

# AXT INC

## FORM 10-K (Annual Report)

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Address	4821 TECHNOLOGY DRIVE FREMONT, California 94538
Telephone	510-683-5900
CIK	0001051627
Industry	Semiconductors
Sector	Technology
Fiscal Year	12/31

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

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**FORM 10-K**

(MARK ONE)

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

**FOR THE FISCAL YEAR ENDED DECEMBER 31, 2000**

OR

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

**FOR THE TRANSITION PERIOD FROM \_\_\_\_\_ TO \_\_\_\_\_ .**

*COMMISSION FILE NUMBER: 0-24085*

**AXT, INC.**

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE  
(STATE OR OTHER JURISDICTION OF  
INCORPORATION OR ORGANIZATION)

94-3031310  
(I.R.S. EMPLOYER  
IDENTIFICATION NO.)

4281 TECHNOLOGY DRIVE, FREMONT, CALIFORNIA  
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES)

94538  
(ZIP CODE)

**REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE: (510) 683-5900**

**SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT: NONE**

**SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT: COMMON STOCK, \$.001  
PAR VALUE**

Indicate by checkmark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No [ ]

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

The aggregate market value of the voting stock held by non-affiliates of the registrant, based upon the closing sale price of the common stock on December 31, 2000 as reported on the Nasdaq National Market, was approximately \$662,397,732. Shares of common stock held by each officer, 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 to be affiliates. This determination of affiliate status is not a conclusive determination for other purposes.

As of January 31, 2001, 22,025,628 shares, \$.001 par value, of the registrant's common stock were outstanding.

## **DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the definitive proxy statement for the registrant's 2001 annual meeting of stockholders to be filed with the Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this form are incorporated by reference into Part III of this Form 10-K report.

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## **PART I**

This report includes forward-looking statements which reflect our current views with respect to future events and our potential financial performance. These forward-looking statements are subject to certain risks and uncertainties, including those discussed in "Business", "Management's Discussion and Analysis of Financial Condition and Results of Operations", and elsewhere in this report, that could cause actual results to differ materially from historical results or those anticipated. In this report, the words "anticipates," "believes," "expects," "intends," "future" and similar expressions identify forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this report.

### **ITEM 1. BUSINESS -- OVERVIEW**

We design, develop, manufacture and distribute high-performance compound semiconductor substrates, as well as opto-electronic semiconductor devices, such as high-brightness light emitting diodes, or HBLEDs, and vertical cavity surface emitting lasers, or VCSELs. Our substrate products are used primarily in fiber optic communications, wireless communications and lighting display applications. We believe our proprietary vertical gradient freeze, or VGF, technique for manufacturing compound semiconductor substrates provides significant benefits over traditional methods and has enabled us to become a leading manufacturer of compound semiconductor substrates. We pioneered the commercial use of VGF technology to manufacture gallium arsenide, or GaAs, substrates and have used VGF technology to manufacture substrates from other materials, such as indium phosphide, or InP, and germanium, or Ge. Customers for our substrates include Alpha Industries, Agilent Technologies, EMCORE, Nortel Networks, RF Micro Devices, SDL and Sumitomo Chemical. Our acquisition of Lyte Optronics provided us with expertise in epitaxial processes for manufacturing opto-electronic semiconductor devices. We have used these capabilities to make blue, green and cyan HBLEDs and VCSELs. Our opto-electronic semiconductor devices are used in a wide range of applications, such as solid-state lighting and fiber optic communications. We have recently undertaken an initiative to significantly expand our substrate and device manufacturing capacity and to reduce the overall cost structure of our manufacturing operations.

### **INDUSTRY BACKGROUND**

Historically, most semiconductor devices were created on a single crystal base material, or substrate, of silicon. Today, however, a growing number of electronic and opto-electronic devices are being developed with requirements that exceed the capabilities of silicon. Many of these devices address the continually increasing demand to send, receive and display information on high-speed wireless and wireline networks. This demand has created a growing need for power-efficient high-performance systems that can operate at high frequencies and can be produced cost-effectively in high volumes. These systems enable the growth and development of a wide range of end-user applications. For example, International Data Corporation, or IDC, expects the number of mobile wireless devices for Internet access and other data transmission to grow from 10.0 million units in 1999 to more than 562.0 million units by 2004.

Other examples of applications for these systems include:

- fiber optic networks and optical systems within these networks;
- new voice and high-speed wireless data systems;
- infrared emitters and optical detectors in computer systems;
- solid-state lighting, including exterior and interior automobile lighting; and
- satellite communications systems.

As a result of the limitations of silicon-based technologies, semiconductor device manufacturers are increasingly using compound semiconductor substrates to improve the performance of semiconductor devices and to enable these new applications. This shift is occurring even though these compound semiconductor substrates are more expensive. Compound semiconductor substrates are composed of multiple elements that

include a metal, such as gallium, aluminum or indium, and a non-metal, such as arsenic, phosphorus or nitrogen. The resulting compounds include gallium arsenide, indium phosphide and gallium nitride. Advantages of devices manufactured on compound substrates over devices manufactured using silicon substrates include:

- operation at higher speeds;
- lower power consumption;
- less noise and distortion; and
- opto-electronic properties that enable devices to emit and detect light.

The first step in producing a compound semiconductor substrate is to grow a crystal of the materials. Historically, two processes have been used to grow crystals: the Liquid Encapsulated Czochralski, or LEC, technique and the Horizontal-Bridgeman, or HB, technique. We believe two trends are reducing the appeal of these techniques: more semiconductor devices are being formed using an epitaxial process and semiconductor device manufacturers are switching their production lines to six-inch diameter substrates. The LEC and HB techniques each have difficulties producing six-inch, high-quality, low-cost compound semiconductor substrates for epitaxial processing. We introduced our VGF technique in 1986 to respond to the limitations inherent in the LEC and HB techniques.

Compound semiconductor substrates enable the development of a wide range of electronic products including power amplifiers and radio frequency integrated circuits used in wireless handsets. Compound substrates can also be used to create opto-electronic products including HBLEDs and VCSELs used in solid state lighting and fiber optic communications.

HBLEDs are solid-state compound semiconductor devices that emit light. The global demand for HBLEDs is experiencing rapid growth because HBLEDs have a long useful life, consume approximately 10% of the power consumed by incandescent or halogen lighting and improve display visibility. Applications where HBLEDs are increasingly used include wireless handset displays, automotive displays, full color video displays, traffic lights and various consumer applications. According to Strategies Unlimited, an independent industry analyst, the market for HBLEDs is expected to grow from \$1.2 billion in 2000 to approximately \$3.3 billion by 2005.

VCSELs are semiconductor lasers that emit light in a cylindrical beam and offer significant advantages over traditional laser diodes, including greater control over beam size and wavelength, reduced manufacturing complexity and packaging costs, lower power consumption and higher frequency performance. Electronics and computing systems manufacturers are using VCSELs in a broad range of end-market applications, including fiber optic switching and routing, such as Gigabit Ethernet for communications networks and Fibre Channel for storage area networks. According to ElectroniCast, an independent industry analyst, the market for VCSELs is expected to grow from \$262.0 million in 1999 to approximately \$3.4 billion by 2004.

## **THE AXT ADVANTAGE**

We are a leading developer and supplier of high-performance compound semiconductor substrates and opto-electronic semiconductor devices, including HBLEDs and VCSELs. There are four key causes of our success:

Our VGF technology is a competitive advantage. We pioneered the commercial use of VGF technology to manufacture GaAs substrates and we believe that through the use of VGF we have become the leading worldwide supplier of GaAs substrates. Our VGF process produces substrates with high mechanical strength and physical and chemical uniformity, as well as a low defect rate. The following changes in our customers' technologies are increasing demand for substrates with these features:

- Greater use of epitaxy rather than ion implantation. Many of the newest generation of high-performance semiconductor devices for fiber optic and wireless communications applications, including heterojunction bipolar transistors, or HBTs, and pseudomorphic high electron mobility transistors, or

PHEMTs, are popular because they offer lower power consumption and better device linearity than their predecessors. These devices are created using epitaxial processed substrates. Our VGF substrates are more suitable for these applications than are our competitors' products.

- Switch to six-inch diameter wafers. Many of our semiconductor device manufacturing customers are switching their GaAs production lines to six-inch diameter substrates in order to reduce unit costs and increase capacity. Our VGF technique is better suited to developing six-inch substrates than are competing methods.

- Introduction of InP substrates. Even GaAs cannot meet the requirements for increasing system performance and network bandwidth of some applications, including SONET OC-768 applications that operate at speeds up to 40 gigabits per second. Manufacturers of these devices are turning to InP substrates that can support these features. We have successfully used our VGF technique to develop InP and we were among the first to offer four-inch InP substrates.

In addition, VGF technology gives us further benefits.

- Customer technology independence. Our semiconductor device manufacturing customers often compete among themselves. For example, several of our customers compete for technological leadership in the wireless handset market. These customers or end-users all require devices made on GaAs substrates. We are, therefore, largely immune from the effects of such competition and benefit from an overall need for faster, more power efficient electronic and opto-electronic devices.

- Faster and less expensive capacity expansion. We build our own crystal growing equipment rather than ordering it from third-party vendors. This capability, coupled with the fact that our equipment is less expensive and simpler to manufacture than LEC equipment, enables us to increase our capacity faster and at lower cost than our competitors. This ability is particularly beneficial in the current rapid growth environment for six-inch GaAs and all InP substrates. Retaining the equipment manufacturing process within AXT also helps protect our proprietary technology.

Some customers specify VGF substrates. Our wafers are qualified with most of the key suppliers of GaAs and InP semiconductor devices. The qualification process, which is lengthy and must be repeated for each customer, can be a barrier to entry for a new material or supplier. Furthermore, certain of our customers now specify that they will only accept VGF-grown substrates for their manufacturing processes. As the businesses of these customers grow, we are well-positioned to grow with them as a key supplier.

Our low-cost manufacturing is an advantage. We use our technology and economics of scale to be a low-cost manufacturer. Our expansion in China provides us with a combination of lower costs for facilities, labor and materials than we encounter in the United States and positions us to gain access to low-cost raw materials supply sources. Furthermore, as we increase our production capacity, we are able to spread fixed costs over a larger revenue base, thereby leveraging our cost structure and achieving economies of scale.

We entered the opto-electronic semiconductor device market quickly through our acquisition of Lyte Optronics. Our acquisition of Lyte Optronics provided us with expertise in epitaxial processes for manufacturing high-volumes of opto-electronic semiconductor devices. High-quality epitaxy is a key requirement for most of today's advanced opto-electronic semiconductor devices, such as HBLEDs and VCSELs. Since acquiring Lyte Optronics, we have developed opto-electronic products that are among the more difficult to create using epitaxy, including green HBLEDs and VCSELs. We have filed five patent applications for our approach to fabricating HBLEDs. We believe that we can be an important additional domestic source of these devices.

## THE AXT STRATEGY

Our goals are to strengthen our position as the leading developer and supplier of high-performance compound semiconductor substrates and to develop a leading position in the market for opto-electronic semiconductor devices. Key elements of our strategy include:

Expand GaAs substrate manufacturing capacity and decrease manufacturing cost structure. We are increasing our production capacity in order to increase our share of the market for GaAs substrates. We believe that we can extend our leadership position by increasing our manufacturing capacity more rapidly than competitors and in a manner that enables us to further lower unit production costs. Much of this capacity increase will be for production of our six-inch diameter GaAs substrates. We further believe that expanding our manufacturing operations in China will allow us to increase capacity more quickly and at lower cost. Furthermore, this expansion will allow us to form strategic alliances with suppliers of key raw materials.

Strengthen our leadership position in the InP market. We believe that there will be rapid growth in demand for the next generation of high speed fiber optic devices, such as devices used in SONET OC-768 applications. These products are manufactured on InP substrates and we are positioning ourselves to be the leading supplier of InP substrates by significantly expanding our production capacity. Our sales of InP substrates during the year ended December 31, 2000 grew 373.8% compared to our sales of InP substrates during 1999.

Advance VGF technology leadership. We believe that our ability to produce high-quality substrates using VGF technology continues to provide us with a competitive advantage in the high growth compound semiconductor substrate markets. We intend to continue our investment in research and development in order to expand our leadership position in the commercial use of VGF technology. For example, we intend to leverage our existing knowledge in growing six-inch GaAs substrates to grow longer crystals, which will further reduce our costs. We are also launching an effort to develop six-inch diameter InP substrates in response to customer requests.

Enhance our opto-electronic semiconductor devices. We intend to further penetrate the high growth HBLED and VCSEL markets through continued investment in research and development and expansion of production capacity. We are expanding our manufacturing capacity by adding metal-organic chemical vapor deposition, or MOCVD, reactors and are modifying our epitaxial process to improve device performance and yield. We have invested in the research and infrastructure required to grow our own sapphire substrates, which are used in producing blue, green and cyan LEDs. During the next year we expect to increase our VCSEL sales and develop our chip fabrication capabilities, which will enable us to develop one- and two-dimensional VCSEL arrays.

Leverage existing customer relationships. We currently sell our GaAs substrates to more than 300 customers and believe that we are a qualified provider to most of the significant users worldwide of GaAs substrates. We intend to capitalize on our relationships with our customers in order to both expand sales of GaAs substrates and sell other compound substrates, such as InP. We also intend to establish alliances and joint development arrangements with customers in emerging high growth markets to develop new products, increase manufacturing efficiencies and more effectively serve our customers' needs.

## TECHNOLOGY

Our core technologies include our proprietary VGF technique used to produce high quality crystals that are processed into compound substrates, and our epitaxy technologies that enable us to manufacture blue, green and cyan HBLEDs and VCSELs.

### [VGF DIAGRAM]

Our VGF technique is designed to control the crystal-growth process with minimal temperature variation and is the technique we use to produce our GaAs, InP and Ge substrates. Unlike traditional techniques, our VGF technique places the hot compound melt above the cool crystal, thereby reducing the turbulence of the melt which results when the melt and crystal are inverted. The temperature gradient between the melt and the crystal in the VGF technique is significantly lower than in traditional techniques. These aspects of the VGF technique enable us to grow crystals that have a relatively low defect density and high uniformity. The crystal and the resulting substrate, are mechanically strong, resulting in lower breakage rates during a customer's manufacturing process. Since the temperature gradient is controlled electronically rather than by physical movement, the sensitive crystal is not disturbed. In addition, the melt and growing crystal are contained in a closed chamber, which isolates the crystal from the outside environment to reduce potential contamination. This substrate isolation allows for more precise control of the gallium-to-arsenic ratio, resulting in better consistency and uniformity of the crystals.

Our VGF technique offers several benefits when compared to traditional crystal growing technologies. The Liquid Encapsulated Czochralski, or LEC, technique is the traditional method for producing semi-insulating GaAs substrates for electronic applications. During the LEC process, the crystal is grown by dipping a seed crystal through molten boric oxide into a melt and slowly pulling the seed up into the cool zone above the boric oxide where the crystal hardens. Unlike the VGF technique, the LEC technique is designed so that the hotter GaAs melt is located beneath the cooler crystal, resulting in greater turbulence in the melt, and at a temperature gradient that is significantly higher than the VGF technique. The turbulence and high temperature cause LEC-grown crystals to have a higher dislocation density than VGF-grown crystals, resulting in a higher rate of breakage during the device manufacturing process. As an open process, the LEC technique also results in greater propensity for contamination and difficulty controlling the ratio of gallium to



arsenic. It requires large, complex electro-mechanical systems that are expensive and require highly skilled personnel to operate.

Our VGF technique also offers advantages over the Horizontal-Bridgeman, or HB, technique, for producing semi-conducting GaAs substrates for opto-electronic applications. The HB technique holds the GaAs melt in a semi-cylindrical container, causing crystals grown using the HB method to have a semi-circular, or D-shaped, cross-section. Accordingly, more crystal material is discarded when the D-shaped substrate is subsequently trimmed to a round shape. In addition, crystals grown using the HB technique have a higher defect density than VGF-grown crystals. The HB technique cannot be used cost-effectively to produce substrates greater than three inches in diameter. The HB technique houses the GaAs melt in a quartz container during the growth process, which can contaminate the GaAs melt with silicon impurities, making it unsuitable for producing semi-insulating GaAs substrates.

The following table provides a comparison of these three techniques:

SUBSTRATE APPLICATIONS	VGF	HB	LEC
	ELECTRONIC AND	OPTO-ELECTRONIC	ELECTRONIC
	OPTO-ELECTRONIC	OPTO-ELECTRONIC	ELECTRONIC
Largest wafer size available.....	6"	3"	6"
Stress/defect levels.....	Very Low	Low	High
Crystal purity.....	Good	Poor	Good
Applicability to multiple materials.....	GaAs, InP, Ge	GaAs	GaAs, InP, GaP
Equipment and labor cost.....	Very Low	Low	High
Amount of waste material.....	Very Low	High	Low
Equipment flexibility.....	Versatile	Limited	Limited
Equipment downtime.....	Minimal	Moderate	High
Number of competitors.....	Few	Many	Many

VCSEL devices include single lasers as well as one- and two-dimensional arrays of lasers. Array products are more highly valued than single lasers because they provide greater bandwidth, but are harder to form because they require epitaxial structures that possess very high uniformity in chemical composition and low variation in thickness. These features are hard to achieve because the epitaxial process used to make a VCSEL device places approximately 200 layers of epitaxial structure on a substrate, as compared to the less than 10 layers of material deposited on a substrate to make an HBLed. Our epitaxial process, which includes proprietary in situ monitoring techniques, allows us to manufacture highly reliable VCSEL wafers that demonstrate comparatively low threshold currents and high output power and are sufficiently uniform to produce one- and two-dimensional VCSEL devices. We employ both ion implantation and oxidation processes to produce VCSEL devices from our wafers.

We create our opto-electronic semiconductor devices using MOCVD, which is an epitaxial technique to synthesize compound semiconductor thin films onto substrates. MOCVD reactors are available from multiple sources and wafers fabricated using MOCVD generally possess a better combination of uniformity and optical and electronic properties and are easier to produce cost-effectively in high volumes than wafers manufactured by other methods, such as molecular beam epitaxy, vapor phase epitaxy or liquid phase epitaxy. As a result, MOCVD reactors have become the choice of the opto-electronic industry for fabricating devices such as LEDs, VCSELs and laser diodes. We modify our MOCVD reactors to improve their performance and use a proprietary growth recipe that controls temperature, material impurity, defect density, material thickness and layer composition while allowing for multiple wafer batch replication.

PRODUCTS

We design, develop, manufacture and distribute high-performance semiconductor substrates, as well as opto-electronic devices, such as HBLEDs and VCSELs. The table below sets forth our products and selected applications:

PRODUCT	APPLICATIONS	
SUBSTRATES	ELECTRONIC	OPTO-ELECTRONIC
	- Cellular phones	- LEDs
	- Direct broadcast television	- Lasers
GaAs	- High-performance transistors	- Optical couplers
	- Satellite communications	- Displays
	- Fiber optic communications	- Fiber optic communications
	- Satellite communications	- Lasers
	- High-performance transistors	
InP	- Automotive collision avoidance radars	
Ge	- Satellite solar cells	
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VISIBLE EMITTERS		
Blue, green and cyan HBLEDs	- Full color displays	
	- Lighting for the interior and exterior of automobiles	
	- Traffic signals	
	- Back lighting for cellular phones and instrument panels	
	- White light for general illumination	
VCSELs	- Fiber optic and wireless communications	
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Substrates. We currently sell compound substrates manufactured from GaAs and InP, as well as single-element substrates manufactured from Ge. We supply GaAs substrates in two-, three-, four-, five- and six-inch diameters. We manufacture InP substrates in two-, three- and four-inch diameters and Ge substrates in four-inch diameters. We are developing and intend to initiate production of sapphire substrates.

Visible Emitters. We sell blue, green and cyan HBLED products in wafer and chip form. We began selling blue HBLED products in the first quarter of 2000 and have recently begun shipping green and cyan HBLEDs. We introduced our first VSCEL product in August 2000.

CUSTOMERS

We sell our compound semiconductor substrates worldwide to leading semiconductor device manufacturers. Our top substrate customers include:

- Agilent Technologies
- Alpha Industries
- Alpha Photonics
- EMCORE
- Epistar
- Eptaxial Products
- Epitronics
- Kopin
- Motorola
- Nortel Networks
- Osram
- Picogiga
- Precision Opto Wafer
- Quantum Epitaxial Designs
- RF Micro Devices
- SDL
- Spectrolab
- Sumitomo Chemical
- TRW Space & Defense
- Visual Photonics Epitaxy

We sell our HBLED products primarily to customers that incorporate them into lighting products. Our HBLED customers include Harvatek and King Brite.

MANUFACTURING

We believe that our success is partially due to our manufacturing efficiency and high product yields and we continually emphasize quality and process control throughout our manufacturing operations. We perform



our substrate manufacturing operations at our facilities in Fremont, California and Beijing, China. As part of our plan to reduce manufacturing costs, we are shifting many of our labor-intensive processes to our facilities in China, where costs, including labor costs, are generally lower. We intend to transfer the majority of our substrate manufacturing operations to China by the end of 2001. We believe that our capital investment and subsequent operating costs are lower for our manufacturing facilities in China relative to the U.S. Many of our manufacturing operations are fully automated and computer monitored or controlled, enhancing reliability and yield. We use proprietary equipment in our substrate manufacturing operations to protect our intellectual property and control the timing and pace of capacity additions. By assembling our own equipment, we can quickly increase capacity without incurring delays caused by ordering additional equipment or converting older equipment to new technologies. Our epitaxial wafer production is located in El Monte, California. Our Fremont and Beijing substrate facilities are ISO 9002 certified, and we are working toward ISO certification for our other manufacturing facilities.

We depend on a single or limited number of suppliers for certain critical materials used in the production of our substrates. We generally purchase these materials through standard purchase orders and not pursuant to long-term supply contracts. Although we seek to maintain sufficient inventory levels of certain materials to guard against interruptions in supply and to meet our near term needs, and have to date been able to obtain sufficient supplies of materials in a timely manner, there may be shortages of certain key materials, such as gallium. Accordingly, to help ensure continued supply of materials, we have formed strategic alliances with suppliers of key raw materials required to manufacture our products. We believe that these alliances will be advantageous in procuring materials to support our continued growth.

We use MOCVD equipment to manufacture our opto-electronic devices. We are installing several new MOCVD reactors and expect that these additional machines will meet our needs for the foreseeable future. The substrate materials and raw wafers used in our visible emitter products are purchased from our substrate division and other sources.

## **SALES AND MARKETING**

Each of our divisions is responsible for its own sales and marketing activities, and each maintains its own sales and marketing personnel. In addition, each of our divisions advertises in trade publications, distributes promotional materials, publishes technical articles, conducts marketing programs and participates in industry trade shows and conferences in order to raise market awareness of our products.

**Substrates.** We sell our substrate products through our direct sales force in the U.S. and through independent sales representatives in France, Japan, South Korea, Taiwan and the United Kingdom. Our direct sales force consists of sales engineers who are knowledgeable in the manufacture and use of compound and single-element substrates. Our sales engineers work with customers during all stages of the substrate manufacturing process, from developing the precise composition of the substrate through manufacturing and processing the substrate to the customer's exact specifications. We believe that maintaining a close relationship with customers and providing them with ongoing technical support improves customer satisfaction and will provide us with a competitive advantage in selling other substrates to our customers. The substrate division has launched a program with selected customers in which we will guarantee that high volumes of six-inch GaAs and other substrates will be delivered on specific dates and the customer will make a prepayment for part of the value of its order. We intend to allow several major customers to participate in this program.

**Visible Emitters.** We sell our HBLED products primarily through independent sales representatives to lamp package manufacturers in Taiwan and China. We intend to expand sales of these products in the U.S. and Europe primarily using our direct sales force. We sell our VCSEL devices through our direct sales force and through independent sales representatives.

## **RESEARCH AND DEVELOPMENT**

To maintain and improve our competitive position, we focus our research and development efforts on designing new proprietary processes and products, improving the performance of existing products and reducing manufacturing costs. We have assembled a multi-disciplinary team of highly skilled scientists,

engineers and technicians to meet our research and development objectives. As a result of our ongoing research and development activities, we believe that we offer superior quality products. For example, some customers now qualify substrates manufactured using our VGF technique as the only acceptable material in their design specifications.

Our current substrate research and development activities focus on continued development and enhancement of six-inch GaAs crystals, including improved yield, greater substrate strength and increased crystal length. We continue to develop other compound substrates, such as InP and a low boron version of our standard GaAs substrates and are initiating research into development of six-inch InP products. We are developing and intend to initiate production of sapphire substrates.

We are focusing on all three major stages of LED development: epitaxy, wafer fabrication and die fabrication. Our goal is to improve brightness and yield, create specific colors and enhance uniformity of product, both within and across production runs. Specific colors are created by controlling the indium content of the epitaxial layers, which we achieve, in part, from modifications that we make to our MOCVD reactors. The wafer and die fabrication experience we gained in our Lyte Optonics laser diode operation has helped us develop similar techniques for LEDs.

We began research in 1999 to develop VCSEL devices with uniform epitaxy structures on three-inch wafers and announced VCSEL wafer products in August 2000. We continue to improve their performance characteristics and intend to develop one- and two-dimensional array VCSEL chips.

We have historically funded a significant portion of our research and development efforts through contracts with the U.S. government and customer funded research projects, although we do not have any projects underway currently. Under our contracts, we retain rights to the VGF and wafer fabrication technology that we have developed. The U.S. government retains the rights to utilize the technologies we develop for government purposes only. During the period from 1997 to 1999 these contracts amounted to \$5.7 million. Currently, our research and development is internally funded.

## **COMPETITION**

The semiconductor industry is characterized by rapid technological change and price erosion, as well as intense foreign and domestic competition. We believe we currently have a leading position in the existing markets for compound semiconductor substrates primarily as a result of our expertise in VGF technology. However, we believe we face actual and potential competition from a number of established domestic and international companies.

We believe that the primary competitive factors in the markets in which our products compete are:

- quality;
- price;
- performance;
- meeting customer specifications;
- customer support and satisfaction; and
- customer investment in competing technologies.

Our ability to compete in target markets also depends on factors such as:

- the timing and success of the development and introduction of new products by us and our competitors;
- the availability of adequate sources of raw materials; and
- protection of our products by effective use of intellectual property laws and general economic conditions.

Our primary competition in the market for compound semiconductor substrates includes Freiberger, Hitachi Cable, Japan Energy, Litton Airtron and Sumitomo Electric. In addition, we also face competition from compound semiconductor device manufacturers that produce substrates for their own internal use, and from companies such as IBM that are actively developing alternative compound semiconductor materials.

Our primary competition in the market for LED products include Cree, LumiLED, Nichia Chemicals, Toyoda Gosei and United Epitaxy. In general, LED manufacturers in Taiwan and China have a competitive pricing advantage due to low overhead and small research and development investments. Cree, Nichia Chemicals, Sony and Toyoda Gosei have significant patent portfolios that other competitors, including us, must either design around or license.

We compete with Agilent, EMCORE and Honeywell in the market for VCSEL devices.

## **PROTECTION OF OUR INTELLECTUAL PROPERTY**

Our success and the competitive position of our VGF technique depend on our ability to maintain trade secrets and other intellectual property protections. We rely on a combination of patents, copyrights, trademark and trade secret laws, non-disclosure agreements and other intellectual property protection methods to protect our proprietary technology. We believe that, due to the rapid pace of technological innovation in the markets for our products, our ability to establish and maintain a position of technology leadership depends as much on the skills of our development personnel as upon the legal protections afforded our existing technologies. To protect our trade secrets, we take certain measures to ensure their secrecy, such as executing non-disclosure agreements with our employees, customers and suppliers. However, reliance on trade secrets is only an effective business practice insofar as trade secrets remain undisclosed and a proprietary product or process is not reverse engineered or independently developed.

To date, we have been issued four U.S. patents which relate to our VGF products and processes. We have five U.S. patent applications pending which relate to our LED or laser diode technology, and have patent applications pending in Europe, Canada, China, Japan and Korea which are based on one of our U.S. patents that relates to our VGF processes. We have no issued foreign patents.

## **ENVIRONMENTAL REGULATIONS**

We are subject to federal, state and local laws and regulations concerning the use, storage, handling, generation, treatment, emission, release, discharge and disposal of certain materials used in our research and development and production operations, as well as laws and regulations concerning environmental remediation and employee health and safety. The growing of crystals and the production of substrates involve the use of certain hazardous raw materials, including arsenic. We cannot guarantee that our control systems will be successful in preventing a release of these materials or other adverse environmental conditions. Any release or other failure to comply with present or future environmental laws and regulations could result in the imposition of significant fines against us, the suspension of production or a cessation of operations.

We are cooperating with the California Occupational Safety and Health Administration, or Cal-OSHA, in an investigation regarding impermissible levels of potentially hazardous materials in certain areas of our manufacturing facility in Fremont, California. In May 2000, Cal-OSHA levied a fine against us in the amount of \$313,655 for alleged health and safety violations. We are appealing the citations, and have put in place engineering, administrative and personnel protective equipment programs to address this issue. To our knowledge, no accidents or injuries resulted from this matter.

## **EMPLOYEES**

As of December 31, 2000, we had 1,359 full-time employees, of whom 1,117 were principally engaged in manufacturing, 176 in sales and administration and 66 in research and development. Of these employees, 826 are located in the U.S., 531 in China and 2 in Japan. Our success is in part dependent on our ability to attract and retain highly skilled workers. Our employees are not represented by a union and we have never experienced a work stoppage. We consider our relations with our employees to be good.

## EXECUTIVE OFFICERS AND DIRECTORS

As of December 31, 2000, our executive officers and directors were as follows:

NAME ----	AGE ---	POSITION -----
Morris S. Young, Ph.D. ....	56	Chairman of the Board of Directors, President and Chief Executive Officer
Donald L. Tatzin.....	49	Senior Vice President, Chief Financial Officer and Director
Davis Zhang.....	44	President, Substrate Division
Xiao Gordon Liu, Ph.D. ....	37	Senior Vice President, Marketing and Sales, and Engineering and Development
Heng Liu, Ph.D. ....	40	President, LED Division
Bingwen Liang, Ph.D. ....	39	President, VCSEL Division
Jesse Chen.....	42	Director
B.J. Moore.....	64	Director
David C. Chang, Ph.D.....	59	Director

Morris S. Young, Ph.D. co-founded AXT in 1986 and has served as chairman of our board of directors since February 1998 and president and chief executive officer, as well as a director, since 1989. From 1985 to 1989, Dr. Young was a physicist at Lawrence Livermore National Laboratory. Dr. Young holds a bachelor of science degree in metallurgical engineering from Chengkung University, Taiwan, a master of science degree in metallurgy from Syracuse University and a Ph.D. in metallurgy from Polytechnic University.

Donald L. Tatzin has served as a director since February 1998 and as chief financial officer since August 2000. From April 2000 to August 2000, Mr. Tatzin served as our interim chief financial officer. From 1993 to 1998, Mr. Tatzin served as executive vice president of Showboat, a gaming company. In addition, Mr. Tatzin served as a director for Sydney Harbour Casino, an Australian gaming company, from April 1995 to October 1996 and as its chief executive officer from April 1996 to October 1996. From 1976 to 1993, Mr. Tatzin was a director and consultant with Arthur D. Little. Mr. Tatzin holds a bachelor of science degree in economics and a bachelor of science and masters degrees in city planning from the Massachusetts Institute of Technology and a master of science degree in economics from Australian National University.

Davis Zhang co-founded AXT in 1986 and served as senior vice president, production from January 1994 until August 1999, and as president of the substrate division since August 1999. From 1987 to 1993, Mr. Zhang served as our senior production manager. Mr. Zhang holds a bachelor of science degree in mechanical engineering from Northern Communication University, Beijing, China.

Xiao Gordon Liu, Ph.D. joined us in June 1995 as senior engineer and was promoted to vice president, engineering and development in November 1998 and to senior vice president, marketing and sales, and engineering and development in August 2000. Prior to joining us, Dr. Liu was a postdoctoral fellow and associate specialist at University of California at Berkeley and a research associate at the University of Lund, Sweden. Dr. Liu holds a Ph.D. in physics from the University of Lund, Sweden and has published more than 30 scientific papers.

Heng Liu, Ph.D. joined us in September 1999 as director of LED epitaxy and was promoted to president of the newly formed LED division in March 2000. From September 1994 to September 1999, Dr. Liu worked at the opto-electronics division of Hewlett-Packard Company as a research and development engineer. Dr. Liu holds an undergraduate degree from National Chiao-Tung University in Taiwan, a masters degree in physics from University of Oregon and a Ph.D. in engineering from North Carolina State University.

Bingwen Liang, Ph.D. joined us in January 2000 as director of advanced technologies and was subsequently promoted to president of the VCSEL division. From November 1999 to January 2000, Dr. Liang was research and development manager of the III-V materials group in the fiber-optic communication division of Agilent Technologies. From July 1993 to November 1999, Dr. Liang was a research and development manager for Hewlett-Packard Company. Dr. Liang has a Ph.D. in applied physics from the University of California at San Diego and has published more than 45 scientific papers.

Jesse Chen has served as a director since February 1998. Since May 1997, Mr. Chen has served as a managing director of Maton Venture, an investment company. Prior to that, Mr. Chen co-founded BusLogic, a computer peripherals company and served as its chief executive officer from 1990 to 1996. Mr. Chen serves on the board of directors of several private companies. Mr. Chen has a bachelor of science degree in aeronautical engineering from Chenkung University, Taiwan and a master of science degree in electrical engineering from Loyola Marymount University.

B.J. Moore has served as a director since February 1998. Since 1991, Mr. Moore has been self-employed as a consultant and has served as a director to several technology-based companies. Mr. Moore currently serves on the boards of directors for Adaptec, a computer peripherals company and Dionex Corporation, an ion chromatography systems company, as well as several private companies. From 1986 to 1991, Mr. Moore served as president and chief executive officer of Outlook Technology, an electronics test equipment company. Mr. Moore holds a bachelor of science degree and a master of science degree in electrical engineering from the University of Tennessee.

David C. Chang, Ph.D. has served as a director since December 14, 2000, filling the Board position vacated by Theodore Young, who resigned from the Board in August 2000. Dr. Chang is an internationally recognized scholar in the field of electromagnetics, he has served as president of Polytechnic University in New York since 1994. Previously, Dr. Chang was dean of the College of Engineering and Applied Sciences at Arizona State University for two years. Formerly a professor of electrical and computer engineering at the University of Colorado, Dr. Chang served as director of the NSF/Industry Corporate Research Center for Microwave and Millimeter-Wave Computer Aided Design from 1981 to 1989. Dr. Chang holds a master of science degree and a Ph.D. in applied physics from Harvard University and a bachelor of science degree in electrical engineering from National Cheung-Kung University in Taiwan.

## **BOARD COMPOSITION**

Our board of directors currently consists of five members. Our certificate of incorporation and bylaws provide that the terms of office of the members of the board of directors are divided into three classes: class I, whose term will expire at the annual meeting of stockholders to be held in 2002, class II, whose term will expire at the annual meeting of stockholders to be held in 2003, and class III, whose term will expire at the annual meeting of stockholders to be held in 2001. The class I directors are Morris S. Young and David C. Chang, the class II directors are Jesse Chen and Donald L. Tatzin and the class III director is B.J. Moore.

At each annual meeting of stockholders after the initial classification, the successors to directors whose term will then expire will be elected to serve from the time of election and qualification until the third annual meeting following their election. As a result, only one class of directors will be elected at each annual meeting of stockholders, with the other classes continuing for the remainder of their terms. Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the total number of directors. This classification of the board of directors may delay or prevent changes in our control or management. In addition, our bylaws provide that the authorized number of directors may only be changed by a resolution of the board of directors.

## **BOARD COMMITTEES**

The audit committee of our board of directors recommends or will recommend the appointment of our independent auditors, reviews our internal accounting procedures and financial statements and consults with and reviews the services provided by our independent auditors, including the results and scope of their audit. The audit committee currently consists of Messrs. Chen, Moore and Chang.

The compensation committee of our board of directors reviews and recommends to the board the compensation and benefits of all of our executive officers, administers our stock option plans and establishes and reviews general policies relating to compensation and benefits of our employees. The compensation committee currently consists of Messrs. Chen, Moore and Chang.



## CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Since January 1999, there has not been, nor is there currently proposed, any transaction or series of similar transactions to which we were or are to be a party in which the amount involved exceeds \$60,000, and in which any director, executive officer or holder of more than 5% of any class of our voting securities or members of that person's immediate family had or will have a direct or indirect material interest other than the transactions described below.

Equipment & Materials, a California corporation engaged in international trading and quartzware fabrication, supplies us with various raw materials from China and has manufactured quartzware for us. Christina X. Li, the sole shareholder and president of Equipment & Materials, is the wife of Davis Zhang, the president of our substrate division. Purchases from Equipment & Materials were approximately \$8.9 million for the year ended December 31, 2000, \$3.6 million for 1999 and \$3.7 million for 1998. A balance of \$318,000 due to Equipment & Materials was included in accounts payable at December 31, 2000.

In August 2000, we entered into a business transfer and acquisition agreement with Demeter Technologies, Inc., a Delaware corporation founded by Theodore S. Young, the former president of our fiber optic division and a former member of our board of directors, and Robert Shih, the former chief technology officer of our visible emitter division. Under this agreement, we have agreed to transfer certain non-core rights to Demeter relating to our research and development activities in the field of fiber optics. We have entered into non-compete agreements with Messrs. Shih and Young that prohibit them from certain activities, including the manufacture of certain VCSEL devices. We have leased to Demeter a portion of our owned facility in El Monte, California, subleased a portion of our rented facility in El Monte, California, leased certain equipment, including an MOCVD machine, and sold certain inventory relating to fiber optics. In exchange, Demeter has granted to us a warrant to purchase up to 4.5 million shares of its Series A convertible preferred stock at a price of \$0.5714 per share which we exercised in November 2000.

## ITEM 2. PROPERTIES

Our principal properties are as follows:

LOCATION -----	SQUARE FEET -----	PROPERTY DESCRIPTION -----
Fremont, CA.....	58,000	Production and Administration
Fremont, CA.....	80,000	Production
Fremont, CA.....	20,292	Administration
Fremont, CA.....	9,280	Warehouse
Monterey Park, CA.....	22,000	Production and Administration
Torrance, CA.....	6,674	Administration
Torrance, CA.....	15,027	Production
El Monte, CA.....	26,652	Production
El Monte, CA.....	6,281	Production
Beijing, China.....	31,000	Production and Administration
Beijing, China.....	31,000	Production
Beijing, China.....	32,000	Production
Xiamen, China.....	14,000	Production

All of the properties listed above are owned except for 20,292 square feet in Fremont, the lease for which expires May 2005, 9,280 square feet in Fremont, the lease for which expires in June 2005, 6,281 square feet in El Monte, the lease for which expires in December 2006, the two Torrance properties, the leases for which expire in May 2003, and the property in Xiamen, China, the lease for which expires in 2001. We consider each facility to be in good operating condition and adequate for its present use, and believe that each facility has sufficient plant capacity to meet its current and anticipated operating requirements.

### **ITEM 3. LEGAL PROCEEDINGS**

None

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

None

## PART II

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

AXT common stock has been trading publicly on the Nasdaq National Market under the symbol "AXTI" since May 20, 1998, the date we consummated our initial public offering. The following table sets forth, for the periods indicated, the range of quarterly high and low closing sales prices for AXT's common stock on the Nasdaq National Market.

	HIGH	LOW
	-----	-----
FISCAL 2000		
First Quarter ended March 31, 2000.....	\$45.750	\$14.500
Second Quarter ended June 30, 2000.....	\$46.000	\$21.250
Third Quarter ended September 30, 2000.....	\$44.375	\$31.125
Fourth Quarter ended December 31, 2000.....	\$41.688	\$24.500
FISCAL 1999		
First Quarter ended March 31, 1999.....	\$22.500	\$ 9.063
Second Quarter ended June 30, 1999.....	\$27.000	\$19.375
Third Quarter ended September 30, 1999.....	\$35.125	\$17.750
Fourth Quarter ended December 31, 1999.....	\$23.875	\$12.063

As of December 31, 2000, there were 131 holders of record of our common stock. Because many shares of AXT's common stock are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

We have never paid or declared any cash dividends on our common stock and do not anticipate paying cash dividends in the foreseeable future.

## ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with, and are referenced to, our consolidated financial statements and related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	YEARS ENDED DECEMBER 31,				
	2000	1999	1998	1997	1996
	(IN THOUSANDS, EXCEPT PER SHARE DATA)				
INCOME STATEMENT DATA:					
Revenue.....	\$121,503	\$75,372	\$49,074	\$25,335	\$16,227
Cost of revenue, including restructuring cost of \$1,844 in 2000.....	73,684	50,026	29,003	15,227	10,065
Gross profit.....	47,819	25,346	20,071	10,108	6,162
Operating expenses:					
Selling, general, and administrative.....	18,041	10,474	6,019	2,959	2,033
Research and development.....	8,769	2,566	2,504	1,289	592
Restructuring costs.....	6,409	--	--	--	--
Acquisition costs.....	--	2,810	--	--	--
Total operating expenses.....	33,219	15,850	8,523	4,248	2,625
Income from operations.....	14,600	9,496	11,548	5,860	3,537
Interest expense.....	3,616	2,201	875	570	170
Other (income) and expense.....	(28,432)	(1,423)	(715)	34	72
Income from continuing operations before provision for income taxes.....	39,416	8,718	11,388	5,256	3,295
Provision for income taxes.....	14,978	4,380	4,668	1,216	1,249
Income from continuing operations.....	24,438	4,338	6,720	4,040	2,046
Discontinued operations:					
Income (loss) from discontinued operations, net of tax benefits.....	(1,487)	(3,658)	(2,436)	(3,220)	305
Loss on disposal, net of tax benefits.....	(1,341)	--	--	--	--
Extraordinary item, net of tax benefits.....	--	(508)	--	--	--
Net income.....	\$ 21,610	\$ 172	\$ 4,284	\$ 820	\$ 2,351
Basic income (loss) per share:					
Income from continuing operations.....	\$ 1.24	\$ 0.23	\$ 0.42	\$ 1.09	\$ 0.57
Income (loss) from discontinued operations.....	(0.14)	(0.19)	(0.15)	(0.87)	0.08
Extraordinary item.....	--	(0.03)	--	--	--
Net income.....	1.10	0.01	0.27	0.22	0.65
Diluted income (loss) per share:					
Income from continuing operations.....	\$ 1.16	\$ 0.22	\$ 0.41	\$ 0.30	\$ 0.16
Income (loss) from discontinued operations.....	(0.13)	(0.18)	(0.15)	(0.24)	0.02
Extraordinary item.....	--	(0.03)	--	--	--
Net income.....	1.03	0.01	0.26	0.06	0.19
Shares used in per share calculations:					
Basic.....	19,677	18,655	16,076	3,697	3,595
Diluted.....	21,059	19,771	16,325	13,598	12,524
	DECEMBER 31,				
	2000	1999	1998	1997	1996
	(IN THOUSANDS)				
BALANCE SHEET DATA:					
Cash and cash equivalents.....	\$ 68,585	\$ 6,062	\$ 16,438	\$ 3,199	\$ 1,171
Working capital.....	140,387	40,462	41,644	12,612	6,866
Total assets.....	250,220	115,762	102,983	37,796	23,178
Long-term capital lease, net of current portion.....	7,278	6,853	3,854	--	--
Long-term debt, net of current portion.....	15,123	15,254	18,416	7,728	5,833
Stockholders' equity.....	185,347	62,459	61,164	17,387	10,237

Income statement data from our substrate division and discontinued consumer products division is included in all periods presented. Income statement data from our visible emitter division is included from the time of the acquisition of the visible emitter business on September 29, 1998. All periods have been restated to reflect the accounting for discontinued operations. As a result, the discontinued consumer products division has been eliminated from continuing operations in the income statements.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with "Selected Consolidated Financial Data" and our consolidated financial statements and related notes included elsewhere in this Form 10-K. In addition to historical information, the discussion in this Form 10-K contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated by these forward-looking statements due to factors, including but not limited to those set forth under "Risk Factors" and elsewhere in this Form 10-K.

### OVERVIEW

We were founded in 1986 to commercialize and enhance our proprietary VGF technique for producing high-performance compound semiconductor substrates. We currently operate two divisions: our substrate division and our visible emitter division. We made our first substrate sales in 1990 and our substrate division currently sells GaAs and InP substrates to manufacturers of semiconductor devices for use in applications such as fiber optic and wireless telecommunications, LEDs and lasers. We also sell germanium substrates for use in satellite solar cells. We acquired Lyte Optronics, Inc., on May 28, 1999, and currently operate part of Lyte's historical business as our visible emitter division. The visible emitter division manufactures HBLEDs, VCSELs and laser diodes for the illumination markets, including full-color displays, automobile lighting and traffic signals, as well as fiber optic communications. We previously operated Lyte's other historical business as the consumer products division which was discontinued in December 2000. This division had focused on the design and manufacture of laser-pointing and alignment products for the consumer, commercial and industrial markets.

We have been profitable on an annual basis since 1990. Our total revenue from continuing operations was \$121.5 million for 2000, \$75.4 million for 1999 and \$49.1 million for 1998. Our income from continuing operations was \$24.4 million for 2000, \$4.3 million for 1999 and \$6.7 million for 1998.

In the third quarter of 2000, we raised approximately \$96.0 million from the sale of common stock in a private offering and a registered public offering.

Several non-recurring events occurred that had a substantial impact on our performance and financial results for the quarter and year-ended December 31, 2000. First, we realized a \$27.3 million non-cash gain as a result of Finisar Corporation's acquisition of Demeter Technologies, a company in which we held warrants to purchase preferred stock. This gain is included in other income. Second, on December 14, 2000, the Board of Directors approved our plan to discontinue our unprofitable consumer products division. As a result of discontinuing the consumer products division, we incurred a pre-tax loss on disposal of \$2.2 million. The results of operations of the consumer products division have been segregated from continuing operations and are reported separately as discontinued operations in the income statements. Third, we are exiting our unprofitable 650nm laser diode product line at the visible emitter division. As a result of exiting this product line, we incurred a restructuring charge of \$8.2 million, of which \$1.8 million has been classified as cost of goods sold and \$6.4 million has been classified as operating expense.

Our five largest customers accounted for 26.1% of our total revenue from continuing operations in 2000, 24.8% in 1999 and 34.9% in 1998. No customer accounted for more than 10.0% of our total revenue in 2000, 1999 or 1998.

We expect to expand substantially our production capacity for compound substrates as well as blue, green and cyan HBLEDs. Most of the expansion for substrates will occur at our facilities in China and the remainder of our substrate expansion and all of our visible emitter expansion will occur at our California facilities. We estimate that our capital expenditures for this expansion during the next 12 months will be approximately \$41.0 million.

In connection with our acquisition of Lyte Optronics and its subsidiaries, we issued approximately 2,023,000 shares of common stock and 883,000 shares of preferred stock, with a 5.0% annual dividend rate and \$4 per share liquidation preference over common stock, as adjusted for claims made against shares held in escrow, in exchange for all of the issued and outstanding shares of capital stock of Lyte Optronics. The

acquisition was accounted for as a pooling of interests. In connection with the acquisition, we reported a charge of \$2.8 million in the second quarter of 1999 to reflect transaction costs and other one-time charges.

We recognize revenue upon shipment of products to our customers provided that we have received a signed purchase order, the price is fixed, title has transferred, collection of resulting receivables is probable, product returns are reasonably estimable, there are no customer acceptance requirements and there are no remaining significant obligations. We provide for future returns based on historical experience at the time revenue is recognized. Except for sales in Japan and some sales in Taiwan, which in both cases are denominated in Japanese yen, we denominate and collect our international sales in U.S. dollars.

Each of our divisions is responsible for its own sales and marketing activities, and each maintains its own sales and marketing personnel. We sell our substrate products through our direct sales force in the U.S. and through independent sales representatives in France, Japan, South Korea, Taiwan and the United Kingdom. We sell our HBLED and VCSEL products through our direct sales force and through independent sales representatives.

## RESULTS OF OPERATIONS

The following table sets forth certain operating data as a percentage of total revenues for the periods indicated.

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Revenue.....	100.0%	100.0%	100.0%
Cost of revenue.....	60.6%	66.4%	59.1%
Gross profit.....	39.4%	33.6%	40.9%
Operating expenses:			
Selling, general, and administrative.....	14.8%	13.9%	12.3%
Research and development.....	7.2%	3.4%	5.1%
Restructuring costs.....	5.3%	0.0%	0.0%
Acquisition costs.....	0.0%	3.7%	0.0%
Total operating expenses.....	27.3%	21.0%	17.4%
Income from operations.....	12.1%	12.6%	23.5%
Interest expense.....	3.0%	2.9%	1.8%
Other (income) and expense.....	-23.4%	-1.9%	-1.5%
Income from continuing operations before provision for income taxes.....	32.5%	11.6%	23.2%
Provision for income taxes.....	12.3%	5.8%	9.5%
Income from continuing operations.....	20.2%	5.8%	13.7%
Discontinued operations:			
Loss from discontinued operations, net of tax benefits....	-1.2%	-4.9%	-5.0%
Loss on disposal, net of tax benefits.....	-1.1%	0.0%	0.0%
Extraordinary item, net of tax benefits.....	0.0%	-0.7%	0.0%
Net income.....	17.9%	0.2%	8.7%

## YEAR ENDED DECEMBER 31, 2000 COMPARED TO YEAR ENDED DECEMBER 31, 1999

Revenue from continuing operations. Revenue increased \$46.1 million, or 61.2%, to \$121.5 million in 2000 compared to \$75.4 million in 1999. Revenue from our substrate division which represents 93.3% of total revenue for the year ended 2000, increased \$56.6 million, or 99.8%, to \$113.4 million compared to \$56.7 million in 1999. Total GaAs substrate revenue increased \$52.0 million, or 113.3%, to \$97.9 million in 2000 compared to \$45.9 million in 1999. Sales of 5" and 6" GaAs substrates increased \$19.2 million, or 3,308.8%, to \$19.8 million in 2000 compared to \$581,000 in 1999. InP substrate revenue increased \$11.1 million, or 373.8%, to \$14.0 million in 2000 compared to \$3.0 million in 1999. The increase in GaAs and

InP substrate sales was a result of increased sales volume to existing and new customers due in part to strong growth in the fiber optic and wireless handset markets. Revenue from our visible emitter division which represents 6.7% of total revenue for 2000, decreased \$10.5 million, or 56.4%, to \$8.1 million in 2000, compared to \$18.6 million in 1999. The decrease was a result of lower laser diode sales volume and a decrease in prices.

International revenue decreased to 48.2% of total revenue in 2000 compared to 51.6% of total revenue in 1999.

Gross margin. Gross margin increased to 39.4% of revenue in 2000 compared to 33.6% in 1999. The gross margin at the substrate division increased to 45.9% of revenue in 2000 compared to 41.0% in 1999. The increase was primarily due to higher sales volume and the realization of lower labor and manufacturing costs as a result of expanding our wafer production capacity in China. The gross margin at the visible emitter division decreased to negative 51.6% of revenue for 2000 compared to 11.1% for 1999. The decrease was primarily due to increased costs associated with the start-up of blue HBLED and VCSEL product production, lower laser diode sales prices and volume and a restructuring charge to write-off obsolete laser diode inventory as part of our plan to exit the unprofitable 650nm laser diode product line.

Selling, general and administrative expenses. Selling, general and administrative expenses increased \$7.6 million, or 72.2%, to \$18.0 million in 2000 compared to \$10.5 million in 1999. The increase in selling, general and administrative expenses was primarily due to increases in personnel and related expenses required to support current and future increases in sales volume. As a percentage of total revenue, selling, general and administrative expenses were 14.8% in 2000 compared to 13.9% in 1999.

Research and development expenses. Research and development expenses increased \$6.2 million, or 241.7%, to \$8.8 million in 2000 compared to \$2.6 million in 1999. The increase was primarily the result of increases in personnel and related expenses and materials to support HBLED and VCSEL research and development at the visible emitter division. As a percentage of total revenue, research and development expenses were 7.2% in 2000 compared to 3.4% in 1999.

Restructuring costs. On December 14, 2000, the Company's Board of Directors approved management's plan to exit its unprofitable 650nm laser diode product line within its visible emitter division. As a result, during the fourth quarter of 2000, the Company recorded a pre-tax restructuring charge of \$8.2 million. The restructuring charge includes \$1.8 million to write-off laser diode inventory, which has been classified as a component of cost of goods sold. The restructuring charge also includes \$3.4 million to write-off net assets included in property, plant and equipment. These assets consist of laser diode processing equipment that could not be utilized for HBLED or VCSEL processing. These assets have been taken out of service and will be sold or discarded. The restructuring charge also includes \$848,000 to write-down a portion of goodwill attributable to the laser diode product line. The restructuring charge also includes \$2.1 million for incremental costs and contractual obligations for such items as leasehold termination payments and other facility exit costs incurred as a direct result of this plan.

Interest expense. Interest expense increased \$1.4 million, or 64.3%, to \$3.6 million in 2000 compared to \$2.2 million in 1999. The increase was primarily due to using short-term debt to finance the short-term liquidity needs resulting from our increased sales volume as well as the addition of certain capital leases to finance equipment purchases.

Other income and expense. Other income and expense increased \$27.0 million to \$28.4 million in 2000 compared to \$1.4 million in 1999. The increase was primarily the result of a \$27.3 million non-cash gain on Demeter Technology warrants that were exchanged for Finisar Corporation common stock as a result of Finisar Corporation's acquisition of Demeter Technology.

Provision for income taxes. The effective tax rate was 38.0% in 2000. In 1999, the effective tax rate was 38% adjusted for the non-deductible acquisition costs of approximately \$2.8 million.

## **YEAR ENDED DECEMBER 31, 1999 COMPARED TO YEAR ENDED DECEMBER 31, 1998**

**Revenue from continuing operations.** Revenue increased 53.6%, or \$26.2 million to \$75.4 million in 1999 from \$49.1 million in 1998. The increase in revenue resulted primarily from a \$15.7 million increase in sales of GaAs and InP substrates to existing and new customers offset by a \$2.2 million decrease in Ge and contract revenues at the substrate division and a \$12.7 million increase due to the inclusion of the visible emitter division for a full year in 1999 compared to only the fourth quarter in 1998.

Revenue from the substrate division was 75.3% of total revenue and revenue from the visible emitter division was 24.7% of total revenue in 1999 compared to revenue from the substrate division of 88.0% of total revenue and revenue from the visible emitter division of 12.0% of total revenue in 1998.

International revenue increased to 51.6% of total revenue, or \$38.9 million in 1999, compared to 38.5% or \$18.9 million in 1998. The increase in international revenue resulted primarily from a \$7.3 million increase in substrate sales to new and existing customers and a \$11.7 million increase due to the inclusion of the visible emitter division for a full year in 1999 compared to only the fourth quarter in 1998.

**Gross margin.** Gross margin decreased to 33.6% in 1999 compared to 40.9% in 1998. The gross margin for substrates decreased slightly to 41.0% from 41.5%, primarily due to a decline in sales prices. The gross margin on products sold by the visible emitter division was 11.1% in 1999 compared to 36.2% in 1998. The decrease in margins at the visible emitter division was primarily due to significant sales price decreases for laser diodes, a \$1.5 million charge to settle a patent dispute and a \$2.4 million charge to write down obsolete inventory. Excluding these charges, the gross margin was 32.0% in 1999.

**Selling, general and administrative expenses.** Selling, general and administrative expenses increased 74.0%, or \$4.4 million, to \$10.5 million in 1999 from \$6.0 million in 1998. The inclusion of the visible emitter division for the full year in 1999 compared to only the fourth quarter of 1998 resulted in an increase of \$3.3 million. Substrate division expenses increased \$1.2 million primarily due to increases in personnel and related expenses required to support additional sales volume. Selling, general and administrative expenses as a percentage of total revenue increased to 13.9% in 1999 from 12.3% in 1998.

**Research and development expenses.** Research and development expenses increased 2.5%, or \$62,000, to \$2.6 million in 1999 from \$2.5 million in 1998. This increase resulted primarily from the inclusion of the visible emitter division for a full year in 1999 compared to only the fourth quarter in 1998. Research and development expenses as a percentage of total revenue decreased to 3.4% of total revenue for 1999 compared to 5.1% of revenue for 1998. This decrease was primarily due to an increase in total revenue.

**Acquisition cost.** As a result of the acquisition of Lyte Optronics in May 1999, we incurred a number of one-time expenses which totaled approximately \$2.8 million. These expenses included fees paid to our investment bankers, accountants, attorneys and other outside consultants and related transaction expenses.

**Interest expense.** Interest expense increased 151.5%, or \$1.3 million to \$2.2 million in 1999 compared to \$875,000 in 1998. This increase was primarily the result of the inclusion of the visible emitter division for a full year in 1999 compared to only the fourth quarter in 1998, which resulted in increased borrowing on a line of credit.

**Other income and expense.** Other income and expense increased 99.0%, or \$708,000 to \$1.4 million in 1999 from \$715,000 in 1998. The increase was primarily the result of foreign exchange gains.

**Provision for income taxes.** The income tax rate, excluding the effect of non-deductible acquisition costs of approximately \$2.8 million in 1999, decreased to 38.0% of income before provision for income taxes in 1999 from 41.1% in 1998.

**Extraordinary item, net of tax benefit.** In connection with the acquisition of Lyte Optronics in May 1999, we incurred fees associated with a loan that we prepaid as part of the transaction.



## SELECTED QUARTERLY RESULTS OF OPERATIONS

The following table sets forth unaudited quarterly results in dollars and percentages for the eight quarters ended December 31, 2000. We believe that all necessary adjustments, consisting only of normal recurring adjustments, have been included in the amounts stated below to present fairly such quarterly information. The operating results for any quarter are not necessarily indicative of results for any subsequent period.

	QUARTERS ENDED							
	DEC. 31, 2000	SEPT. 30, 2000	JUNE 30, 2000	MAR. 31, 2000	DEC. 31, 1999	SEPT. 30, 1999	JUNE 30, 1999	MAR. 31, 1999
	(IN THOUSANDS)							
Revenue.....	\$ 38,167	\$33,132	\$27,939	\$22,265	\$20,926	\$18,919	\$19,197	\$16,330
Cost of revenue.....	25,072	18,435	16,883	13,294	12,994	11,775	12,026	13,231
Gross profit.....	13,095	14,697	11,056	8,971	7,932	7,144	7,171	3,099
Operating expenses:								
Selling, general and administrative...	5,414	5,134	4,286	3,207	3,317	2,150	2,327	2,680
Research and development.....	1,793	3,267	1,800	1,909	723	528	759	556
Restructuring costs.....	6,409	--	--	--	--	--	--	--
Acquisition costs.....	--	--	--	--	--	--	2,810	--
Total operating expenses.....	13,616	8,401	6,086	5,116	4,040	2,678	5,896	3,236
Income (loss) from operations.....	(521)	6,296	4,970	3,855	3,892	4,466	1,275	(137)
Interest expense.....	936	762	1,149	769	604	701	518	378
Other (income) and expense.....	(27,964)	16	(298)	(186)	(300)	(85)	(182)	(856)
Income from continuing operations before provision for income taxes.....	26,507	5,518	4,119	3,272	3,588	3,850	939	341
Provision for income taxes.....	10,062	2,097	1,575	1,244	1,363	1,463	1,425	129
Income (loss) from continuing operations.....	16,445	3,421	2,544	2,028	2,225	2,387	(486)	212
Discontinued operations:								
Loss from discontinued operations, net of tax benefits.....	(721)	(519)	(191)	(56)	(662)	(750)	(1,049)	(1,197)
Loss on disposal, net of tax benefits.....	(1,341)	--	--	--	--	--	--	--
Extraordinary item, net of tax benefits.....	--	--	--	--	--	--	(508)	--
Net income (loss).....	\$ 14,383	\$ 2,902	\$ 2,353	\$ 1,972	\$ 1,563	\$ 1,637	\$ (2,043)	\$ (985)

	QUARTERS ENDED							
	DEC. 31, 2000	SEPT. 30, 2000	JUNE 30, 2000	MAR. 31, 2000	DEC. 31, 1999	SEPT. 30, 1999	JUNE 30, 1999	MAR. 31, 1999
Revenue.....	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of revenue.....	65.7%	55.6%	60.4%	59.7%	62.1%	62.2%	62.6%	81.0%
Gross profit.....	34.3%	44.4%	39.6%	40.3%	37.9%	37.8%	37.4%	19.0%
Operating expenses:								
Selling, general and administrative...	14.2%	15.5%	15.3%	14.4%	15.9%	11.4%	12.1%	16.4%
Research and development.....	4.7%	9.9%	6.4%	8.6%	3.5%	2.8%	4.0%	3.4%
Restructuring costs.....	16.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Acquisition costs.....	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	14.6%	0.0%
Total operating expenses.....	35.7%	25.4%	21.8%	23.0%	19.3%	14.2%	30.7%	19.8%
Income (loss) from operations.....	-1.4%	19.0%	17.8%	17.3%	18.6%	23.6%	6.6%	-0.8%
Interest expense.....	2.4%	2.3%	4.1%	3.5%	2.9%	3.7%	2.7%	2.3%
Other (income) and expense.....	-73.3%	0.0%	-1.1%	-0.8%	-1.4%	-0.4%	-0.9%	-5.2%
Income from continuing operations before provision for income taxes.....	69.5%	16.7%	14.7%	14.7%	17.1%	20.3%	4.9%	2.1%
Provision for income taxes.....	26.4%	6.3%	5.6%	5.6%	6.5%	7.7%	7.4%	0.8%
Income (loss) from continuing operations.....	43.1%	10.3%	9.1%	9.1%	10.6%	12.6%	-2.5%	1.3%
Discontinued operations:								
Loss from discontinued operations, net of tax benefits.....	-1.9%	-1.6%	-0.7%	-0.3%	-3.2%	-4.0%	-5.5%	-7.3%
Loss on disposal, net of tax benefits.....	-3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Extraordinary item, net of tax benefits.....	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-2.6%	0.0%
Net income (loss).....	37.7%	8.8%	8.4%	8.9%	7.5%	8.7%	-10.6%	-6.0%

## **LIQUIDITY AND CAPITAL RESOURCES**

Cash and cash equivalents increased \$62.5 million to \$68.6 million at December 31, 2000 compared to \$6.1 million at December 31, 1999. The increase primarily resulted from \$84.9 million provided by financing activities, offset by \$26.1 million used in investing activities.

Net cash provided by operating activities of \$3.7 million for the year ended December 31, 2000 was comprised primarily of net income adjusted for non-cash items of \$13.7 million, and by \$4.2 million used in working capital and other activities. Net cash used in working capital and other activities resulted primarily from increases in accounts receivable and inventory, offset by increases in accrued liabilities, deferred income taxes and prepaid expenses.

Net cash used in investing activities of \$26.1 million primarily reflects purchases of property and equipment to increase crystal growth and wafer processing capacity at the substrate division and to increase HBLED and VCSEL epitaxy growth and wafer processing capacity at the visible emitter division. We also invested \$1.6 million in a joint venture in China to provide certain materials.

We are currently constructing an additional 32,000 square foot building in Beijing, China to expand substrate wafer processing capacity and a 27,000 square foot building in El Monte, California to expand HBLED and VCSEL production. We are also constructing improvements to our existing production facilities in Fremont, California to increase crystal growth and wafer processing capacity. We expect to invest approximately \$41.0 million in additional facilities and equipment over the next 12 months.

Net cash provided by financing activities of \$84.9 million consisted of proceeds of \$96.0 million from the sale of common stock and \$6.0 million from new real estate loans, offset by payments of \$9.9 million to reduce our short-term borrowings, \$3.3 million to retire old real estate loans and principal and interest payments on long-term debt and \$3.9 million for capital lease payments.

We currently have a \$20.0 million line of credit with a commercial bank bearing interest at 1.75% above LIBOR that was 6.4% at December 31, 2000. This line of credit is secured by all of our assets, other than equipment, and expires on May 31, 2002. At December 31, 2000, there was no balance outstanding under the line of credit.

We generally finance equipment purchases through secured equipment loans and capital leases over five-year terms at interest rates ranging from 6.0% to 9.0% per annum. Some of our manufacturing facilities have been financed by long-term borrowings, which were refinanced by taxable variable rate revenue bonds in 1998. These bonds mature in 2023 and bear interest at 2.0% below the prime rate. The bonds are traded in the public market. Repayment of principal and interest under the bonds is supported by a letter of credit from our bank and is paid on a quarterly basis. We have the option to redeem the bonds in whole or in part during their term. At December 31, 2000, \$10.6 million was outstanding under these bonds.

We anticipate that the combination of existing working capital and the borrowings available under our current credit agreements will be sufficient to fund working capital and capital expenditure requirements for the next 12 months. However, our future capital requirements will be dependent on many factors including the rate of revenue growth, our profitability, the timing and extent of spending to support research and development programs, the expansion of our manufacturing facilities, the expansion of our selling and marketing and administrative activities and market acceptance of our products. We may need to obtain additional equity and debt financing in the future, which may not be available on acceptable terms or at all.

## **RECENT ACCOUNTING PRONOUNCEMENTS**

In June 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133, or SFAS 133, "Accounting for Derivative Instruments and Hedging Activities." SFAS 133 established accounting and reporting standards for derivative instruments including certain derivative instruments embedded in other contracts and for hedging activities. In June 2000, SFAS 133 was amended by SFAS 138. We will implement SFAS 133 beginning in 2001. We do not expect that adopting the provisions of SFAS 133 will have a material effect on our financial position or results of operations.

We have adopted the provisions of Staff Accounting Bulletin No. 101, or SAB 101, "Revenue Recognition," which did not and does not have a material effect on the financial position or results of operations of the Company.

## **RISKS RELATED TO OUR BUSINESS**

### **UNPREDICTABLE FLUCTUATIONS IN OUR OPERATING RESULTS COULD DISAPPOINT ANALYSTS OR OUR INVESTORS, WHICH COULD CAUSE OUR STOCK PRICE TO DECLINE.**

We may not be able to sustain our historical growth rate, and we may experience significant fluctuations in our revenue and earnings in the future. Our quarterly and annual revenue and operating results have varied significantly in the past and may vary significantly in the future due to a number of factors, including:

- fluctuations in demand for our products;
- expansion of our manufacturing capacity;
- expansion of our operations in China;
- limited availability and increased cost of raw materials;
- integration of Lyte Optronics and its business, operations and facilities with our operations;
- the volume and timing of orders from our customers;
- fluctuation of our manufacturing yields;
- decreases in the prices of our competitors' products;
- costs incurred in connection with any future acquisitions of businesses or technologies;
- increases in our expenses, including expenses for research and development; and
- our ability to develop, manufacture and deliver high quality products in a timely and cost-effective manner.

Due to these factors, we believe that period-to-period comparisons of our operating results may not be a meaningful indicator of our future performance. It is possible that in some future quarter, our operating results may be below the expectations of securities analysts or investors. If this occurs, the price of our common stock would likely decline.

### **IF WE FAIL TO EXPAND OUR MANUFACTURING CAPACITY, WE MAY NOT BE ABLE TO MEET DEMAND FOR OUR PRODUCTS, LOWER OUR COSTS OR INCREASE REVENUE.**

In order to increase production, we must build new facilities, expand our existing facilities and purchase additional manufacturing equipment. If we do not expand our manufacturing capacity, we will be unable to increase production, adversely impacting our ability to reduce unit costs, margins and improve our operating results.

We are currently constructing additional capacity and facilities in California and China. Our expansion activities subject us to a number of risks, including:

- unforeseen environmental or engineering problems;
- unavailability or late delivery of production equipment;
- delays in completing new facilities;
- delays in bringing production equipment on-line;
- work stoppages or delays;
- unanticipated cost increases; and
- restrictions imposed by requirements of local, state or federal regulatory agencies.

If any of these risks occurs, construction may be costlier than anticipated and completion could be delayed, which could hurt our ability to expand capacity and increase our sales. In addition, if we experience delays in expanding our manufacturing capacity, we might not be able to

timely meet customer requirements,

and we could lose future sales. We are also making substantial investments in equipment and facilities as part of our capacity expansion. To offset the additional fixed operating expenses, we must increase our revenue by increasing production and improving yields. If demand for our products does not grow or if our yields do not improve as anticipated, we may be unable to offset these costs against increased revenue, which would adversely impact our operating results.

**WE HAVE LIMITED EXPERIENCE WITH SOME OF OUR NEW PRODUCTS, AND WE MAY NOT BE ABLE TO ACHIEVE ANTICIPATED SALES OF THESE PRODUCTS.**

To date, we have limited experience producing and selling our HBLED and VCSEL products, and we may be unable to successfully market and sell these products. To market and sell our HBLED and VCSEL products, we will have to develop additional distribution channels. In addition, we must apply our proprietary VGF technique to new substrate products and successfully introduce and market new opto-electronic semiconductor devices, including LED and VCSEL products.

**IF WE DO NOT SUCCESSFULLY DEVELOP NEW PRODUCTS TO RESPOND TO RAPIDLY CHANGING CUSTOMER REQUIREMENTS, OUR ABILITY TO GENERATE SALES AND OBTAIN NEW CUSTOMERS MAY SUFFER.**

Our success depends on our ability to offer new products that incorporate leading technology and respond to technological advances. In addition, our new products must meet customer needs and compete effectively on quality, price and performance. The life cycles of our products are difficult to predict because the markets for our products are characterized by rapid technological change, changing customer needs and evolving industry standards. If our competitors introduce products employing new technologies, our existing products could become obsolete and unmarketable. If we fail to offer new products, we may not generate sufficient revenue to offset our development costs and other expenses or meet our customers' requirements. Other companies, including IBM, are actively developing substrate materials that could be used to manufacture devices that could provide the same high-performance, low-power capabilities as GaAs-based devices at competitive prices. If these substrate materials are successfully developed and semiconductor device manufacturers adopt them, demand for our GaAs substrates could decline and our revenue could suffer.

The development of new products can be a highly complex process, and we may experience delays in developing and introducing new products. Any significant delays could cause us to fail to timely introduce and gain market acceptance of new products. Further, the costs involved in researching, developing and engineering new products could be greater than anticipated.

**OUR OPERATING RESULTS DEPEND IN LARGE PART ON FURTHER CUSTOMER ACCEPTANCE OF OUR EXISTING SUBSTRATE PRODUCTS AND ON OUR ABILITY TO DEVELOP NEW PRODUCTS BASED ON OUR CORE VGF TECHNOLOGY.**

A majority of GaAs substrates are manufactured from crystals grown using the traditional Liquid Encapsulated Czochralski, or LEC, or Horizontal-Bridgeman, or HB, techniques. In order to expand sales of our products, we must continue to promote our VGF technique as a preferred process for producing substrates, and we must offer products with superior prices and performance on a timely basis and in sufficient volumes. If we fail to gain increased market acceptance of our VGF technique, we may not achieve anticipated revenue growth.

**INTENSE COMPETITION IN THE MARKETS FOR OUR PRODUCTS COULD PREVENT US FROM INCREASING REVENUE AND SUSTAINING PROFITABILITY.**

The markets for our products are intensely competitive. We face competition for our substrate products from other manufacturers of substrates, such as Freiberger, Hitachi Cable, Japan Energy, Litton Airtron and Sumitomo Electric and from semiconductor device manufacturers that produce substrates for their own use, and from companies, such as IBM, that are actively developing alternative materials to GaAs. We believe that at least one of our competitors has recently begun shipping GaAs substrates manufactured using a technique similar to our VGF technique. Other competitors may develop and begin using similar technology. If we are unable to compete effectively, our revenue may not increase and we may not continue to be profitable. We

face many competitors that have a number of significant advantages over us, particularly in our compound semiconductor device products, including:

- greater experience in the business;
- more manufacturing experience;
- broader name recognition; and
- significantly greater financial, technical and marketing resources.

Our competitors could develop new or enhanced products that are more effective than the products that we have developed or may develop. For example, some competitors in the HBLED market offer devices that are brighter than our HBLEDs. Some of our competitors may also develop technologies that enable the production of commercial products with characteristics similar to or better than ours, but at a lower cost.

We expect the intensity of competition to increase in the future. Competitive pressures could reduce our market share, require us to reduce the prices of our products, affect our ability to recover costs or result in reduced gross margins.

**IF WE HAVE LOW PRODUCT YIELDS, THE SHIPMENT OF OUR PRODUCTS MAY BE DELAYED AND OUR OPERATING RESULTS MAY BE ADVERSELY IMPACTED.**

Our products are manufactured using complex technologies, and the number of usable substrates and devices we can produce can fluctuate as a result of many factors, including:

- impurities in the materials used;
- contamination of the manufacturing environment;
- substrate breakage;
- equipment failure, power outages or variations in the manufacturing process; and
- performance of personnel involved in the manufacturing process.

Because many of our manufacturing costs are fixed, our revenue could decline if our yields decrease. We have experienced product shipment delays and difficulties in achieving acceptable yields on both new and older products, and delays and poor yields have adversely affected our operating results. We may experience similar problems in the future and we cannot predict when they may occur or their severity. In addition, many of our manufacturing processes are new and are still being refined, which can result in lower yields, particularly as we focus on producing higher diameter substrates and new opto-electronic semiconductor devices. For example, we recently began manufacturing six-inch GaAs wafers and have also made substantial investments in equipment and facilities to manufacture blue, green and cyan HBLEDs. If we are unable to produce adequate quantities of our high-brightness LEDs and VCSELs, we may not be able to meet customer demand and our revenue may decrease.

**DEMAND FOR OUR PRODUCTS MAY DECREASE IF OUR CUSTOMERS EXPERIENCE DIFFICULTY MANUFACTURING, MARKETING OR SELLING THEIR PRODUCTS.**

Our products are used as components in our customers' products. Accordingly, demand for our products is subject to factors affecting the ability of our customers to successfully introduce and market their products, including:

- the competition our customers face in their particular industries;
- the technical, manufacturing, sales and marketing and management capabilities of our customers;
- the financial and other resources of our customers; and
- the inability of our customers to sell their products if they infringe third party intellectual property rights.

If demand for the products offered by our customers decreases, our customers may reduce purchases of our products.

**WE PURCHASE CRITICAL RAW MATERIALS FROM SINGLE OR LIMITED SOURCES, AND COULD LOSE SALES IF THESE SOURCES FAIL TO FILL OUR NEEDS.**

We depend on a limited number of suppliers for certain raw materials, components and equipment used in manufacturing our products, including key materials such as gallium, arsenic and quartz. We generally purchase these materials through standard purchase orders and not pursuant to long-term supply contracts and none of our suppliers guarantees supply of raw materials to us. If we lose any of our key suppliers, our manufacturing efforts could be significantly hampered and we could be prevented from timely producing and delivering products to our customers. We have experienced delays obtaining critical raw materials, including gallium, due to shortages of these materials. We may experience delays due to shortages of materials and may be unable to obtain an adequate supply of materials. These shortages and delays could result in higher materials costs and cause us to delay or reduce production of our products. If we have to delay or reduce production, we could fail to meet customer delivery schedules, and our revenue and operating results could suffer.

**IF WE FAIL TO COMPLY WITH ENVIRONMENTAL REGULATIONS, WE MAY BE SUBJECT TO SIGNIFICANT FINES OR CESSATION OF OUR OPERATIONS.**

We are subject to federal, state and local environmental laws and regulations. These laws, rules and regulations govern the use, storage, discharge and disposal of hazardous chemicals during manufacturing, research and development and sales demonstrations. If we fail to comply with applicable regulations, we could be subject to substantial liability for clean-up efforts, personal injury and fines or suspension or cessation of our operations. We are cooperating with the California Occupational Safety and Health Administration, or Cal-OSHA, in an investigation primarily regarding impermissible levels of potentially hazardous materials in certain areas of our manufacturing facility in Fremont, California. In May 2000, Cal-OSHA levied a fine against us in the amount of \$313,655 for alleged health and safety violations. We are appealing the citations, and have put in place engineering, administrative and personnel protective equipment programs to address these issues, but we may have to pay this fine. Our ability to expand or continue to operate our present locations could be restricted or we could be required to acquire costly remediation equipment or incur other significant expenses. In addition, existing or future changes in laws or regulations may require us to incur significant expenditures or liabilities, or may restrict our operations.

**THE LOSS OF ONE OR MORE OF OUR KEY SUBSTRATE CUSTOMERS WOULD SIGNIFICANTLY HURT OUR OPERATING RESULTS.**

A small number of substrate customers have historically accounted for a substantial portion of our total revenue. Our five largest customers accounted for 26.1% of our total revenue from continuing operations in 2000, 24.8% in 1999 and 34.9% in 1998. No customer accounted for more than 10.0% of our total revenue in 2000, 1999 and 1998. Our substrate revenue accounted for 93.3% of our total revenue from continuing operations in 2000, 75.3% in 1999 and 88.0% in 1998. We expect that a significant portion of our future revenue will continue to be derived from a limited number of substrate customers. Our customers are not obligated to purchase a specified quantity of our products or to provide us with binding forecasts of product purchases. In addition, our customers may reduce, delay or cancel orders at any time without any significant penalty. If we lose a major customer or if a customer cancels, reduces or delays orders, our revenue would decline. In addition, customers that have accounted for significant revenue in the past may not continue to generate revenue for us in any future period.

**DEFECTS IN OUR PRODUCTS COULD DIMINISH DEMAND FOR OUR PRODUCTS.**

Our products are complex and may contain defects. In the past we have experienced quality control problems with some of our LED and consumer products, which caused customers to return products to us. If we continue to experience quality control problems, or experience these problems in our other products, customers may cancel or reduce orders or purchase products from our competitors. Defects in our products



could cause us to incur higher manufacturing costs and suffer product returns and additional service expenses, all of which could adversely impact our operating results.

We are also developing new products and product enhancements, including substrates and compound semiconductor device products. If our new products contain defects when released, our customers may be dissatisfied and we may suffer negative publicity or customer claims against us, lose sales or experience delays in market acceptance of our new products.

**CYCLICALITY IN THE SEMICONDUCTOR INDUSTRY COULD CAUSE OUR OPERATING RESULTS TO FLUCTUATE SIGNIFICANTLY.**

Our business depends in significant part upon manufacturers of semiconductor devices, as well as the current and anticipated market demand for such devices and the products using such devices. The semiconductor industry is highly cyclical. The industry has in the past, and will likely in the future, experience periods of oversupply that result in significantly reduced demand for semiconductor devices and components, including our products. When these periods occur, our operating results and financial condition are adversely affected.

**OUR SUBSTRATE AND OPTO-ELECTRONIC SEMICONDUCTOR DEVICE PRODUCTS HAVE A LONG SALES CYCLE THAT MAKES IT DIFFICULT TO PLAN OUR EXPENSES AND FORECAST OUR RESULTS.**

Customers typically place orders with us for our substrate and opto-electronic semiconductor device products three months to a year or more after our initial contact with them. The sale of our products may be subject to delays due to our customers' lengthy internal budgeting, approval and evaluation processes. During this time, we may incur substantial expenses and expend sales, marketing and management efforts while the customers evaluate our products. These expenditures may not result in sales of our products. If we do not achieve anticipated sales in a period as expected, we may experience an unplanned shortfall in our revenue. As a result, we may not be able to cover expenses, causing our operating results to vary. In addition, if a customer decides not to incorporate our products into its initial design, we may not have another opportunity to sell products to this customer for many months or even years. We anticipate that sales of any future substrate and opto-electronic semiconductor device products under development will also have lengthy sales cycles and will, therefore, be subject to risks substantially similar to those inherent in the lengthy sales cycle of our current substrate and opto-electronic semiconductor device products.

**IF WE FAIL TO MANAGE OUR POTENTIAL GROWTH, OUR OPERATIONS MAY BE DISRUPTED.**

We have experienced a period of rapid growth and expansion that has strained our management and other resources, and we expect this rapid growth to continue. Our acquisition of Lyte Optronics, together with expansion of our manufacturing capacity, has placed and continues to place a significant strain on our operations and management resources. If we fail to manage our growth effectively, our operations may be disrupted. To manage our growth effectively, we must implement additional and improved management information systems, further develop our operating, administrative, financial and accounting systems and controls, add experienced senior level managers, and maintain close coordination among our executive, engineering, accounting, marketing, sales and operations organizations.

We will spend substantial sums to support our growth and may incur additional unexpected costs. Our systems, procedures or controls may not be adequate to support our operations, and we may be unable to expand quickly enough to exploit potential market opportunities. Our future operating results will also depend on expanding sales and marketing, research and development and administrative support. If we cannot attract qualified people or manage growth effectively, our business and operating results could be adversely affected.

## **ANY FUTURE ACQUISITIONS MAY DISRUPT OUR BUSINESS, DILUTE STOCKHOLDER VALUE OR DISTRACT MANAGEMENT ATTENTION.**

As part of our strategy, we may consider acquisitions of, or significant investments in, businesses that offer products, services and technologies complementary to ours, such as our acquisition of Lyte Optronics in May 1999. Acquisitions entail numerous risks, including:

- we may have difficulty assimilating the operations, products and personnel of the acquired businesses;
- our ongoing business may be disrupted;
- we may incur unanticipated costs;
- our management may be unable to manage the financial and strategic position of acquired or developed products, services and technologies;
- we may be unable to maintain uniform standards, controls and procedures and policies; and
- our relationships with employees and customers may be impaired as a result of any integration.

For example, we incurred substantial costs in connection with our acquisition of Lyte Optronics, including the assumption of approximately \$10.0 million of debt, much of which has been repaid or renegotiated, resulting in a decline of cash available. We incurred one-time charges and merger-related expenses of \$2.8 million and an extraordinary item of \$508,000 relating to the early extinguishment of debt in the quarter ended June 30, 1999 as a result of the acquisition.

To the extent that we issue shares of our stock or other rights to purchase stock in connection with any future acquisitions, dilution to our existing stockholders will result and our earnings per share may suffer. Any future acquisitions may not generate additional revenue or provide any benefit to our business.

## **IF ANY OF OUR FACILITIES IS DAMAGED, WE MAY NOT BE ABLE TO MANUFACTURE OUR PRODUCTS.**

The ongoing operation of our manufacturing and production facilities in California and China is critical to our ability to meet demand for our products. If we are not able to use all or a significant portion of our facilities for prolonged periods for any reason, we will not be able to manufacture products for our customers. For example, a natural disaster, fire or explosion caused by our use of combustible chemicals and high temperatures during our manufacturing processes would render some or all of our facilities inoperable for an indefinite period of time. Actions outside of our control, such as earthquakes, could also damage our facilities, rendering them inoperable. All of our crystal growth is currently performed at our Fremont, California facilities, which are located very near to an active seismic fault line. If we are unable to operate our facilities and manufacture our products, we will lose customers and revenue and our business will be harmed.

## **IF WE LOSE KEY PERSONNEL OR ARE UNABLE TO HIRE ADDITIONAL QUALIFIED PERSONNEL AS NECESSARY, WE MAY NOT BE ABLE TO SUCCESSFULLY MANAGE OUR BUSINESS OR ACHIEVE OUR OBJECTIVES.**

Our success depends upon the continued service of Morris S. Young, Ph.D., our president, chairman of the board and chief executive officer, as well as other key management and technical personnel. We do not have long-term employment contracts with, or key person life insurance on, any of our key personnel. In addition, we have only recently hired our chief financial officer, and need to retain senior marketing personnel, particularly for our new opto-electronic semiconductor device products.

We believe our future success will also depend in large part upon our ability to attract and retain highly skilled managerial, engineering, sales and marketing, finance and manufacturing personnel. The competition for these employees is intense, especially in Silicon Valley, and we cannot assure you that we will be successful in attracting and retaining new personnel. The loss of the services of any of our key personnel, the inability to attract or retain qualified personnel in the future or delays in hiring required personnel, particularly engineers, could make it difficult for us to manage our business and meet key objectives, including the timely introduction of new products.

**IF WE ARE UNABLE TO PROTECT OUR INTELLECTUAL PROPERTY, WE MAY LOSE VALUABLE ASSETS OR INCUR COSTLY LITIGATION.**

We rely on a combination of patents, copyrights, trademark and trade secret laws, non-disclosure agreements and other intellectual property protection methods to protect our proprietary technology. However, we believe that, due to the rapid pace of technological innovation in the markets for our products, our ability to establish and maintain a position of technology leadership also depends on the skills of our development personnel.

Despite our efforts to protect our intellectual property, a third party could develop products or processes similar to ours. Our means of protecting our proprietary rights may not be adequate and our competitors may independently develop similar technology, duplicate our products or design around our patents. We believe that at least one of our competitors has begun to ship GaAs substrates produced using a process similar to our VGF technique. Our competitors may also develop and patent improvements to the VGF, LED and VCSEL technologies upon which we rely, and thus may limit any exclusivity we enjoy by virtue of our patents.

It is possible that pending or future United States or foreign patent applications made by us will not be approved, that our issued patents will not protect our intellectual property, or that third parties will challenge the ownership rights or the validity of our patents. In addition, the laws of some foreign countries may not protect our proprietary rights to as great an extent as do the laws of the United States and it may be more difficult to monitor the use of our intellectual property. Our competitors may be able to legitimately ascertain non-patented proprietary technology embedded in our systems. If this occurs, we may not be able to prevent the development of technology substantially similar to ours.

We may have to resort to costly litigation to enforce our intellectual property rights, to protect our trade secrets or know-how or to determine their scope, validity or enforceability. Enforcing or defending our proprietary technology is expensive, could cause us to divert resources and may not prove successful. Our protective measures may prove inadequate to protect our proprietary rights, and if we fail to enforce or protect our rights, we could lose valuable assets.

**WE MIGHT FACE INTELLECTUAL PROPERTY INFRINGEMENT CLAIMS THAT MAY BE COSTLY TO RESOLVE AND COULD DIVERT MANAGEMENT ATTENTION.**

Other companies may hold or obtain patents on inventions or may otherwise claim proprietary rights to technology necessary to our business. The markets in which we compete are comprised of competitors who in some cases hold substantial patent portfolios covering aspects of products that could be similar to ours. We could become subject to claims that we are infringing patent, trademark, copyright or other proprietary rights of others. Litigation to determine the validity of alleged claims could be time-consuming and result in significant expense to us and divert the efforts of our technical and management personnel, whether or not the litigation is ultimately determined in our favor. If a lawsuit is decided against us, we could be subject to significant liabilities, requiring us to seek costly licenses or preventing us from manufacturing and selling our products. We may not be able to obtain required licensing agreements on terms acceptable to us or at all.

**WE DERIVE A SIGNIFICANT PORTION OF OUR REVENUE FROM INTERNATIONAL SALES, AND OUR ABILITY TO SUSTAIN AND INCREASE OUR INTERNATIONAL SALES INVOLVES SIGNIFICANT RISKS.**

Our revenue growth depends in part on the expansion of our international sales and operations. International sales represented 48.2% of our total revenue from continuing operations for 2000, 51.6% for 1999 and 38.5% for 1998. We expect that sales to customers outside the U.S. will continue to represent a significant portion of our revenue.

Our dependence on international sales involves a number of risks, including:

- changes in tariffs, import restrictions and other trade barriers;
- unexpected changes in regulatory requirements;
- longer periods to collect accounts receivable;

- changes in export license requirements;
- political and economic instability;
- unexpected changes in diplomatic and trade relationships; and
- foreign exchange rate fluctuations.

Our sales are denominated in U.S. dollars, except for sales to our Japanese and some Taiwanese customers, which are denominated in Japanese yen. Thus, increases in the value of the U.S. dollar could increase the price of our products in non-U.S. markets and make our products more expensive than competitors' products in these markets. Also, denominating some sales in Japanese yen subjects us to fluctuations in the exchange rates between the U.S. dollar and the Japanese yen. The functional currencies of our Japanese and Chinese subsidiaries are the local currencies. We incur transaction gains or losses resulting from consolidation of expenses incurred in local currencies for these subsidiaries, as well as in translation of the assets and liabilities of these assets at each balance sheet date. If we do not effectively manage the risks associated with international sales, our revenue and financial condition could be adversely affected.

#### **IF OUR EXPANSION IN CHINA IS MORE COSTLY THAN WE EXPECT, OUR OPERATING RESULTS WILL SUFFER.**

As part of our planned expansion of our manufacturing capacity, we are building new facilities and expanding existing facilities in China. If we are unable to build and expand our Chinese facilities in a timely manner, we may not be able to increase production of our products and increase revenue as planned. If our expansion in China proves more costly than we anticipate or we incur greater ongoing costs than we expect, our operating results would be adversely affected. If we do not realize expected cost savings once our expansion is complete in China, our margins may be negatively impacted and our operating results may suffer.

#### **CHANGES IN CHINA'S POLITICAL, SOCIAL AND ECONOMIC ENVIRONMENT MAY AFFECT OUR FINANCIAL PERFORMANCE.**

Our financial performance may be affected by changes in China's political, social and economic environment. The role of the Chinese central and local governments in the Chinese economy is significant. Chinese policies toward economic liberalization, and laws and policies affecting technology companies, foreign investment, currency exchange rates and other matters could change, resulting in greater restrictions on our ability to do business and operate our manufacturing facilities in China. Any imposition of surcharges or any increase in Chinese tax rates could hurt our operating results. The Chinese government could revoke, terminate or suspend our license for national security and similar reasons without compensation to us. If the government of China were to take any of these actions, we would be prevented from conducting all or part of our business. Any failure on our part to comply with governmental regulations could result in the loss of our ability to manufacture our products in China.

China has from time to time experienced instances of civil unrest and hostilities. Confrontations have occurred between the military and civilians. Events of this nature could influence the Chinese economy, result in nationalization of foreign-owned operations such as ours, and could negatively affect our ability to operate our facilities in China.

#### **OUR STOCK PRICE HAS BEEN AND MAY CONTINUE TO BE VOLATILE.**

Our stock price has fluctuated significantly since we began trading on the Nasdaq National Market. For the 12 months ended December 31, 2000, the high and low closing sales prices of our common stock were \$46.00 and \$14.50. A number of factors could cause the price of our common stock to continue to fluctuate substantially, including:

- actual or anticipated fluctuations in our quarterly or annual operating results;
- changes in expectations about our future financial performance or changes in financial estimates of securities analysts;
- announcements of technological innovations by us or our competitors;

- new product introduction by us or our competitors;
- large customer orders or order cancellations; and
- the operating and stock price performance of comparable companies.

In addition, the stock market in general has experienced extreme volatility that often has been unrelated to the operating performance of particular companies. These broad market and industry fluctuations may adversely affect the trading price of our common stock, regardless of our actual operating performance.

#### **WE MAY NEED ADDITIONAL CAPITAL TO FUND EXPANSION OF OUR MANUFACTURING CAPACITY AND OUR FUTURE OPERATIONS, WHICH MAY NOT BE AVAILABLE.**

We may need additional capital to fund expansion of our manufacturing and production capacity and our future operations or acquisitions. If we raise additional capital through the sale of equity or debt securities, the issuance of such securities could result in dilution to existing stockholders. These securities could have rights, preferences and privileges that are senior to those of holders of our common stock. For example, in December 1998 we issued debt securities for the purchase and improvement of our facilities in Fremont, California.

If we require additional capital in the future, it might not be available on acceptable terms, or at all. If we are unable to obtain additional capital when needed, we may be required to reduce the scope of our planned expansion of our manufacturing capacity or of our product development and marketing efforts, which could adversely affect our business and operating results.

#### **PROVISIONS IN OUR CHARTER, BYLAWS OR DELAWARE LAW MAY DELAY OR PREVENT A CHANGE IN CONTROL OF OUR COMPANY.**

Provisions in our amended and restated certificate of incorporation and bylaws may have the effect of delaying or preventing a merger, acquisition or change of control of us, or changes in our management. These provisions include:

- the division of our board of directors into three separate classes, each with three year terms;
- the right of our board to elect a director to fill a space created by a board vacancy or the expansion of the board;
- the ability of our board to alter our bylaws;
- the ability of our board to authorize the issuance of up to 2,000,000 shares of blank check preferred stock; and
- the requirement that only our board or the holders of at least 10% of our outstanding shares may call a special meeting of our stockholders.

Furthermore, because we are incorporated in Delaware, we are subject to the provisions of Section 203 of the Delaware General Corporation Law. These provisions prohibit large stockholders, in particular those owning 15% or more of the outstanding voting stock, from consummating a merger or combination with a corporation unless:

- 66 2/3% of the shares of voting stock not owned by these large stockholders approve the merger or combination, or
- the board of directors approves the merger or combination or the transaction which resulted in the large stockholder owning 15% or more of our outstanding voting stock.

#### **ITEM 7A. QUALITATIVE AND QUANTITATIVE DISCLOSURES ABOUT MARKET RISK**

Since our Japanese and some Taiwanese invoices are denominated in Japanese yen, doing business in Japan subjects us to fluctuations in exchange rates between the U.S. dollar and the Japanese yen. We incurred a foreign transaction exchange loss of \$552,000 in 2000, a gain of \$652,000 in 1999, and a loss of \$24,000 in 1998. We purchase foreign exchange contracts to hedge against certain trade accounts receivable in Japanese

yen. The outstanding commitments with respect to such foreign exchange contracts had a total contract value of approximately \$500,000 as of December 31, 2000. Many of the contracts were entered into six months prior to the due date and the dates coincide with the receivable terms on customer invoices. By matching the receivable collection date and contract due date, we attempt to economically minimize the impact of foreign exchange fluctuations.

The fair market value of long-term fixed and variable interest rate debt is subject to interest rate risk. The effect of an immediate 10% change in interest rates would not have a material impact on our future operating results or cash flows.

Marketable securities are valued at fair market value at December 31, 2000. There is no assurance that we will realize this value when we sell these securities in the future.

#### **ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

The Consolidated Financial Statements and Supplementary Data required by this item are set forth at the pages indicated at Item 14 (a).

#### **ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURES**

None.

### **PART III**

The SEC allows us to include information required in this report by referring to other documents or reports we have already or will soon be filing. This is called "Incorporation by Reference." We intend to file our definitive proxy statement pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this report, and certain information therein is incorporated in this report by reference.

#### **ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT**

The information required by this Item is incorporated herein by reference to information set forth in our definitive 2001 proxy statement under the section entitled "Election of Directors" and in Part I of this report under the section entitled "Executive Officers of the Registrant."

The information required by this Item with respect to compliance with Section 16(a) of the Securities Exchange Act of 1934 is incorporated herein by reference to information set forth in the definitive 2001 Proxy Statement under the heading "Executive Compensation and Other matters."

#### **ITEM 11. EXECUTIVE COMPENSATION**

The information required by this Item is incorporated herein by reference to information set forth in our definitive 2001 proxy statement under the section entitled "Executive Compensation and Other matters."

#### **ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT**

The information required by this Item is incorporated herein by reference to information set forth in our definitive 2001 proxy statement under the section entitled "Security Ownership of Certain Beneficial Owners and Management."

## PART IV

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

(a) The following documents are filed as part of this report:

(1) Financial Statements:

#### INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	PAGE
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Report of Independent Accountants -- PricewaterhouseCoopers LLP.....	36
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Consolidated Balance Sheets.....	38
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Consolidated Statement of Stockholders' Equity.....	40
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(2) Financial Statement Schedules

All schedules have been omitted because the required information is not present or not present in amounts sufficient to require submission of the schedules or because the information required is included in the Consolidated Financial Statements or Notes thereto.

(3) Exhibits

See Index to Exhibits on page 59 hereof. The exhibits listed in the accompanying Index to Exhibits are filed as part of, or incorporated by reference into, this report on Form 10-K.

(b) Reports on Form 8-K.

None



## REPORT OF INDEPENDENT ACCOUNTANTS

### To the Board of Directors and Stockholders of AXT, Inc.

In our opinion, based on our audits and the report of other auditors, the accompanying consolidated balance sheets and the related consolidated statements of income, of stockholders' equity and of cash flows present fairly, in all material respects, the financial position of AXT, Inc. and its subsidiaries at December 31, 2000 and 1999, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2000 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. The consolidated financial statements give retroactive effect to the merger of Lyte Optronics, Inc. on May 28, 1999 in a transaction accounted for as a pooling of interests, as described in Note 5 to the consolidated financial statements. We did not audit the balance sheet, the results of operations and cash flows of Lyte Optronics, Inc. for the year ended December 31, 1998, which statements reflect total assets of \$25,435,000 as of December 31, 1998 and total revenues of \$18,137,000 for the year ended December 31, 1998. Those statements were audited by other auditors whose report thereon has been furnished to us, and our opinion expressed herein, insofar as it relates to the amounts included for Lyte Optronics, Inc., is based solely on the report of the other auditors. 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 and the report of other auditors provide a reasonable basis for the opinion expressed above.

### PricewaterhouseCoopers LLP

San Jose, California  
February 9, 2001

## **REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS**

### **To the Board of Directors of Lyte Optronics, Inc.:**

We have audited the consolidated balance sheet of Lyte Optronics, Inc. (a Nevada corporation) and Subsidiaries as of December 31, 1998, and the related consolidated statements of operations, stockholders' investment and cash flows for the year ended December 31, 1998 (not presented herein). 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 in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Lyte Optronics, Inc. and Subsidiaries as of December 31, 1998, and the results of their operations and their cash flows for the year ended December 31, 1998 in conformity with accounting principles generally accepted in the United States.

### **ARTHUR ANDERSEN LLP**

Los Angeles, California  
May 27, 1999

**AXT, INC.**

**CONSOLIDATED BALANCE SHEETS**  
(IN THOUSANDS)

**ASSETS**

	DECEMBER 31,	
	2000	1999
Current assets:		
Cash and cash equivalents.....	\$ 68,585	\$ 6,062
Marketable securities.....	30,852	--
Accounts receivable.....	27,773	17,561
Inventories.....	51,846	35,470
Prepaid expenses and other current assets.....	3,603	8,945
Deferred income taxes.....	--	3,210
Total current assets.....	182,659	71,248
Property, plant and equipment.....	63,401	40,865
Other assets.....	3,312	1,405
Goodwill.....	848	2,244
Total assets.....	\$250,220	\$115,762
	=====	=====
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term bank borrowing.....	\$ 1,353	\$ 11,298
Accounts payable.....	10,009	8,294
Accrued liabilities.....	16,651	7,464
Deferred income taxes.....	3,847	--
Current portion of long-term debt.....	4,355	1,568
Current portion of capital lease obligation.....	6,057	2,162
Total current liabilities.....	42,272	30,786
Long-term debt, net of current portion.....	15,123	15,254
Long-term capital lease, net of current portion.....	7,278	6,853
Other long-term liabilities.....	200	410
Total liabilities.....	64,873	53,303
	-----	-----
Commitments and Contingencies (Note 15)		
Stockholders' equity:		
Preferred stock, \$.001 par value; 2,000 shares authorized; 883 and 981 shares issued and outstanding.....	3,532	3,990
Common stock, \$.001 par value; 40,000 shares authorized; 21,952 and 18,659 shares issued and outstanding.....	145,748	46,340
Deferred compensation.....	(107)	(217)
Retained earnings.....	33,980	12,370
Other comprehensive income.....	2,194	(24)
Total stockholders' equity.....	185,347	62,459
Total liabilities and stockholders' equity.....	\$250,220	\$115,762
	=====	=====

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

**AXT, INC.**

**CONSOLIDATED INCOME STATEMENTS**  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Revenue.....	\$121,503	\$75,372	\$49,074
Cost of revenue, including restructuring costs of \$1,844 in 2000.....	73,684	50,026	29,003
Gross profit.....	47,819	25,346	20,071
Operating expenses:			
Selling, general and administrative.....	18,041	10,474	6,019
Research and development.....	8,769	2,566	2,504
Restructuring costs.....	6,409	--	--
Acquisition costs.....	--	2,810	--
Total operating expenses.....	33,219	15,850	8,523
Income from operations.....	14,600	9,496	11,548
Interest expense.....	3,616	2,201	875
Other (income) and expense.....	(28,432)	(1,423)	(715)
Income from continuing operations before provision for income taxes.....	39,416	8,718	11,388
Provision for income taxes.....	14,978	4,380	4,668
Income from continuing operations.....	24,438	4,338	6,720
Discontinued operations:			
Loss from discontinued operations, net of tax benefits of \$912, \$2,241 and \$1,692.....	(1,487)	(3,658)	(2,436)
Loss on disposal, net of tax benefits of \$822.....	(1,341)	--	--
Extraordinary item, net of tax benefits of \$311.....	--	(508)	--
Net income.....	\$ 21,610	\$ 172	\$ 4,284
Basic income (loss) per share:			
Income from continuing operations.....	\$ 1.24	\$ 0.23	\$ 0.42
Loss from discontinued operations.....	(0.14)	(0.19)	(0.15)
Extraordinary item.....	--	(0.03)	--
Net income.....	1.10	0.01	0.27
Diluted income (loss) per share:			
Income from continuing operations.....	\$ 1.16	\$ 0.22	\$ 0.41
Loss from discontinued operations.....	(0.13)	(0.18)	(0.15)
Extraordinary item.....	--	(0.03)	--
Net income.....	1.03	0.01	0.26
Shares used in per share calculations:			
Basic.....	19,677	18,655	16,076
Diluted.....	21,059	19,771	16,325

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

**AXT, INC.**

**CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY**  
(IN THOUSANDS)

	PREFERRED STOCK		COMMON STOCK		DEFERRED COMPENSATION	RETAINED EARNINGS	OTHER COMPREHENSIVE INCOME	TOTAL
	SHARES	AMOUNT	SHARES	AMOUNT				
BALANCE AT DECEMBER 31, 1997.....	10,129	\$ 8,553	3,800	\$ 1,337	\$ (220)	\$ 7,914	\$ (197)	\$ 17,387
Common stock options exercised.....			71	138				138
Issuance of common stock.....			123	724				724
Issuance of common stock and Series A preferred stock in connection with the acquisition of Alpha Photonics, Inc.....	981	4,000	1,267	7,500				11,500
Issuance of common stock as settlement of trade payables.....			4	25				25
Reacquisition and retirement of common stock.....			(61)					
Issuance of common stock in connection with financing...			185	994				994
Conversion of Series C convertible preferred stock to common stock.....	(10,129)	(8,553)	10,129	8,553				--
Issuance of common stock upon initial public offering.....			2,875	25,792				25,792
Deferred compensation.....				203	(203)			--
Amortization of deferred compensation.....					96			96
Comprehensive income Net income.....						4,284		4,284
Currency translation adjustment.....							224	224
BALANCE AT DECEMBER 31, 1998.....	981	\$ 4,000	18,393	\$ 45,266	\$ (327)	\$12,198	\$ 27	\$ 61,164
Common stock options exercised.....			201	648				648
Repurchase of shares of common stock in connection with the early extinguishment of debt.....			(21)	(211)				(211)
Acquisition costs paid by shareholders.....		(10)		(139)				(149)
Issuance of Employee Stock Purchase Plan stock.....			86	776				776
Amortization of deferred compensation.....					110			110
Comprehensive income Net income.....						172		172
Currency translation adjustment.....							(51)	(51)
BALANCE AT DECEMBER 31, 1999.....	981	\$ 3,990	18,659	\$ 46,340	\$ (217)	\$12,370	\$ (24)	\$ 62,459
Common stock options exercised.....			711	6,038				6,038
Issuance of Employee Stock Purchase Plan stock.....			63	648				648
Reacquisition and retirement of common stock and Series A preferred stock in connection with merger of Lyte Optronics.....	(98)	(458)	(225)	458				--
Issuance of common stock in private placement.....			234	8,507				8,507
Issuance of common stock in follow on public offering...			2,510	80,812				80,812
Income tax benefit from stock option exercises.....				2,945				2,945
Amortization of deferred compensation.....					110			110
Comprehensive income Net income.....						21,610		21,610
Unrealized gain on marketable securities.....							2,185	2,185
Currency translation adjustment.....							33	33

BALANCE AT DECEMBER 31,								
2000.....	883	\$ 3,532	21,952	\$145,748	\$(107)	\$33,980	\$2,194	\$185,347
	=====	=====	=====	=====	=====	=====	=====	=====

COMPREHENSIVE  
INCOME

BALANCE AT DECEMBER 31,  
1997..... \$ 727

Common stock options  
exercised.....  
Issuance of common stock.....  
Issuance of common stock and  
Series A preferred stock in  
connection with the  
acquisition of Alpha  
Photonics, Inc.....  
Issuance of common stock as  
settlement of trade  
payables.....  
Reacquisition and retirement  
of common stock.....  
Issuance of common stock in  
connection with financing...  
Conversion of Series C  
convertible preferred stock  
to common stock.....  
Issuance of common stock upon  
initial public offering....  
Deferred compensation.....  
Amortization of deferred  
compensation.....  
Comprehensive income  
Net income..... 4,284  
Currency translation  
adjustment..... 224

BALANCE AT DECEMBER 31,  
1998..... \$ 4,508

Common stock options  
exercised.....  
Repurchase of shares of common  
stock in connection with the  
early extinguishment of  
debt.....  
Acquisition costs paid by  
shareholders.....  
Issuance of Employee Stock  
Purchase Plan stock.....  
Amortization of deferred  
compensation.....  
Comprehensive income  
Net income..... 172  
Currency translation  
adjustment..... (51)

BALANCE AT DECEMBER 31,  
1999..... \$ 121

Common stock options  
exercised.....  
Issuance of Employee Stock  
Purchase Plan stock.....  
Reacquisition and retirement  
of common stock and Series A  
preferred stock in  
connection with merger of  
Lyte Optronics.....  
Issuance of common stock in  
private placement.....  
Issuance of common stock in  
follow on public offering...  
Income tax benefit from stock  
option exercises.....  
Amortization of deferred  
compensation.....  
Comprehensive income  
Net income..... 21,610  
Unrealized gain on  
marketable securities.... 2,185  
Currency translation  
adjustment..... 33

BALANCE AT DECEMBER 31,  
2000..... \$23,828

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

**AXT, INC.**

**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(IN THOUSANDS)

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>			
Net income.....	\$ 21,610	\$ 172	\$ 4,284
Adjustments to reconcile net income to cash provided by (used in) operations:			
Depreciation.....	6,854	5,444	2,959
Deferred income taxes.....	5,718	(758)	(1,126)
Amortization of goodwill.....	548	599	149
Stock compensation.....	110	110	96
Stock option tax benefits.....	2,945		
Non cash restructuring costs.....	6,249	--	--
Non cash gain on marketable securities.....	(27,328)	--	--
Gain on sale of property, plant and equipment.....	(183)	--	--
Changes in assets and liabilities:			
Accounts receivable.....	(10,212)	(4,433)	(4,192)
Inventories.....	(18,220)	(10,170)	(11,074)
Prepaid expenses.....	5,282	(5,674)	(1,610)
Other assets.....	(369)	522	(243)
Accounts payable.....	1,715	444	1,540
Accrued liabilities.....	9,187	2,222	533
Other long-term liabilities.....	(210)	(194)	110
Net cash provided by (used in) operating activities.....	3,696	(11,716)	(8,574)
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>			
Purchases of property, plant and equipment.....	(26,278)	(2,758)	(14,899)
Investment in China joint venture.....	(1,599)	--	--
Proceeds from sale of property plant and equipment.....	1,805	--	--
Net cash used in investing activities.....	(26,072)	(2,758)	(14,899)
<b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>			
Proceeds from (payments of):			
Issuance of common stock.....	96,005	1,064	27,648
Capital lease payments.....	(3,850)	(1,958)	(263)
Short-term bank borrowings.....	(9,945)	9,370	(2,320)
Long-term debt borrowings.....	6,000	--	17,002
Long-term debt payments.....	(3,344)	(4,327)	(5,574)
Net cash provided by financing activities.....	84,866	4,149	36,493
Effect of exchange rate changes.....	33	(51)	219
Net increase in cash and cash equivalents.....	62,523	(10,376)	13,239
Cash and cash equivalents at the beginning of the period....	6,062	16,438	3,199
Cash and cash equivalents at the end of the period.....	\$ 68,585	\$ 6,062	\$ 16,438
	=====	=====	=====
<b>NON CASH ACTIVITY:</b>			
Purchases of property, plant and equipment through capital leases.....	\$ 8,170	\$ 5,927	\$ 1,737
Exchange of Finisar shares for Demeter shares.....	\$ 27,328	\$ --	\$ --
<b>SUPPLEMENTAL DISCLOSURES:</b>			
Interest paid.....	\$ 3,597	\$ 2,288	\$ 1,481
Income taxes paid.....	\$ 4,645	\$ 6,268	\$ 4,338

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



## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### NOTE 1. THE COMPANY AND SUMMARY OF ACCOUNTING POLICIES

#### The Company

AXT, Inc. designs, develops, manufactures, and distributes high-performance compound semiconductor substrates, as well as opto-electronic semiconductor devices, such as high-brightness light-emitting diodes, or HBLEDs, and vertical cavity surface emitting lasers, or VCSELs.

AXT expanded its markets in 1999 through the acquisition of Lyte Optronics, Inc., (see Note 5). Lyte Optronics operates as the visible emitter division, which focuses on manufacturing HBLEDs and VCSELs and the consumer products division, which focuses on designing and marketing laser-pointing, laser-alignment and LED products. The consumer products division has been discontinued (see Note 3).

The Company officially changed its name from American Xtal Technology, Inc. to AXT, Inc. on July 7, 2000.

#### 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 and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

#### Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its majority-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated. Investments in business entities in which AXT does not have control, but has the ability to exercise significant influence over operating and financial policies (generally 20 - 50% ownership), are accounted for by the equity method.

#### Foreign Currency Translation

The functional currencies of the Company's Japanese and Chinese subsidiaries are the local currencies. Transaction gains and losses resulting from transactions denominated in currencies other than the U.S. dollar for the Company or in the local currencies for the subsidiaries are included in other income for the periods presented.

The assets and liabilities of the subsidiaries are translated at the rates of exchange on the balance sheet date. Revenue and expense items are translated at the average rate of exchange for the period. Gains and losses from foreign currency translation are included in other comprehensive income in stockholders' equity.

#### Revenue Recognition

The Company recognizes revenue upon the shipment of its products to the customer provided that the Company has received a signed purchase order, the price is fixed, title has transferred, collection of resulting receivables is probable, product returns are reasonably estimable, there are no customer acceptance requirements and there are no remaining significant obligations. The Company provides for future returns based on historical experience at the time revenue is recognized.

#### Fair Value of Financial Instruments

The reported amounts of certain of the Company's financial instruments including cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities approximate fair value due to their

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

short maturities. The reported amounts of short-term bank borrowing, loans payable and capital lease obligations approximate fair value due to the market interest rates which these debts bear.

**Concentration of Credit Risk**

Financial instruments which potentially subject the Company to concentration of credit risk consist primarily of trade accounts receivable. The Company invests primarily in money market accounts and commercial paper instruments. Cash equivalents are maintained with high quality institutions and their composition and maturities are regularly monitored by management.

The Company performs ongoing credit evaluations of its customers' financial condition, and limits the amount of credit extended when deemed necessary, but generally does not require collateral.

No customer represented greater than 10% of product revenues for the years ended December 31, 2000, 1999, and 1998.

No customer accounted for 10% or more of the trade accounts receivable balance as of December 31, 2000 and 1999.

**Cash Equivalents**

The Company considers all highly liquid debt instruments purchased with an original maturity of three months or less to be cash equivalents.

**Marketable Securities**

The Company classifies all of its marketable securities as available-for-sale securities as prescribed in Financial Accounting Standard No. 115, "Accounting for Certain Investments in Debt and Equity Securities." Marketable securities consist of equity securities that are stated at market value, with unrealized gains and losses reflected, net of tax, as other comprehensive income in shareholders' equity. Realized gains and losses on marketable securities are included in earnings and are derived using the specific identification method for determining cost of securities. All securities are considered to be available-for-sale and are classified as current assets.

**Inventories**

Inventories are stated at the lower of cost or market. Cost is determined using the weighted average cost method. Finished goods and work-in-process inventories include material, labor and manufacturing overhead costs.

**Property, Plant and Equipment**

Property, plant and equipment are stated at cost less accumulated depreciation computed using the straight-line method over the estimated economic lives of the assets, which vary from three to ten years. Leasehold improvements are amortized over the shorter of the estimated useful life or the term of the lease.

**Goodwill**

Goodwill, the excess of cost over the fair value of net assets acquired, is being amortized over 5 years.

**Impairment of Long-Lived Assets**

Pursuant to Statement of Financial Accounting Standard No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed of," the Company reviews long-lived assets

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

based upon a gross cash flow basis and will reserve for impairment whenever events or changes in circumstances indicate the carrying amount of the assets may not be fully recoverable.

**Stock-Based Compensation**

The Company accounts for stock-based employee compensation arrangements using the intrinsic value method as prescribed in Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" and related Interpretations thereof. Accordingly, compensation costs for stock options is measured as the excess, if any, of the market price of the Company's stock at the date of grant over the stock option exercise price. In addition, the Company complies with the disclosure provisions of Statement of Financial Accounting Standard No. 123, "Accounting for Stock-Based Compensation."

**Research and Development**

Research and development costs are expensed as incurred.

**Income Taxes**

The Company accounts for deferred income taxes using the liability method, under which the expected future tax consequences of timing differences between the book and tax basis of assets and liabilities are recognized as deferred tax assets and liabilities. Valuation allowances are established when necessary to reduce deferred tax assets when management estimates, based on available objective evidence, that it is more likely than not that the benefit will not be realized for the deferred tax assets.

**Comprehensive Income**

Comprehensive income is defined as the change in equity of a company during a period from transactions and other events and circumstances excluding transactions resulting from investment by owners and distribution to owners. The difference between net income and comprehensive income for the Company relates to foreign currency translation adjustments and unrealized gains and losses on marketable securities. Comprehensive income for the years ended December 31, 2000, 1999 and 1998 is disclosed in the "Consolidated Statement of Stockholders' Equity."

**Basic and Diluted Net Income (Loss) Per Share**

Basic income (loss) per share is computed by dividing the income (loss) available to holders of common stock for the period by the weighted average number of shares of common stock outstanding during the period. The calculation of diluted income (loss) per share excludes potential common stock if the effect of such stock is antidilutive. Potential common stock consists of common shares issuable upon the exercise of stock options.

**Reclassifications**

Certain reclassifications have been made to the prior years consolidated financial statements to conform to current period presentation.

**Recent Accounting Pronouncements**

In June 1998, the FASB issued Statement of Financial Accounting Standard No. 133, or SFAS 133, "Accounting for Derivative Instruments and Hedging Activities." SFAS 133 established accounting and reporting standards for derivative instruments including certain derivative instruments embedded in other contracts and for hedging activities. In June 2000, SFAS 133 was amended by SFAS 138. The Company will implement SFAS 133 beginning in 2001. Adopting the provisions of SFAS 133 is not expected to have a material effect on the Company's financial position or results of operations.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

We have adopted the provisions of Staff Accounting Bulletin No. 101, or SAB 101, "Revenue Recognition," which did not and does not have a material effect on the financial position or results of operations of the Company.

**NOTE 2. GAIN ON DEMETER WARRANTS**

The Company received approximately 1.1 million shares of Finisar Corporation common stock as a result of Finisar Corporation's acquisition of Demeter Technologies. AXT held a warrant in Demeter that it received in exchange for certain leases and transferred technology. A gain of \$27.3 million was recorded in other income as a result of the transaction. The investment in the Finisar Corporation shares is classified as a marketable security (see Note 6). The Company may receive up to an additional 118,000 shares that are currently held in escrow. These shares will be released from escrow on November 31, 2001 subject to claims of indemnification.

**NOTE 3. DISCONTINUED OPERATIONS**

On December 14, 2000, the Company's Board of Directors approved management's plan to exit the Company's unprofitable consumer products business. The Company expects to complete the plan by June 30, 2001. Certain assets of the consumer products division will be sold, transferred to other divisions or discarded. At December 31, 2000, the Company had a remaining balance of \$1.1 million in accrued liabilities for anticipated expenses of asset disposal and operating losses through the estimated date of disposal.

Certain information with respect to discontinued operations is summarized below (in thousands):

	JANUARY 1, 2000 THROUGH DECEMBER 14, 2000	YEAR ENDED 1999	YEAR ENDED 1998
Revenue.....	\$ 4,832	\$ 6,149	\$12,240
Cost of revenue.....	4,311	7,343	9,946
Gross profit.....	521	(1,194)	2,294
Operating expenses:			
Selling, general and administrative.....	2,899	3,543	5,519
Research and development.....	160	520	180
Total operating expenses.....	3,059	4,063	5,699
Loss from operations.....	(2,538)	(5,257)	(3,405)
Interest expense.....	0	526	606
Other (income) expense.....	(139)	116	117
Loss before provision for income taxes.....	(2,399)	(5,899)	(4,128)
Income tax benefit.....	(912)	(2,241)	(1,692)
Loss from discontinued operations.....	\$(1,487)	\$(3,658)	\$(2,436)

The charge in 2000 for loss on disposal of the consumer products business includes the following (in thousands):

Carrying value of net assets in excess of anticipated proceeds.....	\$1,060
Expenses of asset disposal and anticipated operating loss for the period December 15, 2000 through the estimated date of disposal.....	1,103
Loss on disposal before taxes.....	2,163
Income tax benefit.....	(822)
Loss on disposal.....	\$1,341

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

NOTE 4. RESTRUCTURING COSTS

On December 14, 2000, the Company's Board of Directors approved management's plan to exit its unprofitable 650nm laser diode product line within its visible emitter division. As a result, during the fourth quarter of 2000, the Company recorded a pre-tax restructuring charge of \$8.2 million. The restructuring charge includes \$1.8 million to write-off laser diode inventory, which has been classified as a component of cost of goods sold. The restructuring charge also includes \$3.4 million to write-off net assets included in property, plant and equipment. These assets consist of laser diode processing equipment that could not be utilized for HBLD or VCSEL processing. These assets have been taken out of service and will be sold or discarded. The restructuring charge also includes \$848,000 to write-down a portion of goodwill attributable to the laser diode product line. The restructuring charge also includes \$2.1 million for incremental costs and contractual obligations for such items as leasehold termination payments and other facility exit costs incurred as a direct result of this plan.

Certain information with respect to restructuring costs is summarized below (in thousands):

	RESERVE	UTILIZED		BALANCE DECEMBER 31, 2000
		CASH	NON-CASH	
Inventory write-off.....	\$1,844	\$--	\$1,844	\$ --
Property, plant and equipment write-off.....	3,436	--	3,436	--
Goodwill write-off.....	848	--	848	--
Incremental restructuring costs.....	2,124	12	121	1,991
	\$8,252	\$12	\$6,249	\$1,991
	=====	===	=====	=====

The fair value of assets determined to be impaired in accordance with the guidance for assets to be held and used in SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed of," were the result of management estimates. The above noted exit costs were determined in accordance with EITF No. 94-3, "Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity." The restructuring actions, as outlined by the plan, are intended to be executed to completion by July 31, 2001.

NOTE 5. ACQUISITION

Merger of the Company with Lyte Optronics, Inc.

On May 28, 1999, the Company completed a merger with Lyte Optronics, Inc., or Lyte, a Nevada corporation and all of its subsidiaries, including Alpha Photonics, Inc., Lyte Optronics Ltd. (a United Kingdom company) and Advanced Semiconductor (a Xiamen, China company). Lyte and its subsidiaries manufacture and distribute semiconductor laser diode chips, high-brightness LEDs and laser pointers.

Under the terms of the merger agreement, the Company issued approximately 2,023,000 shares of its common stock in exchange for all the outstanding shares of Lyte's common stock as well as the outstanding shares of Lyte's Series A preferred stock. The Company also issued approximately 883,000 shares of Series A preferred stock in exchange for all the outstanding shares of Lyte's Series B preferred stock. In addition, the Company assumed and converted Lyte's options and warrants representing approximately 115,000 shares of the Company's common stock.

The merger has been accounted for as a pooling of interests; accordingly, all prior period consolidated financial statements have been restated to include the combined results of operations, financial position and cash flows of Lyte.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

The Company incurred costs of approximately \$2.8 million associated with the merger, which were charged to operations during the quarter ended June 30, 1999, the period in which the merger was consummated.

**Acquisition of Alpha Photonics, Inc. by Lyte Optronics, Inc.**

On September 29, 1998, Lyte acquired Alpha Photonics, Inc., or Alpha. The transaction was accounted for as a purchase. Lyte issued its common and preferred stock with a value of \$11.5 million in exchange for all the outstanding shares of capital stock of Alpha. Lyte recorded goodwill of \$3.0 million, representing the excess of the value of the shares issued by Lyte over the net book value of Alpha. The results of operations of Alpha are included in the operations of the Company beginning on September 29, 1998.

**NOTE 6. MARKETABLE SECURITIES**

Marketable securities consist of Finisar Corporation common stock. An unrealized gain of \$2.2 million net of tax was recorded in 2000. These securities are valued at fair market value at December 31, 2000. There is no assurance that the Company will realize this value when the securities are sold in the future.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

NOTE 7. BALANCE SHEET DETAIL

The components of selected balance sheet accounts are summarized below (in thousands):

	DECEMBER 31,	
	2000	1999
Inventories:		
Raw materials.....	\$ 20,623	\$ 13,503
Work-in-process.....	26,795	16,151
Finished goods.....	4,428	5,816
	-----	-----
	\$ 51,846	\$ 35,470
	=====	=====
Prepaid expenses:		
Income tax receivable.....	\$ 1,389	\$ 4,013
Other.....	2,214	4,932
	-----	-----
	\$ 3,603	\$ 8,945
	=====	=====
Property, plant and equipment:		
Land.....	\$ 2,447	\$ 2,447
Building.....	19,747	18,507
Machinery and equipment.....	40,002	31,058
Leasehold improvements.....	4,079	2,704
Construction in progress.....	14,694	1,008
	-----	-----
	80,969	55,724
Less: accumulated depreciation and amortization.....	(17,568)	(14,859)
	-----	-----
	\$ 63,401	\$ 40,865
	=====	=====
Accrued liabilities:		
Accrued compensation and other.....	\$ 3,186	\$ 2,090
Customer prepayments.....	5,402	--
Accrued restructuring costs.....	1,991	--
Accrued discontinued operation costs.....	1,103	--
Other.....	4,969	5,374
	-----	-----
	\$ 16,651	\$ 7,464
	=====	=====

NOTE 8. DEBT

Short-Term Bank Borrowing

The Company has a \$20.0 million bank line of credit that expires on May 31, 2002. The line of credit is secured by the Company's operating assets, excluding equipment. Borrowings bear interest at 1.75% above LIBOR that was 6.4% at December 31, 2000 or 0.5% above the bank's variable prime rate that was 9.5% at December 31, 2000. The line of credit is subject to certain financial covenants regarding current financial ratios and cash flow requirements that have all been met as of December 31, 2000. The amounts outstanding under the line of credit were \$0 at December 31, 2000 and \$11.3 million at December 31, 1999.

At December 31, 2000, the Company had two notes outstanding with banks in China in the amount of \$1.4 million. These notes mature in 2001 and bear interest at 4.9% and 5.5% and are secured by a \$400,000 certificate of deposit and a building and land usage rights.

**AXT, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

**Long-Term Debt**

The components of long-term debt are summarized below (in thousands):

	DECEMBER 31,	
	2000	1999
Various notes payable to banks, secured by certain equipment, bearing interest at fixed rates between 7.69% and 9.01%, maturing between February 2001 and May 2003....	\$ 2,035	\$ 2,948
Debenture loan to Bay Area Employment Development Company, guaranteed by the U.S. Small Business Administration, bearing interest at a fixed rate of 7.27%, maturing October 2016.....	888	917
Taxable revenue bonds, secured by a letter of credit from a bank, bearing interest at the H15 30 day bond yield for commercial paper that was 6.65% on December 31, 2000, maturing December 2023.....	10,555	11,135
Mortgage notes payable to a bank, secured by property, bearing interest at 150 basis points above the prime rate that was 9.5% on December 31, 2000, maturing May 2003.....	6,000	1,822
	-----	-----
	19,478	16,822
Less current portion.....	(4,355)	(1,568)
	-----	-----
	\$15,123	\$15,254
	=====	=====

Maturities of long-term debt at December 31, 2000 were as follows:

2001.....	\$ 4,355
2002.....	2,357
2003.....	3,590
2004.....	494
2005.....	457
Thereafter.....	8,225
	-----
	\$19,478
	=====

Following the merger with Lyte Optronics in 1999, the Company prepaid Lyte Optronics debt. The prepayment resulted in an extraordinary loss in the amount of \$508,000, net of tax benefits.



**AXT, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

**NOTE 9. INCOME TAXES**

The components of the provision for income taxes are summarized below (in thousands):

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Current:			
Federal.....	\$ 7,738	\$4,201	\$ 5,297
State.....	948	690	611
Foreign.....	155	247	51
Total current.....	8,841	5,138	5,959
Deferred:			
Federal.....	5,489	(663)	(1,097)
State.....	648	(95)	(194)
Total deferred.....	6,137	(758)	(1,291)
Total provision from continuing operations before discontinued operations.....	\$14,978	\$4,380	\$ 4,668
	=====	=====	=====

A reconciliation of the effective income tax rates and the U.S. statutory federal income tax rate is summarized below:

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Statutory federal income tax rate.....	35.0%	34.0%	34.0%
State income taxes, net of federal tax benefits.....	3.3%	4.8%	2.6%
Foreign sales corporation benefit.....	(1.4)%	(3.0)%	(3.2)%
Foreign income taxed at higher rate.....	0.0%	0.0%	0.8%
Acquisition costs.....	0.0%	11.0%	0.0%
Other.....	1.1%	3.4%	6.9%
Effective tax rate.....	38.0%	50.2%	41.1%
	=====	=====	=====

Deferred tax assets and liabilities are summarized below (in thousands):

	YEARS ENDED DECEMBER 31,	
	2000	1999
Deferred tax assets:		
Accruals and reserves not yet deductible.....	\$ 8,529	\$ 3,659
State taxes.....	288	98
Net operating loss.....	867	925
Credits.....	165	128
	\$ 9,849	\$ 4,810
Deferred tax liabilities:		
Unrealized appreciation on Finisar marketable securities.....	(1,339)	--
Gain on receipt of Finisar marketable securities.....	(9,945)	--
Depreciation.....	(2,412)	(1,600)
	\$(13,696)	\$(1,600)
Net deferred tax assets (liabilities).....	\$ (3,847)	\$ 3,210
	=====	=====

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

NOTE 10. NET INCOME PER SHARE

A reconciliation of the numerators and denominators of the basic and diluted net income per share calculations is as follows (in thousands, except per share data):

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Numerator:			
Net income.....	\$21,610	\$ 172	\$ 4,284
	=====	=====	=====
Denominator:			
Denominator for basic net income per share -- weighted average common shares.....	19,677	18,655	16,076
Effect of dilutive securities:			
Common stock options.....	1,382	1,116	249
	-----	-----	-----
Denominator for dilutive net income per share.....	\$21,059	\$19,771	\$16,325
	=====	=====	=====
Basic income per share.....	\$ 1.10	\$ 0.01	\$ 0.27
Diluted income per share.....	\$ 1.03	\$ 0.01	\$ 0.26
Options excluded from diluted net income per share as the impact is antidilutive.....	118	415	7
	=====	=====	=====

NOTE 11. STOCKHOLDERS' EQUITY

In May 1998, the Company completed its initial public offering, or IPO, and issued 2,875,000 shares of its common stock at \$10.00 per share, including the shares from an over-allotment option. The Company received cash of approximately \$25.8 million net of underwriting discounts, commissions and IPO expenses. Upon the closing of the IPO, all outstanding shares of the Company's then convertible preferred stock were automatically converted into shares of common stock.

On May 28, 1999, the Company completed its acquisition of Lyte Optronics, Inc. Under the terms of the acquisition, the Company issued approximately 2,023,000 shares of common stock and 883,000 shares of non-voting and non-convertible preferred stock with a 5.0% cumulative annual dividend rate payable when declared by the board of directors of the Company and \$4 per share liquidation preference over common stock, in exchange for all of the issued and outstanding shares of capital stock of Lyte.

On July 25, 2000 the Company completed a private securities offering, raising approximately \$8.5 million in exchange for 234,115 shares of common stock.

On September 19, 2000, the Company sold pursuant to an underwritten public offering, 2,510,000 shares of its common stock at a price of \$34.25 per share, including the shares from an over-allotment option. The Company received cash of approximately \$80.8 million net of underwriting discounts, commissions and expenses. Following the public offering, proceeds were used to repay its line of credit and for general corporate purposes.

NOTE 12. EMPLOYEE BENEFIT PLANS

Stock Option Plans

In 1993, the Company adopted the 1993 Stock Option Plan ("1993 Plan") which provides for granting of incentive and non-qualified stock options to employees, consultants, and directors of the Company. Under the 1993 Plan, 880,000 shares of common stock have been reserved for issuance as of December 31, 1998. Options granted under the 1993 Plan are generally for periods not to exceed ten years and are granted at the fair market value of the stock at the date of grant as determined by the board of directors. Options granted under

**AXT, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

the 1993 Plan generally vest 25.0% upon grant and 25.0% each year thereafter, with full vesting occurring on the third anniversary of the grant date.

In May 1997, the Company adopted the 1997 Stock Option Plan ("1997 Plan") which provides for granting of incentive and non-qualified stock options to employees, consultants and directors of the Company. Under the 1997 Plan, 5,901,501 shares of common stock have been reserved for issuance as of December 31, 2000. Options granted under the 1997 Plan are generally for periods not to exceed ten years (five years if the option is granted to a 10.0% stockholder) and are granted at the fair market value of the stock at the date of grant as determined by the board of directors. Options granted under the 1997 Plan generally vest 25.0% at the end of one year and 2.1% each month thereafter, with full vesting after four years.

Information about stock option activities is summarized below:

		OPTIONS OUTSTANDING		
	OPTIONS AVAILABLE FOR GRANT	NUMBER OF SHARES	EXERCISE PRICE PER SHARE	WEIGHTED AVERAGE EXERCISE PRICE PER SHARE
Balance at December 31, 1997.....	467,819	1,346,152		\$ 4.77
Additional shares authorized.....	1,500,000	--		--
Granted.....	(320,599)	320,599	\$ 5.00 - 11.87	7.46
Exercised.....	--	(71,407)	1.20 - 5.00	1.94
Cancelled.....	64,268	(64,268)	5.00 - 7.50	5.39
Balance at December 31, 1998.....	1,711,488	1,531,076		5.44
Additional shares authorized.....	1,000,000	--		--
Granted.....	(1,504,350)	1,504,350	9.12 - 24.96	18.21
Exercised.....	--	(200,679)	1.20 - 8.25	4.64
Cancelled.....	154,645	(154,645)	1.90 - 22.69	13.82
Balance at December 31, 1999.....	1,361,783	2,680,102		12.18
Additional shares authorized.....	2,101,501	--		--
Granted.....	(1,182,550)	1,182,550	15.06 - 47.00	30.21
Exercised.....	--	(711,259)	0.20 - 22.69	8.49
Cancelled.....	681,218	(681,218)	\$ 1.90 - 47.00	17.29
Balance at December 31, 2000.....	2,961,952	2,470,175		\$20.46

**AXT, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

Information about stock options outstanding at December 31, 2000 is summarized below:

OPTIONS OUTSTANDING			OPTIONS EXERCISABLE		
RANGE OF EXERCISE PRICES	NUMBER OUTSTANDING	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE	NUMBER OUTSTANDING	WEIGHTED AVERAGE EXERCISE PRICE	
\$ 5.00 - 5.00	353,944	6.63	259,162	\$5.00	
5.50 - 9.12	393,771	7.40	129,619	6.92	
10.04 - 15.69	259,417	8.87	15,292	14.11	
15.87 - 21.19	277,293	8.60	82,186	19.92	
21.25 - 24.00	329,300	8.93	2,182	22.69	
24.50 - 29.56	105,500	9.28	--	--	
29.56 - 31.63	277,100	9.61	--	--	
31.88 - 36.50	269,300	9.67	--	--	
36.623 - 44.25	204,050	9.65	125	39.13	
\$44.38 - 44.38	500	9.13	--	--	
	2,470,175	8.55	488,566	\$8.39	
	=====	=====	=====	=====	

**Stock-Based Compensation Under APB No. 25**

In connection with certain stock option grants the Company recorded deferred compensation costs totaling \$203,000 for the year ended December 31, 1998 and \$322,000 for the year ended December 31, 1997. Compensation cost is the difference between the exercise price and the deemed fair value at the date of grant. Compensation cost is being amortized over the vesting period relating to these options, of which approximately \$110,000 was amortized for the year ended December 31, 2000, \$110,000 for 1999 and \$96,000 for 1998.

**Certain Pro Forma Disclosures**

Pro forma information regarding net income and net income per share is required by SFAS No. 123, which also requires that information be determined as if the Company had accounted for its employee stock options granted under the fair value method. The fair value for these options was estimated using the Black-Scholes option pricing model.

The Company calculated the fair value of each option grant on the date of grant using the Black-Scholes option pricing model as prescribed by SFAS No. 123 using the following assumptions:

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Risk free interest rate.....	5.8%	5.6%	5.2%
Expected life (in years).....	5.0	5.0	5.0
Dividend yield.....	0.0%	0.0%	0.0%
Volatility.....	124.0%	96.0%	75.0%

The weighted average grant-date fair value of options granted during the year ended December 31, 2000 was \$25.73, \$13.09 in 1999 and \$4.57 in 1998.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Had compensation cost for the Company's options been determined based on the fair value at the grant dates, as prescribed in SFAS 123, the Company's pro forma net income and net income per share would have been as summarized below (in thousands except per share data):

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Net income:			
As reported.....	\$21,610	\$ 172	\$4,284
Pro forma net income.....	16,417	(2,747)	3,936
Net income per share:			
As reported:			
Basic.....	\$ 1.10	\$ 0.01	\$ 0.27
Diluted.....	1.03	0.01	0.26
Pro forma net income:			
Basic.....	\$ 0.83	\$ (0.15)	\$ 0.24
Diluted.....	0.78	(0.15)	0.24

Because additional option grants are expected to be made each year, the above pro forma disclosures are not representative of pro forma effects on reported net income for future years.

**Employee Stock Purchase Plan**

In February 1998, the Company's board of directors approved the 1998 Employee Stock Purchase Plan (the "1998 Purchase Plan"). The Company's stockholders approved the 1998 Purchase Plan in March 1998. At December 31, 2000 a total of 900,000 shares of the Company's common stock were reserved for issuance under the 1998 Purchase Plan. A total of 149,000 shares were purchased as of December 31, 2000. The 1998 Purchase Plan permits eligible employees to acquire shares of the Company's common stock through payroll deductions. The common stock purchase price is determined as 85.0% of the lower of the market price of the common stock at the purchase date or the date of offer to the employee.

**Retirement Savings Plan**

The Company has a 401(k) Savings Plan (the "Savings Plan") which qualifies as a thrift plan under Section 401(k) of the Internal Revenue Code. All full-time U.S. employees are eligible to participate in the Savings Plan after 90 days from the date of hire. Participants may contribute up to 10.0% of their earnings to the Savings Plan with a discretionary matching amount provided by the Company. The Company's contributions to the Savings Plan were \$236,000 for the year ended December 31, 2000, \$146,000 for 1999 and \$101,000 for 1998.

**NOTE 13. SEGMENT AND FOREIGN OPERATIONS INFORMATION**

The Company has three reportable segments: substrates, visible emitters and discontinued consumer products. The segments in which the Company operates are subject to rapid technological change and significant competition. Also, the number of suppliers of certain materials used by the Company and the number of customers are limited.

**AXT, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

Selected financial information by business segment is summarized below (in thousands):

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Substrates Division			
Net revenues from external customers.....	\$113,374	\$ 56,732	\$ 43,177
Gross profit.....	52,013	23,286	17,936
Operating income.....	34,087	12,275	10,416
Identifiable assets.....	215,527	88,579	76,505
Visible Emitter Division			
Net revenues from external customers.....	\$ 8,129	\$ 18,640	\$ 5,897
Gross profit (loss) *.....	(4,194)	2,060	2,135
Operating income (loss) *.....	(19,487)	(2,779)	1,132
Identifiable assets.....	33,181	23,423	18,917
Discontinued Consumer Products Division			
Identifiable assets.....	\$ 1,512	\$ 3,760	\$ 7,561
Total			
Net revenues from external customers.....	\$121,503	\$ 75,372	\$ 49,074
Gross profit.....	47,819	25,346	20,071
Operating income.....	14,600	9,496	11,548
Identifiable assets.....	250,220	115,762	102,983

\* Includes restructuring charge of \$1.8 million in gross profit and \$8.2 million in operating loss in 2000

The Company sells its substrates in the United States and in other parts of the world. Also, the Company has operations in Japan and China. Revenues by geographic location based on the country of the customer were as follows (in thousands):

	YEARS ENDED DECEMBER 31,		
	2000	1999	1998
Net revenues:			
United States.....	\$ 62,905	\$36,497	\$30,172
Europe.....	12,743	8,175	3,960
Canada.....	6,661	2,221	1,356
Japan, Asia Pacific and other.....	39,194	28,479	13,586
Consolidated.....	\$121,503	\$75,372	\$49,074

Property, plant and equipment by geographic location is summarized below (in thousands):

	YEARS ENDED DECEMBER 31,	
	2000	1999
Property, plant and equipment, net:		
United States.....	\$58,022	\$37,362
China.....	5,379	3,491
Other.....	--	12
	\$63,401	\$40,865

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

**NOTE 14. RELATED PARTY TRANSACTIONS**

Equipment & Materials, a California corporation engaged in international trading and quartzware fabrication, supplies us with various raw materials from China and has manufactured quartzware for us. Christina X. Li, the sole shareholder and president of Equipment & Materials, is the wife of Davis Zhang, the president of our substrate division. Purchases from Equipment & Materials were approximately \$8.9 million for the year ended December 31, 2000, \$3.6 million for 1999 and \$3.7 million for 1998. A balance of \$318,000 due to Equipment & Materials was included in accounts payable at December 31, 2000.

**NOTE 15. COMMITMENTS AND CONTINGENCIES**

From time to time the Company is involved in litigation in the normal course of business. Management believes that the outcome of matters to date will not have a material adverse effect on the Company's financial position or results of operations.

The Company has entered into contracts to supply several large customers with GaAs wafers. The contracts guarantee the delivery of a certain number of wafers between January 1, 2001 and December 31, 2001 with a current contract value of \$87.8 million. The contract sales prices are subject to review quarterly and can be adjusted in the event that raw material prices change. In the event of non-delivery of the determined wafer quantities in any monthly delivery period, the Company could be subject to non-performance penalties of between 5% and 10% of the value of the delinquent monthly deliveries. Partial prepayments received for these supply contracts totaling \$5.4 million are included in accrued liabilities at December 31, 2000.

The Company leases certain office space, manufacturing facilities and property and equipment under long-term operating leases expiring at various dates through December 2006. Total rent expense under these operating leases was approximately \$224,048 for the year ended December 31, 2000.

Included in property and equipment is approximately \$13.0 million of equipment that is leased under non-cancelable leases accounted for as capital leases. These leases expire at various dates through 2005.

Total minimum lease payments under the above leases as of December 31, 2000, are summarized below (in thousands):

	CAPITAL LEASES	OPERATING LEASES	TOTAL
	-----	-----	-----
2001.....	\$ 3,742	\$ 359	\$ 4,101
2002.....	4,386	375	4,761
2003.....	4,289	391	4,680
2004.....	2,348	407	2,755
2005.....	633	148	781
Thereafter.....	--	--	--
	-----	-----	-----
	15,398	\$1,680	\$17,078
		=====	=====
Less amounts representing interest at 6.0% to 8.8%....	(2,063)		
	-----		
	13,335		
Less short-term portion.....	(6,057)		
	-----		
Long-term portion.....	\$ 7,278		
	=====		

**NOTE 16. FOREIGN EXCHANGE CONTRACTS AND TRANSACTION LOSSES**

The Company uses short-term forward exchange contracts for hedging purposes to reduce the effects of adverse foreign exchange rate movements. The Company has purchased foreign exchange contracts to hedge

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)**

against certain trade accounts receivable denominated in Japanese yen. The change in the fair value of the forward contracts is recognized as part of the related foreign currency transactions as they occur. As of December 31, 2000, the Company's outstanding commitments with respect to the foreign exchange contracts, which were commitments to sell Japanese yen, had a total contract value of approximately \$500,000.

The Company incurred a foreign transaction exchange loss of \$552,000 for the year ended December 31, 2000, a gain of \$652,000 in 1999 and a loss of \$24,000 in 1998.



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

AXT, Inc.

By: /s/ MORRIS S. YOUNG  
-----  
Morris S. Young, Chief Executive  
Officer and President

Date: February 22, 2001

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Morris S. Young and Donald L. Tatzin, and each of them, his true and lawful attorney-in-fact and agent, with full power of substitution, each with power to act alone, to sign and execute on behalf of the undersigned any and all amendments to this Report on Form 10-K, and to perform any acts necessary in order to file the same, with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requested and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or their or his or her substitutes, shall do or cause to be done by virtue hereof.

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

SIGNATURE -----	TITLE -----	DATE ----
/s/ MORRIS S. YOUNG ----- Morris S. Young	President, Chief Executive Officer and Chairman of the Board	February 22, 2001
/s/ DONALD L. TATZIN ----- Donald L. Tatzin	Senior Vice President, Chief Financial Officer	February 22, 2001
/s/ JOHN E. DRURY ----- John E. Drury	Corporate Controller	February 22, 2001
/s/ DAVID C. CHANG ----- David C. Chang	Director	February 22, 2001
/s/ JESSE CHEN ----- Jesse Chen	Director	February 22, 2001
/s/ B.J. MOORE ----- B.J. Moore	Director	February 22, 2001

**EXHIBITS TO FORM 10-K ANNUAL REPORT  
FOR THE YEAR ENDED DECEMBER 31, 2000**

EXHIBIT NUMBER -----	DESCRIPTION -----
2.1(1)	Agreement and Plan of Merger between American Xtal Technology, a California corporation, and American Xtal Technology Delaware Corporation, a Delaware corporation.
2.2(4)	Agreement and Plan of Reorganization dated May 27, 1999 (which is incorporated herein by reference to Exhibit 2.1 to the registrant's form 8-K dated May 28, 1999).
2.3(4)	Certificate of Merger dated May 27, 1999, filed with the Secretary of State of the State of Delaware on May 28, 1999 (which is incorporated herein by reference to Exhibit 2.1 to the registrant's form 8-K dated May 28, 1999).
2.4(4)	Articles of Merger dated May 27, 1999, filed with the Secretary of State of Nevada on May 28, 1999 (which is incorporated herein by reference to Exhibit 2.1 to the registrant's form 8-K dated May 28, 1999).
2.5(4)	Agreement and Plan of Reorganization by and among American XTAL Technology, Inc., Monterey Acquisition Corp., Lyte Optronics, Inc. and certain stockholders of Lyte Optronics, Inc. dated May 27, 1999.
3.1(3)	Restated Certificate of Incorporation.
3.2(4)	Certificate of Designation, Preferences and Rights of Series A Preferred Stock, as filed with the Secretary of State of the state of Delaware on May 27, 1999 (which is incorporated herein by reference to Exhibit 2.1 to the registrant's form 8-K dated May 28, 1999).
3.3(4)	By Laws.
4.0(4)	Rights Agreement.
10.1(1)	Form of Indemnification Agreement for directors and officers.
10.2(1)	1993 Stock Option Plan and forms of agreements thereunder.
10.3(1)	1997 Stock Option Plan and forms of agreements thereunder.
10.4(1)	1997 Employee Stock Purchase Plan and forms of agreements thereunder.
10.5(1)	1998 Employee Stock Purchase Plan and forms of agreements thereunder.
10.6(1)	Loan Agreement between U.S. Bank National Association and us dated March 4, 1998.
10.7(2)	Purchase and Sale Agreement by and between Limar Realty Corp. #23 and us dated April 1998.
10.8(3)	Loan Agreement between U.S. Bank National Association and us dated September 18, 1998
10.9(3)	Letter of Credit and Reimbursement Agreement between U.S. Bank National Association and us dated December 1, 1998.
10.10(3)	Bond Purchase Contract between Dain Rauscher Incorporated and us dated December 1, 1998.
10.11(3)	Remarketing Agreement between Dain Rauscher Incorporated and us dated December 1, 1998.
10.12	Loan Agreement between U.S. Bank National Association and us dated August 28, 2000.
21.1(1)	List of Subsidiaries.
23.1	Consent of Independent Accountants -- PricewaterhouseCoopers LLP.
23.2	Consent of Independent Accountants -- Arthur Andersen LLP.
24.1	Power of Attorney (see signature page).

---

(1) As filed with the SEC in our Registration Statement on Form S-1 on March 17, 1998.

(2) As filed with the SEC in our Registration Statement on Amendment No. 2 to Form S-1 on May 11, 1998.

(3) As filed with the SEC in our Annual Report on Form 10-K for the year ended December 31, 1998

(4) As filed with the SEC in our Form 8-K on June 14, 1999

**EXHIBIT 10.12**

**CREDIT AGREEMENT**

**AMONG**

**AXT, INC.**

**AND**

**THE LENDERS NAMED HEREIN**

**AND**

**U.S. BANK NATIONAL ASSOCIATION**

**AS AGENT**

**AUGUST 28, 2000**

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Exhibit A	Letter of Credit
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Exhibit H	Borrowing Base Certificate



## **CREDIT AGREEMENT**

THIS CREDIT AGREEMENT is entered into as of August 28, 2000, by and among AXT, INC., a Delaware corporation ("Borrower"), each of the financial institutions from time to time listed on Schedule I attached hereto, as amended from time to time (collectively, "Lenders"), and U.S. BANK NATIONAL ASSOCIATION ("U.S. Bank"), as agent for the Lenders (in such capacity, "Agent"), and as arranger.

### **RECITALS**

WHEREAS, Borrower has requested from Lenders the line of credit, term loan and other credit facilities described herein for the purposes described herein; and

WHEREAS, Borrower has issued a series of bonds designated the Variable Rate Taxable Demand Revenue Bonds Series 1998, in the aggregate principal amount of \$11,615,000.00 (the "Bonds"), pursuant to an Indenture dated as of December 1, 1998 (the "Indenture") between Borrower and Harris Trust Company of California, as trustee (the "Trustee"); and

WHEREAS, to support certain payments with respect to the Bonds, Borrower requested U.S. Bank to issue, and U.S. Bank issued for the account of Borrower and for the benefit of the Trustee, an irrevocable direct-pay letter of credit (the "Letter of Credit"), in the original stated amount of \$11,986,680.00, a copy of which is attached hereto as Exhibit A, pursuant to that certain Reimbursement Agreement dated as of December 1, 1998, between Borrower and U.S. Bank; and

WHEREAS, as of the date of this Agreement, [\$11,092,000.00] of the principal amount of the Bonds remains outstanding; and

WHEREAS, Borrower will be responsible for amounts drawn under the Letter of Credit and for certain fees and amounts due with respect to the Letter of Credit and this Credit Agreement; and

WHEREAS, Lenders and Agent have agreed to provide said Letter of Credit facility to Borrower, as well as a revolving line of credit facility and certain term loans to Borrower on the terms and subject to the conditions contained herein.

NOW, THEREFORE, in consideration of the mutual covenants and promises of the parties contained herein, Agent, Lenders and Borrower hereby agree as follows:

## **ARTICLE I**

### **DEFINITIONS**

**SECTION 1.1 DEFINED TERMS.** As used in this Agreement, all terms defined above shall have the meanings set forth above, and the following terms shall have the meanings set forth after each:

"Accounts" means all currently existing and hereafter arising accounts, contract rights, and all other forms of obligations owing to Borrower arising out of the sale or lease of goods or the rendition of services by Borrower, irrespective of whether earned by performance, and any and all credit insurance, guaranties, or security therefor.

"Agent's Office" means (i) initially, Agent's office designated as such in Schedule I attached hereto, and (ii) subsequently, such other office designated as such in writing by Agent to Lenders and Borrower.

"Agreement" means this Credit Agreement, as amended, amended and restated, modified or supplemented from time to time.

"Applicable Lending Office" means, with respect to each Lender, (i) initially, its office designated as such in Schedule I attached hereto, and (ii) subsequently, such other office or offices designated as such in writing by such Lender to Agent.

"Assignee" has the meaning assigned to that term in Section 10.5(c) hereof.

"Assignment" has the meaning assigned to that term in Section 10.5(c) hereof.

"Assignment Agreement" has the meaning assigned to that term in Section 10.5(c) hereof.

"Assignor" has the meaning assigned to that term in Section 10.5(c) hereof.

"Authorized Representatives" means those officers and employees designated by Borrower on the most current Notice of Authorized Representatives delivered by Borrower to Agent as being authorized to request any borrowing or to make any interest rate selection on behalf of Borrower hereunder, or to give Agent any other notice hereunder that is required by the terms hereof to be made through one of Borrower's Authorized Representatives.

"Bankruptcy Code" means the Bankruptcy Reform Act, Title 11 of the United States Code, as amended or recodified from time to time, including (unless the context otherwise requires) any rules or regulations promulgated thereunder.

"Bond Interest Payment Date" has the meaning assigned to that term in the Indenture.

"Bonds" means the Bonds described in the Recitals hereof.

"Borrower Letter of Credit(s)" has the meaning assigned to that term in Section 2.1(d) hereof.

"Borrower Letter of Credit Agreement(s)" has the meaning assigned to that term in Section 2.1(d) hereof.

"Borrower's Books" means all of Borrower's books and records including: ledgers; records indicating, summarizing, or evidencing Borrower's properties or assets (including the Personal Property Collateral) or liabilities; all information relating to Borrower's business operations or financial condition; and all computer programs, disk or tape files, printouts, runs, or other computer prepared information.

"Borrowing Base" has the meaning assigned to that term in Section 2.1(b) hereof.

"Borrowing Base Certificate" has the meaning assigned to that term in Section 2.1(b) hereof.

"Business Day" means any day other than a Saturday, Sunday or other day on which commercial banks in New York City or Seattle are authorized or required by law to close and, if the applicable Business Day relates to any LIBOR borrowing, means such a day which is also a day on which banks in the City of London are generally open for interbank or foreign exchange transactions.

"Change of Law" means the adoption of any Governmental Rule, any change in any Governmental Rule or the application or requirements thereof (whether such change occurs in accordance with the terms of such Governmental Rule as enacted, as a result of amendment or otherwise), any change in the interpretation or administration of any Governmental Rule by any Governmental Authority, or compliance by any Lender (or any entity controlling such Lender) with any request, guideline or directive (whether or not having the force of law) of any Governmental Authority.

"Closing Date" means the date on which all of the conditions set forth in Section 5.1 of this Agreement have been satisfied or waived by Agent.

"Collateral" means, collectively, the Personal Property Collateral and the Real Property Collateral.

"Contract Collateral" has the meaning assigned to that term in Section 5.1(b)(xiv) hereof.

"Credits" means the Line of Credit, the Term Loans and the Letter of Credit Facility.

"Date of Issuance" means December 1, 1998.

"Deeds of Trust" means, collectively, all of the deeds of trust for the benefit of Agent that secure the obligations of Borrower to Agent and Lenders under this Agreement.

"Default" means an Event of Default or an event or condition which, with the giving of notice or the passage of time, or both, would constitute an Event of Default.

"EBITDA" means, for the most recent trailing four-quarter period, consolidated net income from operations (after eliminating all extraordinary items of gain or loss) plus interest expense, income taxes, depreciation and amortization, in each case defined in accordance with GAAP and, if applicable, to the extent each has been deducted in the determination of net income.

"El Monte Property" means that certain real property located at 9650 Telstar Avenue, in the City of El Monte, County of Los Angeles, California, owned by Borrower and improved with a commercial building used for research and development and manufacturing purposes.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended or recodified from time to time, including (unless the context otherwise requires) any rules or regulations promulgated thereunder.

"Event of Default" has the meaning assigned to that term in Section 8.1 hereof.

"Expiration Date" means December 1, 2008.

"Federal Funds Rate" means, for any day, the weighted average of the per annum rates on overnight Federal funds transactions with member banks of the Federal Reserve System arranged by Federal funds brokers as published by

the Federal Reserve Bank of New York for such day (or, if such rate is not so published for any day, the average rate quoted to Agent on such day by three (3) Federal funds brokers of recognized standing selected by Agent).

"Fixed Charge Coverage Ratio" means the ratio of (A) EBITDA less the aggregate amount of (i) unfinanced capital expenditures, (ii) cash taxes, and (iii) permitted dividends, distributions and treasury stock purchases, divided by (B) the aggregate amount of the following, each measured for the most recent four historical quarters (excluding the current quarter in possession) (i) cash Interest Expense (including any letter of credit fees payable to U.S. Bank) and (ii) capital lease payments plus the average of current maturities of long-term debt (including all bond redemptions required by this Agreement) measured for the most recent four historical quarters (excluding the current quarter in possession) and (iii) the current maturity of subordinated debt measured for the most recent four historical quarters (excluding the current quarter in possession).

"Fixed Rate Term" means a period of one (1), two (2), three (3), or six (6) months, as designated by Borrower, during which all or a portion of the Line of Credit or the Term Loan bears interest determined in relation to LIBOR; provided however, that (a) no Fixed Rate Term may be selected for a principal amount less than One Million Dollars (\$1,000,000.00); (b) no Fixed Rate Term shall extend beyond the scheduled maturity date hereof; (c) any Fixed Rate Term which would otherwise expire on a day which is not a Business Day shall be extended to the next succeeding Business Day, unless the result of such extension would be to extend such Fixed Rate Term into another calendar month, in which event the Fixed Rate Term shall end on the immediately preceding Business Day; (d) any Fixed Rate Term that begins on the last Business Day of a calendar month (or on a day for which there is no numerically corresponding day in the calendar month at the end of such Fixed Rate Term) shall end on the last Business Day of a calendar month; and (e) with respect to the Term Loans, no Fixed Rate Term shall extend beyond a date on which Borrower is required to make a scheduled payment of principal on the Term Loans unless the aggregate principal amount of Term Loans bearing interest at the Reference Rate plus the aggregate principal amount of Term Loans bearing interest at LIBOR with Fixed Rate Terms expiring on or before such date equals or exceeds the principal amount required to be paid on the Term Loans on such date.

"Funded Debt" means the aggregate amount of all obligations for (1) borrowed money, including senior bank debt, subordinated debt and amounts owing under the Bonds; (2) capital leases; (3) issued but undrawn letters of credit, except the direct pay Letter of Credit supporting the Bonds, plus any

amounts outstanding under drawn letters of credit; and (4) contingent obligations.

"GAAP" means generally accepted accounting principles as in effect in the United States of America from time to time, consistently applied.

"General Intangibles" means all of Borrower's present and future general intangibles and other personal property (including the Contract Collateral and all contract rights, rights arising under common law, statutes, or regulations, choses or things in action, goodwill, patents, trade names, trademarks, servicemarks, copyrights, blueprints, drawings, purchase orders, customer lists, monies due or recoverable from pension funds, route lists, rights to payment and other rights under any royalty or licensing agreements, infringement claims, computer programs, information contained on computer disks or tapes, literature, reports, catalogs, deposit accounts, insurance premium rebates, tax refunds, and tax refund claims), other than goods, Accounts and Negotiable Collateral.

"Governmental Authority" means any domestic or foreign national, state or local government, any political subdivision thereof, any department, agency, authority or bureau of any of the foregoing, or any other entity exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to government, including the Federal Deposit Insurance Corporation, the Federal Reserve Board, the Comptroller of the Currency, any central bank or any comparable authority.

"Governmental Rule" means any law, rule, regulation, ordinance, order, code interpretation, judgment, decree, directive, guideline, policy or similar form of decision of any Governmental Authority.

"Guarantee" means any guarantee of Borrower's obligations to Agent and Lenders under the Loan Documents executed by a Guarantor.

"Guarantor" means, subject to the release provisions set forth in Section 2.16 hereof, collectively, AXT-Japan, Beijing Tongmei Xtal Technology Co., Ltd., American Xtal Technology (Hong Kong), Lyte Optronics, Inc., Lyte Optronics Ltd. (UK), Advanced Semiconductor (Xiamen), Bestal Substrate Foreign Sales Corp., and each future wholly-owned subsidiary of Borrower.

"Indemnitees" has the meaning assigned to that term in Section 10.3 hereof.

"Indenture" has the meaning assigned to that term in the Recitals hereof.

"Interest Expense" means any and all interest owing by Borrower under any debt obligations, including the Credits, during the measured period.

"Inventory" means all present and future inventory in which Borrower has any interest, including goods held for sale or lease or to be furnished under a contract of service and all of Borrower's present and future raw materials, work in process, finished goods, and packing and shipping materials, wherever located.

"Investment Property" means all of Borrower's presently existing and hereafter acquired or arising investment property (as that term is defined in Section 9115 of the California Uniform Commercial Code).

"Issuance Spread" means two and one-half of one percent (2.50%) per annum.

"Letter of Credit" has the meaning assigned to that term in the Recitals hereof.

"Letter of Credit Facility" means the credit facility available to Borrower pursuant to Section 2.3 hereof pursuant to which U.S. Bank has issued the direct pay Letter of Credit to the Trustee.

"LIBOR" means, for each Fixed Rate Term, the rate per annum (computed on the basis of a 360-day year and the actual number of days elapsed and rounded upward if necessary to the nearest whole 1/16 of 1%) and determined pursuant to the following formula:

$$\text{LIBOR} = \frac{\text{Base LIBOR}}{100\% - \text{LIBOR Reserve Percentage}}$$

As used herein, (i) "Base LIBOR" shall mean the rate per annum at which United States dollar deposits would be offered to U.S. Bank in the London interbank market at approximately 11:00 a.m. London time on the date which is two Business Days prior to the first day of a Fixed Rate Term for delivery of funds on the first day of such Fixed Rate Term for a period of time substantially equal to the number of days in such Fixed Rate Term and in an amount substantially equal to the principal amount to which such Fixed Rate Term applies, and (ii) "LIBOR Reserve Percentage" shall mean the reserve percentage measured as of the date which is two Business Days prior to the date of pricing, prescribed by the Board of Governors of the Federal Reserve System (or any successor) for "Eurocurrency Liabilities" (as defined in Regulation D of

the Federal Reserve Board, as amended), required to be maintained by U.S. Bank, adjusted by U.S. Bank for expected changes in such reserve percentage during the applicable Fixed Rate Term.

"Line Maturity Date" means May 31, 2002.

"Line of Credit" means a revolving credit facility in the maximum principal amount of \$20,000,000.00, as defined more fully in Section 2.1 hereof.

"Line of Credit Facility Fee" has the meaning assigned to that term in Section 2.5(c)(i).

"Line of Credit Note" means a promissory note executed by Borrower in favor of a Lender to evidence advances under the Line of Credit, substantially in the form of Exhibit B attached hereto.

"Line of Credit Pricing Grid" means the following Line of Credit Pricing Grid:

- APPLICABLE MARGINS (IN BASIS POINTS) & FEE -				
RATIO OF FUNDED DEBT TO EBITDA	PRICING LEVEL	LIBOR MARGIN	REFERENCE RATE MARGIN	LINE OF CREDIT FACILITY FEE
less than 1.00	I	175	50	25.0
equal to/greater than 1.00 less than 1.50	II	200	75	25.0
equal to/greater than 1.50 less than 2.00	III	225	100	37.5
equal to/greater than 2.00 less than 2.50	IV	250	125	50.0

Borrower shall be eligible for Level I pricing when its ratio of Funded Debt to EBITDA is less than 1.00:1.00; for Level II pricing when such ratio is equal to or greater than 1.00:1.00, but less than 1.50:1.00; for Level III pricing when such ratio is equal to or greater than 1.50:1.00, but less than 2.00:1.00; for Level IV pricing when such ratio is equal to or greater than 2.00:1.00, but less than 2.50:1.00. This ratio shall be measured quarterly for the preceding four-quarter period. The pricing will be set at Level IV until receipt of the first financial covenant compliance reflecting the Funded Debt to EBITDA ratio.

"Loan Costs" means all costs incurred by Agent in connection with the Credits, including, without limitation, all taxes and assessments, recording fees, title insurance premiums and other title charges, document binding costs,



appraisal fees, lien and judgment search costs, fees of architects, engineers, surveyors and any special consultants, construction and Collateral inspection and exam fees, brokers fees (except as otherwise specified herein), escrow fees, all travel and out-of-pocket expenses of Agent to conduct audits or inspections and wire transfer fees.

"Loan Documents" means this Agreement, the Notes, the Security Documents and each other notice, document, contract or instrument required by or at any time delivered to Agent in connection with this Agreement.

"Majority Lenders" means two (2) or more Lenders whose Proportionate Shares at any time equal or exceed sixty-six and two-thirds percent (66-2/3%) of the Total Commitments.

"Material Adverse Effect" means a material adverse effect on (i) the business operations or financial condition of Borrower and its Subsidiaries taken as a whole or (ii) the ability of Borrower to repay the amounts loaned to Borrower by Lenders hereunder.

"Minimum Interest Coverage Ratio" means EBITDA divided by Interest Expense (net of capitalized interest expense) for the most recent four quarter period.

"Monterey Park Property" means that certain real property located at 2019 Saturn Street, in the City of Monterey Park, County of Los Angeles, California owned by Borrower and improved with a commercial building used for research and development and manufacturing purposes.

"Negotiable Collateral" means all of Borrower's present and future letters of credit, notes, drafts, instruments, securities (including the shares of stock of Subsidiaries of Borrower), documents, personal property leases (wherein Borrower is the lessor), and chattel paper.

"Notes" means, collectively, the Line of Credit Note and all of the Term Notes.

"Notice of Authorized Representatives" has the meaning set forth in Section 2.14 hereof.

"Notice of Borrowing" has the meaning set forth in Section 2.4 hereof.

"Notice of Conversion or Continuation" has the meaning assigned to that term in Section 2.6(b) hereof.

"Participant" has the meaning assigned to that term in Section 10.5(b) hereof.

"Permitted Indebtedness" means, subject to Borrower's compliance with the financial covenants required under this Agreement, the following:

- (a) Indebtedness of Borrower in favor of Lenders arising hereunder or any other Loan Document;
- (b) Capital leases incurred solely to purchase equipment which is secured by a purchase money security interest and is not in excess of the lesser of the purchase price for such equipment or the fair market value of such equipment on the date of acquisition.
- (c) Indebtedness to trade creditors incurred in the ordinary course of business;
- (d) Indebtedness set forth on Schedule 7.7 hereto;
- (e) Indebtedness incurred to refinance any Indebtedness permitted under the foregoing clause (b) or clause (d);
- (f) Accrued dividends on the capital stock of Borrower;
- (g) Interest rate and currency hedging agreements;
- (h) Guaranties of any Subsidiary's suppliers in connection with the purchase of supplies in the ordinary course of business;
- (i) Guaranties of lease obligations incurred in the ordinary course of business and to the extent otherwise permitted hereunder;

"Permitted Investments" means, subject to Borrower's compliance with the financial covenants required under this Agreement, the following:

- (a) Investments existing on the Closing Date and disclosed in Schedule 7.7 attached hereto;
- (b) Marketable direct obligations issued or unconditionally guaranteed by the United States of America or any agency or any State thereof maturing within one year from the date of acquisition thereof, (ii) commercial paper maturing no more than one year from the date of creation thereof and currently having a rating of at least A-2 or P-2 from either Standard & Poor's Corporation or Moody's Investors Service, (iii) certificates of

deposit maturing no more than one year from the date of investment therein; and (iv) money market accounts;

(c) Investments consisting of travel advances and employee relocation loans and other employee loans and advances in the ordinary course of business;

(d) Joint ventures or strategic alliances in the ordinary course of Borrower's business consisting of the non-exclusive licensing of technology, the development of technology or the providing of technical support, provided that any such investments by Borrower do not exceed \$3,000,000.00 in the aggregate in any fiscal year; and

(e) Investments or capital infusions in Borrower's Subsidiaries.

"Permitted Liens" means, subject to Borrower's compliance with the financial covenants required under this Agreement, the following:

(a) Liens in favor of Agent;

(b) liens and security interests existing on the Closing Date and disclosed in Schedule 4.15 attached hereto;

(c) liens for taxes, fees, assessment or other governmental charges or levies, either not delinquent or being contested in good faith by appropriate proceedings;

(d) liens securing claims or demands of materialmen, mechanics, carriers, warehousemen, landlords and other like persons or entities imposed without action of such parties, provided that the payment thereof is not yet required;

(e) liens arising from judgments, decrees or attachments in circumstances not constituting an Event of Default hereunder;

(f) liens incurred or deposits made in the ordinary course of Borrower's business in connection with workers' compensation, unemployment insurance, Social Security and other like laws;

(g) liens and security interests (a) upon or in any equipment acquired or held by the Borrower to secure the purchase price of such equipment or indebtedness incurred solely for the purpose of financing the acquisition of such equipment, or (b) existing on such equipment at the time of its acquisition, provided that the

lien and security interest is confined solely to the property so acquired and improvements thereon, and the proceeds of such equipment;

(h) liens consisting of leases and subleases and licenses and sublicenses granted to others in the ordinary course of Borrower's business not interfering in any material respect with the business of Borrower and any interest or title of a lessor or licensor under any lease or license, as applicable;

(i) liens in favor of customs and revenue authorities arising as a matter of law to secure payment of customs duties in connection with the importation of goods; and

(j) liens that are not prior to Agent's security interest which constitute rights of set-off of a customary nature.

"Person" means an individual, a corporation, a partnership, a limited liability company, an association, a trust or any other entity or organization, including a Governmental Authority.

"Personal Property Collateral" means each of the following:

(k) the Accounts,

(l) Borrower's Books,

(m) the General Intangibles,

(n) the Inventory,

(o) the Investment Property,

(p) the Negotiable Collateral,

(q) any money, or other assets of Borrower that now or hereafter come into the possession, custody, or control of U.S. Bank or the Lenders, and

(r) the proceeds and products, whether tangible or intangible, of any of the foregoing, including proceeds of insurance covering any or all of the Personal Property Collateral, and any and all Accounts, Borrower's Books, General Intangibles, Inventory, Investment Property, Negotiable Collateral, Real Property, money, deposit accounts, or other tangible or intangible property resulting from

the sale, exchange, collection, or other disposition of any of the foregoing, or any portion thereof or interest therein, and the proceeds thereof.

"Plan" means any defined employee pension benefit plan as defined in ERISA.

"Proportionate Share" means, for each Lender, the dollar amount determined at any time by multiplying the percentage set forth opposite such Lender's name in Schedule 1 attached hereto by the amount of the Total Commitments at such time, and shall include, where the context so requires, the amount of all outstanding credit from such Lender to Borrower pursuant to this Agreement and the obligation of such Lender to make advances or otherwise extend credit up to such amount on the terms and subject to the conditions set forth herein.

"Real Property" means collectively, the Monterey Park Property, the El Monte Property, the Technology Drive Property and the Solar Way Property.

"Real Property Collateral" means, collectively, the Monterey Park Property, the El Monte Property, the Technology Drive Property and the Solar Way Property.

"Reference Rate" means at any time the rate of interest which U.S. Bank establishes as its reference rate and is not necessarily the lowest rate of interest which it collects from any borrower or class of borrowers. If U.S. Bank ceases to publicly announce or publish its Reference Rate, U.S. Bank will choose a new index by using a comparable index or reference rate as its Reference Rate.

"Register" has the meaning assigned to that term in Section 10.5(d) hereof.

"Reimbursement Default Rate" has the meaning assigned to that term in Section 2.3(b).

"Reimbursement Deposit Account" means the demand deposit account established by Borrower with U.S. Bank as defined in Section 3.2 hereof.

"Reimbursement Obligations" mean the obligations of Borrower to Lenders described in Section 2.3(b) hereof.

"Related Documents" means the Bonds, the Indenture, the Bond Loan Agreement, the Deeds of Trust, the UCC-1 Financing Statements, the Security Agreements, the Guarantees and any other agreement or instrument related to the issuance of the Bonds and pertaining to Borrower.

"Security Agreements" means, collectively, all of the security agreements for the benefit of Agent that secure the obligations of Borrower to Agent and Lenders under this Agreement.

"Security Documents" means, collectively, the Deeds of Trust and the Security Agreements.

"Solar Way Property" means that certain real property located at 4211 Solar Way in the City of Fremont, County of Alameda, California owned by Borrower and improved with a manufacturing and research and development facility.

"Stated Amount" means \$11,986,680.00, as such amount may be reduced from time to time as a result of unreinstated Drawings on the Letter of Credit in accordance with the terms thereof.

"Subsidiary" means any corporation, association, limited liability company, partnership, joint venture or other business entity of which more than fifty percent (50%) of the voting stock or other equity interest is owned directly or indirectly by Borrower.

"Tangible Net Worth" means, at any time, total stockholders' equity at such time less the amount of any treasury stock less the value of any in tangible assets at such time.

"Taxes" has the meaning assigned to that term in Section 2.12(a) hereof.

"Technology Drive Property" means that certain real property located at 4281 Technology Drive in the City of Fremont, County of Alameda, California owned by Borrower and improved with a manufacturing facility.

"Term Loan A" means a credit facility available to Borrower in the maximum principal amount of \$1,190,000.00, as defined more fully in Section 2.2 hereof.

"Term Loan A Maturity Date" means May 31, 2003.

"Term Loan B" means a credit facility available to Borrower in the maximum principal amount of \$1,610,000.00, as defined more fully in Section 2.2 hereof.

"Term Loan B Maturity Date" means May 31, 2003.

"Term Loan C" means a credit facility available to Borrower in the maximum principal amount of \$3,200,000.00, as more fully defined in Section 2.2 hereof.

"Term Loan C Maturity Date" means May 31, 2003.

"Term Loan Pricing Grid" means the following Term Loan Pricing Grid:

----- - APPLICABLE MARGINS (IN BASIS POINTS) - -----			
RATIO OF FUNDED DEBT TO EBITDA	PRICING LEVEL	LIBOR MARGIN	REFERENCE RATE MARGIN
less than 1.00	I	200	75
equal to/greater than 1.00 less than 1.50	II	225	100
equal to/greater than 1.50 less than 2.00	III	250	125
equal to/greater than 2.00 less than 2.50	IV	275	150
-----			

Borrower shall be eligible for Level I pricing when its ratio of Funded Debt to EBITDA is less than 1.00:1.00; for Level II pricing when such ratio is equal to or greater than 1.00:1.00, but less than 1.50:1.00; for Level III pricing when such ratio is equal to or greater than 1.50:1.00, but less than 2.00:1.00; for Level IV pricing when such ratio is equal to or greater than 2.00:1.00, but less than 2.50:1.00. This ratio shall be measured quarterly for the preceding four-quarter period. The pricing will be set at Level IV until receipt of the first financial covenant compliance reflecting the Funded Debt to EBITDA ratio.

"Term Loans" means, collectively, Term Loan A, Term Loan B and Term Loan C.

"Term Notes" means, collectively, each of the promissory notes executed by Borrower in favor of a Lender to evidence advances under each of the Term Loans, substantially in the form of Exhibit C attached hereto.

"Termination Date" has the meaning assigned to that term in Section 3.2 hereof.

"Total Commitments" means, for all Lenders and at any time, the then aggregate amount of (i) the outstanding principal balance of each of the Credits, and (ii) the maximum undisbursed principal amount of each of the Credits.

"Treasury Rate" means the Issuance Spread plus the yield to maturity of the most recently issued one, two or three year U.S. Treasury Security, as elected by Borrower, as quoted in the Wall Street Journal on the date of election of a Treasury Rate. If such date is not a Business Day, then the quote shall be obtained on the Business Day immediately preceding such date. If the Wall Street Journal (i) quotes more than one such one, two or three year U.S. Treasury Security, the highest of such quotes shall apply, or (ii) ceases to publish such quotes, the one, two or three year U.S. Treasury Security, as elected by Borrower, shall be determined from such substitute financial reporting service or source as U.S. Bank in its reasonable discretion shall determine.

"Trustee" has the meaning assigned to that term in the Recitals hereof.

SECTION 1.2 INTERPRETATION. The meaning of each defined term is equally applicable to both the singular and plural forms of the terms defined. As used in this Agreement and each of the other Loan Documents, the term "including" is not limiting, and means "including without limitation."

SECTION 1.3 HEADINGS. Headings in this Agreement and each of the other Loan Documents are for convenience of reference only and are not part of the substance hereof or thereof.

## **ARTICLE II** **THE CREDITS**

### **SECTION 2.1 LINE OF CREDIT.**

(a) Line of Credit. On the terms and subject to the conditions set forth in this Agreement, each Lender hereby severally agrees, on a pro rata basis in accordance with Schedule 1 attached hereto, to make advances to Borrower under the Line of Credit from time to time up to and including the Line Maturity Date, not to exceed at any time the aggregate principal amount of Twenty Million Dollars (\$20,000,000.00), the proceeds of which shall be used for general corporate purposes, including working capital financing, and for the issuance of standby and commercial letters of credit, subject to a sublimit of \$250,000.00 for such letters of credit as described in subparagraph (d), below. Borrower's obligation to repay advances under the Line of Credit shall be evidenced by the Line of Credit Note, all terms of which are incorporated herein by this reference.

(b) Limitation on Borrowings. Outstanding borrowings under the Line of Credit, to a maximum of the principal amount set forth above, shall not at any



time exceed an aggregate of (i) eighty percent (80%) of eligible receivables generated by U.S. based obligors, (ii) eighty percent (80%) of eligible receivables generated by obligors with principal offices outside of the United States provided that such foreign eligible receivables are insured in a manner acceptable to Lender, and (iii) the lesser of \$7,500,000 or fifty percent (50%) of eligible inventory (the "Borrowing Base"), as evidenced by a borrowing base certificate in the form attached hereto as Exhibit H (the "Borrowing Base Certificate"). All of the foregoing shall be determined by Agent upon receipt and review of the collateral reports required hereunder and such other documents and collateral information as Agent may from time to time require.

As used herein, "eligible receivables" shall consist solely of trade accounts which have been created in the ordinary course of Borrower's or any Guarantor's business, upon which Borrower's or any Guarantor's right to receive payment is absolute and not contingent upon the fulfillment of any condition whatsoever, and in which Agent has a perfected security interest of first priority, and shall not include:

- (i) any Account which is past due more than ninety (90) days after the invoice date;
- (ii) that portion of any Account for which there exists any right of setoff, defense or discount (except regular discounts allowed in the ordinary course of business to promote prompt payment) or for which any defense or counterclaim has been asserted;
- (iii) any Account which represents an obligation of any state or municipal government or of the United States government or any political subdivision thereof (except accounts which represent obligations of the United States government and for which Assignment of Claims Act forms reasonably satisfactory to Agent have been duly executed and acknowledged);
- (iv) any Account which arises from the sale or lease to or performance of services for, or represents an obligation of, an employee, affiliate, partner, member, parent or subsidiary of Borrower;
- (v) that portion of any Account which represents interim or progress billings or retention rights on the part of the account debtor;
- (vi) any Account which represents an obligation of any account debtor when twenty percent (25%) or more of Borrower's accounts from such account debtor are not eligible pursuant to (i) above;

(vii) that portion of any Account from an account debtor which represents the amount by which Borrower's total accounts from said account debtor exceeds twenty-five percent (25%) of Borrower's total accounts;

(viii) any Account deemed ineligible by Agent when Agent, in its sole discretion, deems the creditworthiness or financial condition of the account debtor to be unsatisfactory; or

(ix) uninsured foreign receivables.

As used herein, "eligible inventory" shall mean, at any time, all of Borrower's Inventory constituting raw materials (valued at the lower of cost or market), except:

(i) Inventory which is not owned by Borrower free and clear of all security interests, liens, encumbrances and claims of third parties; and

(ii) Inventory which Agent, in its sole discretion, deems to be obsolete, unsalable, damaged, defective or unfit for further processing.

(c) Borrowing and Repayment. Borrower may from time to time during the term of the Line of Credit borrow, partially or wholly repay its outstanding borrowings, and reborrow, subject to all the limitations, terms and conditions contained herein; provided however, that the total outstanding borrowings under the Line of Credit shall not at any time exceed the maximum principal amount set forth above in this Section 2.1.

(d) Borrower Letter of Credit Subfeature. As a subfeature under the Line of Credit, Agent agrees from time to time during the term thereof to issue standby or commercial letters of credit for the account of Borrower (each, a "Borrower Letter of Credit" and collectively, "Borrower Letters of Credit"); provided however, that the form and substance of each Borrower Letter of Credit shall be subject to reasonable approval by Agent and the aggregate amount of Borrower Letters of Credit issued at any one time shall not exceed \$250,000.00. Except with the prior approval of Agent, which may be granted or withheld in its sole discretion, no Borrower Letter of Credit shall have an expiration date subsequent to the Line Maturity Date. The undrawn amount of all Borrower Letters of Credit issued and outstanding under this letter of credit subfeature shall be reserved under the Line of Credit and shall not be available for borrowings thereunder. Each Borrower Letter of Credit shall be subject to the additional terms and conditions of the Borrower Letter of Credit Agreement and related documents, if any, required by Agent in connection with the issuance thereof (each, a "Borrower Letter of Credit Agreement" and collectively, the "Borrower Letter

of Credit Agreements"), each of which shall be substantially in the form attached hereto as Schedule 2.1. Each draft paid by Agent under a Borrower Letter of Credit shall be deemed an advance under the Line of Credit and shall be repaid by Borrower on or before the Line Maturity Date in accordance with the terms and conditions of this Agreement. Borrower agrees that Agent, in its sole discretion, may debit any demand deposit account maintained by Borrower with Agent, other than a demand deposit account maintained by Borrower on behalf of a joint venture of which Borrower is a member, for the amount of any such draft.

SECTION 2.2 TERM LOANS.

(a) Term Loan A. On the terms and subject to the conditions set forth in this Agreement, each Lender hereby severally agrees, on a pro rata basis in accordance with Schedule 1 attached hereto, to grant Term Loan A to Borrower on the Closing Date in the principal amount of One Million One Hundred Ninety Thousand Dollars (\$1,190,000.00), the proceeds of which shall be used to repay existing indebtedness encumbering the Monterey Park Property in the approximate amount of \$684,260.00 and to finance improvements and additions to the El Monte Property. Borrower's obligation to repay Term Loan A shall be evidenced by the Term Note for Term Loan A, all terms of which are incorporated herein by this reference.

(b) Repayment of Term Loan A. Interest on Term Loan A shall be paid monthly or as otherwise set forth in this Agreement. Commencing September 30, 2000, and on the last day of each calendar quarter thereafter, Borrower shall make quarterly installments of principal in the amount required in order to amortize fully the principal amount of Term Loan A, together with interest thereon at the rates of interest applicable under the Term Loan A Notes, over twenty (20) years and continuing until the Term Loan A Maturity Date, as follows:

YEAR	QUARTERLY PAYMENT AMOUNT
2000	\$14,875
2001	\$14,875
2002	\$14,875
2003	\$14,875
BALANCE DUE	\$1,011,500

There will be one payment due on March 31, 2003 in the amount of \$14,875 with the entire balance of principal and interest then unpaid due and payable on the Term Loan A Maturity Date. Such quarterly payment shall be credited to principal, and interest shall be paid separately as set forth herein.

(c) Term Loan B. On the terms and subject to the conditions set forth in this Agreement, each Lender hereby severally agrees, on a pro rata basis in accordance with Schedule 1 attached hereto, to grant Term Loan B to Borrower on the Closing Date in the principal amount of One Million Six Hundred Ten Thousand Dollars (\$1,610,000.00), the proceeds of which shall be used to repay existing indebtedness encumbering the El Monte Property in the approximate amount of \$1,106,559.00 and to finance improvements and additions to the El Monte Property. Borrower's obligation to repay Term Loan B shall be evidenced by the Term Notes for Term Loan B, all terms of which are incorporated herein by this reference.

(d) Repayment of Term Loan B. Interest on Term Loan B shall be paid monthly or as otherwise set forth in this Agreement. Commencing on September 30, 2000, and on the last day of each calendar quarter thereafter, Borrower shall make quarterly installments of principal in the amount required in order to amortize fully the principal amount of Term Loan B, together with interest thereon at the rates of interest applicable under the Term Loan B Notes, over twenty (20) years and continuing until the Term Loan B Maturity Date, as follows:

YEAR	QUARTERLY PAYMENT AMOUNT
2000	\$20,125
2001	\$20,125
2002	\$20,125
2003	\$20,125
BALANCE DUE	\$1,368,500

There will be one payment due on March 31, 2003 in the amount of \$20,125 with the entire balance of principal and interest then unpaid due and payable on the Term Loan B Maturity Date. Such quarterly payment shall be credited to principal, and interest shall be paid separately as set forth herein.

(e) Term Loan C. On the terms and subject to the conditions set forth in this Agreement, each Lender hereby severally agrees, on a pro rata basis in accordance with Schedule 1 attached hereto, to grant Term Loan C to Borrower on the Closing Date in the principal amount of Three Million Two Hundred Thousand Dollars (\$3,200,000.00), the proceeds of which shall be used to finance the construction of improvements and additions to the El Monte Property. Borrower's obligation to repay Term Loan C shall be evidenced by the Term Notes for Term Loan C, all terms of which are incorporated herein by this reference.

(f) Repayment of Term Loan C. Borrower shall make installments of interest only through December 31, 2000 monthly or as otherwise set forth in this Agreement. Commencing on March 31, 2001, and on the last day of each calendar quarter thereafter, Borrower shall make quarterly installments of principal in the amount required in order to amortize fully the principal amount of Term Loan C, together with interest thereon at the rates of interest applicable under the Term Loan C Notes, over five (5) years and continuing until the Term Loan C Maturity Date, as follows:

YEAR	QUARTERLY PAYMENT AMOUNT
2001	\$160,000
2002	\$160,000
2003	\$160,000
BALANCE DUE	\$1,760,000

There will be one payment due on March 31, 2003 in the amount of \$160,000 with the entire balance of principal and interest then unpaid due and payable on the Term Loan C Maturity Date. Such quarterly payment shall be credited to principal, and interest shall be paid separately as set forth herein.

(g) Prepayment. Borrower may prepay principal on each of the Term Loans solely in accordance with the provisions of Sections 2.8 and 2.13 of this Agreement.

SECTION 2.3 THE LETTER OF CREDIT FACILITY.

(a) Terms and Amount of Letter of Credit. U.S. Bank has issued its irrevocable direct-pay Letter of Credit for the account of Borrower in favor of the Trustee in an initial amount equal to the initial Stated Amount, which amount shall be amortized as follows: \$10,340,000.00 of the initial Stated Amount shall be amortized based on a twenty-five (25) year amortization schedule and \$1,275,000.00 of the initial Stated Amount shall be amortized based on a five (5) year amortization schedule. The amount of principal and interest which Borrower must pay monthly in order to amortize fully the initial Stated Amount according to the above amortization schedule is set forth on Schedule 2.3(a) attached hereto. Notwithstanding any contrary provision of this Agreement, this Agreement shall not expire or be otherwise terminated until such time as all payment obligations due or to become due to Agent or any Lender with respect to the Letter of Credit have been paid.

(b) Reimbursement Obligations. Borrower agrees to pay to Agent

(i) on the day that any drawing is made by the Trustee under the Letter of Credit, all amounts to be advanced by Agent pursuant to the Letter of Credit on behalf of Borrower in respect of such drawing, and (ii) interest on any and all amounts that Borrower fails to pay when due under this Agreement from the date such amounts become payable until payment in full (collectively, the "Reimbursement Obligations"). For each day that any Reimbursement Obligation remains unpaid, interest shall accrue on such amounts at an aggregate rate per annum equal to five percent (5%) above the Reference Rate (the "Reimbursement Default Rate"), based on the actual number of days elapsed in a year of 360 days.

**SECTION 2.4 NOTICE OF BORROWING.** Borrower, through one of its Authorized Representatives, shall request advances under each of the Term Loans and each advance under the Line of Credit by giving Agent irrevocable written notice or telephonic notice (confirmed promptly in writing), in the form of Exhibit D attached hereto (each, a "Notice of Borrowing"), which specifies, among other things:

(i) the principal amount to be disbursed, if under the Term Loans, or the principal amount of the requested advance, if under the Line of Credit;

(ii) the proposed date of borrowing, which shall be a Business Day;

(iii) the interest rate option applicable to such borrowing (which, for a LIBOR interest selection, shall be subject to the minimum dollar requirements set forth in Section 2.5(a) hereof); and

(iv) if the amounts disbursed or advanced will bear interest determined in relation to LIBOR, the length of the Fixed Rate Term applicable thereto.

Each such Notice of Borrowing must be received by Agent not later than 10:00

a.m. Pacific Standard time at least one (1) Business Day prior to the date of borrowing if interest will be determined in relation to the Reference Rate, and

(ii) at least three (3) Business Days prior to the date of borrowing if interest will be determined in relation to LIBOR; provided however, that Agent, at its sole discretion, may permit borrowing requests to be made by telephone (confirmed promptly in writing) and on the same day only if interest will be determined in relation to the Reference Rate. Agent shall promptly notify each Lender of the contents of each Notice of Borrowing and of the amount of the disbursement or advance to be made by such Lender. Each advance for which interest will be determined in relation to the Reference Rate shall be in the minimum amount of \$100,000.00.

## SECTION 2.5 INTEREST/FEES.

(a) Interest on the Line of Credit. The outstanding principal balance of the Line of Credit shall bear interest in accordance with the following interest rate options, as designated periodically by Borrower:

(i) at the applicable margin over the Reference Rate set forth in the Line of Credit Pricing Grid; or

(ii) at the applicable margin over LIBOR set forth in the Line of Credit Pricing Grid; provided, however, that each LIBOR interest selection must be for a minimum amount of \$1,000,000 and in integral multiples of \$100,000.

(b) Interest on the Term Loans. The outstanding principal balances of each of the Term Loans shall bear interest in accordance with the following interest rate options, as designated periodically by Borrower:

(i) at the applicable margin over the Reference Rate set forth in the Term Loan Pricing Grid;

(ii) at the applicable margin over LIBOR set forth in the Term Loan Pricing Grid; provided, however, that each LIBOR interest selection must be for a minimum amount of \$1,000,000 and in integral multiples of \$100,000; or

(iii) at a fixed rate per annum equal to the Treasury Rate (for a term of one, two or three years, at Borrower's option).

The margins above the Reference Rate or LIBOR, as applicable (the "Interest Rate Margins"), at which the outstanding principal balances of the Line of Credit and each of the Term Loans bear interest from time to time shall be adjusted in accordance with the Line of Credit Pricing Grid and the Term Loan Pricing Grid, respectively. Until such time as Agent receives Borrower's financial statements (as required under this Agreement) evidencing Borrower's compliance with any of the Funded Debt to EBITDA ratios set forth in the applicable Pricing Grid, the Level IV Interest Rate Margin above the Reference Rate or LIBOR shall apply. Thereafter, Agent shall adjust the Interest Rate Margins in accordance with the applicable Pricing Grid on the first day of the month following each month in which Agent receives updated financial statements from Borrower pursuant to this Agreement. Such Interest Rate Margins shall be determined (i) using the most recent quarterly financial statement of Borrower available to Agent on the applicable adjustment date to determine the amount of Funded Debt and (ii) using the most recent financial statements of Borrower available

to Agent on the applicable adjustment date for a four (4) consecutive quarter period to determine EBITDA.

(c) Fees for the Line of Credit.

(i) Line of Credit Facility Fee. Commencing on the Closing Date and continuing through the Line Maturity Date, Borrower shall pay to Agent, for the ratable benefit of Lenders, a per annum facility fee (the "Line of Credit Facility Fee") calculated based on the average undisbursed portion of the Line of Credit at the applicable Line of Credit Facility Fee described in the Line of Credit Pricing Grid. Such Line of Credit Facility Fee shall be payable quarterly in arrears commencing September 30, 2000, and on the last day of each calendar quarter thereafter, and on the Line Maturity Date. The rate set forth above shall be adjusted in accordance with the Line of Credit Pricing Grid as of the first day of the month following receipt of Borrower's financial statements as required under this Agreement.

(ii) Borrower Letter of Credit Fees. In the event any Borrower Letters of Credit are issued for the account of Borrower, Borrower shall pay to the Agent, for the ratable benefit of the Lenders, (1) with respect to each Borrower Letter of Credit which is a commercial letter of credit, a fee at issuance equal to one quarter of one percent (.25%) of the Borrower Letter of Credit amount plus a flat fee of \$125.00 for each commercial letter of credit without negotiation and a fee upon negotiation equal to one quarter of one percent (.25%) of the drawn amount plus a flat fee of \$100.00 for each commercial letter of credit with negotiation, and (2) with respect to each Borrower Letter of Credit which is a standby letter of credit, a per annum fee equal to the Interest Rate Margin above LIBOR set forth in the Line of Credit Pricing Grid then applicable and multiplied by the face amount of such standby letter of credit.

(d) Term Loan Commitment Fees. Borrower shall pay to Agent a non-refundable commitment fee for each of the Term Loans as set forth below, which fee shall be due and payable in full on the date on which the applicable Term Loan is made:

-- Term Loan A: \$11,900.00

-- Term Loan B: \$16,100.00

-- Term Loan C: \$32,000.00



(e) Letter of Credit Facility Fee. Borrower shall pay to Agent a Letter of Credit Facility fee (for itself) in an amount equal to one and one-quarter of one percent (1.25%) per annum of the Stated Amount of the Letter of Credit, payable annually on each anniversary of the Date of Issuance, until the earlier of the termination or expiration of the Letter of Credit Facility, which fee shall be non-refundable even if the Letter of Credit is terminated or canceled before its stated expiration date.

(f) Computation and Payment. All interest and fees shall be computed on the basis of a 360-day year, actual days elapsed. Interest determined in relation to the Reference Rate or the Treasury Rate shall be payable on the first (1st) day of each month. Interest determined in relation to LIBOR shall be payable on the last day of the Fixed Rate Term to which such interest rate applies; provided that if such Fixed Rate Term is for six (6) months, on the first (1st) day of the fourth (4th) month of such Fixed Rate Term and on the last day of such Fixed Rate Term.

#### SECTION 2.6 CONVERSION OF INTEREST OPTIONS.

(a) Election. Subject to the minimum dollar requirements set forth in Section 2.5(a) hereof, (i) at any time any portion of the Line of Credit or any of the Term Loans bear interest determined in relation to the Reference Rate, Borrower may convert all or any portion thereof so that it bears interest determined in relation to LIBOR for a Fixed Rate Term designated by Borrower, and (ii) at any time any portion of the Line of Credit or the Term Loan bears interest determined in relation to LIBOR, Borrower may convert all or a portion thereof at the end of the Fixed Rate Term applicable thereto so that it bears interest determined in relation to the Reference Rate or in relation to LIBOR for a new Fixed Rate Term designated by Borrower. In addition, Borrower may elect to convert any Term Loan to a fixed rate equal to the Treasury Rate as set forth in Section 2.5(b). If Borrower has not made the required interest rate conversion or continuation election prior to the last day of any Fixed Rate Term, Borrower shall be deemed to have made a Reference Rate interest selection for the amounts that were subject thereto.

(b) Notice to Agent. Borrower, through one of its Authorized Representatives, shall request each interest rate conversion or continuation by giving Agent irrevocable written notice or telephonic notice (confirmed promptly in writing), in the form of Exhibit E attached hereto (a "Notice of Conversion or Continuation"), which specifies, among other things:

(i) the Credit to which such Notice applies;

(ii) the principal amount which is the subject of such conversion or continuation;

(iii) the proposed date of such conversion or continuation, which shall be a Business Day;

(iv) and if such Notice pertains to a LIBOR interest selection, the length of the applicable Fixed Rate Term.

Any such Notice of Conversion or Continuation must be received by Agent not later than 10:00 a.m. at least one (1) Business Day prior to the effective date of any Reference Rate interest selection, and (ii) at least three (3) Business Days prior to the effective date of any LIBOR interest selection; provided however, that Agent, at its sole discretion, may permit interest rate conversion or continuation requests to be made by telephone (confirmed promptly in writing) and on the same day for a Reference Rate interest selection. Agent shall promptly notify each Lender of the contents of each such Notice of Conversion or Continuation, or if timely notice is not received from Borrower prior to the last day of any Fixed Rate Term of the automatic conversion of the amounts subject thereto to the Reference Rate interest option.

#### SECTION 2.7 OTHER PAYMENT TERMS.

(a) Automatic Debit. Agent shall, and Borrower hereby authorizes Agent to, debit any deposit account of Borrower with Agent (including the Reimbursement Deposit Account described in Section 3.2 hereof) for all payments of principal, interest and fees as they become due on any of the Credits. At least one Business Day prior to any such debit of a deposit account of Borrower, Agent shall provide a written statement of all amounts to be debited. Should, for any reason whatsoever, the funds in any such deposit account be insufficient to pay all principal, interest and/or fees when due, Borrower shall, immediately upon demand, remit to Agent the full amount of any such deficiency.

(b) Place and Manner. Borrower shall make all payments due to each Lender under the Loan Documents by payment to Agent at Agent's Office, for the account of such Lender, in lawful money of the United States and in same day or immediately available funds not later than 12:00 noon Pacific Standard time on the date due. Agent shall promptly disburse to each Lender at such Lender's Applicable Lending Office each such payment received by Agent for such Lender.

(c) Date. Whenever any payment due hereunder shall fall due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day, and such extension of time shall be included in the computation of interest or fees, as the case may be.

(d) Default Interest Rate. Notwithstanding any contrary provision of this Agreement or any Note, upon the occurrence and during the continuance of any Event of Default, interest shall accrue on the outstanding principal balance of the Line

of Credit and each of the Term Loans at an increased rate per annum (computed on the basis of a year of 360 days for the actual number of days elapsed) equal to two percent (2%) above the rate of interest from time to time applicable to such Credit, and on the outstanding principal balance of the Letter of Credit Facility at an increased rate per annum (computed on the basis of a year of 360 days for the actual number of days elapsed) equal to five percent (5%) above the Reference Rate in effect from time to time. Borrower agrees that an Event of Default will cause the Agent to incur additional expense in servicing the Credits, that the Agent is entitled to damages for the detriment caused thereby, that such damages are extremely difficult and impractical to ascertain, and that application of the above default interest rates to the amounts owing by Borrower under the Loan Documents is a reasonable estimate of such damages to Agent.

(e) Application of Payments. All payments under the Loan Documents (including prepayments) shall be applied first to unpaid fees, costs and expenses then due and payable under this Agreement and the other Loan Documents, second to accrued interest then due and payable under the Loan Documents, and finally to reduce the outstanding principal amount of such Credits. Subject to the provisions of Section 3.2, if no Event of Default has occurred and is continuing, Agent shall, subject to the preceding sentence, apply all payments to be applied to Borrower's obligations as directed by Borrower. If an Event of Default has occurred and is continuing or if Borrower fails to direct application, Agent shall apply such payments as determined by it in its discretion.

(f) Failure to Pay Agent. Unless Agent shall have received notice from Borrower at least one (1) Business Day prior to the date on which any payment is due to the Lenders hereunder that Borrower will not make such payment in full, Agent may assume that Borrower has made such payment in full to Agent on such date and Agent may, in reliance upon such assumption, cause to be distributed to each Lender on such due date an amount equal to the amount then due such Lender. If and to the extent Borrower shall not have made such payment in full to Agent, such Lender shall repay to Agent forthwith on demand such amount distributed to such Lender together with interest thereon, for each day from the date such amount is distributed to such Lender until the date such Lender repays such amount to Agent, at the Federal Funds Rate. A certificate of Agent submitted to any Lender with respect to any amounts owing by such Lender under this Section 2.7(f) shall be presumptive evidence of such amounts.

## SECTION 2.8 PREPAYMENT.

(a) Optional Prepayments. Borrower may, through one of its Authorized Representatives and upon at least (i) one (1) Business Day's prior written notice to Agent if interest is determined in relation to the Reference Rate, or (ii) three (3) Business Days' prior written notice to Agent if interest is determined in relation to

LIBOR, prepay the outstanding amount of the Line of Credit or any Term Loan in whole or in part, without premium or penalty, except as required by Section 2.13 hereof. Partial prepayments of any portion of the Line of Credit or any Term Loan shall be in the minimum amount of \$1,000,000 and in integral multiples of \$100,000.

(b) Application of Term Loan Prepayments. All optional prepayments on any of the Term Loans pursuant to Section 2.8(a) shall be applied pro rata to reduce principal then outstanding.

## SECTION 2.9 FUNDING.

(a) Lender Funding and Disbursement. Each Lender shall, before 11:00 a.m. (San Francisco time) on the date of each borrowing under the Line of Credit or under any of the Term Loans, make available to Agent at Agent's Office, in same day or immediately available funds, such Lender's Proportionate Share thereof. After Agent's receipt of such funds and upon fulfillment of the applicable conditions set forth in Article V hereof, Agent will promptly disburse such funds in same day or immediately available funds to Borrower. Unless otherwise directed by Borrower in writing, Agent shall disburse the proceeds of each borrowing to Borrower by deposit to any demand deposit account maintained by Borrower with Agent.

(b) Lender's Failure to Fund. Unless Agent shall have received notice from a Lender on or prior to the date of any borrowing under the Line of Credit or any of the Term Loans that such Lender will not make available to Agent such Lender's Proportionate Share thereof, Agent may assume that such Lender has made such portion available to Agent on the date of such borrowing in accordance with Section 2.9(a) hereof, and Agent may, in reliance upon such assumption, make available to Borrower (or otherwise disburse) on such date a corresponding amount. If any Lender does not make the amount of its Proportionate Share of any borrowing available to Agent on the date of such borrowing, such Lender shall pay to Agent, on demand, interest which shall accrue on such amount until made available to Agent at rates equal to (i) the daily Federal Funds Rate during the period from the date of such borrowing through the third Business Day thereafter, and (ii) thereafter, the Reference Rate in effect from time to time. A certificate of Agent submitted to any Lender with respect to any amounts owing under this Section 2.9(b) shall be presumptive evidence of such amounts. If any Lender's Proportionate Share of any borrowing is not in fact made available to Agent by such Lender within three (3) Business Days after the date of such borrowing, Borrower shall pay to Agent, on demand, an amount equal to such Proportionate Share together with interest thereon, for each day from the date such amount was made available to Borrower until the date such amount is repaid to Agent, at the rate of interest then applicable thereto.

(c) Lenders' Obligations Several. The obligation of each Lender hereunder is several. The failure of any Lender to make available its Proportionate

Share of any borrowing shall not relieve any other Lender of its obligation hereunder to do so on the date requested, but no Lender shall be responsible for the failure of any other Lender to make available the Proportionate Share to be funded by such other Lender.

#### SECTION 2.10 PRO RATA TREATMENT.

(a) Borrowings. Except as otherwise provided herein, (i) each extension of credit under any Credit shall be made or shared among the Lenders pro rata according to their respective Proportionate Shares in such Credit, and  
(ii) each payment of principal of and interest or fees on a Credit shall be made or shared among the Lenders pro rata according to the respective unpaid principal amounts of such Credit held by such Lenders.

(b) Sharing of Payments, Etc. If any Lender shall obtain any payment (whether voluntary, involuntary or otherwise) on account of a Credit in excess of its ratable share of payments on account of such Credit obtained by all Lenders entitled to such payments, such Lender shall forthwith purchase from the other Lenders sufficient participations in such Credit as shall be necessary to cause the purchasing Lender's interest in the Credit to be equivalent to the excess payment received; provided however, that if all or any portion of such excess payment is thereafter recovered from such purchasing Lender, such purchase shall be rescinded and each other Lender shall repay to the purchasing Lender the purchase price to the extent of such recovery together with an amount equal to such other Lender's ratable share (according to the proportion of (i) the amount of such other Lender's required repayment to (ii) the total amount so recovered from the purchasing Lender) of any interest or other amount paid or payable by the purchasing Lender in respect of the total amount so recovered. Borrower agrees that any Lender so purchasing a participation from another Lender pursuant to this Section 2.10(b) may, to the fullest extent permitted by law, exercise all its rights of payment (but not including any right of setoff) with respect to such participation as fully as if such Lender were the direct creditor of Borrower in the amount of such participation.

#### SECTION 2.11 CHANGE OF CIRCUMSTANCES.

(a) Inability to Determine Rate. If Agent at any time shall determine that adequate and reasonable means do not exist for ascertaining LIBOR, or the Majority Lenders shall determine at any time that LIBOR does not accurately reflect the cost to Lenders of making or maintaining LIBOR interest rates hereunder, then Agent shall give telephonic notice (promptly confirmed in writing) to Borrower and each Lender of such determination. If such notice is given, and until such notice has been withdrawn in writing by Agent, then no LIBOR interest option may be selected by Borrower and any portion of any Credit which bears interest determined in relation to LIBOR, subsequent to the end of the Fixed Rate Term applicable thereto, shall bear

interest determined in relation to the Reference Rate pursuant to the terms and conditions of this Agreement.

(b) **Illegality: Termination of Commitment.** Notwithstanding any other provisions herein, if any Change of Law shall make it unlawful for any Lender (i) to make a LIBOR interest rate available, or (ii) to maintain LIBOR interest rates hereunder, then, in the former event, any obligation of Lenders hereunder to make available such unlawful LIBOR interest rate shall forthwith be canceled, and in the latter event, any such unlawful LIBOR interest rate then outstanding shall at the option of Agent be converted so that interest is determined in relation to the Reference Rate pursuant to the terms of this Agreement; provided however, if any such Change in Law, shall permit a LIBOR interest rate until the expiration of the Fixed Rate Term relating thereto, then such permitted LIBOR interest rate shall continue as such until the end of such Fixed Rate Term. With respect to any outstanding principal amount as to which such LIBOR interest rate is converted to a lower rate in accordance with the foregoing terms and provisions, Borrower agrees to pay to Agent, for the benefit of each Lender, as appropriate, the amount of any increase in cost or expense to the Lenders.

(c) **Charges: Illegality.** Upon the occurrence of any event described in Section 2.11(b) hereof, Borrower shall pay to Agent, for the benefit of each Lender, as appropriate, such amount or amounts as may be necessary to compensate such Lender for any fines, fees, changes, penalties or other amounts payable by such Lender as a result thereof and which are attributable to LIBOR interest rates made available to Borrower hereunder. In determining which amounts payable by any Lender and/or losses incurred by any Lender are attributable to LIBOR interest rates made available to Borrower hereunder, any reasonable allocation made by any Lender among its operations shall be conclusive and binding upon Borrower provided Lender provides Borrower with a statement setting forth in reasonable detail such amount and the reasonable calculation thereof.

(d) **Charges: Change of Law.** If, after the date of this Agreement, any Change of Law:

(i) shall subject any Lender to any tax, duty or other charge with respect to any LIBOR interest rate, or shall change the basis of taxation of payments by Borrower to any Lender of principal, interest, fees or any other amount payable hereunder (except for changes in the rate of taxation on the overall net income of any Lender imposed by the jurisdiction of such Lender's incorporation or by any jurisdiction in which its Applicable Lending Office is located); or

(ii) shall impose, modify or hold applicable any reserve, special deposit, compulsory loan or similar requirement against assets

held by, deposits or other liabilities in or for the account of, advances or loans by, or any other acquisition of funds by any Lender; or

(iii) shall impose on any Lender any other condition with respect to its performance hereunder;

and the effect of any of the foregoing is to increase the cost to such Lender of making, renewing or maintaining any LIBOR interest rate hereunder or to reduce any amount receivable by such Lender in connection therewith, then Borrower shall, pay to Agent, on behalf of each Lender, as appropriate, such amount or amounts as may be necessary to reimburse such Lender for such increased costs or to compensate such Lender for such reduced amounts. A certificate as to the amount of such increased costs or reduced amounts, delivered by such Lender to Borrower (which delivery shall be through Agent) shall, in the absence of manifest error, be conclusive and binding on Borrower for all purposes provided Lender provides Borrower with a statement setting forth in reasonable detail such amount and the reasonable calculation thereof.

(e) Capital Requirements. If any Lender shall have determined that any Change of Law regarding capital adequacy which occurs after the Closing Date hereof has or shall have the effect of reducing the rate of return on the capital of such Lender (or any entity controlling such Lender) as a consequence of such Lender's obligations hereunder to a level below that which such Lender or such entity would have achieved but for such Change of Law (taking into consideration such Lender's or such entity's policies with respect to capital adequacy), by an amount deemed by such Lender to be material, then from time to time, within fifteen (15) days after presenting a statement setting forth in reasonable detail such amount and the reasonable calculation thereof. Borrower shall pay to Agent, for the benefit of such Lender such amounts set forth therein which shall compensate such Lender for such reduction.

## SECTION 2.12 TAXES ON PAYMENTS.

(a) Payments Free of Taxes. All payments made by Borrower under the Loan Documents shall be made free and clear of, and without deduction or withholding for or on account of, any present or future income, stamp or other taxes, levies, imposts, duties, charges, fees, deductions or withholdings, now or hereafter imposed, levied, collected, withheld or assessed by any Governmental Authority (except net income taxes imposed on Agent or any Lender) (with all such non-excluded taxes, levies, imposts, duties, charges, fees, deductions and withholdings relating to the payments made hereunder being hereinafter referred to herein as "Taxes"). If any Taxes are required to be withheld from any amounts payable to Agent or any Lender under the Loan Documents, the amounts so payable to Agent or such Lender shall be increased to the extent necessary to yield to Agent or such Lender (after payment of all Taxes) interest or any such other amounts payable hereunder at the rates or in the amounts specified in the Loan Documents. Whenever any such

Taxes are payable by Borrower, as promptly as possible thereafter, Borrower shall send to Agent, for its own account or for the account of such Lender, as the case may be, a certified copy of an original official receipt received by Borrower showing payment thereof. If Borrower fails to pay any Taxes when due to the appropriate taxing authority or fails to remit to Agent the required receipts or other required documentary evidence, Borrower shall indemnify Agent and the Lenders for any incremental taxes, interest or penalties that may become payable by Agent or any Lender as a result of any such failure. The agreements in this Section 2.12(a) shall survive the termination of this Agreement for a period not to exceed the lesser of the applicable statute of limitations or twenty-four months.

(b) Withholding Exemption Certificates. Each Lender agrees that it will deliver to Borrower and Agent, upon the reasonable request of Borrower or Agent, either (i) a statement that it is incorporated under the laws of the United States of America or a state thereof, or (ii) if it is not so incorporated, two duly completed copies of United States Internal Revenue Service Form 1001 or 4224 or successor applicable form, as the case may be, certifying in each case that such Lender is entitled to receive payments under this Agreement without deduction or withholding of any United States federal income taxes.

#### SECTION 2.13 FUNDING LOSS INDEMNIFICATION.

(a) LIBOR. If Borrower shall (a) repay or prepay any portion of a Credit which bears interest determined in relation to LIBOR on any day other than the last day of the Fixed Rate Term therefor (whether an optional prepayment, a mandatory prepayment, a payment upon acceleration or otherwise),

(b) fail to borrow any such portion of a Credit for which a Notice of Borrowing has been delivered to Agent (whether as a result of the failure to satisfy any applicable conditions or otherwise), or (c) fail to convert or continue at the LIBOR interest option any portion of a Credit in accordance with a Notice of Conversion or Continuation delivered to Agent (whether as a result of the failure to satisfy any applicable conditions or otherwise), Borrower shall, concurrent with Borrower's repayment pursuant to the foregoing, reimburse Agent on behalf of each Lender, as appropriate, and hold such Lender harmless for all costs and losses incurred by such Lender as a result of such repayment, prepayment or failure. Borrower understands that such costs and losses may include, without limitation, losses incurred by a Lender as a result of funding and other contracts entered into by such Lender to fund any LIBOR portion of any Credit. Each Lender demanding payment under this Section 2.13 shall, in accordance with the foregoing, deliver to Agent for delivery to Borrower a certificate setting forth the amount of costs and losses for which demand is made. Borrower shall have the right to review and confirm any amount alleged to be owing and any calculation relating thereto. The agreements in this Section 2.13 shall survive the termination of this Agreement.



(b) Treasury Rate. If Borrower shall repay or prepay any portion of a Credit which bears interest at the Treasury Rate on any day other than the last day of its term (whether an optional prepayment, a mandatory prepayment, a payment upon acceleration or otherwise), Borrower shall pay to such Lender the "prepayment indemnity" more particularly described on Schedule 2.13(b).

**SECTION 2.14 AUTHORIZED REPRESENTATIVES.** On the Closing Date, and from time to time subsequent thereto at Borrower's option, Borrower shall deliver to Agent a written notice in the form of Exhibit F attached hereto (each, a "Notice of Authorized Representatives"), which designates by name each of Borrower's Authorized Representatives and includes each of their respective specimen signatures. Agent shall be entitled to rely conclusively on the authority of each officer or employee designated as an Authorized Representative in the most current Notice of Authorized Representatives delivered by Borrower to Agent, to request borrowings and select interest rate options hereunder, and to give to Agent such other notices as are specified herein as being made through one of Borrower's Authorized Representatives, until such time as Borrower has delivered to Agent, and Agent has actual receipt of, a new written Notice of Authorized Representatives. Agent shall have no duty or obligation to Borrower to verify the authenticity of any signature appearing on any Notice of Borrowing, Notice of Conversion or Continuation or any other written notice from an Authorized Representative or to verify the authenticity of any person purporting to be an Authorized Representative giving any telephonic notice permitted hereby.

**SECTION 2.15 COLLATERAL.**

(a) Personal Property Collateral and Contract Collateral. As security for all indebtedness of Borrower to Lenders pursuant to this Agreement, as of the Closing Date Borrower grants to Agent, for the benefit of Lenders, a security interest of first priority in the Personal Property Collateral.

(b) Real Property Collateral. As additional security for all indebtedness of Borrower to Lenders pursuant to this Agreement, as of the Closing Date Borrower grants to Agent, for the benefit of Lenders (but only to the extent that a Lender has a Proportional Share in any of the Term Loans), (i) a lien of first priority in the Monterey Park Property and all improvements thereon with respect to Term Loan A, (ii) a lien of first priority in the El Monte Property and all improvements thereon with respect to Term Loan B, (iii) a lien of second priority in the Monterey Park Property and all improvements thereon with respect to Term Loan C, and (iv) a lien of second priority in the El Monte Property and all improvements thereon with respect to Term Loan C, subject solely to such exceptions to title as Agent shall deem acceptable.

(c) Cross-Collateralization and Cross-Default. Borrower acknowledges that the Lenders have made the Credits to Borrower upon the security of Borrower's collective interests in the Collateral and in reliance upon the Collateral taken together being of greater value as collateral security than the sum of the Collateral taken separately. Borrower agrees that the Security Agreements are and will be cross-collateralized and cross-defaulted with each other so that (i) an Event of Default under any Security Agreement shall constitute an Event of Default under each of the other Security Agreements; (ii) an Event of Default under any Note or this Agreement shall constitute an Event of Default under each Security Agreement; and (iii) each Deed of Trust shall secure the obligations evidenced by all of the Notes as if a single blanket lien were placed on all of the Collateral as security for such obligations provided that to the extent that a Lender does not have a Proportional Share in a particular Credit hereunder, such Lender's security interest in the Collateral for such Credit shall be subordinate and second in priority to the pro rata security interests of the Lenders having Proportional Shares in such Credit(s).

(d) Documentation; Fees. All of the foregoing shall be evidenced by and subject to the terms of the documents described in Section 5.1 hereof. Borrower shall fully cooperate with Agent and perform all additional acts reasonably requested by Agent or any Lender to effect the purposes of this

Section 2.15. Borrower shall reimburse Agent, immediately upon demand, for all reasonable costs and expenses incurred by Agent in connection with any of the foregoing security, including filing and recording fees and costs of inspections, expert opinions, appraisals, and audits.

SECTION 2.16 GUARANTIES. One hundred percent (100%) of the principal amount of the Credits plus one hundred percent (100%) of all accrued interest, late charges, attorney's fees and other charges arising under the Credits, shall be unconditionally guaranteed by each of the Guarantors. Notwithstanding the foregoing, Lender agrees that American Xtal Technology (Hong Kong) and Lyte Optronics Ltd. (UK) shall be released at such time as Borrower has provided Agent with satisfactory evidence that such Guarantors have ceased all operations and have no assets.

### **ARTICLE III**

#### **PAYMENTS WITH RESPECT TO THE BONDS AND THE LETTER OF CREDIT**

##### **SECTION 3.1 ANNUAL REDEMPTION OF BONDS.**

Borrower covenants to take all necessary action to prepay the loan and cause optional redemptions of the Bonds pursuant to Article IV of the Indenture and this Section 3.1 at a price equal to the principal amount of the Bonds to be redeemed, together with accrued interest to the redemption date, on the Bond Interest Payment

Date for December of each year, commencing with the Bond Interest Payment Date for the month of December 2000. The principal amount of Bonds to be redeemed on each such December Bond Interest Payment Date is set forth on Schedule 2.3(a) attached hereto.

**SECTION 3.2 REIMBURSEMENT DEPOSIT ACCOUNT.** Borrower agrees to maintain an interest-bearing deposit account in Borrower's name with U.S. Bank (the "Reimbursement Deposit Account"), which shall be pledged to Agent as security for Borrower's performance of its obligations under this Agreement. Borrower agrees to deposit into the Reimbursement Deposit Account on a monthly basis, three (3) Business Days before the Bond Interest Payment Date for such month, until the earlier to occur of (x) the earliest date on which both no further demands may be made for a drawing under the Letter of Credit and all amounts due to Agent or any Lender under this Agreement in respect of the Letter of Credit have been paid in full, or (y) the Expiration Date (such earlier date, the "Termination Date"), an amount equal to the sum of (i) the next monthly interest payment that Borrower is obligated to make under the Indenture and (ii) the smallest monthly amount that, if deposited by Borrower into the Reimbursement Deposit Account each month during the year commencing on the date of the last annual principal redemption of the Bonds, would be sufficient to meet when due the next annual principal redemption of the Bonds as required under Section 3.1 hereof.

**SECTION 3.3 OTHER OPTIONAL REDEMPTIONS OF BONDS.** Notwithstanding any contrary provision of this Agreement, any optional redemption of the Bonds under the Indenture other than the optional redemptions required by Section 3.1, above, shall require the advance written consent of Agent (which consent shall not be unreasonably withheld), and Agent's receipt of satisfactory evidence of Borrower's ability to reimburse Agent and Lenders for any drawing under the Letter of Credit for such redemption.

## **ARTICLE IV**

### **REPRESENTATIONS AND WARRANTIES**

Except as set forth in Schedules 4.5-4.16 hereto (the "Disclosure Schedule"), the parts of which are numbered according to the relevant Sections of this Agreement, Borrower makes the following representations and warranties to Agent and Lenders, which representations and warranties shall survive the execution of this Agreement and shall continue in full force and effect until the full and final payment, and satisfaction and discharge, of all obligations of Borrower to Lenders and Agent under this Agreement.

SECTION 4.1 LEGAL STATUS. Borrower is a corporation, duly organized and existing and in good standing under the laws of the State of Delaware, each of Borrower and each Guarantor is qualified or licensed to do business in California and is in good standing as a foreign corporation in California, and is qualified or licensed to do business (and is in good standing as a foreign corporation, if applicable) in all other jurisdictions in which such qualification or licensing is required or in which the failure to so qualify or to be so licensed could have a Material Adverse Effect.

SECTION 4.2 AUTHORIZATION AND VALIDITY. The execution, delivery and performance by each of Borrower and each Guarantor of the Loan Documents to which it is a party have been duly authorized, and upon their execution and delivery in accordance with the provisions hereof such Loan Documents will constitute legal, valid and binding agreements and obligations of Borrower and such Guarantor, enforceable in accordance with their respective terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or other laws or equitable principles relating to or limiting creditors' rights generally or the availability of equitable remedies.

SECTION 4.3 NO VIOLATION. The execution, delivery and performance by Borrower of each of the Loan Documents to which it is a party do not (a) to Borrower's knowledge, violate any provision of any applicable law or regulation, (b) contravene any provision of the Certificate of Incorporation or By-Laws of Borrower, (c) result in a breach of, or constitute a default under, any contract, obligation, indenture or other instrument, or, any judgment, injunction, order or decree, to which Borrower is a party or by which Borrower or any of its respective property may be bound, or (d) result in or require the creation or imposition of any lien, security interest or other charge or encumbrance upon or with respect to any property of Borrower except in favor of Agent or Lenders.

SECTION 4.4 NO ADDITIONAL APPROVALS. No further approval, authorization, consent, order, notice to or filing or registration with any governmental authority or any public board or body is legally required with respect to the execution, delivery or performance by Borrower of the Loan Documents to which it is a party where the failure to obtain such approval could reasonably have a Material Adverse Effect.

SECTION 4.5 LITIGATION. There are no pending, or to the best of Borrower's knowledge threatened, actions, claims, investigations, suits or proceedings by or before any governmental authority, arbitrator, court or administrative agency which could reasonably be expected to have a Material Adverse Effect.

SECTION 4.6 CORRECTNESS OF FINANCIAL STATEMENT. The audited consolidated financial statements of Borrower dated as of December 31, 1999, and the unaudited interim consolidated financial statements of Borrower dated as of March 31, 2000, heretofore delivered by Borrower to Agent, (a) are complete and correct and present fairly the financial condition of Borrower as of the date thereof; (b) disclose all liabilities of Borrower that are required to be reflected or reserved against under GAAP, whether liquidated or unliquidated, fixed or contingent; and (c) have been prepared in accordance with GAAP. Since the date of such financial statements there has been no material adverse change in the financial condition of Borrower, nor has Borrower mortgaged, pledged or granted a security interest in or otherwise encumbered any of its assets or properties except as permitted by this Agreement or as disclosed by Borrower to Agent in the Disclosure Schedule.

SECTION 4.7 INCOME TAX RETURNS. Except to the extent covered by legally permitted and validly filed extensions, Borrower has filed all United States federal income tax returns, state tax returns and all other material tax returns which it is required to file, and have paid all taxes due pursuant to such returns or pursuant to any assessment received by them, except for those being actively contested in good faith. The charges, accruals and reserves on the books of Borrower in respect of taxes or other governmental charges are, in the opinion of Borrower or its independent certified public accountants, adequate. Borrower has no knowledge of any pending assessments or adjustments of the income tax paid or payable by Borrower with respect to any year.

SECTION 4.8 NO SUBORDINATION. There is no agreement, indenture, contract or instrument to which Borrower or any Guarantor is a party or by which Borrower or any Guarantor may be bound that requires the subordination in right of payment of any of Borrower's or such Guarantor's or such other Person's obligations subject to this Agreement to any other obligation of Borrower or such Guarantor or such other Person.

SECTION 4.9 PERMITS, FRANCHISES. Borrower possesses, and will hereafter possess, all permits, franchises and licenses required and rights to all trademarks, trade names, patents and fictitious names, if any, necessary to enable it to conduct the business in which it is now engaged in compliance with applicable law.

SECTION 4.10 ERISA. Borrower and each Guarantor is in compliance in all material respects with all applicable provisions of ERISA; neither Borrower nor any Guarantor has violated any provision of any Plan maintained or contributed to by Borrower or such Guarantor or such other Person; no Reportable Event as defined in ERISA has occurred and is continuing with respect to any Plan initiated by Borrower or any Guarantor; each of Borrower and each Guarantor has met its minimum funding requirements under ERISA with respect to each Plan; and each

Plan will be able to fulfill its benefit obligations as they come due in accordance with the Plan documents and under GAAP.

**SECTION 4.11 OTHER OBLIGATIONS.** To the best of Borrower's knowledge, neither Borrower nor any Guarantor is in default on any obligation for borrowed money, any purchase money obligation or any other material lease, commitment, contract, instrument or obligation.

**SECTION 4.12 GOVERNMENT REGULATIONS.** Neither Borrower nor any Guarantor is subject to regulation under the Investment Company Act of 1940, the Federal Power Act, the Interstate Commerce Act, the Public Utility Holding Company Act of 1935 or any federal or state statute or regulation limiting its ability to incur indebtedness for money borrowed.

**SECTION 4.13 SECURITIES ACTIVITIES.** Neither Borrower nor any Guarantor is engaged principally, or as one of its important activities, in the business of extending credit for the purpose of purchasing or carrying any margin stock (as defined within Regulations G, T and U of the Board of Governors of the Federal Reserve System), and not more than twenty-five percent (25%) of the value of Borrower's or any Guarantor's assets consists of such margin stock.

**SECTION 4.14 ENVIRONMENTAL MATTERS.** Except as set forth on the Disclosure Schedule hereto, each of Borrower and each Guarantor is in compliance in all material respects with all applicable Federal and state environmental, hazardous waste, health and safety statutes, and any rules or regulations adopted pursuant thereto, which govern or affect any of Borrower's or any Guarantor's operations and/or properties, including the Comprehensive Environmental Response, Compensation and Liability Act of 1980, the Superfund Amendments and Reauthorization Act of 1986, the Federal Resource Conservation and Recovery Act of 1976, the Federal Toxic Substances Control Act and the California Health and Safety Code, as any of the same may be amended, modified or supplemented from time to time. None of the operations of Borrower or any Guarantor is the subject of any federal or state investigation evaluating whether any remedial action involving a material expenditure is needed to respond to a release of any toxic or hazardous waste or substance into the environment. To Borrower's knowledge, neither Borrower nor any Guarantor has any material contingent liability in connection with any release of any toxic or hazardous waste or substance into the environment.

**SECTION 4.15 REAL PROPERTY COLLATERAL.** Except as set forth in Schedule 4.15 hereto, with respect to the Real Property Collateral:

(a) All taxes, governmental assessments, insurance premiums, and water, sewer and municipal charges, and rents (if any) which previously became (or

without payment before the date hereof would have become) delinquent in respect thereof have been paid as of the date hereof;

(b) There are no mechanics' or similar liens or claims which have been filed for work, labor or material (and no rights are outstanding that under law could give rise to any such lien) which affect all or any interest in any such real property and which are or may be prior to or equal to the lien thereon in favor of Agent;

(c) To Borrower's knowledge, none of the improvements which were included for purpose of determining the appraised value of any such real property lie outside of the boundaries and/or building restriction lines thereof, and no improvements on adjoining properties materially encroach upon any such real property; and

(d) There is no pending, or to the best of Borrower's knowledge threatened, proceeding for the total or partial condemnation of all or any portion of any such real property, and all such real property is in good repair and free and clear of any damage that would materially and adversely affect the value thereof as security and/or the intended use thereof.

**SECTION 4.16 SUBSIDIARIES.** Borrower does not own any stock or equity interest in any corporation or other entity, other than those listed on the Disclosure Schedule hereto.

**SECTION 4.17 TRUTH, ACCURACY OF INFORMATION.** All financial and other information furnished to Agent or any Lender in connection with this Agreement is true and correct as of the date hereof and does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the information furnished, in light of the circumstances under which furnished, not misleading.

## **ARTICLE V**

### **CONDITIONS**

**SECTION 5.1 CONDITIONS OF INITIAL EXTENSION OF CREDIT.** The obligation of Lenders to extend any credit contemplated by this Agreement is subject to the fulfillment to Agent's satisfaction of all of the following conditions:

(a) Approval of Agent's Counsel. All legal matters incidental to the extension of credit hereunder shall be satisfactory to counsel for Agent.

(b) Documentation. Agent shall have received, in form and substance satisfactory to Agent, each of the following duly executed:

(i) This Agreement and the Notes.

(ii) Guaranty from each Guarantor as required by Section 2.16 hereof.

(iii) All Security Agreements, UCC-1 Financing Statements and other documentation from Borrower and each other person or entity required by Agent for the creation, perfection and preservation of the personal property security interests described in Section 2.15(a) hereof.

(iv) All Deeds of Trust and other documentation from Borrower and each other person or entity required by Agent for the creation, perfection and preservation of the real property security interests described in Section 2.15(b) hereof (including, as deemed necessary by Agent, a modification to the Deeds of Trust encumbering the Solar Way Property and the Technology Drive Property), together with such policies of title insurance covering said parcels of real property, issued by companies, in amounts and in form and substance as Agent shall deem acceptable.

(v) Corporate Borrowing Resolution from Borrower.

(vi) Resolution from each corporate or limited liability company Guarantor authorizing the execution and delivery of its respective Guaranty and its pledge of collateral required hereunder.

(vii) Certified copies of the filed Articles of Incorporation for Borrower and each corporate Guarantor and the certificate of formation for each limited liability company Guarantor.

(viii) Certificate of Incumbency from Borrower and each corporate or limited liability company Guarantor.

(ix) Notice of Authorized Representatives.

(x) Evidence satisfactory to Agent certifying that all improvements at each of the Real Properties comply with all applicable zoning and building laws, and all approvals, consents, licenses, and permits necessary to conduct Borrower's business have been obtained.

(xi) An opinion of Gray Cary Ware & Freidenrich LLP, counsel to Borrower, in form satisfactory to Agent, confirming that the



Loan Documents are valid, binding and enforceable in accordance with their terms, that they do not violate any usury or other applicable laws and that the Borrower, the Guarantors and each of the Real Properties are in compliance with all applicable laws.

(xii) Copies of all of Borrower's franchise agreements and service agreements.

(xiii) Evidence of a tax service contract with a third party vendor which shall provide tax information on the Properties.

(xiv) Copies of all material contracts, agreements and leases set forth on Schedule 5 hereto (the "Contract Collateral") to which Borrower or any Guarantor is a party and assignments thereof to Agent as additional collateral for the Credits and any consents to such assignment or landlord waivers as Agent may require.

(xv) Copies of the most current tax bills for each of the Real Properties evidencing no delinquency in payment and that such Real Property has been segregated from all other property on the applicable municipal tax rolls.

(xvi) A written certification executed by Borrower and each Guarantor certifying as to the truth and accuracy of all material facts pertinent to the Credits and to the legal opinion described in (xi) above.

(xvii) Such other documents as Agent may require under any other Section of this Agreement.

(c) Financial Statements. Agent shall have received, in form and substance satisfactory to Agent and Lenders, audited financial statements for Borrower for and as of the fiscal year ending December 31, 1999, which financial statements shall reflect no material adverse change in the financial condition of Borrower from the financial information previously delivered to Agent.

(d) Fees and Expenses. Borrower shall have paid all fees and invoiced costs and expenses then due pursuant to the terms of this Agreement and all Loan Costs incurred by Agent as of the Closing Date.

(e) Insurance. Borrower shall have delivered to Agent evidence of insurance coverage on all Borrower's and Guarantor's property, in form, substance, amounts, covering risks and issued by companies satisfactory to Agent, and where required by Agent, with loss payable endorsements in favor of Agent, including policies of fire and extended coverage insurance covering the Real Property Collateral, with replacement cost and mortgagee loss payable endorsements, commercial general

liability insurance for Borrower and each Guarantor with respect to each of Borrower's and such Guarantor's properties providing for limits of not less than \$5,000,000 for both injury to or death of a person and for property damage per occurrence, and such policies of insurance against specific hazards affecting any such real property as may be required by governmental regulation or Agent.

(f) Appraisals; Collateral Audit; and Credit Checks. Agent shall have obtained, at Borrower's cost (A) an appraisal of all Real Property Collateral, all improvements thereon, and all Personal Property Collateral issued by an appraiser acceptable to Agent and in form, substance and reflecting values satisfactory to Agent, in its discretion, (B) a collateral audit of all Personal Property Collateral performed by a person satisfactory to Agent and in form, substance and reflecting values satisfactory to Agent, and (C) satisfactory credit checks on Borrower and each Guarantor.

(g) Title Insurance. As to the El Monte Property and the Monterey Park Property, Agent shall have received an ALTA Policy of Title Insurance, with such endorsements as Agent may require, including CLTA endorsements 100, 100.29, 103.1A, 103.7, 104.7, 111.5, 116, 116.4, 116.7 and 123.2, issued by a company and in form and substance satisfactory to Agent, in such amount as Agent shall require, insuring Agent's lien on the El Monte Property and the Monterey Park Property to be of first priority, subject only to such exceptions as Agent shall approve in its discretion, with all costs thereof to be paid by Borrower. As to the Solar Way Property and the Technology Drive Property, Agent shall have received a CLTA 110.5 modification endorsement to each of the existing Title Policies for such properties.

(h) Environmental Reports. Agent shall have obtained, at Borrower's cost, a Phase I (and to the extent deemed necessary by Agent, a Phase II) Environmental Site Assessment for each parcel of Real Property Collateral, and such other documentation as Agent may reasonably determine is necessary in order to adequately review and make a determination as to the condition of each such parcel of Real Property Collateral.

(i) Material Adverse Change. There shall have been no material adverse change, as determined by Agent, in the business, operations, properties, or financial condition of Borrower since the dates of the financial statements delivered to Agent pursuant to Section 5.1(c).

(j) Engineering Survey. Agent shall have made a physical inspection of each parcel of Real Property Collateral and if required by Agent, an independently prepared structural and mechanical engineering report satisfactory to Agent.

(k) UCC Filings. There shall exist no UCC filings against Borrower or any Guarantor which have not been approved by Agent, and each of Borrower and each Guarantor, as applicable, shall have delivered to Agent such first priority UCC-1

Financing Statements covering all Personal Property Collateral and Contract Collateral as Agent may require.

(l) Subordination Agreement. Agent shall have received, in form and substance satisfactory to Agent, a subordination agreement from the Small Business Administration subordinating its lien in the Solar Way Property to Agent's first priority lien in the Solar Way Property or a re-affirmation thereof consenting to the cross-collateralization as set forth in the Loan Documents.

**SECTION 5.2 CONDITIONS OF EACH EXTENSION OF CREDIT.** The obligation of Lenders to make each extension of credit requested by Borrower hereunder (including the initial extension of credit) shall be subject to the fulfillment to Agent's satisfaction of all of the following conditions:

(a) Compliance. The representations and warranties contained herein and in each of the other Loan Documents shall be true on and as of the date of the signing of this Agreement and on the date of each extension of credit by Lenders pursuant hereto, with the same effect as though such representations and warranties had been made on and as of each such date, and on each such date, no Default or Event of Default shall have occurred and be continuing or shall exist, and Agent shall have received a certificate confirming the matters set forth in this Section 5.2(a) signed by a senior financial officer of Borrower.

(b) Borrowing Base. With respect to the Line of Credit, Agent has determined that there is availability under the Borrowing Base to make the extension of credit.

(c) Minimum Extension of Credit. The extension of credit is in the amount of at least \$100,000; however, Agent in its sole discretion may make an extension of credit in an amount less than \$100,000.

(d) Documentation. Agent shall have received all additional documents which may be required in connection with such extension of credit. Borrower shall pay the costs of any additional documentation, legal fees or title insurance required by Agent to evidence such extension of credit and preserve the priority of the lien of the Security Documents.

## ARTICLE VI

### **AFFIRMATIVE COVENANTS**

Borrower covenants that so long as Lenders remain committed to extend credit to Borrower pursuant hereto, or any liabilities (whether direct or contingent, liquidated or unliquidated) of Borrower to Lenders under any of the Loan Documents remain outstanding, and until payment in full of all obligations of Borrower subject hereto, Borrower shall, unless Agent otherwise consents in writing:

**SECTION 6.1 PUNCTUAL PAYMENTS.** Punctually pay all principal, interest, fees or other liabilities due under any of the Loan Documents at the times and place and in the manner specified therein.

**SECTION 6.2 ACCOUNTING RECORDS.** Maintain adequate books and records in accordance with generally accepted accounting principles consistently applied, and permit any representative of Agent, upon reasonable notice and during regular business hours, to inspect, audit and examine such books and records, to make copies of the same, and to inspect the properties of Borrower. Borrower shall not be responsible for the costs of more than one (1) inspection and audit of Borrower's books and records in any six (6) month period if an Event of Default is not continuing during the inspection and audit.

**SECTION 6.3 FINANCIAL STATEMENTS.** Provide to Agent all of the following, in form and detail satisfactory to Agent:

- (a) not later than ninety (90) days after and as of the end of each fiscal year, an audited financial statement of Borrower and each entity whose financial results are consolidated with those of Borrower for reporting purposes, prepared by a nationally recognized certified public accountant, to include a balance sheet, income statement, statement of cash flows, reconciliation of net worth and notes to financial statements;
- (b) not later than thirty (30) days prior to the end of each fiscal year, an annual budget for Borrower, prepared by Borrower, which shall include three-year projections of Borrower's operations and planned capital expenditures and financial projections for Borrower and each entity whose financial results are consolidated with those of Borrower for reporting purposes for the next fiscal year;
- (c) not later than forty-five (45) days after and as of the end of each fiscal quarter, a financial statement of Borrower and each entity whose financial results are consolidated with those of Borrower for reporting purposes, prepared by Borrower, to include a balance sheet and income statement;

(d) not later than thirty (30) days after and as of the end of each calendar month, (i) a calculation of the Borrowing Base certified as correct by a senior financial officer of Borrower; and (ii) an accounts receivable aging and an accounts payable aging;

(e) not later than ninety (90) days after and as of the end of each fiscal year, a financial statement of each Guarantor hereunder, prepared by such Guarantor to include a balance sheet and, for any non-individual Guarantor, an income statement, and within thirty (30) days after filing, copies of each such Guarantor's filed United States federal income tax returns, if any, for such year;

(f) contemporaneously with each annual and quarterly financial statement of Borrower required hereby, a certificate of the chief financial officer or other executive officer of Borrower that said financial statements are accurate, that Borrower is in compliance with the financial covenants set forth in Section 6.9 below and that there is no Borrowing Base Deficiency as defined in Section 6.16 below, and that there exists no Event of Default nor any condition, act or event which, with the giving of notice or the passage of time or both, would constitute an Event of Default;

(g) from time to time such other information as Agent may reasonably request.

**SECTION 6.4 COMPLIANCE.** Preserve and maintain all licenses, permits, governmental approvals, rights, privileges and franchises necessary for the conduct of its business; and comply with the provisions of all documents pursuant to which Borrower is organized and/or which govern Borrower's continued existence and with the requirements of all laws, rules, regulations and orders of any governmental authority applicable to Borrower and/or its business.

**SECTION 6.5 INSURANCE.** Maintain and keep in force insurance of the types and in amounts customarily carried in lines of business similar to that of Borrower, including but not limited to fire, extended coverage, public liability, flood, property damage and workers' compensation, with all such insurance carried with companies and in amounts reasonably satisfactory to Agent, and deliver to Agent from time to time at Agent's request schedules setting forth all insurance then in effect.

**SECTION 6.6 FACILITIES.** Keep all properties useful or necessary to Borrower's business in good repair and condition, ordinary wear and tear excepted, and from time to time make necessary repairs, renewals and replacements thereto so that such properties shall be fully and efficiently preserved and maintained, ordinary wear and tear excepted.

**SECTION 6.7 TAXES AND OTHER LIABILITIES.** Pay and discharge when due any and all indebtedness, obligations, assessments and taxes, both real or personal, including without limitation federal and state income taxes and state and local property taxes and assessments, except such (a) as Borrower may in good faith contest or as to which a bona fide dispute may arise, and (b) for which Borrower has made appropriate reserves in accordance with GAAP.

**SECTION 6.8 LITIGATION.** Promptly give notice in writing to Agent of any litigation pending or threatened against Borrower with a claim in excess of \$500,000.00.

**SECTION 6.9 FINANCIAL CONDITION.** Maintain Borrower's financial condition as follows, based on the consolidated financial statements of Borrower and each entity whose financial results are consolidated with those of Borrower for reporting purposes, using generally accepted accounting principles consistently applied and used consistently with prior practices (except to the extent modified by the definitions herein):

(a) Maintain at all times a ratio of current assets to current liabilities greater than or equal to 1.75 to 1.00.

(b) Without Agent's prior written consent, Borrower shall not incur expenses for capital expenditures in excess of (i) \$50,000,000 for the Borrower's fiscal year 2000, and (ii) \$40,000,000 for the Borrower's fiscal year 2001, and (iii) thereafter, such limit to be mutually approved by Borrower and Majority Lenders.

(c) Maintain at all times a Minimum Interest Coverage Ratio of 3.00 to 1:00, measured quarterly, based upon the four-quarter period then ended.

(d) Maintain, as of the end of each fiscal quarter commencing with the quarter ended September 30, 2000, a Tangible Net Worth not less than \$63,000,000.00 plus seventy-five percent (75%) of net income for each fiscal quarter after June 30, 2000 without deduction for losses, plus 100% of net equity proceeds.

(e) Maintain at all times a Fixed Charge Coverage Ratio of not less than (i) 1.15 to 1.00 for the period from January 1, 2000 to December 31, 2000, measured as of December 31, 2000, and (ii) 1.25 to 1.00 measured for the most recent four historical quarters (excluding the current quarter in possession), for the fiscal quarter ending on March 31, 2001 and for each fiscal quarter thereafter.

(f) Maintain a ratio of Funded Debt to EBITDA not to exceed the following amounts for the four (4) consecutive fiscal quarter period ending on the last day of each fiscal quarter during the following periods:

the period from June 30, 2000, through and including December 31, 2000	2.50 to 1.00
the period from January 1, 2001, through and including December 31, 2001, and each fiscal quarter thereafter	2.00 to 1.00

SECTION 6.10 NOTICE TO AGENT. Promptly (but in no event more than five (5) Business Days after Borrower becomes aware of the occurrence of each such event or matter) give written notice to Agent in reasonable detail of: (a) the occurrence of any Event of Default, or any condition, event or act which, with the giving of notice or the passage of time or both, would constitute an Event of Default; (b) any change in the name or the organizational structure of Borrower; (c) the occurrence and nature of any Reportable Event or Prohibited Transaction, each as defined in ERISA, or any funding deficiency with respect to any Plan; or (d) any termination or cancellation of any insurance policy which Borrower is required to maintain, or any uninsured or partially uninsured loss through liability or property damage, or through fire, theft or any other cause affecting Borrower's property in excess of an aggregate of \$500,000.

SECTION 6.11 SITE VISITS; RIGHT TO STOP WORK. Agent and its agents and representatives shall have the right to enter and visit the Real Property and the facilities thereon during regular business hours. In each instance, Agent shall give Borrower reasonable notice before entering any of the Real Property facilities thereon. Agent shall use its best efforts to reasonably avoid interfering with Borrower's use of any Real Property facilities thereon or with Borrower's business operations when exercising any of the rights granted in this Section 6.11. Notwithstanding this Section 6.11 or any other provisions of the Loan Documents, Borrower shall not be responsible for the cost of more than one (1) such visit to the Real Properties and facilities thereon in any six (6) month period if an Event of Default is not continuing at the time of the proposed visit.

SECTION 6.12 SECURITY. At all times maintain in favor of Agent perfected security interests of such priority as is designated herein in all assets in which, under the provisions of this Agreement, Agent has or is to obtain a security interest; take such actions (including the execution of financing statements and fixture filings) as Agent reasonably requests to protect Agent's security interests; and provide to Agent such assurances as Agent may require as to Borrower's compliance herewith.

SECTION 6.13 RELATED DOCUMENTS. Comply with the terms and covenants of the Related Documents to which it is a party, and Borrower

will not amend, modify or terminate, or agree to amend, modify or terminate, any Related Document.

**SECTION 6.14 INVESTIGATIONS AND INQUIRIES.** Agent and its agents and representatives shall have the right once per six (6) month period (or more frequently if an Event of Default is outstanding) to conduct such investigations and inquiries as to the credit and operations of Borrower, each of the Guarantors and the Collateral as shall be necessary in connection with the Credits and monitoring of the Credits, and Borrower shall cooperate with Agent and provide Agent with such information reasonably requested by Agent in the exercise of such right and pay for the cost of such inquiry.

**SECTION 6.15 CONTRACT COLLATERAL.** Agent shall have the right to review any Contract Collateral.

**SECTION 6.16 BORROWING BASE DEFICIENCY.** If at any time and for any reason, Borrower delivers to Agent a quarterly compliance certificate that shows that the outstanding unpaid principal balance of the Line of Credit exceeds the aggregate amount of the Borrowing Base ("Borrowing Base Deficiency"), or if at any time and for any reason Agent gives notice to Borrower of a Borrowing Base Deficiency, then Borrower shall immediately prepay the principal balance of the Line of Credit in an amount equal to the difference between the aggregate outstanding principal balance of the Line of Credit and the amount of the Borrowing Base.

**SECTION 6.17 NOTICE OF CERTAIN MATTERS.** Borrower shall give notice to Agent, within ten (10) days of Borrower's learning thereof, of any of the following:

(a) any disputes, litigation, investigation, proceeding or suspension that may exist at any time between Borrower or any Guarantor and any Governmental Agency;

(b) any threat or commencement of proceedings in condemnation or eminent domain relating to any of the Real Property Collateral;

(c) the commencement of, or any material development in, any litigation or proceeding relating to any Collateral between the Borrower and (i) any Governmental Authority, (ii) any Person having rights under or in connection with any covenants, conditions, restrictions, easements or rights-of-way affecting such Collateral, or (iii) any tenant under its lease of such Collateral, in each case under this subsection (c) the adverse determination of which would reasonably be expected to materially and adversely affect such Collateral;



(d) upon, but in no event later than ten (10) days after, Borrower's becoming aware of (i) any and all enforcement, cleanup, removal or other governmental or regulatory actions, instituted or threatened in writing against (A) Borrower that involve potential liability in excess of \$5,000,000 for any single action or \$15,000,000 in the aggregate of all such actions, or (B) any of the Real Properties, pursuant to any applicable environmental laws,

(ii) all other environmental claims against (A) Borrower that involve potential liability in excess of \$5,000,000 for any single environmental claim or \$15,000,000 in the aggregate for all such environmental claims, or (B) any Real Property, and (iii) any environmental or similar condition on any real property adjoining or in the vicinity of any Real Property that causes such Real Property or any part thereof to be subject to any restrictions on the ownership, occupancy, transferability or use of such Real Property under any applicable environmental laws; and

(e) any trade name hereafter used by Borrower and any change in Borrower's principal place of business.

Each notice under this Section 6.17 shall be accompanied by a written statement by Borrower setting forth details of the occurrence referred to therein, and stating what action, if any, Borrower or any affected Guarantor proposes to take with respect thereto and at what time. Each notice under this

Section 6.17 shall describe with particularity any and all clauses or provisions of this Agreement or other Loan Documents that have been breached or violated.

## **ARTICLE VII**

### **NEGATIVE COVENANTS**

Borrower further covenants that so long as Lenders remain committed to extend credit to Borrower pursuant to the terms hereof or any liabilities (whether direct or contingent, liquidated or unliquidated) of Borrower to Lenders or Agent under any of the Loan Documents remain outstanding, and until payment in full of all obligations of Borrower subject hereto, Borrower will not, and will not permit any Subsidiary to, without the prior written consent of Majority Lenders:

SECTION 7.1 USE OF FUNDS. Use any of the proceeds of any Credit extended hereunder except for the following purposes:

(a) The purposes stated in Article II hereof;

(b) Payment of outstanding debt owed to U.S. Bank as of the Closing Date, including U.S. Bank's existing line of credit in the amount of \$15,000,000.00 and U.S. Bank's existing bridge loan to Borrower; and

(c) Payment of the Loan Costs.

**SECTION 7.2 OTHER INDEBTEDNESS.** Create, incur, assume or permit to exist any indebtedness or liabilities resulting from borrowings, loans or advances, whether secured or unsecured, matured or unmatured, liquidated or unliquidated, joint or several, which in the aggregate exceed \$500,000, except

(a) the liabilities of Borrower to Lenders, or (b) Permitted Indebtedness.

**SECTION 7.3 MERGER, CONSOLIDATION, ORGANIZATIONAL STRUCTURE, TRANSFER OF ASSETS.** Merge into or consolidate with any other entity; make substantial change in the nature of Borrower's business as conducted as of the date hereof; acquire all or substantially all of the assets of any other entity; sell, lease, transfer or otherwise dispose of all or a substantial or material portion of Borrower's assets except in the ordinary course of its business; nor change the day to day control and management of Borrower (which shall include the resignation or termination of Morris S. Young from his current position but shall not include the changing of officers or employees in the ordinary course of Borrower's business), Borrower's name, identity or organizational structure; provided, however, that the consent of Majority Lenders will not be required for any of the foregoing that does not result in an expenditure or gain to Borrower of \$1,000,000 or less; provided further, however, that Majority Lenders shall not unreasonably withhold their consent in the case of a corporate restructure of Borrower in which Borrower is the surviving entity and ownership and control of Borrower remain substantially unchanged.

**SECTION 7.4 GUARANTIES.** Guarantee or become liable in any way as surety, endorser (other than as endorser of negotiable instruments for deposit or collection in the ordinary course of business), accommodation endorser or otherwise for, nor pledge or hypothecate any assets of Borrower as security for, any liabilities or obligations of any other person or entity, except any of the foregoing in favor of Lenders and except as any such liability constitutes Permitted Indebtedness.

**SECTION 7.5 LOANS, ADVANCES, INVESTMENTS.** Except for Permitted Investments, make any loans or advances to or investments in any person or entity in excess of \$1,000,000 in the aggregate in any fiscal year.

**SECTION 7.6 DIVIDENDS AND DISTRIBUTIONS.** Pay any dividend or distribution in any fiscal year, either in cash, stock or any other property, on Borrower's stock now or hereafter outstanding in an aggregate amount that exceeds ten (10%) of Borrower's after-tax net income for such fiscal year, nor redeem, retire, repurchase or otherwise acquire any shares of any class of Borrower's stock now or hereafter outstanding in an aggregate amount that exceeds \$1,000,000 in any fiscal year.

SECTION 7.7 PLEDGE OF ASSETS. Mortgage, pledge, grant or permit to exist a security interest in, or lien upon, all or any portion of Borrower's assets now owned or hereafter acquired, except any of the foregoing (a) in favor of Agent, or (b) Permitted Liens.

## **ARTICLE VIII**

### **EVENTS OF DEFAULT**

SECTION 8.1 EVENTS OF DEFAULT. The occurrence of any of the following shall constitute an "Event of Default" under this Agreement:

- (a) Loan Document Payments. Borrower fails to pay when due any principal, interest, fees or other amounts payable under any of the Loan Documents.
- (b) Other Required Payments. Borrower fails to pay when due any required payment under the Indenture.
- (c) Misrepresentation. Any financial statement or certificate furnished to Agent in connection with, or any representation or warranty made by Borrower, or any Guarantor shall prove to be incorrect, false or misleading in any material respect when furnished or made or when deemed made.
- (d) Other Covenants. Borrower or any Guarantor fails to perform, observe or comply with any obligation, agreement or other provision on its part to be performed under this Agreement or any other Loan Document (other than those referred to in subsections (a), (b) and (c) above), and with respect to any such failure which by its nature can be cured, such failure shall continue for a period of thirty (30) days from its occurrence.
- (e) Other Defaults. Any event of default by Borrower or any Guarantor in the payment or performance of any obligation under the terms of any contract or instrument (other than any of the Loan Documents) pursuant to which Borrower or any such Guarantor has incurred any debt or other liability in excess of \$500,000 to any person or entity (including any Lender or Agent), which default is not cured within any cure period applicable thereto. The Event of Default under this Section 8.1(e) caused by the occurrence of an event of default under another agreement described in this Section 8.1(e) shall be automatically cured for purposes of this Agreement upon the cure or waiver of the event of default under the other agreement.
- (f) Judgment Liens or Levies. The filing of a notice of judgment lien against Borrower or any Guarantor; or the recording of any abstract of judgment

against Borrower or any Guarantor in any county in which Borrower or such Guarantor has an interest in real property; or the service of a notice of levy and/or of a writ of attachment or execution or other like process, against the assets of Borrower or any Guarantor; or the entry of a judgment against Borrower or any Guarantor, and any of the foregoing shall relate to a claim or judgment of \$500,000 or more and shall continue unstayed for a period of forty-five (45) days from its occurrence.

(g) Insolvency. Borrower or any Guarantor shall suffer or consent to or apply for the appointment of a receiver, trustee, custodian or liquidator of itself or any of its property, or shall generally fail to pay its debts as they become due, or shall make a general assignment for the benefit of creditors; or Borrower or any Guarantor shall file a voluntary petition in bankruptcy, or seeking reorganization, in order to effect a plan or other arrangement with creditors or any other relief under the Bankruptcy Code, or under any state or Federal law granting relief to debtors, whether now or hereafter in effect; or any involuntary petition or proceeding pursuant to the Bankruptcy Code or any other applicable state or Federal law relating to bankruptcy, reorganization or other relief for debtors is filed or commenced against Borrower or any Guarantor, and such case or proceeding shall continue undismissed for a period of forty-five (45) days from commencement of such proceeding or case; or Borrower or any Guarantor shall file an answer admitting the jurisdiction of the court and the material allegations of any involuntary petition; or Borrower or any Guarantor shall be adjudicated a bankrupt, or an order for relief shall be entered by any court of competent jurisdiction under the Bankruptcy Code or any other applicable state or Federal law relating to bankruptcy, reorganization or other relief for debtors.

(h) ERISA Event. A Reportable Event (as defined in ERISA), or any violation of any provision of any Plan maintained or contributed to by Borrower or any Subsidiary, involving an amount in excess of \$500,000 occurs and is not cured within forty-five (45) days.

(i) Invalidity. Any material provision of this Agreement, any other Loan Document or any Related Document shall at any time for any reason cease to be in full force and effect or valid and binding on Borrower or any Guarantor, or shall be declared to be null and void, or the validity or enforceability thereof shall be contested by Borrower or any Guarantor, or Borrower or any Guarantor shall deny that it has any further liability or obligation under this Agreement, any other Loan Document or any Related Document, and such event shall have or be likely to have, in the reasonable judgment of Agent and Majority Lenders, a Material Adverse Effect.

(j) Material Adverse Change. A material adverse change, as reasonably determined by Agent and Majority Lenders in the good faith exercise of their discretion, shall occur in the financial condition of Borrower taken as a whole.

(k) Death or Incapacity. The death or incapacity of Morris S. Young, provided that Agent and Majority Banks reasonably determine, in the good faith exercise of their discretion, that such death or incapacity shall have or be likely to have, in their reasonable judgment, a Material Adverse Effect.

(l) Dissolution or Liquidation. The dissolution or liquidation of Borrower or any corporate or limited liability company Guarantor; or Borrower or any such entity Guarantor or their respective directors, stockholders or members shall take action seeking to effect the dissolution or liquidation of Borrower or such entity Guarantor.

(m) Change in Ownership. Any change in ownership during the term of this Agreement which would lead to a change in the management of Borrower; provided, however, that no Event of Default shall be deemed to have occurred under this Section 8.1(m) as a result of a change in the Borrower's management or employees in the ordinary course of business.

(n) Real Property Transfers. The sale, transfer, hypothecation, assignment or other encumbrance, other than Permitted Liens, whether voluntary, involuntary or by operation of law, without Agent's prior written consent, of all or any part of or interest in any of the Real Property Collateral.

(o) Cross-Default. A defined event of default under any of the Security Documents, subject to the applicable cure period, if any, provided in such Security Document. The Event of Default under this Section 8.1(o) shall be automatically cured for purposes of this Agreement upon the cure or waiver of the event of default under the Security Documents.

SECTION 8.2 REMEDIES. During the continuation of any Event of Default (other than an Event of Default referred to in Section 8.1(g) hereof), Agent may, with the consent of the Majority Lenders, or shall, upon written instructions from the Majority Lenders, by written notice to Borrower, (a) terminate the obligations of the Lenders to extend any further credit under any of the Loan Documents, and/or (b) declare all indebtedness of Borrower under the Loan Documents to be immediately due and payable without presentment, demand, protest or any other notice of any kind, all of which are hereby expressly waived by Borrower. Upon the occurrence or existence of any Event of Default described in Section 8.1(g) hereof, immediately and without notice, (i) the obligations, if any, of Lenders to extend any further credit under any of the Loan Documents shall automatically cease and terminate, and (ii) all indebtedness of Borrower under the Loan Documents shall automatically become immediately due and payable, without presentment, demand, protest or any other notice of any kind, all of which are hereby expressly waived by Borrower. In addition to the foregoing remedies, during the continuance of any Event of Default, Agent may (i) exercise all of its rights and remedies under any Related Document (to which Agent

is a party or is a third party beneficiary) or applicable law; (ii) require the Trustee to declare a default under the Indenture and accelerate the maturity of the Bonds; (iii) require Borrower to deliver and pledge to Agent, as security for Borrower's obligations to Agent and Lenders under this Agreement, cash collateral in the amount of any outstanding but undrawn amounts under the Letter or Credit; (iv) exercise any other right, power or remedy granted to it or the Lenders under any Loan Document or permitted to it or the Lenders by law, either by suit in equity or by action at law, or both; or (v) exercise all or any combination of the remedies provided for in this Section 8.2. Immediately after taking any action under this Section 8.2, Agent shall notify each Lender of such action.

## **ARTICLE IX**

### **THE AGENT**

**SECTION 9.1 AUTHORIZATION AND ACTION.** Each Lender hereby irrevocably appoints U.S. Bank as Agent, and authorizes Agent to act as its agent under the Loan Documents and to take such actions on such Lender's behalf and to exercise such powers and perform such duties under the Loan Documents as are expressly delegated to Agent by the terms thereof, together with such other powers as are reasonably incidental thereto. Agent shall have no duties or responsibilities except those expressly set forth in the Loan Documents, and no implied covenants, functions, responsibilities, duties, obligations or liabilities shall be read into any Loan Document or otherwise exist against Agent. Notwithstanding anything to the contrary contained herein, Agent shall not be required to take any action which is contrary to any Loan Document or applicable law. Neither Agent nor any Lender shall be responsible to any other Lender for any recitals, statements, representations or warranties made by Borrower contained in any Loan Document, for the value, validity, effectiveness, genuineness, enforceability or sufficiency of any Loan Document or the Collateral or for any failure by Borrower to perform its respective obligations hereunder or thereunder. Agent may employ agents and attorneys-in-fact and shall not be responsible to any Lender for the negligence or misconduct of any such agents or attorneys-in-fact selected by it with reasonable care. Neither Agent nor any of its directors, officers, employees or agents shall be responsible to any Lender for any action taken or omitted to be taken by it or them under any Loan Document or in connection therewith, except for its or their own gross negligence or willful misconduct. Except as otherwise provided under this Agreement, Agent shall take such action with respect to the Loan Documents as shall be directed by the Majority Lenders. Notwithstanding the foregoing, Agent shall have the right, after consultation with Borrower, which consultation shall not be unreasonably withheld or delayed, to change the terms, structure, pricing and/or any amount of any of the Credits, including the right to reallocate the relative principal

loan amounts among any of the Term Loans and the Line of Credit, and/or to establish additional Term Loan tranches in the event a syndication of the Credits has not been successfully completed; provided however, that agent shall not have the right to change the aggregate amount of the Credits unless Agent determines in its sole discretion that such change is necessary to ensure a successful syndicate of the Credits.

**SECTION 9.2 RELIANCE BY AGENT.** Agent shall be entitled to rely upon any certificate, notice or other document (including any cable, telegram, telecopy, or telex) or conversation believed by it in good faith to be genuine and correct and to have been signed, sent or made by or on behalf of the proper person or persons, and upon advice and statements of legal counsel (including counsel to Borrower), independent accountants and other experts selected by Agent with reasonable care. As to any matters not expressly provided for by this Agreement, Agent shall not be required to take any action or exercise any discretion, but shall be required to act or to refrain from acting upon instructions of the Majority Lenders and shall in all cases be fully protected by the Lenders in acting, or in refraining from acting, hereunder or under any other Loan Document in accordance with the instructions of the Majority Lenders, and such instructions of the Majority Lenders and any action taken or failure to act pursuant thereto shall be binding on all of the Lenders.

**SECTION 9.3 DEFAULTS.** Agent shall not be deemed to have knowledge or notice of the occurrence of a Default unless Agent has received a notice from a Lender or Borrower referring to this Agreement, describing such Default and expressly stating that such notice is a "notice of default". If Agent receives such notice of the occurrence of a Default, Agent shall promptly give notice thereof to the Lenders. Agent thereupon shall take such action with respect to such Default as shall be reasonably directed by the Majority Lenders; provided however, that unless and until Agent shall have received such directions, Agent may (but shall not be obligated to) take such action, or refrain from taking such action, with respect to such Default as it shall deem advisable in the best interests of the Lenders.

**SECTION 9.4 INDEMNIFICATION.** Without limiting the obligations of Borrower hereunder, each Lender agrees to indemnify Agent, ratably in accordance with its Proportionate Shares, for any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may at any time (including at any time following payment of such obligations) be imposed on, incurred by or asserted against Agent in any way relating to or arising out of this Agreement or any documents contemplated by or referred to herein or therein or the transactions contemplated hereby or thereby or the enforcement of any of the terms hereof or thereof or of any such other documents or any action taken or omitted by Agent under or in connection herewith or

therewith; provided however, that no Lender shall be liable for any of the foregoing to the extent they arise from Agent's gross negligence or willful misconduct. Without limiting the foregoing, each Lender agrees to reimburse Agent promptly on demand for its ratable share of any amounts payable but not paid by Borrower under Section 10.2 hereof. Agent shall be fully justified in refusing to take or to continue to take any action hereunder unless it shall first be indemnified to its satisfaction by the Lenders against any and all liability and expense which may be incurred by Agent by reason of taking or continuing to take any such action. The agreements in this Section 9.4 shall survive the payment of Borrower's obligations hereunder.

**SECTION 9.5 NON-RELIANCE ON AGENT.** Each Lender represents that it has, independently and without reliance on Agent or any other Lender, and based on such documents and information as such Lender has deemed appropriate, made its own appraisal of and investigation into the financial condition and affairs of Borrower and decision to enter into this Agreement. Each Lender agrees that such Lender will, independently and without reliance upon Agent or any other Lender, and based on such documents and information as it shall deem appropriate at the time, continue to make its own appraisals and decisions in taking or not taking action under this Agreement. Each Lender acknowledges that Agent has not made any representation or warranty to it with respect to the financial condition or affairs of Borrower, any Loan Document or any Collateral, and that no act by Agent hereafter, including any review of any of such matters, shall be deemed to constitute any such representation or warranty by Agent to any Lender. Neither Agent nor any Lender shall be required to keep informed as to the performance or observance by Borrower of the obligations under this Agreement or any other document referred to or provided for herein or to make inquiry of, or to inspect the properties or books of Borrower. Except for notices, reports and other documents and information expressly required to be furnished to the Lenders by Agent hereunder, neither Agent nor any Lender shall have any duty or responsibility to provide any Lender with any credit or other information concerning Borrower, which may come into the possession of Agent or such Lender, or any of its or their affiliates.

**SECTION 9.6 SUCCESSOR AGENT.** Subject to the appointment and acceptance of a successor Agent as provided below, Agent may resign at any time by giving thirty (30) days' written notice thereof to the Lenders, and Agent may be removed at any time with or without cause by the Majority Lenders. Upon any such resignation or removal, the Majority Lenders shall have the right to appoint a successor Agent. If no successor Agent shall have been appointed by the Majority Lenders and shall have accepted such appointment within thirty (30) days after the retiring Agent's giving of notice of resignation or the Majority Lenders' removal of the retiring Agent, then the retiring Agent may, on behalf of the Lenders, appoint a successor Agent, which shall be a bank having a combined capital, surplus and retained earnings of not less than U.S. \$500,000,000. Upon the acceptance of any



appointment as Agent hereunder by a successor Agent, such successor Agent shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Agent, and the retiring Agent shall be discharged from its duties and obligations hereunder. After any retiring Agent's resignation or removal hereunder as Agent, the provisions of this Article IX shall continue in effect for its benefit in respect of any actions taken or omitted to be taken by it while it was acting as Agent.

**SECTION 9.7 EXECUTION OF LOAN DOCUMENTS.** Agent is hereby authorized by the Lenders to execute, deliver and perform each of the Loan Documents to which Agent is or is intended to be a party and each Lender agrees to be bound by all of the agreements of Agent contained in the Loan Documents.

**SECTION 9.8 AGENT IN ITS INDIVIDUAL CAPACITY.** Agent and its affiliates may make loans to, accept deposits from, own securities of and generally engage in any kind of business with Borrower, as though Agent were not Agent hereunder, without any duty to give notice thereof or account therefor to any Lender. U.S. Bank as a Lender shall have the same rights and powers under this Agreement and the other Loan Documents as any other Lender and may exercise the same as though it were not Agent, and the terms "Lender" or "Lenders" shall include U.S. Bank in each such capacity.

## **ARTICLE X**

### **MISCELLANEOUS**

**SECTION 10.1 NOTICES.** Except as specified otherwise herein, all notices, requests and demands which any party is required or may desire to give to any other party under this Agreement must be in writing, addressed to Agent and each Lender at its address or telecopy number set forth as the "Address for Notices" for Agent or such Lender in Schedule I hereto, and addressed to Borrower at the following address or telecopy number:

Borrower:

AXT, Inc.  
4281 Technology Drive  
Fremont, CA 94538  
Attn: Donald Tatzin  
Chief Financial Officer/Secretary  
Telecopier: (510) 438-4793

With a copy to:

Gray Cary Ware & Freidenrich LLP  
400 Hamilton Avenue  
Palo Alto, CA 9301  
Attn: Sally Rau, Esq.  
Telecopier: (650) 327-3699

or to such other address or telecopy number as any party may designate by written notice to all other parties. Each such notice, request and demand shall be deemed given or made as follows: (a) if sent by hand delivery, upon delivery; (b) if sent by mail, upon the earlier of the date of receipt or three (3) days after deposit in the U.S. mail, first class and postage prepaid; and (c) if sent by telecopy, upon receipt.

#### SECTION 10.2 COSTS, EXPENSES ATTORNEYS' FEES.

Except as otherwise set forth herein, Borrower shall pay immediately upon demand: (a) all reasonable costs, fees and expenses, including reasonable attorneys' fees and expenses, incurred by Agent in connection with the preparation, review, execution and delivery of, and the exercise of its duties under, this Agreement and the other Loan Documents, and the preparation of amendments and waivers hereunder and thereunder; (b) all reasonable costs, fees and expenses, including reasonable attorneys' fees and expenses, incurred by Agent and/or Lenders in connection with the enforcement, preservation or protection (or attempted enforcement, preservation or protection) of any rights or remedies of Agent and/or Lenders under this Agreement or any other Loan Document (including in connection with any "workout" or restructuring relating to this Agreement, any Credit, or any bankruptcy or insolvency case involving Borrower; and (c) all reasonable costs, fees and expenses incurred by Agent for appraisals, audits, environmental inspections and reviews, searches and filings in connection with any of the foregoing. As used herein, the term "reasonable attorneys' fees and expenses" shall include, without limitation, allocable costs and expenses of Agent's (or any Lender's, if applicable) in-house legal counsel and staff, and "reasonable costs, fees and expenses" shall include, without limitation, allocable costs, fees and expenses of Agent's (or any Lender's, if applicable) internal appraisal, audit, environmental and other similar services.

SECTION 10.3 INDEMNIFICATION. To the fullest extent permitted by law, Borrower hereby agrees to protect, indemnify, defend and hold harmless each of the Lenders, Agent, their respective affiliates and each of their respective past and present officers, directors, shareholders, employees, agents, attorneys and affiliates, together with their respective heirs, beneficiaries, executors, administrators, trustees, predecessors, successors and assigns (collectively, "Indemnitees") from and against any liabilities, losses, damages or expenses of any kind or nature and from any suits, claims or demands (including in respect of or for reasonable attorneys' fees and other expenses, including the allocated costs and

expenses of internal counsel) arising on account of or in connection with any matter or thing or action or failure to act by Indemnitees, or any of them, arising out of or relating to this Agreement or any other Loan Document, including any use by Borrower of any proceeds of any Credit, except to the extent such liability arises from the Indemnatee's own willful misconduct or gross negligence. Upon receiving knowledge of any suit, claim or demand asserted by a third party that Agent or any Lender believes is covered by this indemnity, Agent or such Lender shall give Borrower notice of the matter and an opportunity to defend it, at Borrower's sole cost and expense, with legal counsel reasonably satisfactory to Agent or such Lender, as the case may be. Agent or such Lender may also require Borrower to defend the matter. Any failure or delay of Agent or any Lender to notify Borrower of any such suit, claim or demand shall not relieve Borrower of its obligations under this Section 10.3 but shall reduce such obligations to the extent of any increase in those obligations caused solely by an unreasonable failure or delay in providing such notice. If Bank does not require Borrower to defend such action, or if Borrower fails or refuses to defend such action, Bank shall have the right to employ counsel to defend such action and to participate in the defense thereof, and the fees and expenses of such counsel shall be at the expense of Borrower. In addition, Bank shall have the right to employ separate counsel and to participate in the defense of any such action if Bank has been advised by counsel of recognized standing in matters of banking or securities laws that a single lawyer cannot ethically represent both Bank or any other Indemnatee and Borrower. The obligations of Borrower under this Section 10.3 shall survive the payment in full and performance of all Borrower's obligations to Lenders and Agent.

**SECTION 10.4 WAIVERS, AMENDMENTS.** Any term, covenant, agreement or condition of this Agreement or any other Loan Document may be amended or waived if such amendment or waiver is in writing and is signed and the Majority Lenders (or by Agent with written consent of the Majority Lenders), Borrower and any other party thereto; provided however, that any amendment, waiver or consent which affects the rights or duties of Agent must be in writing and be signed also by Agent; and provided further, that any amendment, waiver or consent which effects any of the following changes must be in writing and signed by all Lenders (or by Agent with the written consent of all Lenders):

- (a) increases the maximum principal amount available under any Credit or the Borrowing Base;
- (b) extends the maturity date of any Credit;
- (c) reduces the principal of, or interest (including default rate interest) on, any Credit or any fees or other amounts payable for the account of the Lenders hereunder;

(d) postpones or conditions any date fixed for any payment of the principal of, or interest on, any Credit or any fees or other amounts payable for the account of the Lenders hereunder;

(e) waives or amends this Section 10.4;

(f) amends the definition of Majority Lenders or any provision of this Agreement requiring approval of the Majority Lenders or some other specified number or proportion of Lenders;

(g) changes the voting percentages of the Lenders;

(h) results in a release of any material part of the Collateral; or

(i) increases or decreases the Proportionate Share of any Lender in the Total Commitments (other than through an assignment under Section 10.5 hereof).

Unless otherwise specified in such waiver or consent, a waiver or consent given hereunder shall be effective only in the specific instance and for the specific purpose for which given.

#### SECTION 10.5 SUCCESSORS AND ASSIGNS.

(a) Binding Effect. The Loan Documents shall be binding upon and inure to the benefit of Borrower, the Lenders, Agent, all future holders of the Notes and their respective successors and permitted assigns, except that Borrower may not assign or transfer any of its rights or obligations under any Loan Document without the prior written consent of Agent and each Lender unless in accordance with Section 7.3. All references in this Agreement to any person or entity shall be deemed to include all successors and assigns of such person or entity.

(b) Participations. Any Lender may, in the ordinary course of its business and in accordance with applicable law, at any time sell to one or more banks or other financial institutions ("Participants") participating interests in any Credit owing to such Lender, any Note held by such Lender, or any other interest of such Lender under this Agreement and the other Loan Documents. In the event of any such sale by a Lender of a participating interest to a Participant, (i) such Lender's obligations under this Agreement to the other parties to this Agreement shall remain unchanged, (ii) such Lender shall remain solely responsible for the performance thereof, (iii) such Lender shall remain the holder of any such Note for all purposes under this Agreement, and (iv) Borrower and Agent shall continue to deal solely and directly with such Lender in connection with such Lender's rights and obligations under this Agreement. Participants shall have no rights under this Agreement or any other Loan Document except as provided below. No Lender shall sell any participating interest under which the Participant shall have any rights to vote on any

amendment or waiver of this Agreement or any other Loan Document; provided however, that a Lender may sell a participating interest under which the Participant shall have the right to vote on any amendment or waiver of this Agreement or any Loan Document requiring the unanimous consent of all Lenders pursuant to Section 10.4 hereof; provided further, however, that any agreement pursuant to which any Lender sells a participating interest to a Participant may require the selling Lender to obtain the consent of such Participant in order for such Lender to agree in writing to any amendment of a type specified in Section 10.4 hereof not requiring the unanimous consent of all Lenders. No agreement pursuant to which any Lender sells a participating interest to a Participant other than a Lender may permit the participant to transfer, pledge, assign, sell participations in or otherwise encumber its participating interest. Borrower agrees that if amounts outstanding under this Agreement and the other Loan Documents are due and unpaid, or shall have been declared or shall have become due and payable upon the occurrence of an Event of Default, each Participant shall, to the fullest extent permitted by law, be deemed to have the rights of payment (but not including any right of setoff) in respect of its participating interest in amounts owing under this Agreement and any other Documents to the same extent as if the amount of its participating interest were owing directly to it as a Lender under this Agreement or any other Documents; provided however, that such rights of payment shall be subject to the obligation of such Participant to share with the Lenders, and the Lenders agree to share with such Participant, as provided in Section 2.10 (b) hereof. Borrower also agrees that any Lender which has transferred all or part of its interests in the Credits to one or more Participants shall, notwithstanding any such transfer, be entitled to the full benefits accorded such Lender under Sections 2.11 and 2.13 hereof, as if such Lender had not made such transfer.

(c) Assignments. Any Lender may, in the ordinary course of its business and in accordance with applicable law, at any time, sell and assign to any Lender, any affiliate of a Lender or any other bank or financial institution (individually, an "Assignee") all or any portion of its rights and obligations under this Agreement and the other Loan Documents (such a sale and assignment to be referred to herein as an "Assignment") pursuant to an Assignment and Assumption Agreement in the form of Exhibit G attached hereto (an "Assignment Agreement"), executed by each Assignee and such assignor Lender (an "Assignor") and delivered to Agent for its acceptance and recording in the Register; provided however, that:

(i) each Assignment shall be in a minimum amount of \$5,000,000; and

(ii) without the written consents of Borrower and Agent, which consents shall not be unreasonably withheld, no Lender may make any Assignment to any Assignee which is not, immediately prior to such Assignment, a Lender hereunder or an affiliate thereof.

Upon the execution, delivery, acceptance and recording of each Assignment Agreement, from and after the effective date set forth therein, (A) each Assignee thereunder shall be a Lender hereunder with a Proportionate Share as set forth in Section 1 of such Assignment Agreement and shall have the rights, duties and obligations of such a Lender under this Agreement and the other Loan Documents, and (B) the Assignor thereunder shall be a Lender with a Proportionate Share as set forth in Section 1 of such Assignment Agreement, or, if the Proportionate Share of the Assignor has been reduced to 0%, the Assignor shall cease to be a Lender; provided however, that each Assignor shall nevertheless be entitled to the indemnification rights contained in Section 10.3 hereof for any events, acts or omissions occurring before the effective date of its Assignment. Each Assignment Agreement shall be deemed to amend Schedule 1 hereto to the extent necessary to reflect the addition of each Assignee and the resulting adjustment of Proportionate Shares arising from the purchase by each Assignee of all or a portion of the rights and obligations of an Assignor under this Agreement and the other Loan Documents.

(d) Register. Agent shall maintain at Agent's Office a copy of each Assignment Agreement delivered to and accepted by Agent and a register (the "Register") for the recordation of the names and addresses of the Lenders and the Proportionate Shares of each Lender from time to time. The entries in the Register shall be conclusive and binding for all purposes, absent manifest error, and Borrower, Agent and the Lenders may treat each entity whose name is recorded in the Register as a Lender hereunder for all purposes of this Agreement. The Register shall be available for inspection by Borrower or any Lender at any reasonable time and from time to time upon reasonable prior notice.

(e) Registration. Upon its receipt of an Assignment Agreement executed by an Assignor and an Assignee (and, in the case of an Assignee that is not then a Lender or an affiliate of a Lender, by Borrower and Agent) together with payment by such Assignee to Agent of a registration and processing fee of \$3,500.00, Agent shall (i) promptly accept such Assignment Agreement, and (ii) on the effective date of such Assignment record the information contained therein in the Register and give notice of such acceptance and recordation to the Lenders and Borrower. Agent may, from time to time at its election, prepare and deliver to the Lenders and Borrower a revised Schedule 1 reflecting the names, addresses and respective Proportionate Shares of all Lenders then parties hereto.

(f) Confidentiality. Without limitation, Agent and the Lenders may disclose the Loan Documents, and any financial or other information relating to Borrower, to each other or to any potential Participant or Assignee; provided, however, that such potential Participant or Assignee shall have agreed in writing to be bound by Section 10.16 hereof prior to such disclosure.

**SECTION 10.6 SETOFF.** In addition to any rights and remedies of the Lenders provided by law, each Lender shall have the right, but only with the prior consent of Agent, which consent may be granted or withheld by Agent in its sole and absolute discretion, but without prior notice to Borrower, any such notice being expressly waived by Borrower to the extent permitted by applicable law, upon the occurrence and during the continuance of a Default or Event of Default, to set-off and apply against any indebtedness, whether matured or unmatured, of Borrower to such Lender, any amount owing from such Lender to Borrower, at or at any time after, the happening of any of the above mentioned events, and as security for such indebtedness, Borrower hereby grants to each Lender a continuing security interest in any and all deposits, accounts or moneys of Borrower then or thereafter maintained with such Lender, subject in each case to Section 2.10(b) hereof. The aforesaid right of set-off may be exercised by such Lender against Borrower or against any trustee in bankruptcy, debtor in possession, assignee for the benefit of creditors, receiver or execution, judgment or attachment creditor of Borrower or against anyone else claiming through or against Borrower or such trustee in bankruptcy, debtor in possession, assignee for the benefit of creditors, receiver, or execution, judgment or attachment creditor, notwithstanding the fact that such right of set-off shall not have been exercised by such Lender prior to the occurrence of a Default or Event of Default. Each Lender agrees promptly to notify Borrower after any such set-off and application made by such Lender, provided that the failure to give such notice shall not affect the validity of such set-off and application.

**SECTION 10.7 NO WAIVER; CUMULATIVE REMEDIES.** No failure on the part of Agent or any Lender to exercise, and no delay in exercising, any right, power, privilege or remedy under any Loan Document shall operate as a waiver thereof; nor shall any single or partial exercise of any such right, power, privilege or remedy preclude any other or further exercise thereof or the exercise of any other right, power, privilege or remedy. The rights and remedies under the Loan Documents are cumulative and not exclusive of any rights, powers, privileges or remedies that may otherwise be available to the Agent or any Lender.

**SECTION 10.8 ENTIRE AGREEMENT, AMENDMENT.** This Agreement and the other Loan Documents constitute the entire agreement among Borrower, Agent and Lenders with respect to the Credits and supersede all prior negotiations, communications, discussions and correspondence concerning the subject matter hereof. This Agreement may be amended or modified only in a writing signed by each party hereto.

**SECTION 10.9 NO THIRD PARTY BENEFICIARIES.** This Agreement is made and entered into for the sole protection and benefit of the parties hereto and their respective permitted successors and assigns, and no other person or entity (other than an Indemnitee) shall be a third party beneficiary of, or have any

direct or indirect cause of action or claim in connection with, this Agreement or any other of the Loan Documents to which it is not a party.

SECTION 10.10 TIME. Time is of the essence of each and every provision of this Agreement and each other of the Loan Documents.

SECTION 10.11 SEVERABILITY OF PROVISIONS. If any provision of this Agreement shall be prohibited by or invalid under applicable law, such provision shall be ineffective only to the extent of such prohibition or invalidity without invalidating the remainder of such provision or any remaining provisions of this Agreement.

SECTION 10.12 GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of California (without regard to the conflicts of law rules of such jurisdiction).

SECTION 10.13 SUBMISSION TO JURISDICTION. EACH OF BORROWER, AGENT AND LENDERS HEREBY: (A) SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE COURTS OF THE STATE OF CALIFORNIA AND THE FEDERAL COURTS OF THE UNITED STATES SITTING IN THE STATE OF CALIFORNIA FOR THE PURPOSE OF ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO ANY OF THE LOAN DOCUMENTS; (B) AGREES THAT ALL CLAIMS IN RESPECT OF ANY SUCH ACTION OR PROCEEDING MAY BE HEARD AND DETERMINED IN SUCH COURTS; (C) IRREVOCABLY WAIVES (TO THE FULL EXTENT PERMITTED BY APPLICABLE LAW) ANY OBJECTION WHICH IT NOW OR HEREAFTER MAY HAVE TO THE LAYING OF VENUE OF ANY SUCH ACTION OR PROCEEDING BROUGHT IN ANY OF THE FOREGOING COURTS, AND ANY OBJECTION ON THE GROUND THAT ANY SUCH ACTION OR PROCEEDING IN ANY SUCH COURT HAS BEEN BROUGHT IN AN INCONVENIENT FORUM; AND (D) AGREES THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PERMITTED BY LAW.

SECTION 10.14 ARBITRATION.

(a) Arbitration. Upon the demand of any party, any Dispute shall be resolved by binding arbitration (except as set forth in (e) below) in accordance with the terms of this Agreement. A "Dispute" shall mean any action, dispute, claim or controversy of any kind, whether in contract or tort, statutory or common law, legal or equitable, now existing or hereafter arising under or in connection with, or in any way pertaining to, this Agreement or any of the Related Documents, or any past, present or future extensions of credit and other activities, transactions or obligations of any kind



related directly or indirectly to this Agreement or any of the Related Documents, including without limitation, any of the foregoing arising in connection with the exercise of any self-help, ancillary or other remedies pursuant to this Agreement or any of the Related Documents. Any party may by summary proceedings bring an action in court to compel arbitration of a Dispute. Any party who fails or refuses to submit to arbitration following a lawful demand by any other party shall bear all costs and expenses incurred by such other party in compelling arbitration of any Dispute.

(b) Governing Rules. Arbitration proceedings shall be administered by the American Arbitration Association ("AAA") or such other administrator as the parties shall mutually agree upon in accordance with the AAA Commercial Arbitration Rules. All Disputes submitted to arbitration shall be resolved in accordance with the Federal Arbitration Act (Title 9 of the United States Code), notwithstanding any conflicting choice of law provision in this Agreement or any of the Related Documents; provided, however, that notwithstanding the foregoing or anything to the contrary herein, it is specifically contemplated and agreed by Borrower, Agent and Lenders (and any Participants and Assignees) that the provisions of Section 1283.05 of the California Code of Civil Procedure, as presently in force, be incorporated into and made a part of, and be applicable to, the arbitration agreement set forth in this Section 10.14. The arbitration shall be conducted at a location in California selected by the AAA or other administrator. If there is any inconsistency between the terms hereof and any such rules, the terms and procedures set forth herein shall control. All statutes of limitation applicable to any Dispute shall apply to any arbitration proceeding. All discovery activities shall be expressly limited to matters directly relevant to the Dispute being arbitrated. Judgment upon any award rendered in an arbitration may be entered in any court having jurisdiction; provided however, that nothing contained herein shall be deemed to be a waiver by any party that is a bank of the protections afforded to it under 12 U.S.C. Section 91 or any similar applicable state law.

(c) No Waiver; Provisional Remedies, Self-Help and Foreclosure. No provision hereof shall limit the right of any party to exercise self-help remedies such as setoff, foreclosure against or sale of any real or personal property collateral or security, or to obtain provisional or ancillary remedies, including without limitation injunctive relief, sequestration, attachment, garnishment or the appointment of a receiver, from a court of competent jurisdiction before, after or during the pendency of any arbitration or other proceeding. The exercise of any such remedy shall not waive the right of any party to compel arbitration or reference hereunder.

(d) Arbitrator Qualifications and Powers; Awards. Arbitrators must be active members of the California State Bar or retired judges of the state or federal judiciary of California, with expertise in the substantive laws applicable to the subject matter of the Dispute. Arbitrators are empowered to resolve Disputes by summary rulings in response to motions filed prior to the final arbitration hearing. Arbitrators

(i) shall resolve all Disputes in accordance with the substantive law of the state of California, (ii) may grant any remedy or relief that a court of the state of California could order or grant within the scope hereof and such ancillary relief as is necessary to make effective any award, and (iii) shall have the power to award recovery of all costs and fees, to impose sanctions and to take such other actions as they deem necessary to the same extent a judge could pursuant to the Federal Rules of Civil Procedure, the California Rules of Civil Procedure or other applicable law. Any Dispute in which the amount in controversy is \$5,000,000 or less shall be decided by a single arbitrator who shall not render an award of greater than \$5,000,000 (including damages, costs, fees and expenses). By submission to a single arbitrator, each party expressly waives any right or claim to recover more than \$5,000,000. Any Dispute in which the amount in controversy exceeds \$5,000,000 shall be decided by majority vote of a panel of three arbitrators; provided however, that all three arbitrators must actively participate in all hearings and deliberations.

(e) Judicial Review. Notwithstanding anything herein to the contrary, in any arbitration in which the amount in controversy exceeds \$25,000,000 the arbitrators shall be required to make specific, written findings of fact and conclusions of law. In such arbitrations (A) the arbitrators shall not have the power to make any award which is not supported by substantial evidence or which is based on legal error, (B) an award shall not be binding upon the parties unless the findings of fact are supported by substantial evidence and the conclusions of law are not erroneous under the substantive law of the state of California, and (C) the parties shall have in addition to the grounds referred to in the Federal Arbitration Act for vacating, modifying or correcting an award the right to judicial review of (1) whether the findings of fact rendered by the arbitrators are supported by substantial evidence, and (2) whether the conclusions of law are erroneous under the substantive law of the state of California. Judgment confirming an award in such a proceeding may be entered only if a court determines the award is supported by substantial evidence and not based on legal error under the substantive law of the state of California.

(f) Real Property Collateral; Judicial Reference. Notwithstanding anything herein to the contrary, no Dispute shall be submitted to arbitration if the Dispute concerns indebtedness secured directly or indirectly, in whole or in part, by any real property unless (i) the holder of the mortgage, lien or security interest specifically elects in writing to proceed with the arbitration, or (ii) all parties to the arbitration waive any rights or benefits that might accrue to them by virtue of the single action rule statute of California, thereby agreeing that all indebtedness and obligations of the parties, and all mortgages, liens and security interests securing such indebtedness and obligations, shall remain fully valid and enforceable. If any such Dispute is not submitted to arbitration, the Dispute shall be referred to a referee in accordance with California Code of Civil Procedure Section 638 et seq., and this general reference agreement is intended to be specifically enforceable in accordance

with said Section 638. A referee with the qualifications required herein for arbitrators shall be selected pursuant to the AAA's selection procedures. Judgment upon the decision rendered by a referee shall be entered in the court in which such proceeding was commenced in accordance with California Code of Civil Procedure Sections 644 and 645.

(g) Miscellaneous. To the maximum extent practicable, the AAA, the arbitrators and the parties shall take all action required to conclude any arbitration proceeding within 180 days of the filing of the Dispute with the AAA. No arbitrator or other party to an arbitration proceeding may disclose the existence, content or results thereof, except for disclosures of information by a party required in the ordinary course of its business, by applicable law or regulation, or to the extent necessary to exercise any judicial review rights set forth herein. If more than one agreement for arbitration by or between the parties potentially applies to a Dispute, the arbitration provision most directly related to this Agreement or the subject matter of the Dispute shall control. This arbitration provision shall survive termination, amendment or expiration of this Agreement any of the Related Documents or any relationship between the parties.

**SECTION 10.15 COUNTERPARTS.** This Agreement may be executed in any number of identical counterparts, any set of which signed by all the parties hereto shall be deemed to constitute a complete, executed original for all purposes.

**SECTION 10.16 CONFIDENTIALITY.** No Lender shall disclose to any Person any information with respect to Borrower which is furnished pursuant to this Agreement and the other Loan Documents, except that Agent and Lenders may disclose any such information (a) to their own directors, officers, employees, auditors, counsel and other professional advisors and to their respective affiliates if Agent and Lenders reasonably determine that any such party should have access to the information; (b) if such information is generally available to the public; (c) if required in any report, statement or testimony submitted to any governmental authority having jurisdiction over any Lender; (d) if required in response to any summons or subpoena or in connection with any litigation, to the extent permitted or deemed advisable by counsel (provided, however, that written notice of such disclosure be given to Borrower at least five (5) Business Days prior to such event to allow Borrower to seek a protective order); (e) to comply with any requirement or law applicable to Lenders; (f) to the extent necessary in connection with the exercise of any right or remedy under any Loan Document; (g) to any Participant or Assignee or prospective Participant or Assignee, provided that such Participant or Assignee or such prospective Participant or Assignee agrees in writing to be bound by this Section 10.16 prior to disclosure; or (h) otherwise with the prior written consent of Borrower; provided, however, that any

disclosure made in violation of this Agreement shall not affect the obligation of Borrower under this Agreement or the other Loan Documents.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first written above.

"BORROWER"

AXT, INC., a Delaware corporation

By: /s/ [Signature Illegible]  
-----

Title: CFO, Secretary

"AGENT"

U.S. BANK NATIONAL ASSOCIATION

By: /s/ [Signature Illegible]  
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Title: Vice President

# SCHEDULE 1

## LENDERS AND PROPORTIONATE SHARES

LENDERS:	PROPORTIONATE SHARES:			
	Line of Credit	Term Loan A	Term Loan B	Term Loan C
1. U.S. BANK NATIONAL ASSOCIATION	100%	100%	100%	100%
Applicable Lending Office:				
U.S. Bank National Association 2890 N. Main Street Walnut Creek, California 94596				
Address for Notices:				
U.S. Bank  National Association 2890 N. Main Street Walnut Creek, California 94596 Attn: Telephone: (    ) Telecopier: (    )				
Wiring Instructions:				
U.S. Bank  National Association Walnut Creek, California ABA No.: Beneficiary: Account: Customer Name: AXT, Inc. Obligation No.: Mid-Valley RCBO Note No.:				

**SCHEDULE 2.1(d)**

**BORROWER LETTER OF CREDIT AGREEMENT**

To be attached

**Schedule 2.1(d) -- Page 1**

**SCHEDULE 2.3(a)**

**AMORTIZATION SCHEDULE FOR  
THE LETTER OF CREDIT FACILITY**

YEAR	MONTHLY PAYMENT	ANNUAL REDEMPTION AMOUNT
2000	\$55,833.33	\$670,000.00
2001	\$55,416.67	\$665,000.00
2002	\$55,833.33	\$670,000.00
2003	\$55,833.33	\$670,000.00
2004	\$37,916.67	\$455,000.00
2005	\$34,583.33	\$415,000.00
2006	\$34,166.67	\$410,000.00
2007	\$34,583.33	\$415,000.00
2008	\$40,416.67	\$485,000.00

## **SCHEDULE 2.13(b)**

### **PREPAYMENT INDEMNITY**

As used herein, the following terms have the meanings assigned to them:

"AVERAGE MATURITY PERIOD" means, as of any prepayment date, the weighted average time period computed by multiplying the dollar amount of each installment or payment of principal prepaid by the number of days from such prepayment date until the earlier of the scheduled maturity of that installment or payment or the next Interest Change Date (if any), adding together the resulting products and dividing the resulting sum by the total dollar amount of principal being prepaid.

"INTEREST CHANGE DATE" means the date of any regularly scheduled adjustment in the interest rate on the Note, if any.

"INTEREST DIFFERENTIAL" means as of any prepayment date, (i) the Note Rate minus (ii) the Treasury Rate.

"NOTE RATE" means the per annum rate of interest payable on the Credit bearing interest at the Treasury Rate as in effect on the date of prepayment.

Any voluntary prepayment of a Credit which bears interest at the Treasury Rate shall be either in the full amount of the outstanding Credit bearing interest at the Treasury Rate or, if a partial prepayment, in the amount of [\$100,000] or an integral multiple thereof, and partial prepayments shall be applied to installments or payments due of the Credit bearing interest at the Treasury Rate in inverse order of their maturities. If, at the time of any prepayment (whether voluntary, mandatory or upon acceleration of the principal of the Credit bearing interest at the Treasury Rate), the Interest Differential shall exceed zero, such prepayment shall be accompanied, to the extent permitted by applicable law, by payment of a prepayment indemnity. The amount of the prepayment indemnity shall equal the present value (determined by the Bank using the Treasury Rate as of the date of prepayment minus the Issuance Spread as the discount factor) on the prepayment date of a stream of equal monthly payments in number equal to the number of whole months (using a thirty-day month) in the Average Maturity Period. The amount of each such monthly payment shall equal the quotient obtained by dividing (a) the product of the amount prepaid, times the Interest Differential, times a fraction, the numerator of which is the number of days in the Average Maturity period and the denominator of which is 360, by (b) the number of whole months (using a thirty-day month) in the Average Maturity Period.



## **SCHEDULE 4**

Borrower Disclosure Schedule  
to  
Credit Agreement  
By and Among  
AXT, Inc.,  
U.S. Bank National Association,  
and

the Lenders from time to time who are parties to the Credit Agreement

This Borrower Disclosure Schedule (the "Schedule") contains exceptions to the Representations and Warranties of AXT, Inc., a Delaware corporation (the "Borrower") set forth in Article 4 of that certain Credit Agreement dated as of August 28, 2000 (the "Credit Agreement"), by and among the Borrower, U.S. Bank National Association (the "Agent") and the lenders from time to time which are parties thereto (the "Lenders") and are an integral part of the Credit Agreement. Any capitalized term that is used in this Schedule and is not defined herein shall have the meaning ascribed to such term in the Credit Agreement. The section numbers of each exception noted in this Schedule correspond to the section numbers appearing in the Credit Agreement. All information disclosed herein as an exception to any section shall be deemed disclosed under and incorporated into any other section of the Credit Agreement to which it is cross-referenced. Notwithstanding any materiality qualification in any Representation and Warranty in the Credit Agreement, for administrative ease, certain items have been included herein which are not considered by the Borrower to be material to the business, assets, results of operations, prospects or affairs of the Borrower, taken as a whole. The inclusion of any item herein shall not be deemed to be an admission by the Borrower that such item is material to the business, assets, results of operations, prospects or affairs of the Borrower, taken as a whole, nor shall it be deemed an admission of any obligation or liability to any third party.

### **SECTION 4.1 - LEGAL STATUS**

Lyte Optronics, Inc., a Guarantor, is a Nevada corporation, is qualified to do business in California and is in good standing in the state of California. The following wholly-owned subsidiaries which are Guarantors under the Credit Agreement are not qualified to do business in California or in any other jurisdiction in the United States: Advanced Semiconductor (Xiamen); American Xtal Technology (Hong Kong); AXT - Japan; Beijing Tongmei Xtal Technology Co., Ltd.; Bestal Substrate Foreign Sales Corp; and Lyte Optronics Ltd. (UK). American Xtal Technology (Hong Kong) and Lyte

Optronics Ltd. (UK) are in the process of winding down their respective business operations.

#### SECTION 4.5 - LITIGATION

The Borrower is cooperating with Cal-OSHA in an investigation regarding impermissible levels of potentially hazardous materials in certain areas of the Borrower's manufacturing facility in Fremont, California. In May, 2000, Cal-OSHA levied a fine against the Borrower in the amount of \$313,655 for alleged health and safety violations. Although the Borrower is appealing the citations, and have put in place engineering, administrative and personnel protective equipment programs to address the issues, the Borrower may have to pay the fine and further penalties, including criminal penalties, could be levied against the Borrower or its management.

The Borrower entered into a settlement of a patent infringement lawsuit in approximately June, 2000. As a result of this settlement, the Borrower will make a payment in the approximate amount of \$1,340,000 in early 2001.

#### SECTION 4.6 - CORRECTNESS OF FINANCIAL STATEMENT

The Borrower filed an amended Form 10-Q for each of the quarters ended June 30, 1999 and September 30, 1999, however, the amendment reflected financial data that was reported in the Borrowers Form 10-K filed with respect to the year ended December 31, 1999.

As of June 30, 2000, the Borrower carried an intercompany receivable in the approximate amount of \$25,109,450 owed by Lyte Optronics, Inc.

As of June 30, 2000, the Borrower carried an intercompany receivable in the approximate amount of \$269,076 owed by Beijing Tongmei Xtal Technology Co., Ltd.

#### SECTION 4.14 - ENVIRONMENTAL MATTERS

The disclosures set forth in Section 4.5 above are incorporated into this Section by this reference.

#### SECTION 4.15 - REAL PROPERTY COLLATERAL

There are several tax liens appearing on the title reports relating to the Monterey Park Property and the El Monte Property (the "Properties"), however, the Borrower believes that these taxes have been paid that that the liens appear against the Properties in error. In addition, these title reports reflect a deed of trust under which Pacific Mezzanine Fund, L.P., a California limited partnership ("PMF") is the beneficiary. The obligations owed to PMF have been satisfied and the Borrower believes that these liens appear against the Properties in error.

#### SECTION 4.16 - SUBSIDIARIES

The following entities are wholly-owned subsidiaries of the Borrower:

Advanced Semiconductor (Xiamen)  
American Xtal Technology (Hong Kong)  
AXT - Japan  
Beijing Tongmei Xtal Technology Co., Ltd. Bestal Substrate Foreign Sales Corp.  
Lyte Optronics, Inc.  
Lyte Optronics Ltd. (UK)

The Borrower holds an equity interest in the following entities:

Ge Mining  
Ga Mining - Beijing JIYA Semiconductor

In August 2000, the Borrower entered into a business transfer and acquisition agreement with Demeter Technology, a Delaware corporation founded by Theodore S. Young, the president of the Borrower's fiber optic division and a former member of the Borrower's board of directors, and Robert Shih, the chief technology officer of the Borrower's visible emitter division. Under this agreement, the Borrower agreed to transfer certain non-core rights to Demeter relating to its research and development activities relating to products and services in the field of fiber optics. The Borrower leased to Demeter a portion of its owned facility in El Monte, California, subleased a portion of its rented facility in El Monte, California, leased certain equipment, including an MOCVD machine and sold certain inventory relating to fiber optics. In exchange, Demeter has granted to Borrower a warrant to purchase up to 4.5 million shares of its Series A convertible preferred stock at a price of \$0.5714 per share.

The Borrower has also provided certain wafer inventory to Intelligent Epitaxy ("Intelligent"), located in Texas. In exchange, Intelligent has granted Borrower

warrants to purchase shares of its capital stock with a value up to approximately \$100,000.

## **SCHEDULE 5**

### **CONTRACT COLLATERAL DESCRIPTION**

- Standard Industrial/Commercial Multi-Tenant Lease, dated as of July, 2000, by and between American Xtal Technology, Inc., now known as AXT, Inc., and Demeter Technologies, Inc.
- Standard Office Lease - Net, dated as of December 23, 1996, by and between Alpha Photonics, Inc. and ABC Management Company (Alpha Photonics is a division of Lyte Optronics, Inc.)
- Standard Industrial/Commercial Multi-Tenant Lease - Gross, dated as of January 31, 1998, by and between Lyte Optronics, Inc. and John and Pam Smart Family Trust; Addendum to Standard Industrial/Commercial Multi-Tenant Lease  
- Gross, dated as of March, 1998, by and between Lyte Optronics, Inc. and John and Pam Smart Family Trust
- Standard Industrial/Commercial Multi-Tenant Lease - Net, dated as of April 20, 2000, by and between American Xtal Technology, Inc., now known as AXT, Inc., and Chois Company and Addendum thereto of even date
- Standard Industrial/Commercial Multi-Tenant Lease - Net, dated as of April 11, 2000, by and between American Xtal Technology, Inc., now known as AXT, Inc., and Kim Pacific Trading Corp., Inc.
- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.) and Standard Form of Agreement Between Owner and Contractor dated March 21, 2000
- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.), dated May 18, 2000, regarding services to be provided by Allied Pacific Builders
- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.), dated March 28, 2000, regarding services to be provided by J.B. Ford Plumbing, Inc.
- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.), dated May 18, 2000, regarding services to be provided by J.B. Ford Plumbing, Inc.
- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.), dated April 28, 2000, regarding services to be provided by Harding Lawson Associates

- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.), dated December 14, 1999, regarding services to be provided by Facilities Support Services

- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.), dated March 28, 2000, regarding services to be provided by K&S Air Conditioning, Inc.

- Purchase Requisition by Alpha Photonics (a division of Lyte Optronics, Inc.), dated May 18, 2000, regarding services to be provided by K&S Air Conditioning, Inc.

**Schedule 5 -- Page 2**

**SCHEDULE 7.4**

**EXISTING INDEBTEDNESS**

[See Schedule 7.7]

**SCHEDULE 7.5**

**EXISTING GUARANTIES**

**Schedule 7.5 -- Page 1**



## **SCHEDULE 7.7**

### **EXISTING LOANS; ADVANCES; INVESTMENTS**

#### **EXISTING INDEBTEDNESS**

The Borrower's existing indebtedness is as follows:

- That indebtedness set forth in the Borrower's consolidated financial statements dated June 30, 2000, a copy of which has been delivered to Lender.
- As of June 30, 2000, the Borrower carried an intercompany receivable in the approximate amount of \$25,109,450 owed by Lyte Optronics, Inc.
- As of June 30, 2000, the Borrower carried an intercompany receivable in the approximate amount of \$269,076 owed by Beijing Tongmei Xtal Technology Co., Ltd.
- Indebtedness secured by the existing liens set forth below

#### **EXISTING INVESTMENTS**

The following entities are wholly-owned subsidiaries of the Borrower:

Advanced Semiconductor (Xiamen)  
American Xtal Technology (Hong Kong)  
AXT - Japan  
Beijing Tongmei Xtal Technology Co., Ltd. Bestal Substrate Foreign Sales Corp.  
Lyte Optronics, Inc.  
Lyte Optronics Ltd. (UK)

The Borrower holds an equity interest in the following entities:

Ge Mining  
Ga Mining - Beijing JIYA Semiconductor

In August 2000, the Borrower entered into a business transfer and acquisition agreement with Demeter Technology, a Delaware corporation founded by Theodore S. Young, the president of the Borrower's fiber optic division and a former member of the Borrower's board of directors, and Robert Shih, the chief technology officer of the Borrower's visible emitter division. Under this agreement, the Borrower agreed to

transfer certain non-core rights to Demeter relating to its research and development activities relating to products and services in the field of fiber optics. The Borrower leased to Demeter a portion of its owned facility in El Monte, California, subleased a portion of its rented facility in El Monte, California, leased certain equipment, including an MOCVD machine and sold certain inventory relating to fiber optics. In exchange, Demeter has granted to Borrower a warrant to purchase up to 4.5 million shares of its Series A convertible preferred stock at a price of \$0.5714 per share.

The Borrower has also provided certain wafer inventory to Intelligent Epitaxy ("Intelligent"), located in Texas. In exchange, Intelligent has granted Borrower warrants to purchase shares of its capital stock with a value up to approximately \$100,000.

#### **EXISTING LIENS**

- Bay Area Bank - Financing Statement No. 9602560572 filed on January 24, 1996 evidencing a security interest in all equipment and other property now or hereafter covered by that certain Equipment Financing Agreement (#95092922) between Bay Area Bank and Borrower, including all accessions and additions thereto, modifications thereof and replacements and substitutions therefor and replacements and substitutions therefor, in whole or in part, including items of the following type: Wafer Manufacturing Equipment.

- Saratoga National Bank - Financing Statement No. 9602560578 filed on January 24, 1996 evidencing a security interest in all equipment and other property now or hereafter covered by that certain Equipment Financing Agreement (#95092923) between Saratoga National Bank and Borrower, including all accessions and additions thereto, modifications thereof and replacements and substitutions therefor and replacements and substitutions therefor, in whole or in part, including items of the following type: Wafer Manufacturing Equipment.

- ValliWide Bank - Financing Statement No. 9607860728 filed on March 14, 1996 evidencing a security interest in all equipment and other property now or hereafter covered by that certain Equipment Financing Agreement (#95092924) between ValliWide Bank and Borrower, including all accessions and additions thereto, modifications thereof and replacements and substitutions therefor, in whole or in part, including items of the following type: Wafer Manufacturing Equipment

- Comerica Bank, Successor by Merger to University Bank - Financing Statement No. 9607860778 filed on March 14, 1996 evidencing a security interest in all equipment and other property now or hereafter covered by that certain Equipment Financing Agreement (#95092921) between University Bank and Borrower, including all accessions and additions thereto, modifications thereof and

replacements and substitutions therefor, in whole or in part, including items of the following type: Wafer Manufacturing Equipment

- U.S. Small Business Administration, assignee of Bay Area Employment Development Company - Financing Statement No. 9612360295 filed on May 1, 1996 evidencing a security interest in specific machinery and equipment purchased with the proceeds of the loan and all accessions, additions, replacements and substitutions, all records of any kind relating to any of the foregoing and all proceeds of such machinery and equipment including insurance, general intangible and accounts proceeds.

- Exchange Bank - Financing Statement No. 9714060100 filed on May 15, 1997 evidencing a security interest in all equipment and other property now or hereafter covered by that certain Equipment Financing Agreement (#95092921) between Exchange Bank and Borrower, including all accessions and additions thereto, modifications thereof and replacements and substitutions therefor, in whole or in part, including items of the following type: production test, office and computer equipment

- ValliWide Bank - Financing Statement No. 9716161297 filed on June 6, 1997 evidencing a security interest in all equipment and other property now or hereafter covered by that certain Equipment Financing Agreement (#95092922) between ValliWide Bank and Borrower, including all accessions and additions thereto, modifications thereof and replacements and substitutions therefor, in whole or in part, including items of the following type: production test, office and computer equipment.

- General Electric Capital Corporation - Financing Statement No. 9800260574 filed on December 30, 1997 evidencing a security interest in specific equipment set forth on Collateral Schedule No. 01 to that certain Master Security Agreement dated as of December 11, 1997 between Borrower and General Electric Capital Corporation

- General Electric Capital Corporation - Financing Statement No. 9817660252 filed on June 24, 1998 evidencing a security interest in specific equipment set forth on Collateral Schedule No. 02 to that certain Master Security Agreement dated as of December 11, 1997 between Borrower and General Electric Capital Corporation

- NationsBanc Leasing Corporation - Financing Statement No. 9901360408 filed on January 8, 1999 evidencing a security interest in specific equipment

- NationsBanc Leasing Corporation - Financing Statement No. 9919660999 filed on July 9, 1999 evidencing a security interest in specific equipment
- Banc One Leasing Corporation, assignee of Third Street Services, Inc. - Financing Statement No. 9934860649 filed on December 2, 1999 evidencing a security interest in specific equipment
- LaSalle National Leasing Corporation, assignee of Third Street Services, Inc. - Financing Statement No. 0002860375 filed on January 27, 2000 evidencing a security interest in specific equipment
- Banc One Leasing Corporation, assignee of Third Street Services, Inc. - Financing Statement No. 0004660124 filed on February 10, 2000 evidencing a security interest in specific equipment
- Banc One Leasing Corporation, assignee of Third Street Services, Inc. - Financing Statement No. 0004660325 filed on February 10, 2000 evidencing a security interest in specific equipment
- Banc One Leasing Corporation, assignee of Third Street Services, Inc. - Financing Statement No. 0005361100 filed on February 17, 2000 evidencing a security interest in specific equipment
- Safeco Credit Company, Inc., assignee of Third Street Services, Inc. - Financing Statement No. 0008160175 filed on March 15, 2000 evidencing a security interest in specific equipment

The following Financing Statements have been filed by U.S. Bank National Association:

- Financing Statement No. 9529260048 filed on October 16, 1995 (assigned from Commercial Bank of Fremont)
- Financing Statement No. 9715760787 filed on June 3, 1997
- Financing Statement No. 9715760218 filed on June 4, 1997
- Financing Statement No. 9833760671 filed on December 3, 1998
- Financing Statement No. 0018860892 filed on June 29, 2000

**SCHEDULE 7.8**

**EXISTING LIENS; PLEDGES OF ASSETS**

[See Schedule 7.7]

**Schedule 7.8 -- Page 1**

**EXHIBIT A**

**LETTER OF CREDIT**

To be attached

**Exhibit A -- Page 1**

**EXHIBIT B**

**FORM OF LINE OF CREDIT NOTE**

\$20,000,000.00 \_\_\_\_\_, 2000

FOR VALUE RECEIVED, the undersigned, AXT, INC., a Delaware corporation ("Borrower"), hereby promises to pay to the order of U.S. BANK NATIONAL ASSOCIATION ("Lender") on the Line Maturity Date the principal sum of Twenty Million Dollars (\$20,000,000.00), or such lesser amount as shall equal the aggregate outstanding principal balance of all advances hereunder made by Lender to Borrower pursuant to the Credit Agreement referred to below.

This promissory note is one of the Line of Credit Notes referred to in, and is subject to the terms of, that certain Credit Agreement among Borrower, Lender and the other financial institutions from time to time parties thereto (collectively, the "Lenders"), and U.S. Bank National Association, as agent for the Lenders (in such capacity, "Agent"), dated as of \_\_\_\_\_, 2000 (as amended, modified or supplemented from time to time, the "Credit Agreement"). Capitalized terms used herein and not defined shall have the respective meanings assigned to them in the Credit Agreement.

Borrower further promises to pay interest on the outstanding principal balance hereof at the interest rates, and payable on the dates, set forth in the Credit Agreement. All payments of principal and interest hereunder shall be made to Agent at Agent's Office, for the account of Lender, in lawful money of the United States and in same day or immediately available funds.

Lender is authorized but not required to record the date and amount of each advance made hereunder, each conversion to a different interest rate and the length of each Fixed Rate Term, the date and amount of each payment of principal and interest hereunder, and the resulting unpaid principal balance hereof, in Lender's internal records, and any such recordation shall be prima facie evidence of the accuracy of the information so recorded so long as Borrower is provided with a record thereof for review; provided however, that Lender's failure to so record shall not limit or otherwise affect the obligations of Borrower hereunder and under the Credit Agreement to repay the principal hereof and interest hereon.

The Credit Agreement provides, among other things, for acceleration (which in certain cases shall be automatic) of the maturity hereof upon the occurrence of certain stated events, in each case without presentment, demand, protest or further notice of any kind, all of which are hereby expressly waived by Borrower.

This promissory note is secured by certain collateral more specifically described in the Credit Agreement and the other Loan Documents. Borrower may prepay this promissory note in whole or in part in accordance with the terms of the Credit Agreement.

This promissory note shall be governed by and construed in accordance with the laws of the State of California.

AXT, INC., a Delaware corporation

By:

---

[Printed Name and Title]



**EXHIBIT C**

**FORM OF TERM NOTE**

\$ \_\_\_\_\_

\_\_\_\_\_, 2000

FOR VALUE RECEIVED, the undersigned, AXT, INC., a Delaware corporation ("Borrower"), hereby promises to pay to the order of U.S. BANK NATIONAL ASSOCIATION ("Lender"), the principal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), or such lesser amount as may be advanced hereunder, on the dates and in the amounts set forth in that certain Credit Agreement among Borrower, Lender and the other financial institutions from time to time parties thereto (collectively, the "Lenders"), and U.S. Bank National Association, as agent for the Lenders (in such capacity, "Agent"), dated as of \_\_\_\_\_, 2000 (as amended, modified or supplemented from time to time, the "Credit Agreement"), with a final installment consisting of all remaining unpaid principal due and payable in full on May 31, 2003.

This promissory note is one of the Term Notes referred to in, and is subject to the terms of, the Credit Agreement. Capitalized terms used herein and not defined shall have the respective meanings assigned to them in the Credit Agreement.

Borrower further promises to pay interest on the outstanding principal balance hereof at the interest rates, and payable on the dates, set forth in the Credit Agreement. All payments of principal and interest hereunder shall be made to Agent at Agent's Office, for the account of Lender, in lawful money of the United States and in same day or immediately available funds.

Lender is authorized but not required to record the date and amount of each advance made hereunder, each conversion to a different interest rate and the length of each Fixed Rate Term, the date and amount of each payment of principal and interest hereunder, and the resulting unpaid principal balance hereof, in Lender's internal records, and any such recordation shall be prima facie evidence of the accuracy of the information so recorded so long as Borrower is provided that with a record thereof for review; provided however, that Lender's failure to so record shall not limit or otherwise affect the obligations of Borrower hereunder and under the Credit Agreement to repay the principal hereof and interest hereon.

The Credit Agreement provides, among other things, for acceleration (which in certain cases shall be automatic) of the maturity hereof upon the occurrence of certain stated events, in each case without presentment, demand, protest or further notice of any kind, all of which are hereby expressly waived by Borrower.

This promissory note is secured by certain collateral more specifically described in the Credit Agreement and the other Loan Documents. Borrower may prepay this promissory note in whole or in part in accordance with the terms of the Credit Agreement.

This promissory note shall be governed by and construed in accordance with the laws of the State of California.

AXT, INC., a Delaware corporation

By:

---

[Printed Name and Title]

**EXHIBIT D**

**NOTICE OF BORROWING**

U.S. Bank National Association  
2890 N. Main Street  
Walnut Creek, CA 94596  
Attention: \_\_\_\_\_

Reference is made to that certain Credit Agreement dated as of \_\_\_\_\_, 2000 (as amended, modified or supplemented from time to time, the "Credit Agreement") among AXT, Inc., a Delaware corporation ("Borrower"), the financial institutions from time to time parties thereto (collectively, the "Lenders"), and U.S. Bank National Association, as agent for the Lenders (in such capacity, "Agent"). Capitalized terms used herein shall have the respective meanings assigned to them in the Credit Agreement.

1. Pursuant to Section 2.4 of the Credit Agreement, Borrower hereby requests an advance under the [Line of Credit] [Term Loan A] [Term Loan

B] [Term Loan C] upon the following terms:

(a) The principal amount of the requested advance is \$\_\_\_\_\_.

(b) The date of the requested advance is to be \_\_\_\_\_.

(c) The aggregate amount of said advance for which a Reference Rate interest selection is made is \$\_\_\_\_\_.

(d) The aggregate amount of said advance for which a LIBOR Rate interest selection is made, and each requested Fixed Rate Term, are:

Amount	Fixed Rate Term
\$_____	_____ months
\$_____	_____ months

(e) The aggregate amount of said advance for which a Treasury Rate interest selection is made is \$\_\_\_\_\_.

2. Borrower hereby certifies to Agent and the Lenders that, on the date of this Notice of Borrowing and after giving effect to the requested advance (including the use of the proceeds thereof):

(a) the representations and warranties set forth in the Credit Agreement are true and correct as if made on such date;

(b) no Default has occurred and is continuing; and

(c) each of the Loan Documents remains in full force and effect.

The party signing below on behalf of Borrower is an Authorized Representative of Borrower and has caused this Notice of Borrowing to be duly executed on behalf of Borrower as of \_\_\_\_\_.

AXT, INC., a Delaware corporation

By: \_\_\_\_\_

[Printed Name and Title]

**EXHIBIT E**

**NOTICE OF CONVERSION OR CONTINUATION**

U.S. Bank National Bank Association  
2890 N. Main Street  
Walnut Creek, CA 94596  
Attention: \_\_\_\_\_

Reference is made to that certain Credit Agreement dated as of \_\_\_\_\_, 2000 (as amended, modified or supplemented from time to time, the "Credit Agreement") among AXT, Inc., a Delaware corporation ("Borrower"), the financial institutions from time to time parties thereto (collectively, the "Lenders"), and U.S. Bank National Association, as agent for the Lenders (in such capacity, "Agent"). Capitalized terms used herein shall have the respective meanings assigned to them in the Credit Agreement.

1. Pursuant to Section 2.6 of the Credit Agreement, Borrower hereby requests [the continuation of all or part of its outstanding LIBOR borrowings with Fixed Rate Terms ending on \_\_\_\_\_] [the conversion of all or part of its outstanding Reference Rate borrowings], as follows:

(a) The Credit to which this Notice applies is the [Line of Credit] [Term Loan A] [Term Loan B] [Term Loan C].

(b) The effective date of continuation and/or conversion is to be \_\_\_\_\_.

(c) The aggregate amount of [said outstanding LIBOR borrowings to be continued as] [said outstanding Reference Rate borrowings to be converted to] LIBOR borrowings, and each requested Fixed Rate Term, are:

Amount	Fixed Rate Term
\$ _____	_____ months
\$ _____	_____ months

(d) The aggregate amount of said outstanding LIBOR borrowings to be continued as Reference Rate borrowings is \$ \_\_\_\_\_.

3. Borrower hereby certifies to Agent and the Lenders that, on the date of this Notice of Conversion or Continuation, no Default has occurred and is continuing.

The party signing below on behalf of Borrower is an Authorized Representative of Borrower and has caused this Notice of Conversion or Continuation to be duly executed on behalf of Borrower as of \_\_\_\_\_.

AXT, INC., a Delaware corporation

By: \_\_\_\_\_

[Printed Name and Title]

\_\_\_\_\_

**EXHIBIT F**

**NOTICE OF  
AUTHORIZED REPRESENTATIVES**

U.S. Bank National Association  
2890 N. Main Street  
Walnut Creek, California 94596  
Attention: \_\_\_\_\_

Reference is made to that certain Credit Agreement dated as of \_\_\_\_\_, 2000 (as amended, modified or supplemented from time to time, the "Credit Agreement") among AXT, Inc., a Delaware corporation ("Borrower"), the financial institutions from time to time parties thereto (collectively, the "Lenders"), and U.S. Bank National Association, as agent for the Lenders (in such capacity, "Agent"). Borrower hereby represents to Agent and Lenders that the following named officers and employees are the Authorized Representatives of Borrower, as defined in the Credit Agreement, and that the signatures opposite their names are their true signatures:

Name	Signature
-----	-----
-----	-----
-----	-----

Borrower further represents to Agent and Lenders that Agent is authorized to rely on this Notice of Authorized Representatives until such time, if any, as Borrower has delivered to Agent, and Agent has received, a duly executed Notice of Authorized Representatives in substitution hereof. This Notice of Authorized Representatives cancels and supersedes any Notice of Authorized Representatives at any time prior to the date hereof delivered by Borrower to Agent.

IN WITNESS WHEREOF, Borrower hereby confirms that it has caused this Notice of Authorized Representatives to be duly executed as of \_\_\_\_\_, 2000.

AXT, INC., a Delaware corporation

By: \_\_\_\_\_

\_\_\_\_\_

[Printed Name and Title]



**EXHIBIT G**

**ASSIGNMENT AND ASSUMPTION AGREEMENT**

**THIS ASSIGNMENT AND ASSUMPTION AGREEMENT (this "Agreement") is**

entered into as of \_\_\_\_\_, between \_\_\_\_\_ ("Assignor") and  
\_\_\_\_\_ ("Assignee").

WHEREAS, Assignor is a Lender under that certain Credit Agreement dated as of \_\_\_\_\_, 2000 (as amended, modified, supplemented or restated from time to time, the "Credit Agreement") among AXT, Inc., a California corporation ("Borrower"), the Lenders from time to time parties thereto, and U.S. Bank National Association, as Agent. Capitalized terms used but not defined in this Agreement shall have the meanings set forth in the Credit Agreement. The Credit Agreement and all other agreements, documents and instruments referred to therein or delivered pursuant thereto are collectively called the "Loan Documents".

WHEREAS, it is the intention of Assignor and Assignee that (a) Assignor assign to Assignee a portion of Assignor's rights and obligations under the Credit Agreement, (b) Assignee assume all such obligations of Assignor, and  
(c) Assignor be released from such assigned obligations.

NOW, THEREFORE, in consideration of the mutual agreements herein contained, the parties hereto agree as follows:

1. Assignment. Effective on the Assignment Effective Date (as defined in Section 3 hereof), Assignor, without recourse and without representation or warranty (except as expressly provided in Section 6 hereof), hereby assigns to Assignee the Assigned Rights and Obligations (as defined below).

2. The "Assigned Rights and Obligations" means: (a) [a \$ \_\_\_\_\_ portion] [ \_\_\_\_\_ %] of Assignor's \$ \_\_\_\_\_ Proportionate Share of [the Line of Credit] [Term Loan A] [Term Loan B] [Term Loan C] Total Commitment on the Assignment Effective Date; (b) the portion of [the Line of Credit] [Term Loan A] [Term Loan B] [Term Loan C] outstanding on the Assignment Effective Date that is attributable to the above portion of Assignor's Proportionate Share of [the Line of Credit] [Term Loan A] [Term Loan B] [Term Loan C] Total Commitment; and (c) all of Assignor's other rights and obligations under the Credit Agreement that are attributable to the above portion of Assignor's Proportionate Share.

3. Assumption. Effective on the Assignment Effective Date, Assignee hereby accepts the foregoing assignment of, and hereby assumes from Assignor all of, the Assigned Rights and Obligations.

4. Effectiveness. This Agreement shall become effective on such date as shall be selected by Assignor (the "Assignment Effective Date"), which date shall be on or as soon as practicable after the execution and delivery of counterparts of this Agreement by Assignor, Assignee, Agent and Borrower. Assignor shall promptly notify Assignee, Agent and Borrower in writing of the Assignment Effective Date.

5. Payments on Assignment Effective Date. In consideration of the assignment by Assignor to, and the assumption by Assignee of, the Assigned Rights and Obligations, on the Assignment Effective Date: (a) Assignee shall pay to Assignor the principal amount of [the Line of Credit] [Term Loan A] [Term Loan B] [Term Loan C] made by Assignor pursuant to the Credit Agreement that are attributable to the Assigned Rights and Obligations and outstanding on the Assignment Effective Date; [and] (b) each of Assignor and Assignee shall pay to the other such amounts (if any) as are specified in any written agreement or exchange of letters between them[; and (c) Assignee shall pay to Agent an assignment processing and recordation fee of \$\_\_\_\_\_].

6. Allocation and Payment of Interest and Fees.

(a) Agent shall pay to Assignee all interest, commitment fees and other amounts not constituting principal that are paid by or on behalf of Borrower pursuant to the Loan Documents and are attributable to the Assigned Rights and Obligations ("Borrower Amounts") which accrue on and after the Assignment Effective Date. If Assignor receives or collects any such Borrower Amounts, Assignor shall promptly pay them to Assignee.

(b) Agent shall pay to Assignor all Borrower Amounts that accrue before the Assignment Effective Date. If Assignee receives or collects any such Borrower Amounts, Assignee shall promptly pay them to Assignor.

7. Representations and Warranties.

(a) Each of Assignor and Assignee represents and warrants to the other party as follows:

(i) Such party has full power and authority, and has taken all action necessary, to execute and deliver this Agreement and to fulfill its obligations under, and to consummate the transactions contemplated by, this Agreement.

(ii) The making and performance of this Agreement and all documents required to be executed and delivered by such party pursuant hereto do not and will not violate any law or regulation applicable to such party.

(iii) This Agreement has been duly executed and delivered by, and constitutes a legal, valid and binding obligation of, such party, enforceable in accordance with its terms.

(iv) All approvals, authorizations or other actions by, or filings with, any governmental authority necessary for the validity or enforceability of such party's obligations under this Agreement have been made or obtained.

(b) Assignor represents and warrants to Assignee that Assignor owns the Assigned Rights and Obligations, free and clear of all liens or other encumbrances.

(c) Assignee represents and warrants to Assignor as follows:

(i) Assignee has made and shall continue to make its own independent investigation of the financial condition, affairs and creditworthiness of Borrower and any other person or entity obligated under the Loan Documents (collectively, the "Credit Parties"), and the value of any collateral now or hereafter securing any of the obligations, indebtedness, liabilities or undertakings under the Loan Documents (the "Collateral"), in connection with Assignee's assumption of the Assigned Rights and Obligations.

(ii) Assignee has received a copy of the Loan Documents and such other documents, financial statements and information as Assignee deems appropriate to make its own credit analysis and decision to enter into this Agreement.

8. No Assignor Responsibility. Assignor makes no representation or warranty and assumes no responsibility to Assignee for:

(a) the execution by any party other than Assignor, effectiveness, genuineness, validity, enforceability, collectibility or sufficiency of the Loan Documents, or for any representations, warranties, recitals or statements made in the Loan Documents or in any financial or other written or oral statement, instrument, report, certificate or any other document made or furnished or made available by Assignor to Assignee or by or on behalf of any Credit Party to Assignor or Assignee in connection with the Loan Documents and the transactions contemplated thereby;

(b) the performance or observance of any of the terms, conditions, provisions, covenants or agreements contained in any of the Loan

Documents or the existence or possible existence of any default or event of default under the Loan Documents; or

(c) the accuracy or completeness of any information provided to Assignee, whether by Assignor or by or on behalf of any Credit Party.

Assignor shall have no initial or continuing duty or responsibility to make any investigation of the financial condition, affairs or creditworthiness of any of the Credit Parties, or the value of any Collateral, in connection with the assignment of the Assigned Rights and Obligations hereunder, or to provide Assignee with any credit or other information with respect thereto, whether coming into Assignor's possession before the date hereof or at any time or times thereafter.

9. Assignee Bound By Credit Agreement. Effective on the Assignment Effective Date, Assignee: (a) shall be deemed to be a party to the Credit Agreement; (b) agrees to be bound by the Credit Agreement as it would have been if it had been an original Lender party thereto; and (c) agrees to perform in accordance with their respective terms all obligations which are required under the Loan Documents to be performed by it as a Lender. Assignee appoints and authorizes Agent to take such actions as agent on Assignee's behalf and to exercise such powers under the Loan Documents as are delegated to Agent by the terms thereof, together with such powers as are reasonably incidental thereto.

10. Assignor Released From Credit Agreement. Effective on the Assignment Effective Date, Assignor shall be released from the Assigned Rights and Obligations; provided, however, that Assignor shall retain all of its rights to indemnification under Sections 2.14 and 10.3 of the Credit Agreement and the other Loan Documents for any events, acts or omissions occurring before the Assignment Effective Date.

11. Foreign Withholding.(\*)

(a) Assignee represents and warrants to Agent, Borrower and Assignor that, under applicable law and treaties, Assignee is entitled to receive all payments under the Credit Agreement, the Loan Documents and this Agreement payable to it as provided herein, without deduction or withholding of any taxes imposed by the United States or any political subdivision thereof.

(b) On or before the Assignment Effective Date, Assignee shall deliver to each of Borrower and Agent two executed copies of valid and properly completed: (i) United States Internal Revenue Service Form 1001 or 4224 certifying

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\* Include Section 11 only if Assignee is a foreign institution.

that Assignee is entitled to receive payments under the Credit Agreement and the Loan Documents payable to it, without deduction or withholding of any United States federal income taxes; and (ii) Internal Revenue Service Form W-8 or W-9 establishing an exemption from United States backup withholding tax. If any such form is found to be incomplete or incorrect, or must be replaced (on the same or a successor form) in order to maintain its effectiveness, Assignee shall execute and deliver to each of Borrower and Agent two executed copies of a valid, complete and correct replacement form.

12. General.

(a) This Agreement constitutes the entire understanding of the parties with respect to the subject matter hereof and supersedes all prior and current understandings and agreements, whether written or oral (other than with respect to any fees payable as provided in Section 4 hereof).

(b) No term or provision of this Agreement may be amended, waived or terminated orally, but only by an instrument signed by the parties hereto.

(c) This Agreement may be executed in one or more counterparts. Each set of executed counterparts shall be an original. Executed counterparts may be delivered by facsimile transmission.

(d) Assignor may at any time and from time to time grant to others pursuant to the Loan Documents assignments of or participations in all or part of Assignor's Proportionate Share of [the Line of Credit] [Term Loan A] [Term Loan B] [Term Loan C] Total Commitments, but not with respect to the Assigned Rights and Obligations.

(e) This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective legal representatives, successors and assigns. Neither Assignor nor Assignee may assign or transfer any of its rights or obligations under this Agreement without the prior written consent of the other. The preceding sentence shall not limit the right of Assignee to grant to others assignments of or participations in all or part of the Assigned Rights and Obligations to the extent permitted by the terms of the Loan Documents.

(f) All payments to Assignor or Assignee hereunder shall, unless otherwise specified by the party entitled thereto, be made in United States Dollars, in immediately available funds, and to the address or account specified on the signature pages of this Agreement. The address of Assignee for notice purposes under the Credit Agreement shall be as specified on the signature pages of this Agreement.

(g) If any provision of this Agreement is held invalid, illegal or unenforceable, the remaining provisions hereof will not be affected or impaired in any way.

(h) Each party shall bear its own expenses in connection with the preparation and execution of this Agreement.

(i) This Agreement shall be governed by and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

**ASSIGNOR:**

\_\_\_\_\_

By: \_\_\_\_\_ Name: \_\_\_\_\_ Title: \_\_\_\_\_

**Assignor's Notice Instructions:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Attn: \_\_\_\_\_ Ref: \_\_\_\_\_ Telephone: (\_\_\_\_\_) \_\_\_\_\_ Facsimile: (\_\_\_\_\_) \_\_\_\_\_

**Assignor's Payment Instructions:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ABA No.: \_\_\_\_\_ Account No.: \_\_\_\_\_ Attn: \_\_\_\_\_ Ref: \_\_\_\_\_

**ASSIGNEE:**

\_\_\_\_\_

By: \_\_\_\_\_ Name: \_\_\_\_\_ Title: \_\_\_\_\_

**Assignee's Notice Instructions:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Attn: \_\_\_\_\_ Ref: \_\_\_\_\_ Telephone: (\_\_\_\_\_) \_\_\_\_\_ Facsimile: (\_\_\_\_\_) \_\_\_\_\_

\_\_\_\_\_

**Assignee's Payment Instructions:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ABA No.: \_\_\_\_\_ Account No.: \_\_\_\_\_ Attn: \_\_\_\_\_ Ref: \_\_\_\_\_

\_\_\_\_\_

**ACKNOWLEDGED AND AGREED:**

**BORROWER:**

AXT, INC., a Delaware corporation

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**AGENT:**

**U.S. BANK NATIONAL ASSOCIATION,  
as Agent**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_



**EXHIBIT H**

**FORM OF BORROWING BASE CERTIFICATE**

Exhibit H -- Page 1

## **EXHIBIT 23.1**

### **CONSENT OF INDEPENDENT ACCOUNTANTS**

We hereby consent to the incorporation by reference in the Registration Statement on Form S-3 (No. 333-47560) of AXT, Inc. of our report dated February 9, 2001 relating to the consolidated financial statements, which appears in this Form 10-K.

PricewaterhouseCoopers LLP  
San Jose, California

February 26, 2001

**EXHIBIT 23.2**

**CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS**

As independent public accountants, we hereby consent to the incorporation of our report included in this Form 10-K, into the Company's previously filed Registration Statement File No. 333-47560

**ARTHUR ANDERSEN LLP**

Los Angeles, California

February 26, 2001

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**End of Filing**

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