, Japan  
Attn: Yoshifumi Gomi,  
Managing Director and Chief Executive of  
Semiconductor Operations Division  
Tel:  
Fax:

81-266-61-1211  
81-266-61-1272

To EEA:

150 River Oaks Parkway, San Jose, CA 95134—1951 U.S.A.

Attn: Akihiko Sato, President and CEO  
Tel: 1-408-922-0200  
Fax: 1-408-922-0238

To Lattice:

5555 N.E. Moore Ct., Hillsboro, OR 97124-6421 U.S.A.



Attn:

Cyrus Tsui Chairman, President and Chief Executive Officer

Tel: 1-503-268-8000  
Fax: 1-503-268-8077

Any such notice will be deemed given at the time of its receipt by the addressee.

The foregoing or forthcoming provisions in this Amendment shall replace and supercede the corresponding provisions in the Agreement and Exhibits. Where a foregoing or forthcoming provision in this Amendment has no corresponding provision in the Agreement or Exhibits, such provision shall supplement the Agreement or Exhibits. The remainder of the Agreement and Exhibits shall remain in full force and effect.

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IN WITNESS WHEREOF, the parties have signed this Amendment as of the date first above written.

LATTICE SEMICONDUCTOR CORPORATION

By: /s/ Jonathan Yu for Cyrus Tsui  
Name: Cyrus Tsui  
Title: Chairman and Chief Executive Officer

SEIKO EPSON CORPORATION

By: /s/ Yoshifumi Gomi  
Name: Yoshifumi Gomi  
Title: Managing Director and Chief Executive of  
Semiconductor Operations Division

EPSON ELECTRONICS AMERICA, INC. (formerly S MOS SYSTEMS, INC.)

By: /s/ Akihiko Sato  
Name: Akihiko Sato  
Title: President and CEO

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EXHIBIT C

“Payment Schedule”  
[ \* ]

EXHIBIT E

“Price Determination Procedure”  
[ \* ]

“APP Offset Procedure”  
[ \* ]

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## INTELLECTUAL PROPERTY AGREEMENT

by and between

AGERE SYSTEMS INC.

And

AGERE SYSTEMS GUARDIAN CORPORATION

And

LATTICE SEMICONDUCTOR CORPORATION

as Buyer

dated January 18, 2002

## INTELLECTUAL PROPERTY AGREEMENT

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## INTELLECTUAL PROPERTY AGREEMENT

This INTELLECTUAL PROPERTY AGREEMENT (this “[Agreement](#)”), dated as of January 18, 2002, is made by and between on the one hand AGERE SYSTEMS INC., a Delaware corporation (“[Agere](#)”), AGERE SYSTEMS GUARDIAN CORPORATION (“[Agere-Guardian](#)”, Agere and Agere-Guardian, being collectively or individually, as the context requires, referred to as “[Seller](#)”), a Delaware corporation, and, on the other hand, Lattice Semiconductor Corporation, a Delaware corporation (“[Buyer](#)”). Agere, Agere-Guardian, and Buyer are sometimes referred to herein individually as a “[Party](#)” and collectively as the “[Parties](#)”.

## RECITALS

- A. **WHEREAS**, this Agreement is provided as Exhibit C to the Asset Purchase Agreement (the “[Purchase Agreement](#)”) entered into by and between Agere and Buyer pursuant to which Agere is selling and Buyer is acquiring certain Purchased Assets, as that term is defined in the Purchase Agreement. This Agreement is executed upon the signing by all Parties, and shall become effective concurrent with and on the Closing Date of the Purchase Agreement (the “[Effective Date](#)”);
- B. **WHEREAS**, Seller is, among other things, engaged through a unit of its Infrastructure Systems Group in the FPGA/FPSC Business;
- C. **WHEREAS**, Buyer is desirous of acquiring from Agere certain Purchased Assets relating to the FPGA/FPSC Business;

D. **WHEREAS**, this Agreement is intended by the Parties to address, among other things, the Intellectual Property rights and Information either included in the Purchased Assets or licensed to Buyer; and

E. **WHEREAS**, Agere is willing to license or assign certain patent and other Intellectual Property rights to Buyer in accordance with the terms hereof.

**NOW, THEREFORE**, in consideration of the mutual agreements and covenants herein contained and intending to be legally bound thereby, the Parties agree as follows:

## ARTICLE I DEFINITIONS

1.01 Unless otherwise defined in Appendix A attached hereto, as used in this Agreement any term in initial capital letters shall have the meaning ascribed thereto in the Purchase Agreement.

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1.02 The rules of interpretation set forth in Sections 1.3(b) through 1.3(g) of the Purchase Agreement shall apply to the terms and conditions of this Agreement.

## ARTICLE II ASSIGNMENT OF SOFTWARE

2.01 Seller hereby transfers and assigns to Buyer all of its worldwide right, title and interest in the Assigned Software, including all rights in registered and unregistered copyrights therein. Such transfer does not include a transfer of, or license under, any Patents; any such transfer of, or license under any such patent being specifically set forth in Articles VI and VII. Buyer's rights in the Assigned Software shall be subject to all nonexclusive grants of rights pursuant to prior written agreements between Seller, its predecessors (including AT&T Corp. and its Subsidiaries and Lucent Technologies Inc. and its Subsidiaries) or its Related Companies, and one or more third parties that are entered into and have an effective date prior to the Effective Date of this Agreement.

2.02 Buyer grants to Seller, under such rights in the Assigned Software as Buyer was granted pursuant to Section 2.01 hereunder, a personal, nonexclusive, non-transferable (except as provided in Article XIII), perpetual, irrevocable, non-terminable, worldwide, royalty-free license to use, copy and distribute the Assigned Software, and create, use, copy and distribute Derivative Works from the Assigned Software with respect to any products or services of the businesses in which Seller or any of its Related Companies is now or hereafter engaged except that such rights may not be exercised for, and such license does not extend to, (i) a Competing Use or (ii) the use, design, manufacture, have manufactured, lease, import, offer for sale or sale of Restricted FPGA/FPSC Products.

2.03 Seller agrees to cause the Business Employees to deliver to Buyer copies of all Code embodying or constituting the Assigned Software in all forms and media in which such Code exists. To Agere's knowledge, all of the Assigned Software is already in possession of such employees. However, Agere agrees to take all steps reasonably requested by Buyer in connection with delivering to Buyer any missing parts of the Assigned Software. All costs of copying, preparing for delivery, and delivering Code to Buyer hereunder shall be borne by Agere.

## ARTICLE III SOFTWARE LICENSES

3.01 Seller hereby grants to Buyer a fully paid-up, royalty free, worldwide, perpetual, irrevocable, non-terminable, non-transferable (except as provided in Article XIII) and nonexclusive license to the Licensed Software in the Licensed Field, including the manufacture (or having manufactured), use, sale, offer for sale, lease and importation of FPGA/FPSC Products and any other products within the Licensed Field, under any and all copyright, trade secret and other Intellectual Property rights (other than

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Patent rights which are specifically granted in Articles VI and VII) in the Licensed Software owned by Seller or its Related Companies or in which Seller or its Related Companies have a right to license without cost to Seller (subject to Section 14.04) as of the Effective Date, including, without limitation, the right (i) to modify and create Derivative Works of such Licensed Software, (ii) to reproduce the Code of and Documentation for such Licensed Software, (iii) to combine the Licensed Software and Derivative Works therefrom with other software or hardware in the Licensed Field, and (iv) otherwise to use, copy, distribute, perform and display the Licensed Software and Derivative Works thereof in the Licensed Field. The foregoing license shall be sublicensable (but only to the extent that Seller has a right to authorize Buyer to grant such a sublicense and provided that Seller shall not be obligated to pay any consideration for such sublicense authorization (subject to Section 14.04)) by Buyer to its customers, distributors, consultants, developers and suppliers and to any of the Related Companies of Buyer or its successors solely for use in the Licensed Field including with FPGA/FPSC Products and any other product within the Licensed Field, made by or for, used, sold, offered for sale, leased or imported by Buyer.

3.02 Seller shall cause the Business Employees to deliver to Buyer copies of the Licensed Software in all forms and media in which such Code exists. To Agere's knowledge, all of the Licensed Software already is in possession of such employees. However, Agere agrees to take all steps reasonably requested by Buyer in connection with delivering to Buyer any missing parts of the Licensed Software. All costs of copying, preparing for delivery, and delivering Code to Buyer hereunder shall be borne by Agere.

3.03 The Parties recognize that the best or only available copy of certain Assigned Software and Licensed Software may reside, prior to or after the Closing Date, within the FPGA/FPSC Business or in the possession of the FPGA/FPSC Business, and that Agere may require certain access to or copies of the Assigned Software and Licensed Software for procurement purposes or other purposes consistent with this Agreement, which, because of inadvertence or oversight, a copy was not retained by or made available to Agere prior to the Closing Date. To that end, Buyer agrees, upon receiving a written request from Agere within the earlier of (i) ninety (90) days after Buyer ceases using Seller's corporate intranet and (ii) one (1) year from the Closing Date, to provide, within a commercially reasonable amount of time after receipt of Agere's written request, copies of any portion of the Assigned Software and Licensed Software belonging to or licensed to Agere or one of its Related Companies to exercise the rights in accordance with this Agreement. Any reasonable costs associated with the assembling, copying and delivering of such requested Assigned Software and Licensed Software shall be borne by Agere.

3.04 For a period of three (3) years from the Closing Date, neither Seller, any Related Company of Seller, nor any of their respective successors shall directly or indirectly license any Licensed Software constituting an IP Core listed in Appendix C or K to (A) Actel Corporation, Xilinx, Inc., Altera Corporation or any of their respective

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Affiliates or successors, or (B) any third party which combines an IP Core (hard core and/or soft core based upon or consisting of Licensed Software) listed in Appendix C or K with a Semiconductor Device of Actel Corporation, Xilinx, Inc., Altera Corporation or any of their respective Affiliates or successors for resale as either (i) a stand-alone Semiconductor Device that is provided with such IP Core consisting of Licensed Software (i.e., a soft core) or (ii) a stand-alone Semiconductor Device that includes such IP Core (i.e., a hard core).

3.05 As between the Parties, all Derivative Works and improvements to any Code created by or for a Party shall be exclusively owned by such Party subject to the rights, if any, that the other Party may have in the Code or Information from which such Derivative Work or improvement was derived.

## ARTICLE IV ASSIGNMENT OF INFORMATION

4.01 Seller hereby transfers and assigns to Buyer all of its worldwide right, title and interest in and to the Assigned Technical Information including all copyright and trade secret rights therein. Such transfer does not include a transfer of, or license under, any Patents; any such transfer of, or license under, any such Patent being specifically set forth in Articles VI and VII. Buyer's rights in such Assigned Technical Information shall be subject to all nonexclusive grants of rights pursuant to prior written agreements between Seller, its predecessors (including AT&T Corp. and its Subsidiaries and Lucent Technologies Inc. and its Subsidiaries) or its Related Companies, and one or more third parties that are entered into and have an effective date prior to the Effective Date of this Agreement.

4.02 Buyer grants to Seller under such rights in the Assigned Technical Information as Buyer is granted hereunder by Seller to Buyer pursuant to Section 4.01, a personal, nonexclusive, non-terminable, non-transferable (except as provided in Article XIII), perpetual, irrevocable, worldwide, royalty-free license to use, copy and distribute the Assigned Technical Information, and create, use, copy and distribute Derivative Works from the Assigned Technical Information with respect to any products or services of the businesses in which Agere or any of its Related Companies is now or hereafter engaged except that such rights may not be exercised for, and such license does not extend to, (i) a Competing Use or (ii) the use, design, manufacture, having manufactured, lease, offer for sale, import or sale of Restricted FPGA/FPSC Products.

4.03 Seller shall cause the Business Employees to deliver to Buyer copies of all documents and other Information of whatever kind in whatever medium that embody or constitute the Assigned Technical Information. To Agere's knowledge, all of the Assigned Technical Information already is in possession of such employees. However, Agere agrees to take all steps reasonably requested by Buyer in connection with delivering to Buyer any missing parts of the Assigned Technical Information. All costs

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of copying, preparing for delivery, and delivering Code to Buyer hereunder shall be borne by Agere.

4.04 The Parties recognize that the best or only available copy of certain Assigned Technical Information may reside, prior to or after the Closing Date, within the FPGA/FPSC Business or in the possession of the FPGA/FPSC Business, and that Agere may require certain access to or copies of the Assigned Technical Information for procurement purposes or other purposes consistent with this Agreement, which, because of inadvertence or oversight, a copy was not retained by or made available to Agere prior to the Closing Date. To that end, Buyer agrees, upon receiving a written request from Agere within the earlier of (i) ninety (90) days after Buyer ceases using Seller's corporate intranet, and (ii) one (1) year from the Closing Date, to provide, within a commercially reasonable amount of time after receipt of Agere's written request, copies of any portion of the Assigned Technical Information deemed necessary by Agere or one of its Related Companies to exercise the rights in accordance with this Agreement. Any reasonable costs associated with the assembling, copying and delivering of such requested Assigned Technical Information shall be borne by Agere.

## ARTICLE V LICENSES TO INFORMATION

5.01 Seller grants to Buyer a royalty-free, fully paid-up, worldwide, irrevocable, perpetual, non-terminable, non-transferable (except as provided in Article XIII) and nonexclusive license to the Licensed Technical Information in the Licensed Field, including the manufacture (including having manufactured), use, sale, offer for sale, lease and importation of FPGA/FPSC Products and any other products within the Licensed Field, under any and all copyright, trade secret and other Intellectual Property rights in such Licensed Technical Information (other than patent rights which are specifically granted in Article VI and VII) owned by Seller or its Related Companies or in which Seller or its Related Companies have a right to license without cost to Seller (subject to Section 14.04) as of the Effective Date including, without limitation, the right to use, copy, distribute, modify and create Derivative Works from such Licensed Technical Information.

5.02 Seller hereby grants to Buyer a personal, fully paid-up, royalty free, irrevocable, perpetual, non-terminable, non-transferable (except as provided in Article XIII) and nonexclusive right, as an attribute of the right to use the Licensed Technical Information in Section 5.01, to communicate (subject to confidentiality provisions as least as restrictive as those in Section 15.03) portions of and grant nonexclusive sublicenses (of the same scope as the licenses granted to Buyer under Section 5.01) to such Licensed Technical Information to customers, distributors, consultants, developers and suppliers of Buyer and to any of the Related Companies of Buyer or its successors solely for use in the Licensed Field.

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5.03 Seller shall cause the Business Employees to deliver to Buyer copies of all documents of whatever kind in whatever medium that embody the Licensed Technical Information. To Agere's knowledge, all of the Licensed Technical Information already is in possession of such employees. However, Agere agrees to take all steps reasonably requested by Buyer in connection with delivering to Buyer any missing parts of the Licensed Technical Information. All costs of copying, preparing for delivery, and delivering Licensed Technical Information to Buyer hereunder shall be borne by Agere.

5.04 The Parties recognize that the best or only available copy of certain Licensed Technical Information may reside, prior to or after the Closing Date, within the FPGA/FPSC Business or in the possession of the FPGA/FPSC Business, and Agere may require certain access to or copies of the Licensed Technical Information for procurement purposes or other purposes consistent with this Agreement, which because of inadvertence or oversight, a copy was not retained by or made available to Agere prior to the Closing Date. To that end, Buyer agrees, upon receiving a written request from Agere within the earlier of (i) ninety (90) days after Buyer ceases using Seller's corporate intranet and (ii) one year (1) from the Closing Date, to provide, within a commercially reasonable amount of time after receipt of Agere's written request, copies of any portion of the Licensed Technical Information deemed necessary by Agere or one of its Related Companies to exercise the rights in accordance with this Agreement. Any reasonable costs associated with the assembling, copying and delivering of such requested Licensed Technical Information shall be borne by Agere.

5.05 For a period of three (3) years from the Closing Date, neither Seller, any Related Company of Seller, nor any of their respective successors shall directly or indirectly license any Licensed Technical Information, Information, or Intellectual Property Rights constituting, or used in the creation of, an IP Core listed in Appendix C or K to (A) Actel Corporation, Xilinx, Inc., Altera Corporation or any of their respective Affiliates or successors, or (B) any third party which combines an IP Core (hard core and/or soft core based upon or consisting of Licensed Software and/or Licensed Technical Information) listed in Appendix C or K with a Semiconductive Device of Actel Corporation, Xilinx, Inc., Altera Corporation or any of their respective Affiliates or successors for resale as either (i) a stand-alone Semiconductive Device that is provided with such IP Core consisting of Licensed Software and/or Licensed Technical Information (i.e., a soft core) or (ii) a stand-alone Semiconductive Device that includes such IP Core (i.e., a hard core).

5.06 As between the Parties, all Derivative Works and improvements to any Information created by or for a Party shall be exclusively owned by such Party subject to the rights, if any, that the other Party may have in the Code or Information from which such Derivative Work or improvement was derived.

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## ARTICLE VI ASSIGNMENT OF PATENTS

6.01 Seller hereby transfers and assigns to Buyer all of its worldwide right, title and interest in and to the Assigned Patents. Seller hereby assigns to Buyer all rights to sue for past infringement of such Assigned Patents. Buyer's rights in such Assigned Patents shall be subject to all nonexclusive grants of rights pursuant to prior written agreements between Seller, its predecessors (including AT&T Corp. and its Subsidiaries and Lucent Technologies Inc. and its Subsidiaries) or its Related Companies, and one or more third parties that are entered into and have an effective date prior to the Effective Date of this Agreement.

6.02 Buyer grants to Seller under such rights as Buyer has received hereunder, a personal, nonexclusive, non-transferable (except as provided in Article XIII), irrevocable, non-terminable, worldwide, royalty-free license under such rights in the Assigned Patents as granted to Buyer hereunder to make, have made, use, offer to sell, sell, lease and import any products or services of the businesses in which Seller is now or hereafter engaged except that such license may not be exercised with respect to, and such license does not extend to (i) a Competing Use and (ii) for a period of three (3) years, the making (having made), using, leasing, offering for sale, selling or importing of Restricted FPGA/FPSC Products. Subject to the foregoing and the provisions of the Purchase Agreement, Seller may at any time exercise the rights and licenses under this Article VI for procuring from third parties engineering samples, prototypes, components or the like designed and manufactured by such third parties for the purposes of evaluation or qualification of a third party as a potential supplier to Seller of any product or service of such third party.

6.03 At the Closing, Seller shall deliver to Buyer fully executed assignments, in a form reasonably satisfactory to Buyer, to transfer the Assigned Patents to Buyer. Buyer shall be responsible for any and all recording fees related to the assignment of the Assigned Patents from Agere-Guardian to Buyer pursuant to Section 6.01. Seller agrees to execute all documents required for the assignment of such Assigned Patents to Buyer.

## ARTICLE VII PATENT LICENSES

7.01 Seller hereby grants to Buyer a personal, fully paid-up, royalty free, worldwide, non-transferable (except as provided in Article XIII), irrevocable, non-terminable and nonexclusive license under the Seller Licensed Patents to make (have made), use, sell, offer for sale, lease, and import products and to provide services in connection with the making, having made, using, selling, offer to sell, leasing and importing of Semiconductive Devices. Notwithstanding any other provision, the patent licenses granted herein to Buyer for Semiconductive Devices sold by Buyer do not include any patent license for the making (having made), using, selling, offering for sale, leasing, or importing of Foundry Devices.

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7.02 Without limiting Seller's obligations under the Non-Compete set forth in the Purchase Agreement or with respect to Restricted FPGA/FPSC Products, Buyer hereby grants to Seller a personal, fully paid-up, royalty free, worldwide, non-transferable (except as provided in Article XIII), irrevocable, non-terminable and nonexclusive license under the Buyer Licensed Patents to make (have made), use, sell, offer for sale, lease, and import Semiconductive Devices and to provide services in connection with the making, having made, using, selling, offer to sell, leasing and importing of Semiconductive Devices except that such license may not be exercised with respect to, and such license does not extend to (i) a Competing Use and (ii) for a period of three (3) years, the making (having made), using, leasing, offering for sale, selling or importing of Restricted FPGA/FPSC Products. Notwithstanding any other provision, the patent licenses granted herein to Seller for Semiconductive Devices sold by Seller do not include any patent license for the making (having made), using, selling, offering for sale, leasing, or importing of Foundry Devices.

7.03 The Patent licenses granted hereunder to Buyer Licensed Patents, Seller Licensed Patents and Assigned Patents shall extend until the Patent's expiration or the expiration of as much of such term as grantor has the right to grant.

7.04 A Party's failure to meet any obligation hereunder, due to assignment of title to any invention or patent, or the granting of any licenses, to the United States Government or any agency or designee thereof pursuant to a statute, regulation of such Government or agency shall not constitute a breach of this Agreement.

7.05 Seller grants to Buyer and the divested FPGA/FPSC Business a sublicense under those patent license rights granted to Seller by any third party pursuant to any patent license agreement between such third party and Seller existing as of the Effective Date of this Agreement which Seller may sublicense, but only to the extent that Seller has a right to grant such a sublicense and provided that Seller shall not be obligated to pay any consideration for such sublicense (subject to Section 14.04) or relinquish its own licenses.

7.06 Buyer grants to Seller a sublicense under those patent license rights granted to Buyer by any third party pursuant to any patent license agreement between such third party and Buyer existing as of the Effective Date of this Agreement which Buyer may sublicense, but only to the extent that Buyer has a right to grant such a sublicense and provided that Buyer shall not be obligated to pay any consideration for such sublicense or relinquish its own licenses.

**ARTICLE VIII  
ASSIGNMENT OF TRADEMARKS**

8.01 Seller transfers and assigns to Buyer all of its worldwide right, title and interest in and to the Assigned Marks as set forth on Schedule A of Appendix G hereto, and all rights, privileges and goodwill associated therewith including the right to recover and take all such proceedings as may be necessary for the recovery of damages or otherwise in respect of past, present and future infringement of any of such Assigned Marks. Such assignment shall be subject to all nonexclusive grants of rights pursuant to prior written agreements between Seller, its predecessors (including AT&T Corp. and its Subsidiaries and Lucent Technologies Inc. and its Subsidiaries) or its Related Companies, and one or more third parties that are entered into and having an effective date prior to the Effective Date of this Agreement. Seller shall notify Buyer of any agreements in which Seller has made any nonexclusive grants of rights or licenses with respect to the Assigned Marks, and the terms thereof. To the extent necessary, Seller shall assign to Buyer any rights Seller may have under such agreements to maintain, and police the use of, the Assigned Marks.

8.02 Seller shall deliver to Buyer fully executed assignments, in a form reasonably satisfactory to Buyer, to the Assigned Marks to Buyer for each jurisdiction in which such marks are registered. Provided Seller delivers such executed assignments in a form suitable for filing in each of the relevant jurisdictions, Buyer shall bear any costs of recording such assignments. Agere shall execute all documents and perform all acts as required for the assignment and recording of Assigned Marks to Buyer under this Agreement.

**ARTICLE IX  
FURNISHING OF ASSIGNED PATENTS, SOFTWARE, TECHNICAL  
INFORMATION AND TRADEMARK-RELATED INFORMATION**

9.01 Without limiting Seller's obligations, pursuant to Sections 2.03, 3.02, 4.03 and 5.03, Agere shall furnish to Buyer the following:

- (i) the Assigned Patents (including the associated patent files in Seller's possession);
- (ii) the Software;
- (iii) the Technical Information; and
- (iv) information regarding the Trademarks.

9.02 Delivery of any materials hereunder shall be deemed completed on the date received by Buyer or its designated Related Company at such locations as may reasonably be agreed by the Parties. In the event that during the Technical Assistance

Period, it is discovered that Software or Technical Information that should have been scheduled on an Appendix hereto or delivered to Buyer pursuant to this Agreement, was not so delivered or scheduled, promptly upon the discovery of such failure, Seller shall deliver such discovered Software or Technical Information to Buyer, and/or Seller shall maintain a written record of such delivered Software or Technical Information, as the case may be.

9.03 To the extent that any Software or Technical Information, including, for example, the mask works for the FPGA/FPSC Products, is known to Seller to be in the possession of a third party described in Appendix J, Seller will, at Closing, provide each such third party with a written notice reasonably satisfactory to Buyer, that such Software or Technical Information, (i) if assigned to Buyer hereunder, is owned by Buyer, or (ii) if licensed to Buyer hereunder, is licensed to Buyer, may be accessed by Buyer, and used by such third party for the benefit of Buyer pursuant to the terms of this Agreement. Without limiting the foregoing, after the Closing Date, Seller shall promptly provide the foregoing notification upon receipt of Buyer's request notifying Seller of third parties that have been in possession of Software or Technical Information.

**ARTICLE X  
POST CLOSING TECHNOLOGY ASSISTANCE AND ACCESS TO FUTURE IP CORES**

10.01 Technology Transfer Assistance. During the Technical Assistance Period, at no cost to Buyer, Agere shall provide to Buyer technical consulting and assistance by qualified Agere technical personnel as may be reasonably requested by Buyer with respect to the Software and Technical Information delivered to Buyer hereunder. Seller shall not be required to provide any such technical assistance in excess of (A) the sum of (i) 250 equivalent person-days, and (ii) 50 equivalent person-days for each IP Core delivered after the Closing Date (as specified in Appendix K), and (B) 60 equivalent person days within any calendar month.

10.02 Future Delivery. To the extent that the design of an IP Core listed on Appendix C or K hereto is not delivered as of the Closing Date, Seller shall deliver to Buyer the Code and Information for each such IP Core as soon as the design for such IP Core is completed (subject to the following sentence), in a form that has been typically provided to the FPGA/FPSC Business in the past for use in a FPSC or FPGA product. If an IP Core is not completed ("Non-completed IP Core"), Buyer, at its option, may cause Seller to deliver such IP Core in its current state to Buyer. If Buyer requests such delivery of a Non-completed IP Core, such delivery shall be considered as delivery of a completed IP Core. If Seller determines to not develop an IP Core set forth on Appendix C or K, Seller shall promptly notify Buyer of such determination. During a two-year period after such notice of determination, Seller shall promptly inform Buyer of like-kind IP cores that either exist or are under development by Seller. During such two year period, Buyer shall have the right to select one (1) of Seller's such like-kind IP cores for

the purposes of Appendix K, like-kind IP cores shall mean a high speed back plane interface core for the HCC SERDES (COM2) and a chip-to-chip interconnect I/O core for the SPI-4 and the CSIX10G) for delivery by Seller to Buyer for each IP Core set forth on Appendix C or K that is not delivered by Seller to Buyer. Notwithstanding the foregoing, Seller has no obligation to start, complete, or otherwise continue any development for any particular IP Cores after the Closing Date.

10.03 If, during the Technical Assistance Period, any Information or Code for an IP Core delivered to Buyer hereunder is modified or updated, including through bug fixes, by or for Seller, Seller shall promptly deliver to Buyer the updated Information and Code for such IP Core in a manner, and to those persons, consistent with the Licensed Technical Information and Licensed Software delivered for existing IP Cores previously provided. In addition, to the extent that any other Licensed Software or Licensed Technical Information is still under development and not in a form suitable to be delivered as of the Closing Date, Seller shall deliver such Licensed Software or Licensed Technical Information to Buyer as soon as practicable following the Closing Date. Notwithstanding the foregoing, Seller has no obligation to start, complete, or otherwise continue any development for any such Licensed Information or Licensed Code after the Closing Date.

10.04 Access to future IP Cores. Beginning on the Closing Date and ending on the third anniversary of the Closing Date (the "Capture Period"), should Seller (or any successor to any relevant portion of Seller's business) develop or intend to develop IP Cores suitable for use in FPGA/FPSC Products not identified in Appendix C or K and not existing at the time of the Closing, Seller shall provide Buyer with prompt disclosure of and access to Information and Code of Seller reasonably necessary to enable Buyer to evaluate such IP Cores solely for the purpose of potentially licensing IP Cores from Seller. With respect to the disclosure of any Source Code, access to the Source Code may be limited, at Seller's discretion, to Seller supervising Buyer's access to the Source Code. In addition, Seller may leave, at Seller's discretion, the Source Code in the possession of Buyer. During the Capture Period, Buyer may select any two (or more if mutually agreed) of the potential IP Cores for FPGA and FPSC products and Seller agrees to negotiate in good faith to separately license the selected IP Cores to Buyer for use in FPGA and FPSC products on commercially reasonable terms with additional value to Seller.

10.05 Third-party Developed Cores. As described in the following table, certain IP Cores are being developed for Seller by third-party developers. Prior to the Closing, Seller shall obtain the necessary rights from the relevant third-party developer (to the extent that Seller does not currently have such rights) to, and shall, and hereby does, license such IP Cores to Buyer as Licensed Software and Licensed Technical Information in accordance with the terms hereof. Notwithstanding the foregoing, with respect to MorethanIP, to the extent that Buyer obtained rights to the relevant IP Cores by assignment of a MorethanIP license in the Purchase Agreement, no further license grant by Seller is hereunder is required.

Core	Third Party Developer	Development Agreement
Pi-BridgeFX8 Device	Comit Systems, Inc.	Services Agreement with Comit Systems, Inc., dated February 4, 2001
Pi-BridgeNP48 Device		
POS/PHY 3	MoreThanIP.com	Services Agreement with MoreThanIP.com dated December 19, 2000

**ARTICLE XI  
EXPORT CONTROL**

11.01 (a) The Parties acknowledge that any information and software (including services and training) provided under this Agreement are subject to U.S. export laws and regulations and any use or transfer of such information and software must be authorized under those regulations. Buyer hereby assures Agere that it will not without a license or license exception authorized by the Bureau of Export Administration of the U.S. Department of Commerce, Washington, D.C. 20230, United States of America, if required

- (i) export or release the information or software (including Source Code) obtained pursuant to this Agreement to a national of Country Groups D:1 or E:2 (15 C.F.R. Part 740, Supp. 1), Iran, Iraq, Sudan, or Syria;
  - (ii) export to Country Groups D:1 or E:2, or to Iran, Iraq, Sudan, or Syria, the direct product (including processes and services) of the information or software; or
  - (iii) if the direct product of the information is a complete plant or any major component of a plant, export to Country Groups D:1 or E:2, or to Iran, Iraq, Sudan, or Syria, the direct product of the plant or major component.
- (b) This assurance will be honored even after any termination of this Agreement or the Purchase Agreement.

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**ARTICLE XII  
TERM AND TERMINATION**

12.01 This Agreement shall be effective during the term commencing on the Effective Date hereof and shall continue unless terminated (i) by mutual agreement between the Parties; or (ii) pursuant to the Purchase Agreement.

12.02 The rights and obligations of Buyer and Seller which, by their nature would continue beyond termination of this Agreement shall survive and continue after any termination of this Agreement. For example, the licenses granted by either party to the other hereunder shall survive and continue after any termination of this Agreement.

**ARTICLE XIII  
ASSIGNABILITY**

13.01 The Parties hereto have entered into this Agreement in contemplation of the purchase by Buyer of the FPGA/FPSC Business of Seller.

13.02 All of Seller's rights, title and interest in this Agreement and any licenses and rights granted to it hereunder may be assigned to any of its Related Companies or any direct or indirect successor to all or substantially all of the assets of Seller, which successor shall thereafter be deemed substituted for Seller as the Party hereto, effective upon such assignment, provided that such successor shall be subject to all limitations or waivers applicable to Seller pursuant to this Agreement and the Purchase Agreement. Buyer may assign all of its rights and obligations existing or arising under this Agreement to any successor to all or substantially all of the assets of Buyer as the result of a sale, an acquisition, merger, change of control, consolidation, reorganization, or re-capitalization of Buyer or such business, which successor shall thereafter be deemed substituted for Buyer as a Party hereto, subject to written acceptance of such assignment by such successor. Notwithstanding any such assignment to a successor of Seller or Buyer, as the case may be, any licenses assigned in accordance herewith to the successor do not include any past or future licenses to make, use, sell, offer for sale, or import any products, including Semiconductive Devices or Code, which are sold or otherwise distributed, directly or indirectly, by such successor prior to such assignment. Nothing set forth herein shall in any way restrict Buyer's rights to dispose of, assign or license any Assigned Patents, Assigned Software or Assigned Technical Information.

13.03 (a) The grant of each license hereunder to any Intellectual Property, other than patents or any rights arising under any pending or issued patent, also includes the right of a Party to sublicense (within the scope of its own licenses) any business which is divested by that Party or any of its Related Companies provided that the sublicense is granted within sixty (60) days of divestiture and the divested business is itself a legal entity at the time of divestiture or within sixty (60) days thereafter.

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(b) The foregoing sublicense shall be subject to the following restrictions for a period of three (3) years:

(i) In the case of Seller, subject to the Non-Compete provisions set forth in Section 5.10 of the Purchase Agreement and any other limitations on the licenses granted to Seller hereunder (i) such sublicense may continue for so long as the divested business remains a legal entity and shall extend only to the licensed products sold or services furnished by the divested business prior to the divestiture and only for the rights of the non-divesting Party licensed to the divesting Party in this Agreement as of the date of divestiture and (ii) any sublicense shall not extend to the products sold or services furnished by a third party which acquires the divested business, even if they are of the same kind or similar to those of the divested business and even if made, sold or provided by the divested business.

(ii) In the case of Buyer, subject to any limitations on the licenses granted to Buyer hereunder (i) such sublicense may continue for so long as the divested business remains a legal entity and shall extend only to the licensed products sold or services furnished by the divested business prior to the divestiture and only for the rights of the non-divesting Party licensed to the divesting Party in this Agreement as of the date of divestiture and (ii) any sublicense shall not extend to the products sold or services furnished by a third party which acquires the divested business, even if they are of the same kind or similar to those of the divested business and even if made, sold or provided by the divested business.

**ARTICLE XIV  
LICENSES TO RELATED COMPANIES AND IMPROVEMENTS**

14.01 The grant of each license hereunder includes the right to grant sublicenses within the scope of such license to a Party's Related Companies for so long as they remain its Related Companies. Any and all licenses or sublicenses granted to Related Companies pursuant to this Agreement may be made effective retroactively, but not prior to the Effective Date hereof.

14.02 Unless otherwise specifically expressed herein, no license to, or right of a Party, under any patent, copyright, trademark, trade secret, or any other Intellectual Property right, is either granted or implied by conveying any information to such Party.

14.03 Except as otherwise expressly provided for herein or the Purchase Agreement, no rights are granted to a Party under any improvements or Derivative Works of the Software, the Technical Information, or the Patents to the extent made by the other Party after the Effective Date.

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14.04 In the event that Seller may sublicense patents, Software or Technical Information of a third party to Buyer hereunder only provided that Seller pays to such third party consideration for the grant of such sublicense, Seller shall so inform Buyer in writing and Buyer shall have the option to have Seller grant such sublicense to Buyer within a reasonable period of time after receipt of such notice from Buyer, provided that (i) Buyer agrees to reimburse such consideration to Seller and (ii) Seller is not obligated to provide any other consideration (including, for example, additional patent licenses) to such third party in order to grant such sublicense to Buyer.

**ARTICLE XV  
WARRANTIES AND COVENANTS**

15.01 All warranties and representations are exclusively set forth in the Purchase Agreement.

15.02 (a) EXCEPT AS EXPRESSLY PROVIDED IN THE PURCHASE AGREEMENT, THE TECHNICAL INFORMATION, SOFTWARE OR OTHER INFORMATION ASSIGNED OR LICENSED UNDER THIS AGREEMENT IS ASSIGNED OR LICENSED "AS IS" WITH ALL FAULTS, LATENT AND PATENT AND WITHOUT ANY WARRANTY OF ANY TYPE. AGERE AND ITS RELATED COMPANIES MAKE NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT OF LIMITATION, EXCEPT AS EXPRESSLY PROVIDED IN THE PURCHASE AGREEMENT, AGERE AND ITS RELATED COMPANIES MAKE NO REPRESENTATIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR THAT THE USE OF THE TECHNICAL

INFORMATION, SOFTWARE OR OTHER INFORMATION WILL NOT INFRINGE ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT OF ANY THIRD PARTY AND IT SHALL BE THE SOLE RESPONSIBILITY OF BUYER TO MAKE SUCH DETERMINATION AS IS NECESSARY WITH RESPECT TO THE ACQUISITION OF LICENSES UNDER PATENTS OR OTHER INTELLECTUAL PROPERTY RIGHTS OF THIRD PARTIES.

(b) EXCEPT AS EXPRESSLY PROVIDED IN THE PURCHASE AGREEMENT, AGERE AND ITS RELATED COMPANIES SHALL NOT BE HELD TO ANY LIABILITY WITH RESPECT TO ANY PATENT INFRINGEMENT OR ANY OTHER INFRINGEMENT CLAIM MADE BY BUYER OR ANY THIRD PARTY ON ACCOUNT OF, OR ARISING FROM THE USE OF, THE TECHNICAL INFORMATION, SOFTWARE OR OTHER INFORMATION ASSIGNED OR LICENSED HEREUNDER.

15.03 Buyer agrees:

(a) that it will not, without Agere's express written permission or as provided herein or in the Purchase Agreement, or as otherwise agreed to in writing, (i) use in advertising, publicity, or otherwise any trade name, trademark, trade device,

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service mark, symbol or any other identification or any abbreviation, contraction or simulation thereof owned or used by Agere or any of its Related Companies, or (ii) represent, directly or indirectly, that any product or service produced in whole or in part with the use of any of the Software, Technical Information or Patents is a product or service of Agere or any of its Related Companies; and

(b) that except as otherwise expressly provided for in this Agreement, and provided that the following shall in no way limit Buyer's exercise of the licenses granted to it hereunder, it will hold in confidence for Agere all parts of the Licensed Software, the Licensed Technical Information, Information relating to future IP Cores, and other private or confidential information of Agere that Buyer's personnel may unavoidably receive or have access to during the performance of this agreement to the extent that the foregoing was marked by Agere as "confidential" prior to disclosure thereof to Buyer or information that by its nature would reasonably be considered confidential. Buyer further agrees that all such information shall remain the property of Agere and that Buyer shall not, unless permitted elsewhere in this agreement, make any disclosure of such information to anyone, except to employees, customers, investors (prospective or actual) or contractors of Buyer to whom such disclosure is necessary to the use for which rights are granted hereunder or otherwise in accordance with the licenses granted to Buyer hereunder. Buyer shall appropriately notify all employees to whom any such disclosure is made that such disclosure is made in confidence and shall be kept in confidence by them. Notwithstanding the above in this Section 15.03(b), Buyer may use and disclose any or all of the information described in this Section 15.03(b) above in the manner that Buyer discloses its own information of like nature so long as Seller's information is only so disclosed in combination with Buyer's information.

(c) The restrictions under this Section 15.03 on the use or disclosure of such information shall not apply to such information:

(i) which is independently developed by Buyer or is lawfully received free of restriction from another source having the right to so furnish such information; or

(ii) after it has become generally available to the public by acts not attributable to Buyer or its employees, agents or contractors; or

(iii) which at the time of disclosure to Buyer was known to Buyer free of restriction and evidenced by documentation in Buyer's possession; or

(iv) which Agere agrees in writing is free of such restrictions; or

(v) which is requested pursuant to a judicial or governmental request, requirement or order under law, provided that Buyer provides Agere with sufficient prior notice in order to contest such request, requirement or order or seek protective measures.

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15.04 Seller agrees:

(a) that it will not, without Buyer's express written permission or as provided herein or in the Purchase Agreement, or as otherwise agreed to in writing, (i) use in advertising, publicity, or otherwise any trade name, trademark, trade device, service mark, symbol or any other identification or any abbreviation, contraction or simulation thereof owned or used by Buyer or any of its Related Companies or assigned to Buyer hereunder, or (ii) represent, directly or indirectly, that any product or service produced in whole or in part with the use of any of the Software, Technical Information or Patents is a product or service of Buyer or any of its Related Companies; and

(b) that except as otherwise expressly provided for in this Agreement, and provided that the following shall in no way limit Seller's exercise of the licenses granted to it hereunder, it will hold in confidence for Buyer all parts of the Assigned Software and the Assigned Technical Information that prior to the transfer thereof was considered by Seller to be "confidential". Seller further agrees that all such information shall be the property of Buyer and that Seller shall not, unless permitted elsewhere in this agreement, make any disclosure of such information to anyone, except to employees or contractors of Seller to whom such disclosure is necessary to the use for which rights are granted hereunder. Seller shall appropriately notify all employees to whom any such disclosure is made that such disclosure is made in confidence and shall be kept in confidence by them. Notwithstanding the above in this Section 15.04(b), Seller may use and disclose any or all of the information described in this Section 15.04(b) above in the manner that Seller discloses its own information of like nature so long as Buyer's information is only so disclosed in combination with Seller's information.

(c) The restrictions under this Section 15.04 on the use or disclosure of such information shall not apply to such information:

(i) which is independently developed by Seller following the Closing or is lawfully received free of restriction from another source having the right to so furnish such information; or

(ii) after it has become generally available to the public by acts not attributable to Seller or its employees, agents or contractors; or

(iii) which Buyer agrees in writing is free of such restrictions; or

(iv) which is requested pursuant to a judicial or governmental request, requirement or order under law, provided that Seller provides Buyer with sufficient prior notice in order to contest such request, requirement or order or seek protective measures.

15.05 Upon Buyer's request, Seller shall provide to Buyer information regarding whether any third party identified by Buyer has been licensed under one or more Assigned Patents or under any other Transferred Intellectual Property, and the terms

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under which such third party was licensed, to enable Buyer to evaluate whether such license would impair Buyer's ability to enforce one or more of the Assigned Patents or any other Transferred Intellectual Property against such third party.

15.06 In the event of any conflict between the representations in this Agreement and the representations and warranties in the Purchase Agreement, the representations and warranties in the Purchase Agreement shall prevail.

## ARTICLE XVI GENERAL PROVISIONS

16.01 Consideration. The consideration for the transfers, assignments and grant of rights and licenses under this Agreement by Seller to Buyer is provided in the Purchase Agreement and no further payment of royalties will be due under this Agreement.

16.02 Agreement Prevails. This Agreement shall prevail in the event of any conflicting terms or legends, which may appear on documents, the Software, the Documentation, the Patents or the Technical Information hereunder.

16.03 Relationship Between Parties. Neither Party to this Agreement shall have the power to bind the other by any guarantee or representation that it may give, or to incur any debts or liabilities in the name of or on behalf of the other Party. The Parties acknowledge and agree that nothing contained in this Agreement shall be deemed or construed to constitute or create between the Parties hereto a partnership, association, joint venture or other agency.

16.04 Entire Agreement. This Agreement, the Purchase Agreement and Collateral Agreements set forth the entire agreement and understanding between the Parties as to the subject matter hereof and merges all prior discussions between them, and none of the Parties shall be bound by any conditions, definitions, warranties, modifications, understandings or representations with respect to such subject matter other than as expressly provided herein, or as duly set forth on or subsequent to the Effective Date hereof in writing and signed by a proper and duly authorized representative of the Party to be bound thereby.

16.05 **Headings.** Section and subsection headings contained in this Agreement are inserted for convenience of reference only, shall not be deemed to be a part of this Agreement for any purpose, and shall not in any way define or affect the meaning, construction or scope of any of the provisions hereof.

16.06 **Further Actions.** Each Party agrees to execute, acknowledge and deliver such further instruments, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

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16.07 **Governing Law.** THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK IRRESPECTIVE OF THE CHOICE OF LAWS PRINCIPLES OF THE STATE OF NEW YORK, AS TO ALL MATTERS, INCLUDING MATTERS OF VALIDITY, CONSTRUCTION, EFFECT, ENFORCEABILITY, PERFORMANCE AND REMEDIES.

16.08 **Force Majeure.** Neither Party shall lose any rights hereunder or be liable to the other Party for damages or losses on account of failure of performance by the defaulting Party if the failure is occasioned by government action, war, fire, explosion, flood, strike, lockout, embargo, act of God, or other cause beyond the reasonable control of the defaulting Party, provided that the Party claiming force majeure has exerted commercially reasonable efforts to avoid or remedy such force majeure.

16.09 **Waiver.** Except as specifically provided for herein, the waiver from time to time by either of the Parties of any of their rights or their failure to exercise any remedy shall not operate or be construed as a continuing waiver of the same or of any other of such Party's rights or remedies provided in this Agreement.

16.10 **Severability.** If any term, covenant or condition of this Agreement or the application thereof to any Party or circumstances shall, to any extent, be held to be invalid or unenforceable, then the remainder of this Agreement, or the application of such term, covenant or condition to parties or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term, covenant or condition of this Agreement shall be valid and be enforced to the fullest extent permitted by law.

16.11 **Section 365(n).** All rights and licenses granted under or pursuant to this Agreement by a Party to the other Party are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the United States Bankruptcy Code, 11 U.S.C. Section 101, et seq. (the "**Bankruptcy Code**"), licenses of rights to "intellectual property" as defined under Section 101(56) of the Bankruptcy Code. The Parties agree that each Party, as licensees of such rights and licenses, shall retain and may fully exercise all of their respective rights and elections under the Bankruptcy Code; provided such Party abides by the terms of this Agreement.

16.12 Except as otherwise agreed in this Agreement, in the Purchase Agreement, or in a Collateral Agreement, Buyer and Seller shall have no right or interest whatsoever in any product of the other Party whether such product is conceived or developed by the other Party, during or after the course of performance of this Agreement, the Purchase Agreement or any Collateral Agreement. Nothing in this Agreement shall be construed to obligate Buyer or Seller to a specified level of effort in its promotion and marketing of any product.

16.13 The Parties hereto have endeavored to create restrictions which are reasonable as to duration, geography and scope of activity which do not violate any laws,

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rules or regulations. Nonetheless, the Parties agree that in the event a court or arbitrator renders a final order or award which shall determine that any provision is unenforceable, the Parties agree that the invalidity or unenforceability of any such provision shall not in any way affect the validity or enforceability of any other provision of this Agreement except those of which the invalidated or unenforceable provision comprises an integral part of or are otherwise clearly inseparable from such other provisions.

16.14 **Execution in Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

#### ARTICLE XVII DISPUTE RESOLUTION

17.01 The Parties agree that, except as expressly provided hereunder, the provisions of Section 10 of the Purchase Agreement shall govern any dispute between the parties hereunder.

#### ARTICLE XVIII NOTICES AND STATEMENTS

18.01 Until further notice in writing, any notice or other communication hereunder shall be deemed to be sufficiently given to the addressee and any delivery hereunder deemed made when sent by certified mail to the addresses set out below.

For Agere: Agere Systems  
Intellectual Property  
Attn: Contract Administrator  
9333 South Young Parkway  
Orlando, Florida 32819-8698  
United States of America

For Agere Guardian: Agere Systems Guardian Corporation  
Intellectual Property  
Attn: Contract Administrator  
9333 South Young Parkway  
Orlando, Florida 32819-8698  
United States of America

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With a copy to: Agere Systems Inc.  
Attn: Vice President - Law  
555 Union Boulevard  
Allentown, PA 18109  
United States of America  
Facsimile: (610) 712-5336

For Buyer: Lattice Semiconductor Corporation  
5555 N.E. Moore Court  
Hillsboro, Oregon 97124-6421  
Attention: General Counsel  
Facsimile: (503) 268-8077

With a copy to: Wilson Sonsini Goodrich & Rosati  
Professional Corporation  
650 Page Mill Road  
Palo Alto, California 94304  
Attention: Selwyn B. Goldberg, Esq.  
Facsimile: (650) 493-6811

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IN WITNESS WHEREOF, each of the Parties has caused this Agreement to be executed by its duly authorized representative on the respective dates entered below.

AGERE SYSTEMS INC.

By: \_\_\_\_\_ /s/ Gerard deBlasi



Name: Gerard deBlasi  
Title: Vice President — Intellectual Property  
Date: January 18, 2002

**AGERE SYSTEMS GUARDIAN CORPORATION**

By: /s/ Gerard deBlasi  
Name: Gerard deBlasi  
Title: Vice President  
Date: January 18, 2002

**LATTICE SEMICONDUCTOR CORPORATION**

By: /s/ Steve Laub  
Name: Steve Laub  
Title: President  
Date: January 18, 2002

**THIS AGREEMENT DOES NOT BIND OR OBLIGATE ANY PARTY  
IN ANY MANNER UNLESS DULY EXECUTED BY AUTHORIZED  
REPRESENTATIVES OF ALL PARTIES**

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**APPENDIX A**

**Definitions Appendix**

“3000 series FPGAs” means the family of Field Programmable Gate Arrays (FPGAs) listed in Appendix H and associated Information and Documentation.

“Affiliate” has the meaning set forth in the Purchase Agreement.

“Assigned Marks” means the marks specifically set forth in Schedule A in Appendix G hereto which are assigned to Buyer by Agere in the performance of this Agreement to the extent such marks are owned by Seller and to which Seller has the right to transfer as of the Effective Date of this Agreement.

“Assigned Patents” means the issued patents, pending applications and/or docketed invention disclosures owned by Seller as of the Effective Date as specifically listed on Appendix F hereto, and all foreign counterpart patents or applications claiming priority therefrom.

“Assigned Software” means the Code and associated Documentation (including Code and associated Documentation constituting or associated with software design tools, FPSC design kits, software for internal development tools, test software, but excluding the Code and associated Documentation constituting the IP Cores licensed hereunder) that is (i) owned by Seller or its Related Companies, and currently used primarily for the purpose of operating the FPGA/FPSC Business, or (ii) identified in Appendix B to this Agreement.

“Assigned Technical Information” means Information (including business information, product development materials and Documentation, product requirements, product design databases, product validation records, product design revision histories, information relating to test fixtures, information relating to test equipment, reliability records, product reliability monitor data and reports, including customer reports and failure information, but excluding any Information constituting the IP Cores licensed hereunder) that is (i) owned by Seller or its Related Companies as of the Effective Date, and currently used primarily for the purpose of operating the FPGA/FPSC Business, or (ii) identified in Appendix D hereto. Unless otherwise noted in the relevant Appendix of the Asset Purchase, Assigned Technical Information includes Technical Information embodied in any of the tangible assets of Seller assigned to Buyer under the Purchase Agreement (e.g., fixtures and equipment) so long as, the Technical Information is owned by Seller or its Related Companies.

“Buyer Licensed Patent(s)” means every patent (including utility models but excluding design patents and design registrations) issued or having enforceable rights in any country of the world prior to the Effective Date or which issues at any time after the Effective Date on applications filed on or before the Effective Date (or which is entitled

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to a filing date prior to the Effective Date) in any country of the world, and which, at Effective Date, Buyer has ownership or control of and has the right to grant licenses granted herein, but only to the extent of such right, without the payment, or granting of any consideration, by Buyer to any third party.

“Business Employees” has the meaning assigned in the Purchase Agreement.

“FPGA/FPSC Business” has the meaning assigned in Purchase Agreement.

“Capture Period” has the meaning assigned in Section 10.04 hereof.

“Closing” has the meaning assigned in the Purchase Agreement.

“Code” shall mean Object Code and Source Code in tangible and electronic form, collectively.

“Competing Use” means any field, activity or use within the scope of the limitations set forth in Section 5.10 (the “Non-compete”) of the Purchase Agreement.

“Derivative Work(s)” shall mean any work of authorship that is based, in whole or in part, upon one or more pre-existing works, such as a revision, modification, translation, abridgment, condensation, expansion or any other form in which such pre-existing works may be recast, transformed or adopted and which, if prepared without authorization of the owner of the copyright in such pre-existing work, would constitute a copyright infringement. For purposes of this Agreement, a Derivative Work shall also include any compilation that incorporates such a pre-existing work.

“Documentation” shall mean all information in human and/or machine-readable form, relating to Code, including user manuals and materials useful for design (for example, logic manuals, flow charts, and principles of operation).

“Effective Date” has the meaning assigned in Recital A hereof.

“Foundry Device” means a Semiconductive Device which a Party and/or its Related Companies manufactures for a third party wherein the design of such device is furnished to a Party and/or its Related Companies by such third party.

“IP Cores” are hard cores and/or soft cores included in and/or provided with a FPGA or FPSC product, including the IP Cores listed on Appendices C and K.

“Information” shall mean any and all documented and undocumented information (excluding Patents and Patent applications), including Code, Documentation, maskworks, net lists, test vectors, test algorithms, technical information, data and drawings of whatever kind in whatever medium, specifications, know-how, formulae, compositions, processes, designs, sketches, photographs, graphs, drawings, samples, non-patented

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inventions, discoveries, and ideas, past and current manufacturing and distribution methods and processes, current and anticipated customer requirements, price lists, part lists, customer lists, market studies, business plans, database technologies, systems, structures, architectures, improvements, devices, concepts, methods and information, however documented, and any and all notes, analysis, compilations, studies, summaries, and other material containing or based, in whole or in part, on any information included in the foregoing.

“Intellectual Property” has the meaning set forth in the Purchase Agreement.

“Licensed Field” means any and all fields in which Buyer is currently engaged or in which Buyer may hereafter engage; provided that, prior to the third anniversary of the Closing Date, the Licensed Field shall exclude (i) the use by Buyer of Seller’s IP Cores licensed to Buyer hereunder in a Semiconductive Device that include an array of programmable gates and interconnects where the array occupies less than forty percent (40%) of the area of the die and (ii) any mask programmed device that is not: (a) a functional substitute and substantially pin-to-pin compatible for an FPGA/FPSC Product that has been previously sold by Buyer or Seller to a customer, (b) used

in a product by such customer, and (c) exclusively provided to such customer solely for use with such customer's product. Buyer's exercise of rights granted hereunder to make, use, sell, offer for sale, have made, lease or import mask programmed devices shall not be exercised in a manner so that the exercise of such rights is a sham to allow Buyer to avoid the above restrictions so as to allow Buyer to make, use, sell, offer for sale, have made, lease or import ASICs during the period when such restrictions apply.

"Licensed Software" means the Code and associated Documentation including IP Cores, software for Software Design Tools, FPSC design kits, software for internal development tools, and test software, and other Code; owned by Seller or for which Seller has a right to license to Buyer without any cost to Agere (subject to Section 14.04); that is or has been used in or is necessary for the use in the operation of, the FPGA/FPSC Business or IP Cores provided after the Closing Date, according to the terms hereof, in FPGA and FPSC products within the Licensed Field; and that is not Assigned Software, including the Code identified herein in Appendix C.

"Licensed Technical Information" means Information, including Information relating to IP Cores, owned by Seller or for which Seller has a right to license to Buyer without any cost to Seller (subject to Section 14.04); that is or has been used in or is necessary for the use in the operation of the FPGA/FPSC Business or that is necessary for the use of IP Cores listed in Appendix C or K in FPGA and FPSC products within the Licensed Field and which is not Assigned Technical Information, including the Information identified herein in Appendix E.

"Mask Set Revision" means any change for any reason to any one or more mask(s) in the complete set of photomasks that are utilized for wafer fabrication of the FPGA/FPSC Products.

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"Object Code" shall mean code in machine-readable form generated by compilation, assembly or other translation of Source Code and contained in a medium which permits it to be loaded into and operated on by a computer.

"Patents" means Assigned Patents and Licensed Patents, collectively.

"FPGA/FPSC Product(s)" means any product, but not 3000 Series FPGAs, of a design including an array of programmable gates and interconnects which array occupies at least forty percent (40%) of the area of the die of a Semiconductive Device, existing, manufactured and sold directly by the FPGA/FPSC Business, including those devices as specifically listed in Appendix I hereto. For the purposes of this Agreement, such term shall include future generations, derivatives or improvements of such products excluding IP Cores.

"PLD" mean a Programmable Logic Device as defined in Section 5.10(b) of the Purchase Agreement.

"Purchase Agreement" has the meaning assigned in Recital A hereof.

"Purchased Assets" has the meaning assigned in the Purchase Agreement.

"Related Companies" means (i) with respect to Buyer, its Subsidiaries and Affiliates, (ii) with respect to Agere-Guardian, means its Subsidiaries, its parent, Agere and Subsidiaries of Agere, with the exception of Agere-Guardian, and (iii) with respect to Agere, its Subsidiaries.

"Restricted FPGA/FPSC Product" means a Semiconductive Device that includes an array of programmable gates and interconnects where the array occupies more than twenty (20) percent of the area of the die of such device.

"Seller Licensed Patent(s)" means every patent (including utility models but excluding design patents and design registrations) issued or having enforceable rights in any country of the world prior to the Effective Date, or which issues at any time after the Effective Date on applications filed on or before the Effective Date (or which is entitled to a filing date prior to the Effective Date) in any country of the world, and which, at Effective Date, Seller has ownership or control or otherwise has the right to grant the licenses granted herein, but only to the extent of such right.

"Semiconductive Device" means a unitary or integrated electronic device formed of a single type of semiconductive material, such device being either in wafer, die, or finished form or the circuit elements, including cores, in such a device. A Semiconductive Device in finished form shall include any terminals and housing (and any environmental control elements within the housing) integral to such device. The term Semiconductive Device shall not include (1) an electronic device or integrated circuit that includes parts that are capable of movement relative to each other in operation, (2) an electronic circuit device in which a power supply or component with magnetic core is included on or integral with

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the wafer or housing, or (3) a unitary or integrated device that is primarily an optical or opto-electronic device. A Semiconductive Device shall not lose its character as such whether or not it is part of an assemblage of such electronic devices or other devices, but the term does not mean such assemblage nor does it include circuits formed by the assemblage. For the purposes of the licenses granted herein, a Semiconductive Device also includes all Code and systems used in the design, programming and testing of a Semiconductive Device including any Code constituting a soft core or for use in conjunction with a FPSC, FPGA or PLD.

"Software" means Assigned Software and Licensed Software, collectively.

"Source Code" shall mean code in any programming language contained in any format, including human and machine-readable formats, such code including all comments and procedural code plus all related development documents such as, but not limited to, flow charts, schematics, statements of principles of operations or any other specifications.

"Subsidiary" of a company means a corporation or other legal entity (i) more than fifty percent (50%) of whose shares or other securities entitled to vote for election of directors (or other managing authority) is now or hereafter controlled by such company either directly or indirectly; or (ii) which does not have outstanding shares or securities but more than fifty percent (50%) of whose ownership interest representing the right to manage such corporation or other legal entity is now or hereafter owned and controlled by such company either directly or indirectly; but any such corporation or other legal entity shall be deemed to be an Subsidiary of such company only as long as such control or ownership and control exists.

"Technical Information" means Assigned Technical Information and Licensed Technical Information, collectively.

"Technical Assistance Period" means the period beginning on the Closing Date and ending (A) three and one half (3-1/2) years after the Closing Date with respect to IP Cores delivered as of the Closing Date and (B) with respect to IP Cores delivered after the Closing Date the later to occur of (x) the end of the foregoing three-and-one-half (3-1/2) year period and (y) two (2) years after the delivery of an IP Core following the Closing Date in accordance with Section 10.02 but in no event later than seven (7) years after the Closing Date.

"Trademarks" means the Assigned Marks.

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**SELECTED FINANCIAL DATA**

(IN THOUSANDS, EXCEPT PER SHARE DATA)	YEAR ENDED		NINE MONTHS ENDED	YEAR ENDED	
	DECEMBER 31, 2001	DECEMBER 31, 2000	DECEMBER 31, 1999	MARCH 31, 1999	MARCH 31, 1998
<b>STATEMENT OF OPERATIONS DATA:</b>					
Revenue	\$ 295,326	\$ 567,759	\$ 269,699	\$ 200,072	\$ 245,894
Costs and expenses:					
Cost of products sold	111,498	217,830	108,687	78,440	98,883
Research and development	71,679	77,057	45,903	33,190	32,012
Selling, general and administrative	53,027	81,082	50,676	36,818	39,934
In-process research and development	—	—	89,003	—	—
Amortization of intangible assets(1)	84,349	81,873	45,780	—	—
	<u>320,553</u>	<u>457,842</u>	<u>340,049</u>	<u>148,448</u>	<u>170,829</u>
(Loss) income from operations	(25,227)	109,917	(70,350)	51,624	75,065
(Loss) gain on foundry investments	(152,795)	149,960	—	—	—
Interest and other income (expense), net	4,056	2,194	(4,120)	10,668	10,643
(Loss) income before (benefit) provision for income taxes	(173,966)	262,071	(74,470)	62,292	85,708
(Benefit) provision for income taxes	(64,447)	94,184	(27,989)	20,246	29,141
(Loss) income before extraordinary item	(109,519)	167,887	(46,481)	42,046	56,567
Extraordinary item, net of income taxes	—	—	(1,665)	—	—
Net (loss) income	<u>\$ (109,519)</u>	<u>\$ 167,887</u>	<u>\$ (48,146)</u>	<u>\$ 42,046</u>	<u>\$ 56,567</u>
Basic (loss) income per share, before extraordinary item	<u>\$ (1.01)</u>	<u>\$ 1.65</u>	<u>\$ (0.49)</u>	<u>\$ 0.45</u>	<u>\$ 0.61</u>
Diluted (loss) income per share, before extraordinary item	<u>\$ (1.01)</u>	<u>\$ 1.47</u>	<u>\$ (0.49)</u>	<u>\$ 0.44</u>	<u>\$ 0.59</u>
Basic net (loss) income per share	<u>\$ (1.01)</u>	<u>\$ 1.65</u>	<u>\$ (0.50)</u>	<u>\$ 0.45</u>	<u>\$ 0.61</u>
Diluted net (loss) income per share	<u>\$ (1.01)</u>	<u>\$ 1.47</u>	<u>\$ (0.50)</u>	<u>\$ 0.44</u>	<u>\$ 0.59</u>
Shares used in per share calculations:					
Basic	108,814	101,716	95,428	93,948	92,956
Diluted	108,814	120,321	95,428	95,276	95,576

**BALANCE SHEET DATA:**

(IN THOUSANDS, EXCEPT PER SHARE DATA)	DECEMBER 31, 2001	DECEMBER 31, 2000	DECEMBER 31, 1999	MARCH 31, 1999	MARCH 31, 1998
Cash and short-term investments	\$ 531,566	\$ 535,408	\$ 214,140	\$ 319,434	\$ 267,110
Total assets	1,173,980	1,295,884	916,155	540,896	489,066
Stockholders' equity	839,770	855,655	482,773	483,734	434,686

(1) Includes \$397 of amortization of deferred stock compensation expense for the year ended December 31, 2001 attributable to Research and Development activities.

UNAUDITED QUARTERLY DATA:	2001				2000			
	DECEMBER	SEPTEMBER	JUNE	MARCH	DECEMBER	SEPTEMBER	JUNE	MARCH
Revenue	\$ 52,108	\$ 58,038	\$ 74,082	\$ 111,098	\$ 150,788	\$ 151,038	\$ 139,878	\$ 126,055
Gross profit	\$ 32,286	\$ 36,043	\$ 46,311	\$ 69,188	\$ 93,618	\$ 93,601	\$ 86,240	\$ 76,470
Net (loss) income	\$ (12,517)	\$ (104,601)	\$ (3,677)	\$ 11,276	\$ 23,623	\$ 22,701	\$ 16,742	\$ 104,821
Basic net (loss) income per share	\$ (0.11)	\$ (0.96)	\$ (0.03)	\$ 0.10	\$ 0.22	\$ 0.22	\$ 0.17	\$ 1.08
Diluted net (loss) income per share	\$ (0.11)	\$ (0.96)	\$ (0.03)	\$ 0.10	\$ 0.21	\$ 0.21	\$ 0.16	\$ 0.92

All share and per share amounts have been adjusted retroactively to reflect two-for-one stock splits effected in the form of stock dividends paid on October 11, 2000 and September 16, 1999.

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**LATTICE SEMICONDUCTOR CORPORATION**

**CONSOLIDATED BALANCE SHEET**

(IN THOUSANDS, EXCEPT SHARE AND PAR VALUE AMOUNTS)	DECEMBER 31, 2001	DECEMBER 31, 2000
	(note 1)	
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 250,203	\$ 235,900
Short-term investments	281,363	299,508
Accounts receivable, net	19,452	49,688
Inventories (note 2)	64,926	59,493
Prepaid expenses and other current assets	28,747	23,249
Deferred income taxes (note 7)	31,591	49,093
Total current assets	<u>676,282</u>	<u>716,931</u>
Foundry investments, advances and other assets (note 5)	162,418	189,407
Property and equipment, less accumulated depreciation (note 3)	63,222	68,554
Intangible assets, less accumulated amortization of \$212,002 and \$127,653 (note 4)	206,468	286,358
Deferred income taxes (note 7)	65,590	34,634
	<u>\$ 1,173,980</u>	<u>\$ 1,295,884</u>
<b>Liabilities and Stockholders' Equity</b>		
Current liabilities:		
Accounts payable and accrued expenses	\$ 20,201	\$ 74,160
Accrued payroll obligations	18,054	22,876
Income taxes payable (note 7)	2,751	9,484
Deferred income	18,103	58,184
Total current liabilities	<u>59,109</u>	<u>164,704</u>
4 ¾% Convertible notes due in 2006 (note 8)	260,000	260,000
Other long-term liabilities	15,101	15,525
Commitments and contingencies (notes 5, 6, 10 and 11)	—	—
Stockholders' equity (note 9):		
Preferred stock, \$.01 par value, 10,000,000 shares authorized; none issued and outstanding	—	—
Common stock, \$.01 par value, 300,000,000 shares authorized; 109,428,061 and 107,533,379 shares issued and outstanding	1,094	1,075
Paid-in capital	548,053	522,492
Deferred stock compensation	(2,739)	—
Other comprehensive income (loss)	22,932	(47,861)
Retained earnings	270,430	379,949
	<u>839,770</u>	<u>855,655</u>
	<u>\$ 1,173,980</u>	<u>\$ 1,295,884</u>

THE ACCOMPANYING NOTES ARE AN INTEGRAL PART OF THIS STATEMENT.

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**LATTICE SEMICONDUCTOR CORPORATION**

**CONSOLIDATED STATEMENT OF OPERATIONS**

(IN THOUSANDS, EXCEPT PER SHARE DATA)	YEAR ENDED DECEMBER 31, 2001	YEAR ENDED DECEMBER 31, 2000	NINE MONTHS ENDED DECEMBER 31, 1999
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Revenue (note 13)	\$	295,326	\$	567,759	\$	269,699
Costs and expenses:						
Cost of products sold		111,498		217,830		108,687
Research and development		71,679		77,057		45,903
Selling, general and administrative (note 12)		53,027		81,082		50,676
In-process research and development (note 4)		—		—		89,003
Amortization of intangible assets (1) (note 4)		84,349		81,873		45,780
		320,553		457,842		340,049
(Loss) income from operations		(25,227)		109,917		(70,350)
Other (expense) income, net:						
Interest income		17,733		16,202		6,057
Interest expense (note 8)		(13,962)		(14,036)		(9,732)
(Loss) gain on foundry investments (note 5)		(152,795)		149,960		—
Other income (expense), net		285		28		(445)
		(148,739)		152,154		(4,120)
(Loss) income before (benefit) provision for income taxes		(173,966)		262,071		(74,470)
(Benefit) provision for income taxes (note 7)		(64,447)		94,184		(27,989)
(Loss) income before extraordinary item		(109,519)		167,887		(46,481)
Extraordinary item, net of income taxes (note 8)		—		—		(1,665)
Net (loss) income	\$	(109,519)	\$	167,887	\$	(48,146)
Basic (loss) income per share, before extraordinary item	\$	(1.01)	\$	1.65	\$	(0.49)
Diluted (loss) income per share, before extraordinary item	\$	(1.01)	\$	1.47	\$	(0.49)
Basic net (loss) income per share	\$	(1.01)	\$	1.65	\$	(0.50)
Diluted net (loss) income per share	\$	(1.01)	\$	1.47	\$	(0.50)
Shares used in per share calculations:						
Basic		108,814		101,716		95,428
Diluted		108,814		120,321		95,428

(1) Includes \$397 of amortization of deferred stock compensation expense for the year ended December 31, 2001 attributable to Research and Development activities.

THE ACCOMPANYING NOTES ARE AN INTEGRAL PART OF THIS STATEMENT

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**LATTICE SEMICONDUCTOR CORPORATION**  
**CONSOLIDATED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY**

(IN THOUSANDS, EXCEPT PAR VALUE)	COMMON STOCK (\$0.01 PAR VALUE)		PAID-IN CAPITAL	DEFERRED STOCK COMPENSATION	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	RETAINED EARNINGS	TOTAL
	SHARES	AMOUNT					
Balances, March 31, 1999	94,388	\$ 944	\$ 222,582	\$ —	\$ —	\$ 260,208	\$ 483,734
Common stock issued	2,183	22	14,187	—	—	—	14,209
Fair value of options issued to Vantis employees	—	—	23,982	—	—	—	23,982
Tax benefit of option exercises	—	—	8,937	—	—	—	8,937
Other	—	—	57	—	—	—	57
Net loss for fiscal period 1999	—	—	—	—	—	(48,146)	—
Total comprehensive loss	—	—	—	—	—	—	(48,146)
Balances, December 31, 1999	96,571	966	269,745	—	—	212,062	482,773
Common stock issued	11,502	114	237,266	—	—	—	237,380
Repurchase of common stock	(540)	(5)	(9,375)	—	—	—	(9,380)
Tax benefit of option exercises	—	—	24,856	—	—	—	24,856
Unrealized loss on foundry investments (net of tax of \$30.0 million—note 5)	—	—	—	—	(47,861)	—	—
Net income for 2000	—	—	—	—	—	167,887	—
Total comprehensive income	—	—	—	—	—	—	120,026
Balances, December 31, 2000	107,533	1,075	522,492	—	(47,861)	379,949	855,655
Common stock issued	2,491	25	20,491	—	—	—	20,516
Repurchase of common stock	(596)	(6)	(10,608)	—	—	—	(10,614)
Tax benefit of option exercises	—	—	12,542	—	—	—	12,542
Impairment loss on foundry investments (note 5)	—	—	—	—	47,861	—	—
Unrealized gain on foundry investments (net of tax of \$13.3 million — note 5)	—	—	—	—	24,106	—	—
Deferred stock compensation	—	—	3,136	(3,136)	—	—	—
Amortization of deferred stock compensation	—	—	—	397	—	—	397
Translation adjustments	—	—	—	—	(1,174)	—	—
Net loss for 2001	—	—	—	—	—	(109,519)	—
Total comprehensive loss	—	—	—	—	—	—	(38,726)
Balances, December 31, 2001	109,428	\$ 1,094	\$ 548,053	\$ (2,739)	\$ 22,932	\$ 270,430	\$ 839,770

THE ACCOMPANYING NOTES ARE AN INTEGRAL PART OF THIS STATEMENT.

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**LATTICE SEMICONDUCTOR CORPORATION**  
**CONSOLIDATED STATEMENT OF CASH FLOWS**

(IN THOUSANDS)	YEAR ENDED DECEMBER 31, 2001	YEAR ENDED DECEMBER 31, 2000	NINE MONTHS ENDED DECEMBER 31, 1999
Cash flow from operating activities:			
Net (loss) income	\$ (109,519)	\$ 167,887	\$ (48,146)
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization	106,539	102,213	57,842
Loss (gain) on value of foundry investments	152,795	(149,960)	—
In-process research and development costs	—	—	89,003
Tax benefit of option exercises	12,542	24,856	8,937
Extraordinary item, net of income taxes	—	—	(1,665)
Changes in assets and liabilities (net of purchase accounting adjustments):			
Accounts receivable	30,236	(16,012)	(5,206)
Inventories	(5,433)	(33,457)	(884)
Prepaid expenses and other current assets	(7,327)	(2,842)	(387)
Deferred income taxes	(55,369)	15,092	(53,011)
Foundry investments, advances and other assets	(11,478)	(359)	769
Accounts payable and accrued expenses	(53,959)	(10,515)	2,054
Accrued payroll obligations	(4,822)	3,970	443
Income taxes payable	(6,733)	(2,975)	7,474
Deferred income	(40,081)	12,996	25,195
Other liabilities	(424)	3,371	7,443
Net cash provided by operating activities	6,967	114,265	89,861
Cash flow from investing activities:			
Proceeds from (purchase of) short-term investments, net	18,145	(199,192)	139,817

Acquisition of Vantis Corporation, net of cash acquired	—	—	(439,258)
Other acquisition costs	(2,233)	—	—
Intangible assets	(5,189)	4,886	—
Foundry investments	—	—	(4,593)
Capital expenditures	(13,751)	(25,883)	(15,675)
Net cash used by investing activities	(3,028)	(220,189)	(319,709)
Cash flow from financing activities:			
Proceeds from bank borrowings and convertible notes	—	—	513,000
Payments on bank borrowings	—	—	(253,000)
Debt issuance costs	—	—	(9,895)
Repurchase of common stock	(10,614)	(9,380)	—
Net proceeds from issuance of common stock	20,978	237,380	14,266
Net cash provided by financing activities	10,364	228,000	264,371
Net increase in cash and cash equivalents	14,303	122,076	34,523
Beginning cash and cash equivalents	235,900	113,824	79,301
Ending cash and cash equivalents	\$ 250,203	\$ 235,900	\$ 113,824

Supplemental disclosure of non-cash investing and financing activities:

Fair value of options issued to Vantis employees (note 4)	\$ —	\$ —	\$ 23,982
Unrealized gain (loss) on appreciation of foundry investments included in other comprehensive income (loss)	\$ 24,106	\$ (47,861)	\$ —

THE ACCOMPANYING NOTES ARE AN INTEGRAL PART OF THIS STATEMENT.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES

*Nature of Operations* Lattice Semiconductor Corporation designs, develops and markets high performance programmable logic devices, or PLDs, and related software. Programmable logic devices are widely-used semiconductor components that can be configured by the end customer as specific logic circuits, and enable the end customer to shorten design cycle times and reduce development costs. Our end customers are primarily original equipment manufacturers in the communications, computing, industrial, military and consumer end markets.

*Fiscal Reporting Period* We report based on a 52 or 53 week year ending on the Saturday closest to December 31. For ease of presentation, we have adopted the convention of using March 31, June 30, September 30 and December 31 as period end dates for all financial statement captions. In the fourth quarter of 1999, we changed our fiscal year end from March 31 to December 31. The nine month fiscal period ended January 1, 2000 is referred to as “the nine months ended December 31, 1999” or “fiscal period 1999.”

*Principles of Consolidation* On June 15, 1999, we completed the acquisition of all of the outstanding capital stock of Vantis Corporation (“Vantis”) from Advanced Micro Devices, Inc. (“AMD”). The transaction was accounted for as a purchase, and accordingly, the results of operations of Vantis and estimated fair value of assets acquired and liabilities assumed were included in our consolidated financial statements beginning June 16, 1999 (see note 4). The accompanying consolidated financial statements include the accounts of Lattice Semiconductor Corporation and its subsidiaries, all wholly-owned, after the elimination of all significant intercompany balances and transactions.

*Cash Equivalents and Short-Term Investments* We consider all highly liquid investments, which are readily convertible into cash and have original maturities of three months or less, to be cash equivalents. Short-term investments, which are relatively less liquid and have maturities of less than one year, were composed of corporate auction preferred stocks (\$160.0 million), municipal and local government obligations (\$102.1 million), and time deposits (\$19.2 million) at December 31, 2001.

We account for our short-term investments as held-to-maturity, and state them at amortized cost with corresponding premiums or discounts amortized over the life of the investment as interest income. Amortized cost approximated fair value at December 31, 2001.

*Financial Instruments* The carrying value of our financial instruments approximates fair value except the restricted portion of our foundry investment in Taiwan, which is carried at cost (see note 5). We estimate the fair value of cash and cash equivalents, short-term investments, accounts receivable, other current assets and current liabilities based upon existing interest rates related to such assets and liabilities compared to the current market rates of interest for instruments of similar nature and degree of risk.

*Derivative Financial Instruments* As of December 31, 2001, 2000 and 1999 and for the fiscal periods then ended, we had no outstanding derivatives, including foreign exchange contracts for the purchase or sale of foreign currencies. We do not enter into derivative financial instruments for trading purposes.

*Foreign Exchange* A portion of our silicon wafer purchases are denominated in Japanese yen. We maintain yen-denominated bank accounts and bill our Japanese customers in yen. The yen bank deposits utilized to hedge yen-denominated wafer purchases are accounted for as identifiable hedges against specific and firm wafer purchases. Gains or losses from foreign exchange rate fluctuations on unhedged balances denominated in foreign currencies are reflected in Other Income. Realized and unrealized gains or losses were not significant for the fiscal periods presented.

*Concentrations of Credit Risk* Financial instruments which potentially expose us to concentrations of credit risk consist primarily of short-term investments and trade receivables. We place our investments through several financial institutions and mitigate the concentration of credit risk by placing percentage limits on the maximum portion of the investment portfolio which may be invested in any one investment instrument. Investments consist primarily of A1 and P1 or better rated U.S. commercial paper, U.S. government agency obligations and other money market instruments, “AA” or better rated municipal obligations, money market preferred stocks and other time deposits. Concentrations of credit risk with respect to trade receivables are mitigated by a geographically diverse customer base and our credit and collection process. Accounts receivable are shown net of allowances for doubtful accounts of \$1,475,000 and \$1,700,000 at December 31, 2001 and 2000, respectively. We perform credit evaluations for all customers and secure transactions with letters of credit or advance payments where necessary. Write-offs for uncollected trade receivables have not been significant to date.

*Revenue Recognition* Revenue from direct customers is recognized upon shipment provided that persuasive evidence of a sales arrangement exists, the price is fixed, title has transferred, collection of resulting receivables is probable, there are no customer acceptance requirements and no remaining significant obligations. Certain of our sales are made to distributors under agreements providing price protection and right of return on unsold merchandise. Revenue and cost relating to such distributor sales are deferred until the product is sold by the distributor and related revenue and costs are then reflected in income.

*Inventories and Inventory Valuation Allowances* Inventories are stated at the lower of first-in, first-out cost or market on a quarterly basis. In addition, we establish reserves for unproven, excess and obsolete inventories.

*Long-Lived Assets* We account for our long-lived assets, primarily Property and equipment and Intangible assets, in accordance with Statement of Financial Accounting Standards No. 121 (SFAS 121), “Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed of,” which requires us to review the impairment of long-lived assets whenever events or changes in circumstances

indicate that the carrying amount of an asset may not be recoverable. Impairment is measured by comparing the estimated undiscounted cash flows to the carrying amount. A loss is recorded if the carrying amount of the asset exceeds the estimated undiscounted cash flows.

*Property and Equipment* Property and equipment are stated at cost. Depreciation is computed using the straight-line method for financial reporting purposes over the estimated useful lives of the related assets, generally three to five years for equipment and software and thirty years for buildings. Accelerated methods of computing depreciation are generally used for income tax purposes.

*Intangible Assets* Intangible assets consist of goodwill and other intangibles related to our acquisition of Vantis Corporation (see note 4) and the acquisition of Integrated Intellectual Property, Inc. (“IIP”) on March 16, 2001. These assets are generally being amortized over five years, and fifteen years for income tax purposes, on a straight-line basis. The undiscounted cash flows method is used to assess the carrying value of goodwill (see note 5 and *New Accounting Pronouncements* in this footnote).

*Translation of Foreign Currencies* We translate accounts denominated in foreign currencies in accordance with SFAS 52, “Foreign Currency Translation.” Translation adjustments related to the consolidation of foreign subsidiary financial statements are reflected in other comprehensive income (loss) in Stockholders’ Equity. Foreign currency transaction gains and losses, which were insignificant for the fiscal periods presented, are included in other income.

*Research and Development* Research and development costs are expensed as incurred.

*Stock-Based Compensation* We account for our employee and director stock options and employee stock purchase plan in accordance with provisions of Accounting Principles Board Opinion No. 25 (“APB 25”), “Accounting for Stock Issued to Employees.” Additional pro forma disclosures as required under SFAS 123, “Accounting for Stock-Based Compensation,” are presented in note 9. Pursuant to FASB Interpretation No. 44, “Accounting for Certain Transactions Involving Stock Based Compensation — an interpretation of APB Opinion No. 25,” effective July 1, 2000, the “in-the-money” portion of stock options granted to employees in connection with acquisitions is accounted for as Deferred stock compensation in Stockholders’ Equity and amortized to operations over the vesting periods of the options.

*Net Income Per Share* Net income per share is computed based on the weighted average number of shares of common stock and potentially dilutive securities assumed to be outstanding during the period using the treasury stock method. Potentially dilutive securities consist of stock options, warrants to purchase common stock and convertible subordinated notes.

The most significant difference between basic and diluted net income per share is that basic net income per share does not treat potentially dilutive securities such as convertible subordinated notes, options and warrants as outstanding. Diluted loss per common share for 2001 and fiscal period 1999 is based only on the weighted average number of common shares outstanding during these periods, as the inclusion of options, warrants and convertible subordinated notes would have been antidilutive. For 2000, diluted weighted-average shares outstanding include the effect of stock options, warrants and approximately 12.5 million shares issuable on the assumed conversion of our \$260 million of convertible subordinated notes (see note 8). For 2000, diluted net income per share is adjusted to exclude interest expense and debt issuance cost amortization (net of tax) of approximately \$8.3 million and \$1.2 million, respectively. A reconciliation of the numerators and denominators of basic and diluted net income per share is presented below:

(IN THOUSANDS, EXCEPT FOR PER SHARE DATA)	YEAR ENDED DEC. 31, 2001	YEAR ENDED DEC. 31, 2000	NINE MONTHS ENDED DEC. 31, 1999
Basic and diluted net (loss) income	\$ (109,519)	\$ 167,887	\$ (48,146)
Shares used in basic net income per share calculations	108,814	101,716	95,428

Dilutive effect of stock options, warrants and convertible notes	—	18,605	—
Shares used in diluted net income per share calculations	108,814	120,321	95,428
Basic net (loss) income per share	\$ (1.01)	\$ 1.65	\$ (0.50)
Diluted net (loss) income per share	\$ (1.01)	\$ 1.47	\$ (0.50)

On August 31, 2000 our Board of Directors approved a two-for-one stock split of our common stock to be effected in the form of a stock dividend of one share of common stock for each share of our outstanding common stock. This dividend was paid on October 11, 2000 to stockholders of record on September 20, 2000. On August 11, 1999 our Board of Directors approved a two-for-one stock split of our common stock to be effected in the form of a stock dividend of one share of common stock for each share of our outstanding common stock. All share and per share amounts presented in the accompanying consolidated financial statements and notes thereto have been adjusted retroactively to reflect these two-for-one splits.

In July 2000, we completed a follow-on public stock offering, consisting of 8,000,000 shares of our common stock at a price of \$27.44 per share. Our net proceeds were approximately \$210 million after deducting underwriting discounts and offering expenses.

**Comprehensive Income (Loss)** Comprehensive income (loss) approximated net income (loss) for fiscal period 1999. For 2000, comprehensive income consists primarily of net income of \$167.9 million and an unrealized loss on depreciation of unrestricted foundry investments (net of tax) of approximately \$47.9 million (see note 5). For 2001, comprehensive income consists primarily of net loss of \$109.5 million offset by an unrealized gain recorded related to the market value appreciation of our unrestricted foundry investments (net of tax) of approximately \$72.0 million (see note 5).

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**Statement of Cash Flows** Income taxes paid approximated \$7.3 million, \$55.9 million and \$10.1 million in 2001, 2000, and fiscal period 1999, respectively. Interest paid aggregated approximately \$12.4 million, \$12.3 million and \$6.9 million in 2001, 2000, and fiscal period 1999, respectively.

**Use of Estimates** The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets, such as accounts receivable, inventory and deferred income taxes and liabilities, such as accrued liabilities, income taxes and deferred income, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the fiscal periods presented. Actual results could differ from those estimates.

**New Accounting Pronouncements** In June 1998, the FASB issued SFAS 133, "Accounting for Derivative Instruments and Hedging Activities." SFAS 133 establishes new accounting treatment for derivatives and hedging activities and supersedes and amends a number of existing accounting standards. We adopted this pronouncement in the first quarter of 2001; such adoption did not and has not had a material effect on the consolidated financial statements.

In June 2001, the FASB issued SFAS 142, "Goodwill and Other Intangible Assets," which supersedes APB Opinion No. 17, "Intangible Assets." SFAS 142, among other things, establishes new standards for intangible assets acquired in a business combination, eliminates amortization of goodwill and sets forth requirements to periodically evaluate goodwill for impairment. We will adopt this statement during the first quarter of 2002, at which time goodwill and certain intangibles with indefinite lives will no longer be amortized, eliminating approximately \$8 million of existing quarterly amortization. Amortization expense for the fourth quarter of 2001 and for the year ended December 31, 2001 was approximately \$21.3 million and \$84.3 million, respectively. As of December 31, 2001, the consolidated balance sheet caption "Intangible Assets" included approximately \$81.4 million of goodwill and \$125.1 million of other intangible assets. We will complete an initial goodwill impairment assessment in 2002 to determine if a transition impairment charge should be recognized under SFAS 142. We do not anticipate a material impairment charge upon the completion of the initial impairment review.

In October 2001, the FASB issued SFAS 144, "Accounting for the Disposal of Long-Lived Assets," which supersedes SFAS 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of." SFAS 144 retains the fundamental provisions of SFAS 121 regarding the recognition and measurement of the impairment of long-lived assets to be held and used and the measurement of long-lived assets to be disposed by sale, but provides additional definition and measurement criteria for determining when an impairment has occurred. Goodwill and financial assets are excluded from the scope of SFAS 144, however, amortizable intangible assets fall within its scope. We do not expect this pronouncement to materially affect our financial statements when we adopt it during the first quarter of 2002.

**Financial presentation** Reclassifications of prior year balances included in our consolidated financial statements have been made to conform to the 2001 presentation. Such reclassifications had no effect on the results of operations or on Stockholders' Equity.

#### NOTE 2. INVENTORIES

(IN THOUSANDS)	DECEMBER 31,			
	2001	2000	2000	1999
Work in progress	\$ 44,460	\$ 37,718		
Finished goods	20,466	21,775		
	\$ 64,926	\$ 59,493		

#### NOTE 3. PROPERTY AND EQUIPMENT

(IN THOUSANDS)	DECEMBER 31,			
	2001	2000	2000	1999
Land	\$ 2,099	\$ 2,099		
Buildings	24,703	24,703		
Computer and test equipment	109,606	103,454		
Office furniture and equipment	9,452	8,750		
Leasehold and building improvements	13,513	12,823		
	159,373	151,829		
Accumulated depreciation and amortization	(96,151)	(83,275)		
	\$ 63,222	\$ 68,554		

Depreciation expense was approximately \$19.1 million, \$17.1 million and \$10.4 million for 2001, 2000 and fiscal period 1999, respectively.

#### NOTE 4. ACQUISITION OF VANTIS

On June 15, 1999, we paid approximately \$500.1 million in cash to AMD for all of the outstanding capital stock of Vantis Corporation. Additionally, we paid approximately \$10.8 million in direct acquisition costs, accrued an additional \$5.4 million of pre-acquisition contingencies, accrued \$8.3 million in exit costs and assumed certain liabilities of \$34.5 million related to the Vantis business. This purchase was financed using a combination of cash reserves and a credit facility bearing interest at adjustable rates (see note 8). In addition, we exchanged Lattice stock options for all of the options outstanding under the former Vantis employee stock plans with a calculated Black-Scholes value of approximately \$24.0 million. The total purchase price of Vantis was \$583.1 million. The purchase price was allocated to the estimated fair value of assets acquired and liabilities assumed based on an independent appraisal and management estimates. The total purchase price was allocated as follows:

(IN MILLIONS)		
Current technology	\$	210.3
Excess of purchase price over net assets assumed		158.8
In-process research and development		89.0
Fair value of other tangible net assets		61.3
Assembled workforce, customer list, patents and trademarks		53.5
Fair value of property, plant and equipment		10.2
Total	\$	583.1

Accrued exit costs recorded at June 15, 1999 in conjunction with the acquisition aggregated approximately \$8.3 million. We recorded \$4.2 million in accrued costs related to Vantis office closures, primarily for the planned closure of the main Vantis facilities in Sunnyvale, California. These closures were consummated in accordance with plans in June 2000. We also recorded \$2.5 million related to separation benefits for

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Vantis employees. Payments of approximately \$1.4 million were made to Vantis employees who terminated for merger related reasons and have been charged to this accrued liability. If these employees had not terminated, substantially all of the related costs would have been charged to selling, general and administrative expenses. We reversed the remaining portion of this accrued liability during the June 2000 quarter, with an offsetting credit to Intangible Assets (Goodwill). Additionally, we recorded and incurred \$1.6 million in other exit costs primarily relating to the termination of Vantis distributors and independent sales representative firms. Approximately \$1.2 million of such costs had been charged to this accrued liability as of December 31, 2000. These accruals are based upon our current estimates and are in accordance with Emerging Issues Task Force ("EITF") No. 95-3, "Recognition of Liabilities in Connection with a Purchase Business Combination." There are no significant remaining exit cost liabilities at December 31, 2001.

**In-Process Research and Development ("IPR&D")** The value assigned to IPR&D was determined by identifying individual research projects for which technological feasibility had not been established. These included semiconductor projects with a value after application of the SEC's IPR&D valuation methodology of \$77.2 million and a process technology project with a value of \$11.8 million. The value of each project was determined by estimating the expected cash flows from the projects once commercially viable, applying a factor based on the stage of completion of each project so as to include only those cash flows that relate to development efforts prior to the acquisition date, and discounting the resulting net cash flows back to their present value. The percentage of completion for each project was determined using proportionate cost incurred and technical milestones achieved to date. The percentage of completion varied by individual project ranging from 50% to 69% for semiconductors on June 15, 1999. The process technology project was estimated to be 90% complete on June 15, 1999. Since June 15, 1999, there have been no significant changes in the assumptions underlying these valuations.

The semiconductor projects were related to new PLD products (requiring new architectures and process technologies) and had the attendant risks associated with development of advanced semiconductor circuit designs such as achievement of speed, power, density, reliability and cost goals. All of the semiconductor projects had remaining risks related to achievement of these design goals and effective software integration. In addition, certain projects had basic circuit design and layout activities which had not been completed as of June 15, 1999. These semiconductor projects were released to market beginning in the first half of 2000 and continuing through 2001. Estimated costs to complete all in-process semiconductor projects at June 15, 1999 totaled \$19.0 million and ranged from \$0.2 million to \$16.5 million.

The process technology project was related to the development of a new advanced manufacturing process to reduce transistor size, improve speed and lower power consumption. Through June 15, 1999, transistor design, lithography and metalization process development, process integration and certain transistor size reduction plans had been achieved. Development of packaging integration technology, achievement of manufacturability yield objectives, satisfaction of reliability standards and qualification testing had not been accomplished at June 15, 1999. The process was qualified for initial production in the first quarter of 2000 with approximately \$450,000 of costs incurred after June 15, 1999 out of a total of \$4 million of estimated costs. This process technology is expected to remain in production through 2004.

The estimated costs to develop the in-process research and development into commercially viable products at June 15, 1999 were approximately \$19.4 million in aggregate — \$4.7 million in 1999 subsequent to our acquisition, \$10.0 million in 2000, and \$4.7 million in 2001.

*Useful Lives of Intangible Assets* The estimated weighted average useful life of the intangible assets for current technology, assembled workforce, customer lists, trademarks, patents and residual goodwill, created as a result of the acquisition, is approximately five years (see note 1—*New Accounting Pronouncements*).

*Pro forma Results* The following pro forma results of operations information is provided for illustrative purposes only and do not purport to be indicative of the consolidated results of operations for future periods or that actually would have been realized had Lattice and Vantis been a consolidated entity during the periods presented. These pro forma results do not include the effect of non-recurring purchase accounting adjustments. The pro forma results combine the results of operations as if Vantis had been acquired as of the beginning of the periods presented. The results include the impact of certain adjustments such as goodwill amortization, estimated changes in interest income (expense) related to cash outlays and borrowings associated with the transaction (see note 8) and income tax benefits related to the aforementioned adjustments. Additionally, the in-process research and development charge of \$89.0 million discussed above has been excluded from the periods presented due to its non-recurring nature:

(IN THOUSANDS, EXCEPT PER-SHARE AMOUNTS)	PROFORMA RESULTS (UNAUDITED) NINE MONTHS ENDED DEC. 31, 1999	
Revenue	\$	314,394
Income before extraordinary item	\$	2,017
Net income	\$	352
Basic net income per share	\$	0.00
Diluted net income per share	\$	0.00

#### NOTE 5. FOUNDRY INVESTMENTS, ADVANCES AND OTHER ASSETS

(IN THOUSANDS)	DECEMBER 31,			
	2001		2000	
Foundry investments and other assets	\$	124,870	\$	153,665
Wafer supply advances		37,548		35,742
	\$	162,418	\$	189,407

In 1995, we entered into a series of agreements with United Microelectronics Corporation (“UMC”), a public Taiwanese company, pursuant to which we agreed to join UMC and several other companies to form a separate Taiwanese corporation, (“UICC”), for the purpose of building and operating an advanced semiconductor manufacturing facility in Taiwan, Republic of China. Under the terms of the agreements, we invested approximately \$49.7 million for an approximate 10% equity interest in the corporation and the right to receive a percentage of the facility’s wafer production at market prices.

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In 1996, we entered into an agreement with Utek Corporation (“Utek”), a public Taiwanese company in the wafer foundry business that became affiliated with the UMC group in 1998, pursuant to which we agreed to make a series of equity investments in Utek under specific terms. In exchange for these investments, we received the right to purchase a percentage of Utek’s wafer production. Under this agreement, we invested approximately \$175 million.

On January 3, 2000, UICC and Utek merged into UMC. As a result, during the first quarter of 2000, we recognized a \$150.0 million gain (\$92.1 million after-tax) in income representing the equity market appreciation of our foundry investment in UICC and Utek. During 2000, we subsequently recorded unrealized gains and losses related to this investment due to changes in the market value of our unrestricted UMC shares, to equity as Accumulated Other Comprehensive Loss. These unrealized losses in 2000 totaled \$77.9 million (\$47.9 million net of tax).

During the quarter ended September 30, 2001, we recorded a \$152.8 million charge to our Consolidated Statement of Operations (\$94.9 million net of tax) representing what we believe to be an other than temporary decline in the market value of this investment since the recording of the \$150.0 million gain in the first quarter of 2000. The charge includes the \$77.9 million in unrealized losses (\$47.9 million after tax) previously reflected in Accumulated Other Comprehensive Loss. During the quarter ended December 31, 2001, we recorded a \$37.4 million unrealized gain (\$24.1 million net of tax), representing the appreciation of the unrestricted UMC shares during the quarter, as Accumulated Other Comprehensive Income.

We currently own approximately 84 million shares of UMC common stock. Restrictions by UMC and the Taiwan government apply to approximately 28% of these shares. If we liquidate our UMC shares, it is likely that the amount of any future realized gain or loss will be different from the accounting gain or loss reported in prior periods.

In March 1997, and as subsequently amended in January 2002, we entered into an advance payment production agreement with Seiko Epson and Epson Electronics America, Inc. (“EEA”) under which we agreed to advance approximately \$69 million, payable upon completion of specific milestones, to Seiko Epson to finance construction of an eight-inch sub-micron semiconductor wafer manufacturing facility. Under the terms of the agreement, the advance is to be repaid with semiconductor wafers over a multi-year period. No interest income is recorded. The agreement calls for wafers to be supplied by Seiko Epson through EEA pursuant to purchase agreements with EEA. Payments of approximately \$51.2 million have been made under this agreement. Approximately \$3.4 million of these advances are expected to be repaid with semiconductor wafers during fiscal year 2002 and are thus reflected as part of “Prepaid expenses and other current assets” in our accompanying Consolidated Balance Sheet.

#### NOTE 6. LEASE OBLIGATIONS

Certain of our facilities and equipment are leased under operating leases, which expire at various times through 2008. Rental expense under the operating leases was approximately \$5,078,000, \$5,469,000 and \$2,822,000 for 2001, 2000 and fiscal period 1999, respectively. Future minimum lease commitments at December 31, 2001 are as follows:

FISCAL YEAR	(IN THOUSANDS)	
2002	\$	7,418
2003		6,903
2004		6,509
2005		5,903
2006		4,628
Later years		8,111
	\$	39,472

Included in these amounts are certain properties which are currently subleased. A portion of this sublease income is payable to the property owner. Future minimum sublease receipts based on agreements in place at December 31, 2001, net of such payments are as follows:

FISCAL YEAR	(IN THOUSANDS)	
2002	\$	2,623
2003		2,473
2004		2,555
2005		2,622
2006		886
	\$	11,159

#### NOTE 7. INCOME TAXES

The components of the (benefit) provision for income taxes for 2001, 2000, and fiscal period 1999 are presented in the following table:

(IN THOUSANDS)	YEAR ENDED DEC. 31, 2001	YEAR ENDED DEC. 31, 2000	NINE MONTHS ENDED DEC. 31, 1999
Current:			
Federal	\$ (7,018)	\$ 68,791	\$ 24,721

State	(2,087)	8,414	1,706
	(9,105)	77,205	26,427
Deferred:			
Federal	(47,482)	14,925	(50,967)
State	(7,860)	2,054	(3,449)
	(55,342)	16,979	(54,416)
	\$ (64,447)	\$ 94,184	\$ (27,989)

Foreign income taxes were not significant for the fiscal periods presented.

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The (benefit) provision for income taxes differs from the amount of income tax determined by applying the applicable U.S. statutory federal income tax rate to pretax income as a result of the following differences:

(IN THOUSANDS)	YEAR ENDED DEC. 31, 2001	YEAR ENDED DEC. 31, 2000	NINE MONTHS ENDED DEC. 31, 1999
Computed income tax (benefit) expense at the statutory rate	\$ (60,886)	\$ 91,725	\$ (26,064)
Adjustments for tax effects of:			
State taxes, net	(6,466)	6,805	(1,133)
Research and development credits	(1,175)	(808)	(400)
Nontaxable investment items	4,177	(3,976)	(1,113)
Other	(97)	438	721
	\$ (64,447)	\$ 94,184	\$ (27,989)

The components of our net deferred tax assets are as follow:

(IN THOUSANDS)	DECEMBER 31,	
	2001	2000
Current deferred tax assets:		
Deferred income	\$ 5,929	\$ 22,110
Expenses and allowances not currently deductible	25,662	26,983
	\$ 31,591	\$ 49,093
Non-current deferred tax assets:		
Intangible asset charges not currently deductible	\$ 70,011	\$ 56,708
Expenses and allowances not currently deductible	5,576	3,920
Other	3,333	1,910
Total deferred tax assets	78,920	62,538
Non-current deferred tax liabilities:		
Tax effect on net unrealized gain on market value of foundry investments	(13,330)	(27,904)
Net non-current deferred tax assets	\$ 65,590	\$ 34,634

In conjunction with the \$150.0 million pre-tax gain on our foundry investments as discussed in note 5, we recorded a deferred tax liability of approximately \$57.9 million. This deferred tax liability has been adjusted for subsequent recorded gains and losses related to these investments. The remaining deferred tax liability related to our foundry investments, aggregating approximately \$13.3 million, is netted against non-current deferred tax assets as summarized above.

Prior to fiscal period 1999, we recorded valuation allowances to reduce deferred tax assets which could only be realized by earning taxable income in distant future years. We established the valuation allowances because we could not determine if it was more likely than not that such income would be earned. Management now believes that it is more likely than not that such taxable income will be earned, and therefore, no valuation allowance has been provided. The effect of this change in estimate was recorded in the first quarter of fiscal period 1999, and is included in the deferred tax benefit of \$54.4 million for fiscal period 1999.

#### NOTE 8. LONG-TERM DEBT

On October 28, 1999, we issued \$260 million in 4 <sup>3</sup>/<sub>4</sub> convertible subordinated notes due on November 1, 2006. These notes pay interest semi-annually on May 1 and November 1. Holders of these notes may convert them into shares of our common stock at any time on or before November 1, 2006, at a conversion price of \$20.72 per share, subject to adjustment in certain events. Beginning on November 6, 2002 and ending on October 31, 2003, we may redeem the notes in whole or in part at a redemption price of 102.71% of the principal amount. In the subsequent three twelve-month periods, the redemption price declines to 102.04%, 101.36% and 100.68% of principal, respectively. The notes are subordinated in right of payment to all of our senior indebtedness, and are subordinated by operation of law to all liabilities of our subsidiaries. At December 31, 2001, we had no senior indebtedness and our subsidiaries had \$2.5 million of debt and other liabilities outstanding. Issuance costs relative to the convertible subordinated notes are included in Other Assets and aggregated approximately \$6.9 million and are being amortized to expense over the lives of the notes. Accumulated amortization of these issuance costs amounted to approximately \$3.6 million at December 31, 2001. The estimated fair value of the convertible subordinated notes, based on quoted market prices, was approximately \$315.9 million and \$285.7 million at December 31, 2001 and December 31, 2000, respectively.

On June 15, 1999, we entered into a credit agreement with a group of lenders and ABN AMRO Bank N.V. as administrative agent for the lender group. The credit agreement consisted of two credit facilities: a \$60 million unsecured revolving credit facility ("Revolver"), and a \$220 million unsecured reducing term loan ("Term Loan"), both expiring and due on June 30, 2002. On June 15, 1999, we borrowed \$220 million under the Term Loan and approximately \$33 million under the Revolver. The \$33 million Revolver was repaid in full during the third calendar quarter of 1999.

In conjunction with the issuance of the convertible subordinated notes, we repaid the \$220 million Term Loan in full during the fourth calendar quarter of 1999. Remaining unamortized loan fees at the time of repayment, aggregating approximately \$2.6 million (\$1.665 million net of income taxes or a charge of \$0.02 for basic and diluted earnings per share), were written off and are reflected in the accompanying Consolidated Statement of Operations as an Extraordinary Item, Net of Income Taxes.

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#### NOTE 9. STOCKHOLDERS' EQUITY

**Common Stock** In December 2000, our Board of Directors authorized management to repurchase up to five million shares of our common stock. As of December 31, 2001, we had repurchased 1,136,000 shares (596,000 in 2001) at an aggregate cost of approximately \$20.0 million (\$10.6 million in 2001).

**Stock Warrants** As of December 31, 2001, we have issued warrants to purchase 2,922,531 shares of common stock to a vendor. Of this amount, 2,532,768 warrants were issued and 1,856,500 exercised prior to fiscal period 1999. During fiscal period 1999, a warrant was issued to purchase 220,200 shares of common stock, earned ratably from March 1999 to February 2000. Additionally, the vendor exercised warrants for 269,716 shares at \$8.50 per share. During 2000, a warrant was issued to purchase 74,000 shares of common stock, earned ratably from March 2000 to February 2001. During 2001, a warrant was issued to purchase 95,563 shares of common stock, earned ratably from March 2001 to February 2002. Expense recorded in conjunction with the vesting of warrants by this vendor was not material.

**Stock Option Plans** As of December 31, 2001, we had reserved 9,000,000 and 17,200,000 shares of common stock for issuance to officers and key employees under our 2001 Stock Option Plan and 1996 Stock Option Plan, respectively. The 2001 Plan options are granted at fair value at the date of grant, generally vest over four years in increments as determined by the Board of Directors and have terms up to ten years. The 1996 Plan options are typically granted at fair value at the date of grant, generally vest over four years in increments as determined by the Board of Directors and have terms up to ten years.

In conjunction with the acquisition of I2P on March 16, 2001, we exchanged 223,276 Lattice stock options for all of the options outstanding under the I2P stock option plans. These options generally vest over four years and have terms of 10 years. Additionally, on June 16, 1999, we exchanged 4,720,544 Lattice stock options for all of the options outstanding under the former Vantis stock option plans. These options generally vest over four years and have terms of ten years.

The 2001 Directors' Stock Option Plan, which replaced the 1993 Directors' Stock Option Plan, provides for the issuance of stock options to members of our Board of Directors who are not employees of Lattice; 1,000,000 shares of our Common Stock are reserved for issuance thereunder. These options are granted at fair value at the date of grant and become exercisable quarterly over a one year period beginning three years after the date of grant and expire ten years from the date of grant.

The following table summarizes our stock option activity and related information for the past three fiscal periods:

(NUMBER OF SHARES IN THOUSANDS)	YEAR ENDED DECEMBER 31, 2001		YEAR ENDED DECEMBER 31, 2000		NINE MONTHS ENDED DECEMBER 31, 1999	
	NUMBER OF SHARES UNDER OPTION	WEIGHTED- AVERAGE EXERCISE PRICE	NUMBER OF SHARES UNDER OPTION	WEIGHTED- AVERAGE EXERCISE PRICE	NUMBER OF SHARES UNDER OPTION	WEIGHTED- AVERAGE EXERCISE PRICE
Options outstanding at beginning of fiscal period	17,008	\$ 14.95	16,444	\$ 9.80	11,748	\$ 7.86
Options granted	5,713	22.16	5,170	27.31	7,704	12.04
Options canceled	(399)	17.81	(1,306)	13.22	(1,072)	9.94



Options exercised	(2,247)	\$	8.15	(3,300)	9.32	(1,936)	6.87
Options outstanding at end of fiscal period	20,075	\$	17.71	17,008	\$	14.95	16,444 \$ 9.80

The following table summarizes information about stock options outstanding at December 31, 2001:

(NUMBER OF SHARES IN THOUSANDS)	OPTIONS OUTSTANDING				OPTIONS EXERCISABLE	
	RANGE OF EXERCISE PRICES	NUMBER OF SHARES	WEIGHTED-AVERAGE REMAINING CONTRACT LIFE (IN YEARS)	WEIGHTED-AVERAGE EXERCISE PRICE	NUMBER OF SHARES	WEIGHTED-AVERAGE EXERCISE PRICE
\$ 1.88 — \$7.88	4,701	0.78	\$	7.75	3,468	\$ 7.79
\$ 7.89 — \$13.32	2,800	1.42		10.44	1,795	10.16
\$ 13.33 — \$21.38	3,925	2.41		15.99	1,370	15.33
\$ 21.39 — \$24.91	3,914	3.57		24.86	222	24.83
\$ 24.92 — \$32.25	4,735	2.52		27.40	1,566	27.62
	20,075	2.14	\$	17.71	8,421	\$ 13.66

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**Stock Purchase Plan** Our employee stock purchase plan, most recently approved by the stockholders in August 1997, permits eligible employees to purchase shares of common stock through payroll deductions, not to exceed 10% of the employee's compensation. The purchase price of the shares is the lower of 85% of the fair market value of the stock at the beginning of each six-month period or 85% of the fair market value at the end of such period, but in no event less than the book value per share at the mid-point of each offering period. Amounts accumulated through payroll deductions during the offering period are used to purchase shares on the last day of the offering period. Of the 2,800,000 shares authorized to be issued under the plan, 203,049, 200,072, and 78,580 shares were issued during 2001, 2000 and fiscal period 1999, respectively, and 353,719 shares were available for issuance at December 31, 2001.

**Pro forma Disclosures** We account for our stock options and employee stock purchase plan in conformity with APB 25 and have adopted the additional pro forma disclosure provisions of SFAS 123. The fair value, as defined by SFAS 123, for stock options and employee stock plan purchase rights was estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	GRANTS FOR PERIODS ENDED		
	DEC. 31, 2001	DEC. 31, 2000	DEC. 31, 1999
Stock options:			
Expected volatility	56.1%	53.9%	41.4%
Risk-free interest rate	3.9%	6.3%	5.9%
Expected life from vesting date	1.9 years	1.8 years	1.6 years
Dividend yield	0%	0%	0%
Stock purchase rights:			
Expected volatility	53.3%	46.6%	52.8%
Risk-free interest rate	4.65%	6.3%	5.3%
Expected life	6 months	6 months	6 months
Dividend yield	0%	0%	0%

The Black-Scholes option pricing model was developed for use in estimating the fair value of freely tradable, fully transferable options without vesting restrictions. Our stock options have characteristics which differ significantly from those of freely tradable, fully transferable options. The Black-Scholes option pricing model also requires highly subjective assumptions, including expected stock price volatility and expected stock option term which greatly affect the calculated fair value of an option. Our actual stock price volatility and option term may be materially different from the assumptions used herein.

The resultant grant date weighted-average fair values calculated using the Black-Scholes option pricing model and the noted assumptions for stock options granted was \$10.29, \$13.13 and \$5.71, and for stock purchase rights \$5.92, \$7.79 and \$3.87, for 2001, 2000, and fiscal period 1999, respectively. For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period.

Our pro forma information is as follows:

(IN THOUSANDS, EXCEPT PER SHARE DATA)	YEAR ENDED DEC. 31, 2001	YEAR ENDED DEC. 31, 2000	NINE MONTHS ENDED DEC. 31, 1999
Pro forma net (loss) income	\$ (132,133)	\$ 147,884	\$ (56,337)
Pro forma basic (loss) earnings per share	\$ (1.22)	\$ 1.46	\$ (0.59)
Pro forma diluted (loss) earnings per share	\$ (1.22)	\$ 1.31	\$ (0.59)

Because the SFAS 123 pro forma disclosure applies only to options granted subsequent to April 1, 1995, its pro forma effect was not fully reflected until 2000.

#### NOTE 10. EMPLOYEE BENEFIT PLANS

**Profit Sharing Plan** We initiated a profit sharing plan effective April 1, 1990. Under the provisions of this plan, as approved by the Board of Directors, a percentage of our operating income, as defined and calculated at the end of March and September for the prior six-month period, is paid to qualified employees. In 2001, 2000, and fiscal period 1999, approximately \$2.1 million, \$6.7 million, and \$2.6 million, respectively, was charged against operations in connection with the plan.

**Qualified Investment Plan** In 1990, we adopted a 401(k) plan, which provides participants with an opportunity to accumulate funds for retirement. Under the terms of the plan, eligible participants may contribute up to 15% of their eligible earnings to the plan Trust. The plan allows for us to make discretionary matching contributions. For the fiscal periods presented, matching contributions of up to 5% of base pay, vesting over four years, were made through the second quarter of 2001. Expense related to our matching contributions was approximately \$1.0 million, \$1.8 million and \$0.9 million, respectively, for 2001, 2000 and fiscal period 1999.

#### NOTE 11. COMMITMENTS AND CONTINGENCIES

We are exposed to certain asserted and unasserted potential claims. Patent and other proprietary rights infringement claims are common in the semiconductor industry. There can be no assurance that, with respect to potential claims made against us, that we could obtain a license on terms or under conditions that would not have a material adverse effect on our financial position, cash flows or results of operations.

In connection with our 1999 acquisition of Vantis, we agreed to assume both the claims against Altera and the claims by Altera against AMD in the case captioned Advanced Micro Devices, Inc. V. Altera Corporation (Case No. C-94-20567-RMW) proceeding in the United States District Court for the Northern District of California. This litigation, which began in 1994, involved multiple claims and counterclaims for patent infringement relating to Vantis and Altera programmable logic devices and both parties were seeking damages and injunctive relief.

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On July 23, 2001, we and Altera announced a comprehensive, royalty-free patent cross-license agreement and a multi-year patent peace agreement. In addition, we and Altera each agreed to dismiss all patent infringement suits against each other without any admission of liability. No payments were exchanged as part of the settlement.

#### NOTE 12. RELATED PARTY

Larry W. Sonsini is a member of our Board of Directors and is presently the Chairman and CEO of Wilson Sonsini Goodrich & Rosati, Professional Corporation, a law firm that provides us with corporate legal services. Legal services billed to Lattice aggregated approximately \$1,314,000, \$373,000, and \$1,086,000, respectively, for 2001, 2000 and fiscal period 1999. Amounts payable to the law firm were not significant at December 31, 2001 or 2000, respectively.

#### NOTE 13. SEGMENT AND GEOGRAPHIC INFORMATION

We operate in one industry segment comprising the design, development, manufacture and marketing of high performance programmable logic devices. Our sales by major geographic area were as follows:

(IN THOUSANDS)	YEAR ENDED DEC. 31, 2001	YEAR ENDED DEC. 31, 2000	NINE MONTHS ENDED DEC. 31, 1999
United States	\$ 135,832	\$ 245,882	\$ 126,333
Export sales:			
Europe	81,177	158,591	70,641
Asia	62,582	120,285	55,003

Other	15,735	43,001	17,722
	159,494	321,877	143,366
	\$ 295,326	\$ 567,759	\$ 269,699

Resale of product through two distributors accounted for approximately 29% and 20%, 23% and 18%, and 20% and 15%, for 2001, 2000, and fiscal period 1999, respectively. No individual customer accounted for more than 10% of revenue for any of the fiscal periods presented. More than 90% of our property and equipment is located in the United States. Other long-lived assets located outside the United States consist primarily of foundry investments and advances (see note 5).

#### NOTE 14. ACQUISITION

On December 10, 2001, we announced a definitive agreement to acquire the FPGA business of Agere Systems, Inc. for \$250 million in cash. This acquisition was completed on January 18, 2002 and financed with cash on hand. The transaction will be accounted for as a purchase.

The acquisition includes a general purpose ORCA<sup>®</sup> FPGA product portfolio, a field programmable system chip (FPSC) product portfolio and all related software design tools. In addition, we acquired certain intellectual property cores and patents unique to Agere's FPGA business and also entered into a cross-license agreement with Agere covering certain FPGA and FPSC patents, intellectual property and technology. As part of the transaction, we also hired approximately 100 Agere product development, marketing and technical sales employees.

The \$250 million purchase price, associated costs and assumed liabilities are tax deductible (over 15 years for substantially all of the sum). Management, with the assistance of a third party valuation of intangible assets, attributed \$65 million to purchased technology, \$24 million to in-process research and development costs, and \$24 million to a non-compete agreement and to licensed technology. Value attributed to acquired tangible assets and assumed liabilities is not material to our financial statements. Goodwill is the difference between a) the sum of the purchase price, associated costs and assumed liabilities, and b) the fair value of acquired assets. Purchased and licensed (non-goodwill) intangible assets will be amortized over approximately 7 years on a straight line basis except in-process research and development costs which will be charged to operations in the March 2002 quarter.

#### REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Stockholders of Lattice Semiconductor Corporation

In our opinion, the accompanying consolidated balance sheet and the related consolidated statements of operations, of changes in stockholders' equity, and of cash flows present fairly, in all material respects, the financial position of Lattice Semiconductor Corporation and its subsidiaries (the Company) at December 31, 2001 and 2000, and the results of their operations and their cash flows for the years ended December 31, 2001 and December 31, 2000, and for the nine months ended December 31, 1999 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.

*PricewaterhouseCoopers LLP*

Portland, Oregon  
January 30, 2002

## LATTICE SEMICONDUCTOR CORPORATION

## SUBSIDIARIES OF THE REGISTRANT

	<u>Name</u>	<u>Jurisdiction of Incorporation</u>
1.	Lattice Semiconductor GmbH	Germany
2.	Lattice Semiconducteurs SARL	France
3.	Lattice Semiconductor AB	Sweden
4.	Lattice Semiconductor Asia Limited	Hong Kong
5.	Lattice Semiconductor KK	Japan
6.	Lattice Semiconductor (Shanghai) Co. Ltd.	China
7.	Lattice UK Limited	United Kingdom
8.	Lattice Semiconductor SRL	Italy
9.	Vantis International Limited	Delaware, USA
10.	Lattice Semiconductor Canada Corporation	Canada
11.	Lattice Semiconductor Corp. Worldwide	Cayman Islands

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**Consent of Independent Accountants**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (No. 33-33933, No. 33-35259, No. 33-38521, No. 33-76358, No. 33-51232, No. 33-69496, No. 333-15737, No. 333-40031, No. 333-59990, No. 333-69467, No. 333-81035 and No. 333-67274) and the Registration Statements on Form S-3 (No. 333-15741, No. 333-40043, No. 333-69469, No. 333-93285, No. 333-93289, No. 333-50192, and No. 333-59992) of Lattice Semiconductor Corporation and subsidiaries of our report dated January 30, 2002 relating to the consolidated financial statements, which appears in the Annual Report to Stockholders, which is incorporated in this Annual Report on Form 10-K. We also consent to the incorporation by reference of our report dated January 30, 2002 relating to the financial statement schedule, which appears in this Form 10-K.

*PricewaterhouseCoopers LLP*

Portland, Oregon  
March 22, 2002