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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**Form 10-K**

(Mark  
One)

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

For the fiscal year ended December 31, 2008

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: 000-24085

**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:

Title of each class  
Common Stock, \$0.001 par value

Name of each exchange on which registered  
The NASDAQ Stock Market LLC

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

**None**

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

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

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  No

Indicate by checkmark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by checkmark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

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

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 June 30, 2008 as reported on the Nasdaq Global Market, was approximately \$104,478,383. 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 February 27, 2009, 30,512,899 shares, \$0.001 par value, of the registrant's common stock were outstanding.

#### **DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the definitive proxy statement for the registrant's 2009 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. Except for those portions specifically incorporated by reference herein, such document shall not be deemed to be filed with the Commission as part of this Form 10-K.

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## PART I

This Annual Report (including the following section regarding Management's Discussion and Analysis of Financial Condition and Results of Operations) contains forward-looking statements regarding our business, financial condition, results of operations and prospects. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements in this Annual Report. Additionally, statements concerning future matters such as the development of new products, enhancements or technologies, sales levels, expense levels and other statements regarding matters that are not historical are forward-looking statements.

Although forward-looking statements in this Annual Report reflect the good faith judgment of our management, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include without limitation those discussed under the heading "Risk Factors" in Item 1A below, as well as those discussed elsewhere in this Annual Report. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report. We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this Annual Report. Readers are urged to carefully review and consider the various disclosures made in this Annual Report, which attempt to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

### Item 1. Business

AXT, Inc. ("AXT", "we," "us," and "our" refer to AXT, Inc. and all of its subsidiaries) is a leading developer and producer of high-performance compound and single element semiconductor substrates, including substrates made from gallium arsenide (GaAs), indium phosphide (InP) and germanium (Ge). We currently sell the following substrate products in the sizes and for the applications indicated:

<u>Substrates</u>	<u>Substrate Diameter</u>	<u>Applications</u>
GaAs (semi-insulating)	2", 3", 4", 5", 6"	<ul style="list-style-type: none"><li>• Power amplifiers and radio frequency integrated circuits for wireless handsets (cell phones)</li><li>• Direct broadcast television</li><li>• High-performance transistors</li><li>• Satellite communications</li></ul>
GaAs (semi-conducting)	2", 3", 4"	<ul style="list-style-type: none"><li>• High brightness light emitting diodes</li><li>• Lasers</li><li>• Optical couplers</li></ul>
InP	2", 3", 4"	<ul style="list-style-type: none"><li>• Broadband and fiber optic communications</li></ul>
Ge	2", 4"	<ul style="list-style-type: none"><li>• Satellite and terrestrial solar cells</li><li>• Optical applications</li></ul>

We manufacture all of our semiconductor substrates using our proprietary vertical gradient freeze (VGF) technology. Most of our revenue is from sales of GaAs substrates. We manufacture all of our products in the People's Republic of China (PRC or China), which generally has favorable costs for facilities and labor compared to comparable facilities in the United States or Europe. We also have five joint ventures in China that provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our final manufactured products. We consolidate, for accounting purposes, three of

these joint ventures and have equity interests of 25% in each of the other two. We use our direct sales force in the United States and independent sales representatives in Europe and Asia to market our substrates. Our ten largest customers for 2008 were: IQE group, Osram Opto Semiconductors GmbH, Sumitomo Chemical Co., Ltd., MAC Corporation, Xiamen Xinde Co., Ltd., Visual Photonics Epitaxy Co., Ltd., MCP UK, Picogiga International SAS, and Avago Technologies Manufacturing (Singapore) Pte. Ltd. We believe that, as the demand for compound semiconductor substrates is expected to increase, we are positioned to leverage our PRC-based manufacturing capabilities and access to favorably priced raw materials to increase our market share. However, the economic downturn in 2008 coupled with inventory overhang in the industry put pressure on our financial performance and will continue to have an impact on our results in 2009.

On March 17, 2009, our chief executive officer resigned as chairman of our board and as chief executive officer. While the volatile business and financial markets are prompting us to continue to take a conservative approach to our business, we remain optimistic about our business. Positive industry trends, coupled with our competitive manufacturing and cost advantages give us confidence in our ability to continue to drive future businesses in 2009. On March 28, 2008, we completed the sale of our Fremont, California facility and received net proceeds of approximately \$5.1 million after deducting commissions and selling expenses. On July 1, 2008, we exercised our right to redeem the taxable variable rate revenue bond and repaid all outstanding indebtedness and accrued interest under the terms of the revenue bond of approximately \$6.4 million. Accordingly, all of our remaining obligations under the revenue bond have terminated and the related restricted deposits have been released. In September 2008, we obtained an express line of credit from our bank and drew down \$3.0 million and classified the same amount as restricted deposits as of December 31, 2008. The proceeds from the express line of credit were used in operations. The \$3.0 million restricted cash carries an annual interest rate of approximately 4% as of December 31, 2008. Also as of December 31, 2008, we had available cash, cash equivalents and short-term investments of \$31.3 million, excluding restricted deposits.

We were incorporated in California in December 1986 and reincorporated in Delaware in May 1998. We changed our name from American Xtal Technology, Inc. to AXT, Inc. in July 2000. Our principal corporate office is located at 4281 Technology Drive, Fremont, California 94538, and our telephone number at this address is (510) 683-5900.

## **Industry Background**

Certain electronic and opto-electronic applications have performance requirements that exceed the capabilities of conventional silicon substrates and often require high-performance compound or single element substrates. Examples of higher performance non-silicon based substrates include GaAs, InP, gallium nitride (GaN), silicon carbide (SiC) and Ge.

For example, power amplifiers and radio frequency integrated circuits for wireless handsets are made with semi-insulating GaAs substrates. Semi-conducting GaAs substrates are used to create opto-electronic products including high brightness light emitting diodes (HBLEDs) which are often used to backlight wireless handsets and liquid crystal display (LCD) TVs and for automotive and general illumination applications. InP is a high performance semiconductor substrate used in broadband and fiber optic applications. Ge substrates are used in emerging applications such as solar cells for space and terrestrial photovoltaic applications.

Our business and operating results depend in significant part upon capital expenditures of semiconductor designers and manufacturers, which in turn depend upon the current and anticipated market demand for products incorporating semiconductors from these designers and manufacturers and our business depends in part on worldwide economic conditions. The current period of severe recession being experienced by the United States and other key international economies, has been characterized

by falling demand for a variety of goods and services, including those related to the semiconductor industry. These conditions have adversely affected the timing and volume of our customers' purchase of our products, particularly commencing with the fourth quarter of 2008, and delays in customer purchasing decisions is likely to continue to impact our results in the beginning of 2009.

Despite the challenging environment, however, we believe that there are some bright spots of opportunity as we move into 2009. One of the most interesting is the projected growth of WCDMA and CDMA 2000 handsets to support the new 3G and 3G+ networks around the world. We expect to see particular growth in China as the government has begun to issue 3G licenses and has also broadened the subsidy policy for consumer electronic purchases. Global smart phone sales are also expected to grow throughout the year as many new phones have been released by manufacturers such as Apple, Motorola, Nokia, RIM and Samsung, among others. These phones are expected to comprise more than 30 percent of the market by 2013. The benefit to AXT from the sales of more feature-rich, sophisticated handsets is that they require a greater content of gallium arsenide in order to meet the speed and functionality requirements that consumers have come to expect. Even with the steep decline in spending associated with 2G legacy networks, carriers continue to invest in 3G in order to remain competitive and attract new subscribers. This network upgrade enables full performance capability of the video, gaming and Internet browsing capabilities of these next generation handsets.

Driven by rising demand for LCD televisions and other consumer products, it appears that the light emitting diodes (LED) market may also grow in 2009 by up to 3 percent, a sharp contrast to the expected 9.4 percent decrease in the overall semiconductor market over this same time period. The recent declines in average selling prices of HBLEDs have allowed LED-backlit sets to become more price-competitive with comparable cold cathode fluorescent lamp (CCFL) sets. In addition, while individual markets for LED may decline in 2009, the number of applications continues to broaden across a wide array of consumer, industrial and automotive products.

The concentrator photovoltaic (CPV) market for germanium is also continuing to grow, albeit from a smaller base. Growth in the global solar industry is expected in 2009 as there is increasing interest in the replacement of fossil fuel resources with sustainable alternatives such as solar power and solar modules and a renewed interest in focus on investment in renewable energy technology in the United States and Europe. At the same time, we believe that improvements in conversion efficiency for germanium are occurring, which we believe will enable this technology to become more affordable and therefore, more widely utilized, in the future.

### **The AXT Advantage**

We believe that we benefit from the following advantages:

- *Low-cost manufacturing operation in the PRC.* Since 2004, we have manufactured all of our products in China, which generally has favorable costs for facilities and labor compared to comparable facilities in the United States or Europe. As of December 31, 2008, approximately 1,081 of our 1,120 employees (including employees at our consolidated joint ventures) are in China. Our primary competitors have their manufacturing operations in Germany or Japan.
- *Favorable access to raw materials.* Our joint ventures provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our final manufactured products. These materials include gallium, arsenic, germanium, germanium dioxide, paralytic boron nitride crucibles and boron oxide. As a result, we believe that our joint ventures will enable us to meet potential increases in demand from our customers by providing a more stable supply of raw materials at lower prices.
- *Flexible manufacturing infrastructure.* Our total manufacturing space in China is approximately 190,000 square feet, 90,000 square feet of which we currently use and the remainder of which we

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have configured for relatively rapid expansion. We believe that our competitors typically purchase crystal growing furnaces from original equipment manufacturers. In contrast, we design and build our own VGF crystal growing furnaces, which we believe should allow us to increase our production capacity more quickly and cost effectively.

Given these advantages, we believe that, when the worldwide economies begin to improve and the current period of United States and international recession begins to lessen, the demand for compound semiconductor substrates may again increase. Once demand begins to recover, we believe that we are positioned to leverage our PRC-based manufacturing capabilities and access to favorably priced raw materials to begin to increase our market share.

### **Strategy**

Our goal is to become the leading worldwide supplier of high-performance compound and single element semiconductor substrates. Key elements of our strategy include:

*Continue to provide customers high and consistent quality products and service.* We seek to improve our manufacturing processes continually in order to meet and exceed our customers' high product quality standards, ensure on-time delivery of our products and optimize the cost of ownership. We expect to continue to improve our manufacturing processes in 2009 by adding some additional equipment, automating additional processes, and streamlining performance. In addition, we plan to continue to enhance our support functions, including service and applications engineering.

*Increase market share.* We intend to leverage our product quality, competitive pricing and lead times both to establish relationships with new customers and to increase our market share with current customers in the integrated circuits for wireless handsets and HBLED markets.

*Add capacity to meet customers' increasing demand for substrates.* Since 2007, we have added additional capacity in order to meet our customers' increased demands, specifically in 6" GaAs substrates. However, the current economic downturn has caused a cessation of our capacity expansion, and we have placed any additional expansion of our China facilities on hold. We continue to monitor our capacity utilization and believe our flexible manufacturing infrastructure will allow us to ramp up production and capacity when the GaAs substrate market improves.

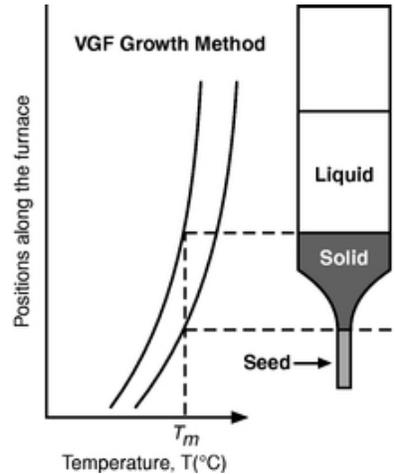
*Establish leadership in emerging substrate applications.* We intend to expand our served markets by exploring new opportunities for our substrates. For example, due to Ge's inherent high efficiency and the increasing supply constraints of traditional poly-silicon, some customers have begun to use Ge substrates for terrestrial solar cell applications. Also, we continue to monitor the market for GaAs in concentrator photovoltaics where triple junction solar cells are grown on GaAs substrates, representing a potentially new market for AXT.

*Technology enhancements.* We continue to focus on technology development in the areas of VGF technology enhancements and Czochralski (CZ) crystal growth for Ge substrates. We also continue to focus on applying our technological expertise to the design of our manufacturing processes, to upgrade and improve these processes and deliver high quality products to our customers more efficiently and in higher volumes.

### **Technology**

There are basically three technologies for crystal growth in our business: Vertical Gradient Freeze (VGF), Liquid Encapsulated Czochralski (LEC), and Czochralski (CZ). Our core technologies include our proprietary VGF technique used to produce high quality crystals that are processed into compound substrates, and the technologies of our joint venture companies, which enable us to manufacture a

range of products that are used in the manufacture of compound semiconductor substrates or can be sold as raw materials to third parties.



Our VGF technique is designed to control the crystal-growth process with minimal temperature variation and is the current 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, and minimizes the temperature gradient between the crystal and the melt which reduces the turbulence at the interface of the melt and the solid crystal. In comparison, in the LEC technique the melt and crystal are inverted, there is a higher temperature gradient between the melt and the crystal, and more turbulence at the interface of the melt and solid crystal. 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 as it may be during some competitors' VGF-like growth processes. 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.

Although we are exploring the use of other methods to control the crystal-growth process, including the CZ and LEC methods for select applications, for our traditional GaAs substrates, our VGF technique offers several benefits for producing our GaAs substrates when compared to traditional crystal growing technologies. The Horizontal Bridgman (HB) technique is the traditional method for producing semi-conducting GaAs substrates for opto-electronic applications, but because of the techniques used to hold the GaAs melt, the HB technique cannot be used cost-effectively to produce substrates greater than three inches in diameter. In addition, 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.

Our VGF technique also offers advantages over the LEC technique for producing semi-insulating GaAs substrates for wireless applications. Unlike the VGF technique, the LEC technique can result in greater turbulence in the melt, and at a temperature gradient that is significantly higher than the VGF technique, which can 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. However, the LEC technique can be useful for GaAs semi-conducting substrates since the LED application specifications and requirements are less stringent than those of wireless applications.

## Products

We design, develop, manufacture and distribute high-performance semiconductor substrates. We make semi-insulating GaAs substrates used in applications such as amplifiers and switches for wireless handsets, and semi-conducting GaAs substrates used to create opto-electronic products including HBLEDs, which are often used to backlight wireless handsets and LCD TVs and for automotive and general illumination applications. InP is a high performance semiconductor substrate used in broadband and fiber optic applications. Ge substrates are used in emerging applications such as triple junction solar cells for space and terrestrial photovoltaic applications and for optical applications.

The table below sets forth our products and selected applications:

<u>Product</u>	<u>Applications</u>	
<b>Substrates</b>	<b>Electronic</b>	<b>Opto-electronic</b>
GaAs	<ul style="list-style-type: none"><li>• Cellular phones</li><li>• Direct broadcast television</li><li>• High-performance transistors</li><li>• Satellite communications</li></ul>	<ul style="list-style-type: none"><li>• LEDs</li><li>• Lasers</li><li>• Optical couplers</li></ul>
InP	<ul style="list-style-type: none"><li>• Fiber optic communications</li><li>• Satellite communications</li><li>• High-performance transistors</li><li>• Automotive collision avoidance radar</li></ul>	<ul style="list-style-type: none"><li>• Lasers</li></ul>
Ge	<ul style="list-style-type: none"><li>• Satellite and terrestrial solar cells</li></ul>	<ul style="list-style-type: none"><li>• Optical applications</li></ul>

*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 two- and four-inch diameters.

*Materials.* We participate in five joint ventures in China that sell raw materials used by us in substrate manufacturing and by others. These joint ventures produce products including 99.99% pure gallium (4N Ga), high purity gallium, arsenic, and germanium, germanium dioxide, paralytic boron nitride (pBN) crucibles, and boron oxide (B<sub>2</sub>O<sub>3</sub>). In 2008 and 2007, sales of raw materials to parties other than us were approximately \$17.2 million and \$13.8 million, respectively, which comprised of all of these products.

The primary costs of manufacturing compound semiconductor substrates are labor, raw materials and manufacturing equipment such as crystal growing furnaces. Accordingly, substrate manufacturers, including us, are continuing to shift production to larger wafers to reduce manufacturing costs.

## Customers

We sell our compound semiconductor substrates and materials worldwide. Our top revenue producing customers include:

- Avago Technologies Manufacturing (Singapore) Pte. Ltd.
- Beijing Compound Crystal Technology Ltd.
- IQE, Inc.
- IQE RF, LLC
- MAC Japan
- MBE Technology Pte. Ltd.
- MCP (Asia) Limited
- MCP UK
- Osram Opto Semiconductors GmbH
- Picogiga International SAS
- Recapture Metals Limited
- Richwin Co., Nanjing PRC
- Sumika Epi Solution Co., Ltd.
- Sumika Electronic Materials Co., Ltd.
- Sumitomo Chemical Co., Ltd.
- Tekcore Co., Ltd.
- Tokyo Supply Ltd., Japan
- Visual Photonics Epitaxy Co., Ltd.
- Xiamen Xinde Co., Ltd.

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Historically, we have sold a significant portion of our products in any particular period to a limited number of customers. IQE group (IQE, Inc., IQE RF, LLC, IQE (Europe) Limited, and MBE Technology Pte. Ltd.) represented 19% of revenue for the year ended December 31, 2008, one customer represented greater than 10% of revenue for the year ended December 31, 2007, totaling 12%, and two customers represented greater than 10% of revenue, totaling 16% and 13%, for the year ended December 31, 2006. Our top five customers represented 46% of our revenue for the year ended December 31, 2008, 40% of our revenue for the year ended December 31, 2007, and 42% of our revenue for the year ended December 31, 2006. We expect that sales to a small number of customers will continue to comprise a significant portion of our revenue in the future.

There have been no third party customers for our raw materials that account for greater than 10% of revenue from raw materials sales for the years ended December 31, 2008, 2007 and 2006. Our joint ventures are a key strategic benefit for us as they give us a strong competitive advantage of allowing our customers to work with one supplier for all their substrate and raw material requirements. Our raw materials customers include chemical companies; additionally, we sell raw materials to some of our competitors of our substrate business.

### **Manufacturing, Raw Materials and Supplies**

We believe that our results are partially due to our manufacturing efficiency and high product yields and we continually emphasize quality and process control throughout our manufacturing operations. We manufacture all of our products at our facilities in Beijing, China, which generally has favorable costs for facilities and labor. We believe that our capital investment and subsequent operating costs are lower for our manufacturing facilities in China relative to the U.S. Although some of our manufacturing operations are fully automated and computer monitored or controlled, enhancing reliability and yield, we expect to continue to improve our processes and increase the number of automated processes in 2009, despite some cutback on our capital budget. We use proprietary equipment in our substrate manufacturing operations to protect our intellectual property and control the timing and pace of capacity additions. All of our manufacturing facilities are ISO 9001 or 9002 certified. In January 2006, our Beijing facility successfully passed the ISO 14001 certification audit.

We have five joint ventures in China that provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our manufactured products including gallium, arsenic, germanium, germanium dioxide, pyrolytic boron nitride crucibles, and boron oxide. We believe that these joint ventures and investments will be advantageous in procuring materials to support our growth and cost management goals. In addition, we purchase supply parts, components and raw materials from several other domestic and international suppliers. We depend on a single or limited number of suppliers for certain critical materials used in the production of our substrates, such as quartz tubing, and polishing solutions. 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.

These five joint ventures include three companies included in our consolidated financial statements as consolidated entities: Beijing JiYa Semiconductor Material Co., Ltd. (JiYa), Nanjing Jin Mei Gallium Co., Ltd. (Jin Mei), and Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd (BoYu). Our ownership in JiYa is 46%. We continue to consolidate JiYa as we have significant influence in management and have a majority control of the board. Our chief financial officer is chairman of the board, while our chief operating officer, and our president of joint venture operations are members of the board. Our former chief executive officer, formerly a member of this board of directors, resigned from this board on March 17, 2009. Our ownership of Jin Mei is 83%. We continue to consolidate Jin Mei as we have significant influence in management and have a majority control of

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the board. Our chief operating officer is chairman of the board, while our president of joint venture operations is a member of the board. Our former chief executive officer, formerly a member of this board, resigned from this board on March 17, 2009. We have significant influence over management of BoYu, have a controlling financial interest of 70%, and have a majority control of the board. Our chief operating officer and our president of joint venture operations are members of the board. Our former chief executive officer has resigned as chairman of the board of BoYu effective March 17, 2009.

Although we have representation on the boards of directors of each of these companies, the daily operations of each of these companies, are managed by local management and not by us. Decisions concerning their respective short term strategy and operations, any capacity expansion and annual capital expenditures, and decisions concerning sales of finished product, are made by local management without input from us.

JiYa is housed in and receives services from an affiliated aluminum plant and has in the past had, to source finished products from another independent third party supplier in order to meet customer supply obligations when operations of its affiliated aluminum plant have been suspended or curtailed, resulting in a loss of supplies to the joint venture. In addition, even when capacity has been fully utilized, JiYa has had to source finished products from an independent third party supplier when demand has exceeded the joint venture's capacity, and will continue to source finished products from this independent third party supplier, if it experiences supply shortages or if customer demand again exceeds its capacity.

The investment balances for the two companies accounted for under the equity method are included in other assets in the consolidated balance sheets and totaled \$3.7 million and \$2.9 million as of December 31, 2008 and 2007, respectively. We own 25% of the ownership interests in each of these companies.

### **Sales and Marketing**

We advertise in trade publications, distribute promotional materials, conduct marketing and sales programs, and participate in industry trade shows and conferences in order to raise market awareness of our products.

We sell our substrate products direct to customers through our direct sales force in the U.S. and through independent sales representatives in France, Germany, Japan, South Korea, Taiwan and the United Kingdom. Our direct sales force is knowledgeable in the use of compound and single-element substrates. Our applications 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 specifications. We believe that maintaining a close relationship with customers and providing them with ongoing engineering support improves customer satisfaction and will provide us with a competitive advantage in selling other substrates to our customers.

*International Sales.* International sales are an important part of our business. Sales to customers outside North America (primarily United States) accounted for 74% of our revenue in 2008, 80% of our revenue in 2007, and 71% of our revenue in 2006. The primary markets for sales of our substrate products outside of the United States are to customers located in Asia and Western Europe.

We also sell through our joint ventures raw materials including 4N, 6N, and 7N gallium, boron oxide, germanium, arsenic, germanium dioxide, paralytic boron nitride crucibles used in crystal growth and parts for MBE (Molecular Beam Epitaxy). Our joint ventures are a key strategic benefit for us as they give us a strong competitive advantage of allowing our customers to work with one supplier for all their substrate and raw material requirements. Our joint ventures have their own separate sales force where they also sell direct to their own customers in addition to their supply of raw materials to us.

## 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 skilled scientists, engineers and technicians to meet our research and development objectives.

Our current substrate research and development activities focus on continued development and enhancement of GaAs, InP and Ge substrates, including haze reduction, improved yield, enhanced surface and electrical characteristics and uniformity, greater substrate strength and increased crystal length. During 2008, we continued to spend some research and development resources to reduce surface quality problems we experienced with our GaAs and InP substrates for some customers, particularly related to surface morphology. We continue to work on issues related to surface quality, and expect that research and development in this area will continue in 2009.

Research and development expenses were \$2.2 million in 2008, compared with \$1.7 million in 2007 and \$2.4 million in 2006. Given the current economic climate, we expect our rate of expenditure on research and development costs in 2009 to remain flat while exploring other methods to grow our crystals and improve on haze reduction. Research and development at our joint ventures has been minimal.

## Competition

The semiconductor substrate 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 market for GaAs substrates for HBLED applications primarily as a result of our expertise in VGF technology, overall product quality, response times and prices. However, we face actual and potential competition from a number of established domestic and international companies who may have advantages not available to us including substantially greater financial, technical and marketing resources; greater name recognition; and more established relationships in the industry and may utilize these advantages to expand their product offerings more quickly, adapt to new or emerging technologies and changes in customer requirements more quickly, and devote greater resources to the marketing and sale of their products.

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

- quality;
- price;
- performance;
- meeting customer specifications; and
- customer support and satisfaction.

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 and product features by us and our competitors;
- the availability of adequate sources of raw materials;
- protection of our products by effective use of intellectual property laws; and
- general economic conditions.

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A compound semiconductor substrate customer typically has two or three substrate suppliers that it has qualified for the production of its products. These qualified suppliers must meet industry-standard specifications for quality, on-time delivery and customer support. Once a substrate supplier has qualified with a customer, price, consistent quality and current and future product delivery lead times become the most important competitive factors. A supplier that cannot meet customers' current lead times or that a customer perceives will not be able to meet future demand and provide consistent quality can lose current market share. Our primary competition in the market for compound semiconductor substrates includes China Crystal Technologies, Freiburger Compound Materials, Japan Energy, Mitsubishi Chemical Corporation, and Sumitomo Electric Industries. We believe that at least two of our competitors are shipping high volumes of GaAs substrates manufactured using a technique similar to our VGF technique. In addition, as a result of quality problems that we have experienced, we believe that some customers have allocated some of their requirements for VGF grown substrates across more competitors and we believe that we may have lost revenue and market share as a result of these customer decisions. In addition, we also face competition from compound semiconductor device manufacturers that produce substrates for their own internal use, including Hitachi, and from companies such as IBM that are actively developing alternative compound semiconductor materials.

Suppliers of compound semiconductor substrates typically compete on product quality, product lead-time, price, device performance, meeting customer specifications and providing customer support. A compound semiconductor substrate customer typically has two or three substrate suppliers that it has qualified for the production of its products. These qualified suppliers must meet industry-standard specifications for quality, on-time delivery and customer support. Once a substrate supplier has qualified with a customer, price, consistent quality and current and future product delivery lead times become the most important competitive factors. A supplier that cannot meet customers' current lead times or that a customer perceives will not be able to meet future demand and provide consistent quality can lose current market share.

We are the only compound semiconductor substrate supplier to offer a full suite of raw materials and we believe that it gives us a strong competitive advantage in our marketplace.

### **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, 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 patents that relate to our VGF products and processes, two U.S., one Japanese and one Chinese, which expire in 2016 (1st U.S.), 2017 (JP), 2018(CN), and 2022 (2nd U.S.). We have three U.S. patent applications pending, fifteen foreign patent applications pending (in Patent Cooperation Treaty ("PCT")/national stage process) in Europe, Canada, China, Japan and South Korea which are based on our US patents or pertain to our VGF/related wafer manufacturing processes.

In the normal course of business, we periodically receive and make inquiries regarding possible patent infringement. In dealing with such inquiries, it may become necessary or useful for us to obtain

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or grant licenses or other rights. However, there can be no assurance that such licenses or rights will be available to us on commercially reasonable terms. If we are not able to resolve or settle claims, obtain necessary licenses on commercially reasonable terms and/or successfully prosecute or defend its position, our business, financial condition and results of operations could be materially and adversely affected.

### **Environmental Regulations**

We are subject to federal, state and local environmental laws and regulations, including laws in China as well as the U.S. These laws, rules and regulations govern the use, storage, discharge and disposal of hazardous chemicals during manufacturing, research and development and sales demonstrations. We maintain a number of environmental, health and safety programs that are primarily preventive in nature. As part of these programs, we regularly monitor ongoing compliance. 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.

### **Employees**

As of December 31, 2008, we had 1,120 employees including employees of our consolidating joint ventures, of whom 902 were principally engaged in manufacturing, 125 in sales and administration, and 93 in research and development. Of these employees, 39 are located in the U.S., and 1,081 in China. As of December 31, 2007, we had 1,057 employees, of whom 857 were principally engaged in manufacturing, 116 in sales and administration, and 84 in research and development. Of these employees, 38 were located in the U.S., and 1,019 in China.

Some of our employees in China are represented by a union, but we have never experienced a work stoppage. We consider our relations with our employees to be good.

### **Available Information**

Our principal executive offices are located at 4281 Technology Drive, Fremont, CA 94538, and our main telephone number at this address is (510) 683-5900. The public may read and copy any material we file with the Securities and Exchange Commission, or SEC, at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington D.C., 20549. The public may obtain information on the operations of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC.

Our web site is [www.axt.com](http://www.axt.com). We make available, free of charge, on or through our web site, our annual, quarterly and current reports, and any amendments to those reports as soon as reasonably practicable after those reports are filed with the SEC. The information on our web site does not constitute a part of this Annual Report on Form 10-K and is not incorporated herein.

**Item 1A. Risk Factors**

For ease of reference, we have divided these risks and uncertainties into the following general categories:

- Risks related to our general business;
- Risks related to international aspects of our business;
- Risks related to our financial results and capital structure;
- Risks related to our intellectual property; and
- Risks related to compliance and other legal matters.

**Risks Related to Our General Business**

*The operation of our business could be adversely affected by the departure of our Chief Executive Officer and the search for a permanent Chief Executive Officer.*

Our Chief Executive Officer has recently resigned as an officer and director of AXT, and we have not yet appointed anyone to act as an interim chief executive officer. Although we have commenced our search for a permanent Chief Executive Officer, it will take time to identify and hire a Chief Executive Officer. Mr. Jesse Chen, a member of the Board of Directors since 1998 and our Lead Independent Director, has been appointed Chairman of the Board as a result of Dr. Yin's resignation. Although our board of directors has agreed to provide additional support to our management during this transition, they are available to assist on a periodic basis only. While we do not believe that our business has been adversely affected by the departure of our Chief Executive Officer, it is important to our success that we appoint a permanent Chief Executive Officer. Our failure to manage this transition, or to find and retain an experienced Chief Executive Officer, could adversely affect the management of our business, our ability to compete effectively and our operating results.

*Our common stock may be delisted from The Nasdaq Global Market, which could negatively impact the price of our common stock and our ability to access the capital markets.*

Our common stock is listed on The Nasdaq Global Market. The bid price of our common stock has recently closed below the \$1.00 minimum per share bid price required for continued inclusion on The Nasdaq Global Market under Marketplace Rule 4450(a)(5). Although Nasdaq has suspended the requirement to comply with the minimum bid price through July 6, 2009, if Nasdaq reinstates the rule, and if following any such reinstatement, the bid price of our common stock remains below \$1.00 per share for thirty consecutive business days, we could be subject to delisting from the Nasdaq Global Market.

Any delisting from The Nasdaq Global Market could have an adverse effect on our business and on the trading of our common stock. If a delisting of our common stock were to occur, our common stock would trade on the OTC Bulletin Board or on the "pink sheets" maintained by the National Quotation Bureau, Inc. Such alternatives are generally considered to be less efficient markets, and our stock price, as well as the liquidity of our common stock, may be adversely impacted as a result. Delisting from The Nasdaq Global Market could also have other negative results, including the potential loss of confidence by suppliers and employees, the loss of institutional investor interest and fewer business development opportunities, as well as the loss of liquidity for our stockholders.

***Current global economic conditions may have an impact on our business and financial condition in ways that we currently cannot predict.***

Our operations and financial results depend on worldwide economic conditions and their impact on levels of business spending, which have deteriorated significantly in many countries and regions and may remain depressed for the foreseeable future. Uncertainties in the financial and credit markets have caused our customers to postpone deliveries of ordered systems and placement of new orders. Continued uncertainties may reduce future sales of our products and services. The revenue growth and profitability of our business depends on the overall demand for our substrates, and we are particularly dependent on the market conditions for the wireless, solid-state illumination, fiber optics and telecommunications industries. Because our sales are primarily to major corporate customers whose businesses fluctuate with general economic and business conditions, a softening of demand for products that use our substrates, caused by a weakening economy, may result in decreased revenue. Customers may find themselves facing excess inventory from earlier purchases, and may defer or reconsider purchasing products due to the downturn in their business and in the general economy. If the current market conditions continue to deteriorate, we may experience increased collection times and greater write-offs, either of which could have a material adverse effect on our cash flow.

In addition, the recent tightening of credit markets and concerns regarding the availability of credit may make it more difficult for our customers to raise capital, whether debt or equity, to finance their purchases of capital equipment, including the products we sell. Delays in our customers' ability to obtain such financing, or the unavailability of such financing, would adversely affect our product sales and revenues and therefore harm our business and operating results. We cannot predict the timing, duration of or effect on our business of the economic slowdown or the timing or strength of a subsequent recovery.

***Ongoing financial market volatility and adverse changes in the domestic and global economic environment could have a significant adverse impact on our business, financial condition and operating results.***

Our business and operating results have been significantly impacted by general economic conditions, and we expect to continue to experience significant adverse effects from the continued decline in worldwide markets and the overall economic difficulties. In recent months, the U.S. and global economy has experienced a significant downturn due to the effects of the credit market crisis, slower economic activity and a generally negative economic outlook, a decrease in consumer and business confidence and liquidity concerns. Global market and economic conditions continue to be disruptive and volatile. The possible duration and severity of this adverse economic cycle is unknown. Although the Company remains well-capitalized and has not suffered any liquidity issues as a result of these recent events, the cost and availability of funds may be adversely affected by illiquid credit markets. Continued turbulence in U.S. and international markets and economies may adversely affect the Company's liquidity, financial condition and profitability. A severe or prolonged economic downturn could result in a variety of risks to our business, including:

- increased volatility in our stock price;
- increased volatility in foreign currency exchange rates;
- delays in, or curtailment of, purchasing decisions by our customers or potential customers either as a result of overall economic uncertainty or as a result of their inability to access the liquidity necessary to engage in purchasing initiatives;
- increased credit risk associated with our customers or potential customers, particularly those that may operate in industries most affected by the economic downturn, such as financial services; and
- impairment of our intangible or other assets.

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We have experienced and expect to continue to experience delays in customer purchasing decisions or disruptions in normal volume of customer orders that we believe are in part due to the uncertainties in the global economy and an adverse impact on consumer spending. To the extent that the current economic downturn worsens or persists, or any of the above risks occur, our business and operating results could be significantly and adversely affected.

### ***The average selling prices of our products may decline over relatively short periods, which may reduce our gross margins.***

The market for our products is characterized by declining average selling prices resulting from factors such as increased competition, overcapacity, the introduction of new products and decreased sales of products incorporating our products and average selling prices for our products may decline over relatively short time periods. We have in the past experienced, and in the future may experience, substantial period-to-period fluctuations in operating results due to declining average selling prices. On average, we have experienced average selling price declines over the course of the last twelve months of anywhere from approximately 5 to 20% per year depending on the product. It is also possible for the pace of average selling price declines to accelerate beyond these levels for certain products in a commoditizing market. We anticipate that average selling prices will decrease in the future in response to the current difficult economic environment, product introductions by competitors or us, or by other factors, including pricing pressures from significant customers. When our average selling prices decline, our gross profits decline unless we are able to sell more products or reduce the cost to manufacture our products. We generally attempt to combat average selling price declines by improving yields, manufacturing efficiency and working to reduce the costs of our raw materials and of manufacturing our products. We have in the past and may in the future experience declining sales prices, which could negatively impact our revenues, gross profits and financial results. We therefore need to sell our current products in increasing volumes to offset any decline in their average selling prices, and introduce new products, which we may not be able to do, or do on a timely basis.

We may be unable to reduce the cost of our products sufficiently to enable us to compete with others. Our cost reduction efforts may not allow us to keep pace with competitive pricing pressures and could adversely affect our margins. In order to remain competitive, we must continually reduce the cost of manufacturing our products through design and engineering changes. We may not be successful in delivering our products to market in a timely manner. We cannot assure you that any changes effected by us will result in sufficient cost reductions to allow us to reduce the price of our products to remain competitive or improve our gross margins.

### ***Shifts in our product mix may result in declines in gross margins.***

Our gross profit margins vary among our product families, and are generally higher on our larger diameter wafers. In addition, historically our gross margins have been higher on our raw materials sales. Accordingly, our overall gross margins have fluctuated from period to period as a result of shifts in product mix, the introduction of new products, decreases in average selling prices for products and our ability to reduce product costs, and these fluctuations are expected to continue in the future.

We do not control the prices at which our joint venture companies sell their raw materials products to other third parties. However, as we consolidate the results of three of these companies with our own, any reduction in their gross margins could have a significant, adverse impact on our overall gross margins. One or more of our joint venture companies has in the past and may in the future sell raw materials at significantly reduced prices in order to gain volume sales, or sales to new customers. In such an event, our gross margin may be adversely impacted. In addition, one of our joint venture companies has in the past been subject to capacity constraints requiring it to source product from other third party suppliers in order to meet customer demand, resulting in decreased gross margin and adversely impacting our gross margin. This joint venture may in the future continue to experience such

capacity restraints, causing our gross margin, and consequently our operating results, to be adversely impacted.

***The cyclical nature of the semiconductor industry may limit our ability to maintain or increase net sales and operating results during industry downturns.***

The semiconductor industry is highly cyclical and periodically experiences significant economic downturns characterized by diminished product demand, resulting in production overcapacity and excess inventory in the markets we serve. A downturn can result in lower unit volumes and rapid erosion of average selling prices. The semiconductor industry has experienced significant downturns, often in connection with, or in anticipation of, maturing product cycles of both semiconductor companies' and their customers' products or a decline in general economic conditions. We have experienced these conditions in our business in the past and may experience renewed, and possibly more severe and prolonged, downturns in the future as a result of such cyclical changes. This may reduce our results of operations and the value of our business.

Our continuing business depends in significant part upon manufacturers of electronic and opto-electronic compound semiconductor devices, as well as the current and anticipated market demand for these devices and products using these devices. As a supplier to the compound semiconductor industry, we are subject to the business cycles that characterize the industry. The timing, length and volatility of these cycles are difficult to predict. The compound semiconductor industry has historically been cyclical because of sudden changes in demand, the amount of manufacturing capacity and changes in the technology employed in compound semiconductors. The rate of changes in demand, including end demand, is high, and the effect of these changes upon us occurs quickly, exacerbating the volatility of these cycles. These changes have affected the timing and amounts of customers' purchases and investments in new technology. These industry cycles create pressure on our revenue, gross margin and net income (loss).

The industry has in the past experienced periods of oversupply that result in significantly reduced demand and prices for compound semiconductor devices and components, including our products, both as a result of general economic changes and overcapacity. When these periods occur and our operating results and financial condition are adversely affected, oversupply creates pressure on our revenue, gross margins and net income (loss). Inventory buildups in telecommunications products and slower than expected sales of computer equipment resulted in overcapacity and led to reduced sales by our customers, and therefore reduced purchases of our products. During periods of weak demand such as those experienced historically, customers typically reduce purchases, delay delivery of products and/or cancel orders of component parts such as our products. Increased price competition has resulted, causing pressure on our net sales, gross margin and net income (loss). We experienced cancellations, price reductions, delays and push-outs of orders, which have resulted in reduced revenue. If the economic downturn occurred again, further order cancellations, reductions in order size or delays in orders could occur and would materially adversely affect our business and results of operations. Actions to reduce our costs, such as those we have recently taken, may be insufficient to align our structure with prevailing business conditions. We may be required to undertake additional cost-cutting measures, and may be unable to invest in marketing, research and development and engineering at the levels we believe are necessary to maintain our competitive position. Our failure to make these investments could seriously harm our business.

We base our planned operating expenses in part on our expectations of future revenue, and a significant portion of our expenses is relatively fixed in the short term. If revenue for a particular quarter is lower than we expect, we likely will be unable to proportionately reduce our operating expenses for that quarter, which would harm our operating results for that quarter.

***We depend on high utilization of our manufacturing capacity.***

An important factor in our success is the extent to which we are able to utilize the available capacity in our Beijing facility. As many of our costs are fixed, a reduction in capacity utilization, as well as changes in other factors such as reduced yield or unfavorable product mix, could reduce our profit margins and adversely affect our operating results. A number of factors and circumstances may reduce utilization rates, including periods of industry overcapacity, low levels of customer orders, operating inefficiencies, mechanical failures and disruption of operations due to expansion, power interruptions, fire, flood or other natural disasters or calamities.

***The Chinese Government has previously imposed manufacturing restrictions that, if imposed again in the future on our facilities, could materially and adversely impact our results of operations and our financial condition.***

The Chinese government has in the past imposed restrictions on manufacturing facilities, such as the restrictions imposed on polluting factories for the 2008 Olympics and Paralympics, including a shut down of material transportation and power plants to clean the air. If, in the future, restrictions are imposed on our operations, our ability to meet customer demand or supply current or new orders would be significantly impacted. Customers could then be required to purchase product from our competitors, causing our competitors to take market share from us, and could result in our customers supplying future needs from our competitors. Restrictions on material transport could limit our ability to transport our product, and could result in bottlenecks at shipping ports, limiting our ability to deliver products to our customers. During periods of such restrictions, we may increase our stock of critical materials (such as arsenic, gallium, and other chemicals) for use during the period that these restrictions are likely to last, which will increase our use of cash and increase in inventory level, such as occurred during 2008. Any of these restrictions could materially and adversely impact our results of operations and our financial condition.

***Defects in our products could diminish demand for our products.***

Our products are complex and may contain defects. We have experienced quality control problems with many of our products, which caused customers to return products to us, reduce orders for our products, or both. Although our quality has improved, resulting in some increases in product sales, we believe that we continue to experience some reduction in orders as a result of our prior product quality problems. If we continue to experience quality control problems, or experience these or other problems in new products, customers may cancel or reduce orders or purchase products from our competitors, we may be unable to maintain or increase sales to our customers and sales of our products could decline. 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.

If new products developed by us 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.

***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 top five customers represented 46% of revenue for the year ended December 31, 2008, 40% of revenue for the year ended December 31, 2007, and 42% of revenue for the year ended December 31, 2006. We expect that a significant portion of our future revenue will continue to be derived from a limited number of substrate customers. Most of 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. In the past, we have experienced slower bookings, significant push-outs and cancellation of orders from customers. 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. Any delay in scheduled shipments of our products could cause revenue to fall below our expectations and the expectations of market analysts or investors, causing our stock price to decline.

***Our results of operations may suffer if we do not effectively manage our inventory.***

We must manage our inventory of component parts, work-in-process and finished goods effectively to meet changing customer requirements, while keeping inventory costs down and improving gross margins. Some of our products and supplies have in the past and may in the future become obsolete while in inventory due to changing customer specifications, or become excess inventory due to decreased demand for our products and an inability to sell the inventory within a foreseeable period. Furthermore, if current costs of production increase or sales prices drop below the standard prices at which we value inventory, we may need to take a charge for a reduction in inventory values. We have in the past had to take inventory valuation and impairment charges. Any future unexpected changes in demand or increases in costs of production that cause us to take additional charges for un-saleable, obsolete or excess inventory, or to reduce inventory values, could adversely affect our results of operations.

***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 we 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.

If our yields decrease, our revenue could decline if we are unable to produce needed product on time. At the same time, our manufacturing costs could remain fixed, or could increase. 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 particular, many of our manufacturing processes are new and are still being refined, which can result in lower yields.

If our manufacturing processes result in defects in our products making them unfit for use by our customers, our products would be rejected, resulting in compensation costs paid to our customers, and possible disqualification. This could lead to revenue loss and market share loss.

***If we do not successfully develop new products to respond to rapidly changing customer requirements, our ability to generate revenue, obtain new customers, and retain existing customers may suffer.***

Our success depends on our ability to offer new products and product features 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 or performance characteristics, our existing products could become obsolete and unmarketable. During the past three years, we have seen our competitors selling more substrates manufactured using a crystal growth technology similar to ours, which has eroded our technological differentiation. Other companies, including TriQuint Semiconductors, are actively developing substrate materials that could be used to manufacture devices that could provide the same high-performance, low-power capabilities as GaAs- and InP-based devices at competitive prices. If these substrate materials or VGF-derived products 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. If we fail to offer new products or product enhancements or fail to achieve higher quality products, we may not generate sufficient revenue to offset our development costs and other expenses or meet our customers' requirements.

***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 Compound Materials, Hitachi Cable and Sumitomo Electric, from semiconductor device manufacturers that produce substrates for their own use, and from companies, such as TriQuint Semiconductors, that are actively developing alternative materials to GaAs and marketing semiconductor devices using these alternative materials. We believe that at least two of our major competitors are shipping high volumes of 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 be unable to become profitable. We face many competitors that have a number of significant advantages over us, including:

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

Our competitors could develop new or enhanced products that are more effective than our products are.

The level and intensity of competition has increased over the past year and we expect competition to continue to increase in the future. Competitive pressures caused by the current economic conditions have resulted in reductions in the prices of our products, and continued or increased competition could reduce our market share, require us to further reduce the prices of our products, affect our ability to recover costs and result in reduced gross margins.

In addition, new competitors have and may continue to emerge, such as a small crystal growing company established by a former employee of ours in China that is supplying ingots to the market. While new competitors such as this company currently do not appear to be fully competitive,

competition from sources such as this could increase, particularly if these competitors are able to obtain large capital investments.

***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 introduce and market their products successfully, 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 end-user applications for which our products are used decreases, or our customers are unable to develop, market and sell their products, demand for our products will decrease.

***The financial condition of our customers may affect their ability to pay amounts owed to us.***

Many of our customers are facing business downturns that have reduced their cash balances and their prospects. We frequently allow our customers extended payment terms after shipping products to them. Subsequent to our shipping a product, some customers have been unable to make payments when due, reducing our cash balances and causing us to incur charges to allow for a possibility that some accounts might not be paid. Customers may also be forced to file for bankruptcy. If our customers do not pay their accounts when due, we will be required to incur charges that would reduce our earnings.

***We purchase critical raw materials and parts for our equipment 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 quartz tubing, polishing solutions and paralytic boron nitride. Although several of these raw materials are purchased from suppliers in which we hold an ownership interest, we generally purchase these materials through standard purchase orders and not pursuant to long-term supply contracts and no supplier guarantees supply of raw materials or equipment 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. Prior to investing in our raw material joint ventures, we sometimes experienced delays obtaining critical raw materials and spare parts, including gallium, due to shortages of these materials and could experience such delays again in the future 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.

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***We have made and may continue to make strategic investments in raw materials suppliers, which may not be successful and may result in the loss of all or part of our investment.***

We have made investments through our five joint ventures in raw material suppliers in China, which provide us with opportunities to gain supplies of key raw materials that are important to our substrate business. These affiliates each have a market beyond that provided by us. We do not have influence over all of these companies, each of which is located in China, and in some we have made only a strategic, minority investment. We may not be successful in achieving the financial, technological or commercial advantage upon which any given investment is premised, and we could end up losing all or part of our investment.

***Our substrate products have a long qualification cycle that makes it difficult to plan our expenses and forecast our results.***

Customers typically place orders with us for our substrate 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. In the current competitive and economic climate, the average sales cycle for our products has lengthened even further and is expected to continue to make it difficult to forecast our future sales accurately. We anticipate that sales of any future substrate products will also have lengthy sales cycles and will, therefore, be subject to risks substantially similar to those inherent in the lengthy sales cycles of our current substrate products.

***Problems incurred by our joint ventures or venture partners could result in a material adverse impact on our financial condition or results of operations.***

We have invested in five joint venture operations in China that produce products including 99.99% pure gallium (4N Ga), high purity gallium, arsenic, germanium, germanium dioxide, paralytic boron nitride (pBN) crucibles and boron oxide. We purchase a portion of the materials produced by these ventures for our use and sell the remainder of their production to third parties. Our ownership interest in these entities ranges from 25% to 83%. We consolidate the three ventures in which we own a majority or controlling financial interest and employ equity accounting for the two joint ventures in which we have a 25% interest. Several of these ventures occupy space within larger facilities owned and/or operated by one of the other venture partners. Several of these venture partners are engaged in other manufacturing activities at or near the same facility. In some facilities, we share access to certain functions, including water, hazardous waste treatment or air quality treatment. If any of our joint venture partners in any of these five ventures experiences problems with its operations, disruptions of our joint venture operations could result, having a material adverse effect on the financial condition and results of operation of our joint ventures, and correspondingly on our financial condition or results of operations. For example, during 2008, our gallium joint venture in China, which is housed in and receives services from an affiliated aluminum plant, ceased production for five weeks during the fourth quarter of 2008 as a result of supply shortage from the aluminum plant which had reduced production and halted operations due to dropping aluminum prices in the second half of 2008. Accordingly, in order to meet customer supply obligations, our joint venture had to source finished products from another independent third party supplier, resulting in low gross margin for the quarter. Our joint venture may in the future continue to experience shortages in supply from the aluminum plant, requiring it to again source finished products from a third party, adversely impacting our gross margins.

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In addition, if any of our joint ventures or venture partners with which our joint ventures share facilities is deemed to have violated applicable laws, rules or regulations governing the use, storage, discharge or disposal of hazardous chemicals during manufacturing, research and development, or sales demonstrations, the operations of our joint ventures could be adversely affected and we could be subject to substantial liability for clean-up efforts, personal injury and fines or suspension or cessation of our joint venture operations as a result of the actions of the joint ventures or other venture partners. Employees working for our joint ventures or any of the other venture partners could bring litigation against us as a result of actions taken at the joint venture or venture partner facilities, even though we are not directly controlling the operations, including actions for exposure to chemicals or other hazardous materials at the facilities of our joint ventures or the facilities of any venture partner that are shared by our joint ventures. If litigation is brought against us, litigation is inherently uncertain and, while we would expect to defend ourselves vigorously, it is possible that our business, financial condition, results of operations or cash flows could be affected in any particular period by any litigation if brought against us, particularly if litigation with us, as a non-Chinese company, is deemed advantageous. Even if we are not deemed responsible for the actions of the joint ventures or venture partners, litigation could be costly, time consuming to defend and divert management attention; in addition, pursuit of us could occur if we are deemed to be the most financially viable of the partners.

Going forward, we believe that investing in additional joint ventures will be important to remaining competitive in our marketplace and ensuring a supply of critical raw materials. However, we may not be able to identify complementary joint venture opportunities or, even once opportunities are identified, we may not be able to reach agreement on the terms of the venture with the other venture partners. Additional joint ventures could cause us to incur contingent liabilities or other expenses, any of which could adversely affect our financial condition and operating results.

Since all of our joint venture activity is expected to occur in China, these activities could subject us to a number of risks associated with conducting operations internationally, including:

- difficulties in managing geographically disparate operations;
- difficulties in enforcing agreements through non-U.S. legal systems;
- unexpected changes in regulatory requirements that may limit our ability to export the venture products or sell into particular jurisdictions or impose multiple conflicting tax laws and regulations;
- political and economic instability, civil unrest or war;
- terrorist activities that impact international commerce;
- difficulties in protecting our intellectual property rights, particularly in countries where the laws and practices do not protect proprietary rights to as great an extent as do the laws and practices of the United States;
- changing laws and policies affecting economic liberalization, foreign investment, currency convertibility or exchange rates, taxation or employment; and
- nationalization of foreign-owned assets, including intellectual property.

### ***The effect of terrorist threats and actions on the general economy could decrease our revenue.***

The United States continues to be on alert for terrorist activity. The potential near- and long-term impact terrorist activities may have in regards to our suppliers, customers and markets for our products and the U.S. economy is uncertain. There may be embargos of ports or products, or destruction of shipments or our facilities, or attacks that affect our personnel. There may be other potentially adverse effects on our operating results due to a significant event that we cannot foresee. Since we perform all

of our manufacturing operations in China, and a significant portion of our customers are located outside of the United States, terrorist activity or threats against U.S.-owned enterprise are a particular concern to us.

***If any of our facilities is damaged by occurrences such as fire, explosion, or natural disaster, we might not be able to manufacture our products.***

The ongoing operation of our manufacturing and production facilities in 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 would not be able to manufacture products for our customers. For example, a fire or explosion caused by our use of combustible chemicals and high temperatures during our manufacturing processes could render some or all of our facilities inoperable for an indefinite period of time. Actions outside of our control, such as earthquakes or other natural disasters, could also damage our facilities, rendering them inoperable. If we are unable to operate our facilities and manufacture our products, we would lose customers and revenue and our business would be harmed.

### **Risks Related to International Aspects of Our Business**

***Changes in tariffs, import restrictions, export restrictions or other trade barriers may reduce gross margins.***

We may incur increases in costs due to changes in tariffs, import or export restrictions, or other trade barriers, or unexpected changes in regulatory requirements, any of which could reduce our gross margins. For example, in 2006, tax authorities in the PRC changed the treatment of refunds of value-added taxes that companies pay when they purchase certain raw materials, including gallium and arsenic. The cumulative effect is that our PRC joint venture companies no longer receive a refund of value-added tax for exports of gallium or arsenic, including certain shipments to our wholly-owned PRC subsidiary that are treated as exports under PRC tax regulations. Given the relatively fluid regulatory environment in the PRC, there could be additional tax or other regulatory changes in the future. Any such changes could directly and materially adversely impact our financial results and general business condition.

***Our operating results depend in large part on continued customer acceptance of our substrate products manufactured in China and continued improvements in product quality.***

We manufacture all of our products in China, and source most of our raw materials in China. Accordingly, we continue to seek customer qualification of our China-manufactured products. In addition, we have in the past experienced quality problems with our China-manufactured products. Our previous quality problems caused us to lose market share to our competitors, as some customers reduced their orders from us until our surface quality was as good and consistent as that offered by competitors and customers allocated their requirements for compound semiconductor substrates across more competitors. We have continued to experience some issues relating to haze reduction. If we are unable to continue to achieve customer qualifications for our products, or if continue to experience quality problems, customers may not increase purchases of our products, our China facility will become underutilized, and we will be unable to achieve expected revenue growth. We may again lose sales of our products to competitors and experience loss of market share. If we are unable to recover and retain our market share, we may be unable to grow our business.

***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 74%, 80% and 71% of our total revenue for the years ended

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December 31, 2008, 2007 and 2006, respectively. We expect that sales to customers outside the U.S., particularly sales to customers in Asia, will continue to represent a significant portion of our revenue.

Currently, an increasing percentage of our sales is to customers headquartered in Asia. All of our manufacturing facilities and some of our suppliers are also located outside the U.S. Managing our overseas operations presents challenges, including periodic regional economic downturns, trade balance issues, varying business conditions and demands, political instability, variations in enforcement of intellectual property and contract rights in different jurisdictions, differences in the ability to develop relationships with suppliers and other local businesses, changes in U.S. and international laws and regulations including U.S. export restrictions, fluctuations in interest and currency exchange rates, the ability to provide sufficient levels of technical support in different locations, cultural differences, shipping delays and terrorist acts or acts of war, among other risks. Many of these challenges are present in China, which represents a large potential market for semiconductor devices and where we anticipate significant opportunity for growth. Global uncertainties with respect to: (i) economic growth rates in various countries; (ii) sustainability of demand for electronics products; (iii) capital spending by semiconductor manufacturers; (iv) price weakness for certain semiconductor devices; and (v) political instability in regions where we have operations may also affect our business, financial condition and results of operations.

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

- changes in tariffs, import restrictions, export restrictions, or 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 currency of our Chinese subsidiary and joint ventures is the local currency. We incur transaction gains or losses resulting from consolidation of expenses incurred in local currencies for these entities, as well as in translation of the assets and liabilities of their assets at each balance sheet date. If we do not effectively manage the risks associated with international sales, our revenue, cash flows and financial condition could be adversely affected.

***If there are power shortages in the PRC, we may have to temporarily close our China operations, which would adversely impact our ability to manufacture our products and meet customer orders, and would result in reduced revenue.***

In the past, the Chinese government has faced a power shortage resulting in power demand outstripping supply in peak periods. Instability in electrical supply in past years has caused sporadic outages among residential and commercial consumers causing the Chinese government to implement tough measures to ease the energy shortage, and as a result, we closed most of our operations for a week in late July 2004 in conformance with this policy.

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In 2006 we were able to switch the electrical supply for our manufacturing facility onto the same power grid as that used by vital PRC government services such as hospitals and police. However, if even despite this switch, further problems with power shortages are incurred in the future, and we are required to make temporary closures of our subsidiary and joint venture operations, we may be unable to manufacture our products, and would then be unable to meet customer orders except from inventory on hand. As a result, our revenue could be adversely impacted, and our relationships with our customers could suffer, impacting our ability to generate future revenue. In addition, if power is shut off at our Beijing subsidiary at any time, either voluntarily or as a result of unplanned brownouts, during certain phases of our manufacturing process including our crystal growth phase, the work in process may be ruined and rendered unusable, causing us to incur expense that will not be covered by revenue, and negatively impacting our cost of revenue and gross margins.

### ***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 or reduction or elimination of Chinese tax benefits 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.

### ***An outbreak of contagious disease such as Severe Acute Respiratory Syndrome (SARS) or the Avian Flu may adversely impact our manufacturing operations and some of our key suppliers and customers.***

Any reoccurrence of SARS or an outbreak of a contagious disease, such as Avian Flu may cause us to temporarily close our manufacturing operations. Similarly, if one of our key suppliers is required to close for an extended period, we might not have enough raw material inventory to continue manufacturing operations. In addition, while we possess management skills among our China staff that enable us to maintain our manufacturing operations with minimal on-site supervision from our U.S.-based staff, our business could also be harmed if travel to or from Asia and the United States is restricted or inadvisable. None of our substrate competitors is as dependent on manufacturing facilities in China as we are. If our manufacturing operations were closed for a significant period, we could lose revenue and market share during that period, which would depress our financial performance and could be difficult to recapture. Finally, if one of our key customers is required to close for an extended period, we might not be able to ship product to them, our revenue would decline and our financial performance would suffer.

### **Risks Related to Our Financial Results and Capital Structure**

#### ***If we fail to manage periodic contractions, we may utilize our cash balances, resulting in the decline of our existing cash, cash equivalents and investment balances.***

We anticipate that our existing cash resources will fund our operations and purchases of capital equipment, as well as provide adequate working capital for the next twelve months. However, our liquidity is affected by many factors including, among others, the extent to which we pursue additional capital expenditures, the level of our production, and other factors related to the uncertainties of the industry and global economies. If we fail to manage our contractions successfully we may draw down our cash reserves, which would adversely affect our operating results and financial condition, reduce

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our value and possibly impinge our ability to raise debt and equity funding in the future, at a time when we might be required to raise additional cash. Accordingly, there can be no assurance that events in the future will not require us to seek additional capital or, if required, that such capital would be available on terms acceptable to us, if at all. As part of our effort to reduce costs, we may lose key staff, production resources and technology that we will need to grow when end markets recover. These events could reduce our ability to grow profitably as markets recover.

***Unpredictable fluctuations in our operating results could disappoint analysts or our investors, which could cause our stock price to decline.***

We have experienced and may continue to experience significant fluctuations in our revenue and earnings. 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:

- our ability to develop, manufacture and deliver high quality products in a timely and cost-effective manner;
- decline in general economic conditions or downturns in the industry in which we compete;
- 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;
- the volume and timing of orders from our customers, and cancellations, push-outs and delays of customer orders once made;
- fluctuation of our manufacturing yields;
- decreases in the prices of our or our competitors' products;
- costs incurred in connection with any future acquisitions of businesses or technologies; and
- increases in our expenses, including expenses for research and development.

Due to these factors, we believe that period-to-period comparisons of our operating results may not be meaningful indicators of our future performance.

A substantial percentage of our operating expenses are fixed in the short term, and we may be unable to adjust spending to compensate for an unexpected shortfall in revenue. As a result, any delay in generating revenue could cause our operating results to be below the expectations of market analysts or investors, which could also cause our stock price to fall.

***We have adopted certain anti-takeover measures that may make it more difficult for a third party to acquire us.***

Our board of directors has the authority to issue up to 2,000,000 shares of preferred stock and to determine the price, rights, preferences and privileges of those shares without any further vote or action by the stockholders. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of the holders of any preferred stock that may be issued in the future. The issuance of shares of preferred stock could have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock. We have no present intention to issue additional shares of preferred stock.

We have adopted a preferred stock purchase rights plan intended to guard against certain takeover tactics. The adoption of this plan was not in response to any proposal to acquire us, and the board is

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not aware of any such effort. The existence of this plan could also have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock.

In addition, provisions in our amended and restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a merger, acquisition or change of control, or changes in our management, which could adversely affect the market price of our common stock. The following are some examples of these provisions:

- 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 amended and restated bylaws; 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<sup>2</sup>/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.

### **Risks Related to Our Intellectual Property**

#### ***Intellectual property infringement claims 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 that 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. For example, we have in the past been involved in two separate lawsuits alleging patent infringement, and could in the future be involved in similar litigation.

#### ***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, third parties can 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 two of our competitors have 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 technology upon which we rely, and thus may limit any exclusivity we enjoy by virtue of our patents or trade secrets.

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.

For example, we are currently in negotiations to renew a cross-license entered into with Sumitomo Electric Industries, Ltd. in Japan in connection with the settlement of prior litigation. There can be no assurance that the cross-license expiring on December 31, 2008 will be renewed, or on terms acceptable to us.

### **Risks Related to Compliance and Other Legal Matters**

#### ***We need to continue to improve or implement our systems, procedures and controls.***

The shift of our manufacturing operations to China and growth of our business has placed and continues to place a significant strain on our operations and management resources. We have upgraded our inventory control systems, but continue to rely on certain manual processes in our operations and in connection with consolidation of our financial results. If we fail to manage these changes effectively, our operations may be disrupted.

To manage our business effectively, we may need to 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 are subject to internal control evaluations and attestation requirements of Section 404 of the Sarbanes-Oxley Act.***

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, we must include in our Annual Report on Form 10-K a report of management on the effectiveness of our internal control over financial reporting. Ongoing compliance with this requirement is complex, costly and time-consuming. If: (1) we fail to maintain effective internal control over financial reporting; (2) our management does not timely assess the adequacy of such internal control; or (3) our independent registered public accounting firm does not timely deliver an unqualified opinion as to the effectiveness of our internal controls, we could be subject to regulatory sanctions and the public's perception of us may decline.

#### ***If we fail to comply with environmental and safety regulations, we may be subject to significant fines or forced to cease our operations; in addition, we could be subject to suits for personal injuries caused by hazardous materials.***

We are subject to federal, state and local environmental and safety laws and regulations in all of our operating locations, including laws and regulations of China, such as laws and regulations related to the development, manufacture and use of our products, the operation of our facilities, and the use of our real property. These laws 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 be forced to cease our operations, and/or suspend or

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terminate the development, manufacture or use of certain of our products, the use of our facilities, or the use of our real property, each of which could have a material adverse effect on our business, financial condition and results of operations.

We have in the past been the subject of claims made by 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. We were also previously the target of press allegations and correspondence purportedly on behalf of current and/or former employees concerning our environmental compliance programs and exposure of our employees to hazardous materials. In addition, a complaint was previously filed against us and two current officers, alleging personal injury, general negligence, intentional tort, wage loss and other damages, including punitive damages, as a result of exposure of plaintiffs to high levels of gallium arsenide in gallium arsenide wafers, and methanol. Other current and/or former employees could bring litigation against us in the future. Although we have put in place engineering, administrative and personnel protective equipment programs to address these issues, 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 if we were found liable for failure to comply with environmental and safety regulations. Existing or future changes in laws or regulations in the United States and China may require us to incur significant expenditures or liabilities, or may restrict our operations. In addition, our employees could be exposed to chemicals or other hazardous materials at our facilities and we may be subject to lawsuits seeking damages for wrongful death or personal injuries allegedly caused by exposure to chemicals or hazardous materials at our facilities.

Litigation is inherently uncertain and while we would expect to defend ourselves vigorously, it is possible that our business, financial condition, results of operations or cash flows could be affected in any particular period by litigation pending and any additional litigation brought against us. In addition, future litigation could divert management's attention from our business and operations, causing our business and financial results to suffer. We could incur defense or settlement costs in excess of the insurance covering these litigation matters, or that could result in significant judgments against us or cause us to incur costly settlements, in excess of our insurance limits.

**Item 1B. *Unresolved Staff Comments***

None.

**Item 2. Properties**

Our principal properties as of February 28, 2009 are as follows:

<b>Location</b>	<b>Square Feet</b>	<b>Principal Use</b>	<b>Ownership</b>
Fremont, CA	27,760	Administration	Operating lease, expires November 2015
Beijing, China	31,000	Production and Administration	Owned
Beijing, China	31,000	Production	Owned
Beijing, China	32,000	Production	Owned
Beijing, China	16,000	Housing	Owned
Beijing, China	34,000	Production	Owned
Beijing, China	48,000	Production	Owned
Beijing, China	22,000	Production and Administration	Owned
Beijing, China	53,000	Production	Owned
Xianxi, China	56,500	Production	Owned by Beijing Ji Ya Semiconductor Material, Co., Ltd.*
Xianxi, China	7,500	Administration	Owned by Beijing Ji Ya Semiconductor Material, Co., Ltd.*
Beijing, China	2,000	Administration	Operating lease by Beijing Ji Ya Semiconductor Material, Co., Ltd., expires February 2011
Nanjing, China	22,000	Production	Owned by Nanjing Jin Mei Gallium Co., Ltd.*
Nanjing, China	5,700	R&D and Administration	Owned by Nanjing Jin Mei Gallium Co., Ltd.*
Nanjing, China	3,900	Production	Owned by Nanjing Jin Mei Gallium Co., Ltd.*
Beijing, China	7,600	Production and Administration	Owned by Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd.*

\* Joint ventures in which we hold an interest. We hold a 46% interest in Beijing Ji Ya Semiconductor Material Co., Ltd., a 83% interest in Nanjing Jin Mei Gallium Co., Ltd., and a 70% interest in Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd.

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**

From time to time we may be involved in judicial or administrative proceedings concerning matters arising in the ordinary course of business. We do not expect that any of these matters, individually or in the aggregate, will have a material adverse effect on our business, financial condition, cash flows or results of operation.

On October 15, 2004, a purported securities class action lawsuit was filed in the United States Court for the Northern District of California, City of Harper Woods Employees Retirement System v. AXT, Inc. et al., No. C 04 4362 MJJ. The Court consolidated the case with a subsequent related case and appointed a lead plaintiff. On April 5, 2005, the lead plaintiff filed a consolidated complaint, captioned as Morgan v. AXT, Inc. et al., No. C 04 4362 MJJ. The lawsuit named AXT, Inc. and our former chief technology officer as defendants, and was brought on behalf of a class of all purchasers of our securities from February 6, 2001 through April 27, 2004. The complaint alleged that we announced financial results during this period that were false and misleading. No specific amount of damages was claimed. On September 23, 2005, the Court granted our motion to dismiss the complaint, with leave to amend. The lead plaintiff filed an amended complaint, which we had moved to dismiss. On April 24, 2007, we reached a settlement of this litigation. On February 27, 2008, the district court approved the settlement, and subsequently entered a judgment of dismissal.

The claims of a former employee, Steve X. Chen, that his employment termination was due to his race and national origin were resolved without cost to us.

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

None.

## PART II

### Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our common stock has been trading publicly on the NASDAQ Global Market, (NASDAQ) under the symbol "AXTI" since May 20, 1998, the date we consummated our initial public offering. The following table sets forth the range of high and low sales prices of the common stock for the periods indicated, as reported by NASDAQ.

	<u>High</u>	<u>Low</u>
<b>2008</b>		
First Quarter	\$7.20	\$4.22
Second Quarter	\$5.11	\$4.11
Third Quarter	\$4.76	\$1.85
Fourth Quarter	\$2.09	\$0.86
<b>2007</b>		
First Quarter	\$5.45	\$4.16
Second Quarter	\$5.05	\$3.53
Third Quarter	\$6.20	\$4.18
Fourth Quarter	\$6.84	\$3.83

As of December 31, 2008, there were 88 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 beneficial owners of our common stock.

We have never paid or declared any cash dividends on our common stock and do not anticipate paying cash dividends in the foreseeable future. Dividends accrue on our outstanding Series A preferred stock at the rate of \$0.20 per annum per share of Series A preferred stock.

#### *Issuer Purchases of Equity Securities*

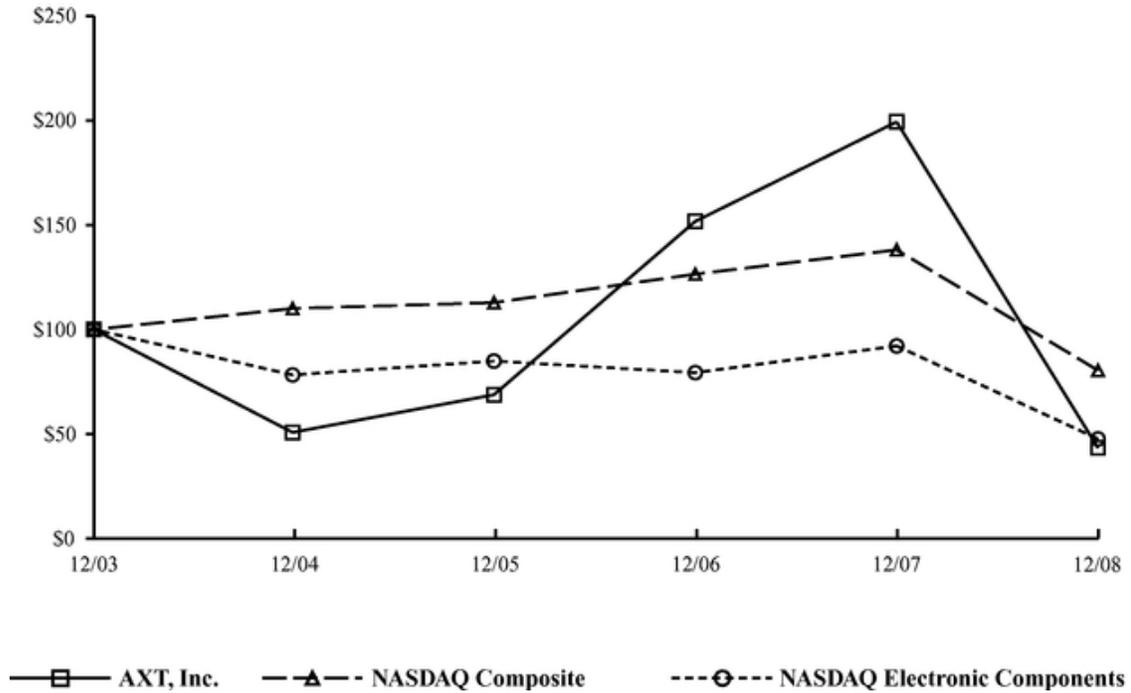
During the years ended December 31, 2008 and 2007, we did not repurchase any shares of our common stock.

**Comparison of Stockholder Return**

Set forth below is a line graph comparing the annual percentage change in the cumulative total return to the stockholders of the Company on our common stock with the CRSP Total Return Index for the Nasdaq Stock Market (U.S. Companies) and the Nasdaq Electronic Components Index for the period commencing December 31, 2003, and ending December 31, 2008.

**COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN\***

Among AXT, Inc., The NASDAQ Composite Index  
And The NASDAQ Electronic Components Index



\* \$100 invested on 12/31/03 in stock & index—including reinvestment of dividends.  
Fiscal year ending December 31.

	12/03	12/04	12/05	12/06	12/07	12/08
<b>AXT, Inc.</b>	<b>100.00</b>	<b>50.80</b>	<b>68.81</b>	<b>151.77</b>	<b>199.36</b>	<b>43.41</b>
<b>NASDAQ Composite</b>	<b>100.00</b>	<b>110.08</b>	<b>112.88</b>	<b>126.51</b>	<b>138.13</b>	<b>80.47</b>
<b>NASDAQ Electronic Components</b>	<b>100.00</b>	<b>78.30</b>	<b>84.93</b>	<b>79.38</b>	<b>92.16</b>	<b>47.68</b>

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**Item 6. Selected Consolidated Financial Data**

The following selected consolidated financial data is derived from and should be read in conjunction with our consolidated financial statements and related notes set forth in Item 8 below, and in our previously filed reports on Form 10-K. See also Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" for further information relating to items reflecting our results of operations and financial condition.

	Years Ended December 31,				
	2008	2007	2006	2005	2004
(in thousands, except per share data)					
<b>Statements of Operations Data:</b>					
Revenue	\$ 73,075	\$ 58,203	\$ 44,445	\$ 26,536	\$ 35,454
Cost of revenue	55,115	37,942	31,709	24,337	35,705
Gross profit (loss)	17,960	20,261	12,736	2,199	(251)
Operating expenses:					
Selling, general, and administrative	15,751	13,746	12,650	12,955	11,561
Research and development	2,164	1,699	2,351	1,723	1,479
Impairment (recovery of impairment) on assets held for sale	83	(481)	1,417	—	210
Restructuring charge (benefit)	—	—	(2)	836	1,308
Total operating expenses	17,998	14,964	16,416	15,514	14,558
Income (loss) from continuing operations	(38)	5,297	(3,680)	(13,315)	(14,809)
Interest income, net	513	704	443	516	262
Other income (expense), net	(141)	16	2,709	(910)	94
Income (loss) from continuing operations before provision (benefit) for income taxes	334	6,017	(528)	(13,709)	(14,453)
Provision (benefit) for income taxes	1,023	728	(1,454)	(950)	71
Income (loss) from continuing operations	(689)	5,289	926	(12,759)	(14,524)
Discontinued operations:					
Gain (loss) from discontinued operations, net of tax	—	—	18	(59)	472
Gain from disposal, net of tax	—	—	—	603	419
Gain from discontinued operations, net of taxes	—	—	18	544	891
Net income (loss)	\$ (689)	\$ 5,289	\$ 944	\$ (12,215)	\$ (13,633)
Basic income (loss) per share:					
Income (loss) from continuing operations	\$ (0.03)	\$ 0.17	\$ 0.03	\$ (0.56)	\$ (0.64)
Gain from discontinued operations, net of tax	—	—	—	0.02	0.04
Net income (loss)	\$ (0.03)	\$ 0.17	\$ 0.03	\$ (0.54)	\$ (0.60)
Diluted income (loss) per share:					
Income (loss) from continuing operations	\$ (0.03)	\$ 0.16	\$ 0.03	\$ (0.56)	\$ (0.64)
Gain from discontinued operations, net of tax	—	—	—	0.02	0.04
Net income (loss)	\$ (0.03)	\$ 0.16	\$ 0.03	\$ (0.54)	\$ (0.60)
Shares used in per share calculations:					
Basic	30,400	30,035	23,303	23,047	23,063
Diluted	30,400	31,348	24,600	23,047	23,063



	Years Ended December 31,				
	2008	2007	2006	2005	2004
	(in thousands)				
<b>Balance Sheet Data:</b>					
Cash and cash equivalents	\$ 13,566	\$ 18,380	\$16,116	\$17,472	\$12,117
Short-term investments	17,756	20,825	19,428	5,555	20,062
Working capital	66,836	75,350	66,359	36,347	46,141
Restricted deposits	3,013	6,700	7,150	7,450	8,215
Total assets	111,662	112,772	98,332	74,798	87,540
Long-term debt, net of current portion	496	6,250	6,839	7,420	7,880
Stockholders' equity	93,664	93,250	81,200	55,618	68,017

All periods have been restated to reflect the accounting for discontinued operations. As a result, the discontinued opto-electronics and consumer products divisions have been eliminated from continuing operations in the statements of operations.

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

In addition to historical information, the following discussion contains forward-looking statements that are subject to risks and uncertainties. Actual results may differ substantially from those referred to herein due to a number of factors, including but not limited to risks described in the section entitled Item 1A. "Risk Factors" and elsewhere in this Annual Report. This discussion should be read in conjunction with Item 6. "Selected Consolidated Financial Data" and our consolidated financial statements and related notes included elsewhere in this Form 10-K.

#### **Critical Accounting Policies and Estimates**

We prepare our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America. Accordingly, we make estimates, assumptions and judgments that affect the amounts reported on our consolidated financial statements. These estimates, assumptions and judgments about future events and their effects on our results cannot be determined with certainty, and are made based upon our historical experience and on other assumptions that are believed to be reasonable under the circumstances. These estimates may change as new events occur or additional information is obtained, and we may periodically be faced with uncertainties, the outcomes of which are not within our control and may not be known for a prolonged period of time.

We have identified the policies below as critical to our business operations and understanding of our financial condition and results of operations. A critical accounting policy is one that is both material to the presentation of our consolidated financial statements and requires us to make difficult, subjective or complex judgments that could have a material impact on our consolidated financial statements. Different estimates that we could have used, or changes in the estimates that are reasonably likely to occur, may have a material impact on our financial condition or results of operations. We also refer you to our "The Company and Summary of Significant Accounting Policies" discussed in the accompanying notes to our consolidated financial statements included elsewhere in this Form 10-K.

### ***Revenue Recognition***

We manufacture and sell high-performance compound semiconductor substrates and sell certain raw materials including gallium, germanium dioxide, and pBN crucibles. After we ship our products, there are no remaining obligations or customer acceptance requirements that would preclude revenue recognition. Our products are typically sold pursuant to a purchase order placed by our customers, and our terms and conditions of sale do not require customer acceptance. We recognize revenue upon shipment and transfer of title of products to our customers, which is either upon shipment from our dock, receipt at the customer's dock, or removal from consignment inventory at the customer's location, provided that we have received a signed purchase order, the price is fixed or determinable, title and risk of ownership have transferred, collection of resulting receivables is probable, and product returns are reasonably estimable. We do not provide training, installation or commissioning services. Additionally, we do not provide discounts or other incentives to customers.

We provide for future returns based on historical experience, current economic trends and changes in customer demand at the time revenue is recognized. In the first quarter of 2004, we recorded a reserve for sales returns of \$0.7 million related to our failure to follow certain testing requirements and provision of testing data and information to certain customers. This reserve was based on discussions with some of the affected customers and review of specific shipments. As of December 31, 2008, this reserve was zero since approximately \$0.5 million had been utilized and approximately \$0.2 million had been reversed to revenue in 2006 as we favorably resolved an outstanding matter with a customer.

### ***Allowance for Doubtful Accounts***

We periodically review the likelihood of collection on our accounts receivable balances and provide an allowance for doubtful accounts receivable primarily based upon the age of these accounts. We generally provide a 100% allowance for U.S. receivables in excess of 90 days and for foreign receivables in excess of 120 days. We assess the probability of collection based on a number of factors, including the length of time a receivable balance has been outstanding, our past history with the customer and their credit worthiness.

As of December 31, 2006, our allowance for doubtful accounts was \$0.1 million. During 2007, we increased this allowance by \$0.3 million primarily for slow-paying customers in Asia, resulting in the allowance for doubtful accounts of \$0.4 million as of December 31, 2007. As of December 31, 2007, our accounts receivable balance was \$12.1 million, which was net of an allowance for doubtful accounts of \$0.4 million. As of December 31, 2008, our accounts receivable balance was \$11.5 million, which was net of an allowance for doubtful accounts of \$0.6 million. The increase of \$0.2 million in allowance for doubtful accounts from prior year was mainly for one slow-paying customer in the United States in the amount of \$0.4 million, offset by subsequent collections from an Asian customer in the amount of \$0.2 million. No amounts have been written off. If actual uncollectible accounts differ substantially from our estimates, revisions to the estimated allowance for doubtful accounts would be required, which could have a material impact on our financial results for the period.

The allowance for sales returns is also deducted from gross accounts receivable. The total allowance deducted from gross accounts receivable as of December 31, 2008 and 2007 were \$133,000 and \$3,000, respectively.

### ***Warranty Reserve***

We maintain a warranty reserve based upon our claims experience during the prior twelve months. Warranty costs are accrued at the time revenue is recognized. As of December 31, 2008 and 2007, accrued product warranties totaled \$1.6 million and \$1.0 million, respectively. The increase in accrued product warranties is primarily attributable to increased claims for quality issues experienced by some

customers as well as an increase in revenues. If actual warranty costs differ substantially from our estimates, revisions to the estimated warranty liability would be required.

### ***Inventory Valuation***

Inventories are stated at the lower of cost or market. Cost is determined using the weighted average cost method. Our inventory consists of raw materials as well as finished goods and work-in-process that include material, labor and manufacturing overhead costs. Given the nature of our substrate products, and the materials used in the manufacturing process, the wafers and ingots comprising work-in-process may be held in inventory for up to two years and three years, respectively, as the risk of obsolescence for these materials is low. We routinely evaluate the levels of our inventory in light of current market conditions in order to identify excess and obsolete inventory and adjust the carrying value of certain inventories based upon the age and quality of the product and the projections for sale of the completed products. If actual demand for our products were to be substantially lower than estimated, additional inventory adjustments for excess or obsolete inventory might be required, which could have a material impact on our business, financial condition and results of operations.

### ***Impairment of Investments***

We classify our investments in debt and equity securities as available-for-sale securities as prescribed by Statement of Financial Accounting Standards (SFAS) No. 115, "*Accounting for Certain Investments in Debt and Equity Securities.*" All available-for-sale securities with a quoted market value below cost (or adjusted cost) are reviewed in order to determine whether the decline is other-than-temporary. Factors considered in determining whether a loss is temporary include the magnitude of the decline in market value, the length of time the market value has been below cost (or adjusted cost), credit quality, and our ability and intent to hold the securities for a period of time sufficient to allow for any anticipated recovery in market value.

We invest in equity instruments of privately-held companies for business and strategic purposes. These investments are classified as other assets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Determination of impairment is highly subjective and is based on a number of factors, including an assessment of the strength of investee's management, the length of time and extent to which the fair value has been less than our cost basis, the financial condition and near-term prospects of the investee, fundamental changes to the business prospects of the investee, share prices of subsequent offerings, and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in our carrying value. We had no write-downs in 2008, 2007 or 2006.

### ***Fair Value of Investments***

In the current market environment, the assessment of the fair value of debt instruments can be difficult and subjective. The volume of trading activity of certain debt instruments has declined, and the rapid changes occurring in today's financial markets can lead to changes in the fair value of financial instruments in relatively short periods of time. SFAS No. 157 establishes three levels of inputs that may be used to measure fair value.

Level 1 instruments represent quoted prices in active markets. Therefore, determining fair value for Level 1 instruments does not require significant management judgment, and the estimation is not difficult. Level 2 instruments include observable inputs other than Level 1 prices, such as quoted prices for identical instruments in markets with insufficient volume or infrequent transactions (less active markets), issuer credit ratings, non-binding market consensus prices that can be corroborated with

observable market data, model-derived valuations in which all significant inputs are observable or can be derived principally from or corroborated with observable market data for substantially the full term of the assets or liabilities, or quoted prices for similar assets or liabilities. These Level 2 instruments require more management judgment and subjectivity compared to Level 1 instruments, including:

- Determining which instruments are most similar to the instrument being priced requires management to identify a sample of similar securities based on the coupon rates, maturity, issuer, credit rating, and instrument type, and subjectively select an individual security or multiple securities that are deemed most similar to the security being priced.
- Determining whether a market is considered active requires management judgment. Our assessment of an active market for our marketable debt instruments generally takes into consideration activity during each week of the one-month period prior to the valuation date of each individual instrument, including the number of days each individual instrument trades and the average weekly trading volume in relation to the total outstanding amount of the issued instrument.
- Determining which model-derived valuations to use in determining fair value requires management judgment. When observable market prices for identical securities or similar securities are not available, we price our marketable debt instruments using non-binding market consensus prices that are corroborated with observable market data or pricing models, such as discounted cash flow models, with all significant inputs derived from or corroborated with observable market data.

Level 3 instruments include unobservable inputs to the valuation methodology that are significant to the measurement of fair value of assets or liabilities. The determination of fair value for Level 3 instruments requires the most management judgment and subjectivity. As of December 31, 2008, we did not have any assets or liabilities without observable market values that would require a high level of judgment to determine fair value (Level 3 assets).

#### ***Impairment of Long-Lived Assets***

We evaluate the recoverability of property, plant and equipment, and intangible assets in accordance with SFAS No. 144, "*Accounting for the Impairment or Disposal of Long-Lived Assets*." When events and circumstances indicate that long-lived assets may be impaired, we compare the carrying value of the long-lived assets to the projection of future undiscounted cash flows attributable to such assets. In the event that the carrying value exceeds the future undiscounted cash flows, we record an impairment charge against income equal to the excess of the carrying value over the asset's fair value. Fair value is generally determined by calculating the discounted future cash flows using a discount rate based upon our weighted average cost of capital, and specific appraisal in certain instances. Significant judgments and assumptions are required in the forecast of future operating results used in the preparation of the estimated future cash flows, including long-term forecasts of the amounts and timing of overall market growth and our percentage of that market, groupings of assets, discount rate and terminal growth rates. Changes in these estimates could have a material adverse effect on the assessment of long-lived assets, thereby requiring us to write down the assets. In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after deducting estimated commission and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. The

sale of the property was consummated in March 2008 and we recorded an \$83,000 adjustment due to the final sales price of the property. We no longer have "Assets held for sale" on the consolidated balance sheet.

### ***Stock Based Compensation***

We grant options to substantially all management employees and believe that this program helps us to attract, motivate and retain high quality employees, to the ultimate benefit of our stockholders. We account for stock based compensation costs in accordance with the provisions of SFAS No. 123 (revised 2004), "*Share-Based Payment*," ("SFAS No. 123(R)"). Stock compensation expense for all stock-based compensation awards granted after January 1, 2006 is based on the grant-date fair value estimated in accordance with the provisions of SFAS No. 123(R). We recognize these compensation costs net of an estimated forfeiture rate over the requisite service period of the award, which is generally the vesting term of four years for stock options.

In March 2005, the Securities and Exchange Commission ("SEC") issued Staff Accounting Bulletin No. 107 ("SAB 107") regarding the SEC's interpretation of SFAS No. 123(R) and the valuation of share-based payments for public companies. We have applied the provisions of SAB 107 in the adoption of SFAS No. 123(R). Stock compensation expense recorded in cost of revenue, research and development, and selling, general and administrative expenses is the amortization of the fair value of share-based payments made to employees and members of our board of directors, primarily in the form of stock options and restricted stock (see Note 1—Summary of Significant Accounting Policies—Stock-Based Compensation). All of our stock compensation is accounted for as an equity instrument.

We account for stock compensation costs in accordance with SFAS No. 123(R) and apply the provisions of SAB 107. We utilize the Black-Scholes option pricing model to estimate the grant date fair value of employee stock compensation awards, which requires the input of highly subjective assumptions, including expected volatility and expected term. Historical and implied volatility were used in estimating the fair value of our stock compensation awards, while the expected term for our options was estimated based on historical trends. Further, as required under SFAS No. 123(R), we now estimate forfeitures for stock compensation awards that are not expected to vest. Changes in these inputs and assumptions can materially affect the measure of estimated fair value of our stock compensation. We charge the estimated fair value to earnings on a straight-line basis over the vesting period of the underlying awards, which is generally four years for our stock option awards.

The Black-Scholes option pricing model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. As our stock option awards have characteristics that differ significantly from traded options, and as changes in the subjective assumptions can materially affect the estimated value, our estimate of fair value may not accurately represent the value assigned by a third party in an arms-length transaction. There currently is no market-based mechanism to verify the reliability and accuracy of the estimates derived from the Black-Scholes option pricing model or other allowable valuation models, nor is there a means to compare and adjust the estimates to actual values. While our estimate of fair value and the associated charge to earnings materially affects our results of operations, it has no impact on our cash position.

The guidance in SFAS No. 123(R) and SAB 107 is relatively new and the application of these principles may be subject to further interpretation and guidance. There are significant variations among allowable valuation models, and there is a possibility that we may adopt a different valuation model or refine the inputs and assumptions under our current valuation model in the future resulting in a lack of consistency in future periods. Our current or future valuation model and the inputs and assumptions we make may also lack comparability to other companies that use different models, inputs, or assumptions, and the resulting differences in comparability could be material.

## ***Income Taxes***

We account for income taxes in accordance with SFAS No. 109 ("SFAS 109"), *"Accounting for Income Taxes,"* which requires that deferred tax assets and liabilities be recognized using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. SFAS 109 also requires that deferred tax assets be reduced by a valuation allowance if it is more likely than not that a portion of the deferred tax asset will not be realized.

We provide for income taxes based upon the geographic composition of worldwide earnings and tax regulations governing each region, particularly China. The calculation of tax liabilities involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws, particularly in foreign countries such as China.

Effective January 1, 2007, we adopted FASB Interpretation No. 48 ("FIN 48"), *"Accounting for Uncertainty in Income Taxes—interpretation of FASB Statement No. 109."* See Note 13—"Income Taxes" in the consolidated financial statements for additional information.

## **Results of Operations**

### ***Overview***

We were founded in 1986 to commercialize and enhance our proprietary vertical gradient freeze (VGF) technique for producing high-performance compound semiconductor substrates. We have one operating segment: our substrate business, with limited additional raw materials sales. We recorded our first substrate sales in 1990 and our substrate division currently sells gallium arsenide (GaAs) and indium phosphide (InP) substrates to manufacturers of semiconductor devices for use in applications such as fiber optic and wireless telecommunications, light emitting diodes (LEDs) and lasers. We also sell raw materials including gallium and germanium through our participation in majority- and minority-owned joint ventures. During 2008, we continue to qualify our germanium substrates with satellite and terrestrial solar cell system manufacturers in the U.S. and Europe.

### ***Continuing Operations***

We manufacture all of our semiconductor substrates using our proprietary vertical gradient freeze (VGF) technology. Most of our revenue is from sales of GaAs substrates. We manufacture all of our products in the People's Republic of China (PRC or China), which generally has favorable costs for facilities and labor compared to comparable facilities in the United States or Europe. We also have five joint ventures in China that provide us favorable pricing, reliable supply and shorter lead-times for raw materials central to our final manufactured products.

Our business and operating results depend in significant part upon capital expenditures of semiconductor designers and manufacturers, which in turn depend upon the current and anticipated market demand for products incorporating semiconductors from these designers and manufacturers and our business depends in part on worldwide economic conditions. The current period of severe recession being experienced by the United States and other key international economies, has been characterized by falling demand for a variety of goods and services, including those related to the semiconductor industry. These conditions have adversely affected the timing and volume of our customers' purchase of our products, particularly commencing with the fourth quarter of 2008, and delays in customer purchasing decisions is likely to continue to impact our results in the beginning of 2009. Should the worldwide economic downturn begin to lessen, and purchasing again increase, we believe that, demand for compound semiconductor substrates will also increase, and we believe that we are positioned to leverage our PRC-based manufacturing capabilities and access to favorably priced raw materials to increase our market share if such improvements occur. However, the economic downturn in 2008

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coupled with inventory overhang in the industry put pressure on our financial performance and will continue to have an impact on our results in 2009.

While the volatile business and financial markets are prompting us to continue to take a conservative approach to our business, we remain optimistic about our business. Positive industry trends, coupled with our competitive manufacturing and cost advantages give us confidence in our ability to continue to drive future businesses in 2009. On March 28, 2008, we completed the sale of our Fremont, California facility and received net proceeds of approximately \$5.1 million after deducting commissions and selling expenses. On July 1, 2008, we exercised our right to redeem the taxable variable rate revenue bond and repaid all outstanding indebtedness and accrued interest under the terms of the revenue bond of approximately \$6.4 million. Accordingly, all of our remaining obligations under the revenue bond have terminated and the related restricted deposits have been released. In September 2008, we obtained an express line of credit from our bank and drew down \$3.0 million and classified the same amount as restricted deposits as of December 31, 2008. The proceeds from the express line of credit were used in operations. The \$3.0 million restricted cash carries an annual interest rate of approximately 4% as of December 31, 2008. Also as of December 31, 2008, we had available cash, cash equivalents and short-term investments of \$31.3 million, excluding restricted deposits.

Dr. Philip C.S. Yin, our former Chairman and Chief Executive Officer, resigned as an executive officer and as a member of the Board of Directors, effective March 17, 2009. The Board of Directors has invested Wilson W. Cheung, the Company's Chief Financial Officer, with the responsibility of administering day-to-day operations. Mr. Cheung is expected to perform the functions of principal executive officer in addition to his function as Chief Financial Officer during this transition period, and pending the appointment of an interim chief executive officer to serve until a successor Chief Executive Officer is named.

In addition, Mr. Jesse Chen, a director since 1998 and our Lead Independent Director, has been named non-executive Chairman of the Board of Directors.

### Revenue

(\$ in thousands)	Year Ended Dec. 31,			2007 to 2008		2006 to 2007	
	2008	2007	2006	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	GaAs	\$ 49,610	\$ 40,219	\$ 36,511	\$ 9,391	23.3%	\$ 3,708
InP	1,935	1,916	1,705	19	1.0	211	12.4
Ge	4,248	2,225	909	2,023	90.9	1,316	144.8
Raw Materials	17,232	13,790	5,293	3,442	25.0	8,497	160.5
Other	50	53	27	(3)	(5.7)	26	96.3
Total revenue	\$ 73,075	\$ 58,203	\$ 44,445	\$ 14,872	25.6%	\$ 13,758	31.0%

Revenue increased by \$14.9 million or 25.6%, to \$73.1 million in 2008 from \$58.2 million in 2007. Total GaAs substrate revenue increased \$9.4 million, or 23.3%, to \$49.6 million in 2008 from \$40.2 million in 2007. Sales of 5 inch and 6 inch diameter GaAs substrates were \$21.6 million in 2008 compared to \$16.3 million in 2007. The net increase of \$5.3 million was primarily due to our 6 inch supply agreement with IQE group which commenced in January 2008, partially offset by a small decline on 5 inch substrates due to lesser demand from one customer.

Revenue increased by \$13.8 million or 31.0%, to \$58.2 million in 2007 from \$44.4 million in 2006. Total GaAs substrate revenue increased \$3.7 million, or 10.2%, to \$40.2 million in 2007 from \$36.5 million in 2006. Sales of 5 inch and 6 inch diameter GaAs substrates were \$16.3 million in 2007 compared to \$16.7 million in 2006. The decrease of \$0.4 million in larger diameter substrate revenue

was due to less than expected orders from a few handset market customers, inventory overhang and certain push-out of customer shipments particularly during the fourth quarter of 2008 due to the decline in overall worldwide market conditions.

Sales of 2 inch, 3 inch and 4 inch diameter GaAs substrates were \$28.0 million in 2008 compared to \$23.9 million in 2007. The increase in revenue from smaller diameter substrates was primarily due to our supply agreement with IQE group on 4 inch diameter substrates which commenced in January 2008, offset by lesser demand for 2 inch substrates from several large semi-conducting customers as the economy softens in the second half of 2008. Sales of 2 inch, 3 inch and 4 inch diameter GaAs substrates were \$23.9 million in 2007 compared with \$19.7 million in 2006. The increase in revenue from smaller diameter substrates was generally due to the continued market growth of LED laser diodes and commercial epitaxy.

InP substrate revenue increased by \$19,000, or 1.0%, to \$1.9 million in 2008 compared to \$1.9 million in 2007 as the demand for specialized automotive applications and overall optical communications applications have remained flat. InP revenue increased by \$211,000, or 12.4%, to \$1.9 million in 2007 compared to \$1.7 million in 2006. The increase in InP revenue was primarily due to a one-time sale of \$251,000 indium scrap metal, while InP substrate revenue from customers in the optical networking industry decreased slightly. We do not expect significant near term changes in the InP market.

Ge substrate revenue increased by \$2.0 million, or 90.9%, to \$4.2 million in 2008 from \$2.2 million in 2007. The increase in germanium substrate revenue was due to the continuing increased demand for space and terrestrial based applications from our German and Chinese customers. Ge substrate revenue increased by \$1.3 million, or 144.8%, to \$2.2 million in 2007 from \$0.9 million in 2006. The increase in Ge substrate revenue was mainly due to a customer in Germany who has now qualified our product, as demand for photovoltaic and opto-electronic applications continues to increase.

Raw materials revenue increased by \$3.4 million, or 25.0%, to \$17.2 million in 2008 from \$13.8 million in 2007 as a result of increased demand of 4N raw gallium. Raw materials revenue increased by \$8.5 million, or 160.5%, to \$13.8 million in 2007 from \$5.3 million in 2006. The increase in raw materials revenue was primarily due to sales of gallium to new customers in Japan and Europe, and increased demand by a customer in North America as the demand for gallium increased, as well as an increase in sales prices of raw materials. Our raw materials business has increasingly become an important part of our business, both in terms of providing us protection against raw materials pricing increases and supply constraints. Since we are able to supply raw materials necessary for the production of our substrates at favorable prices, our ability to sell such materials in the open market, at market prices, also provides us with pricing protection. We expect to continue to expand our raw materials sales efforts. However, as our contracted supply of high purity gallium with an independent third party expired in December 2008, we expect to increase our needed supply from our joint ventures, resulting in less raw materials available for sale to third parties going forward, and we expect the percentage of revenue from sales of raw materials to remain flat or decline in 2009.

One customer represented greater than 10% of our total revenue, totaling 19% for the year ended December 31, 2008, one customer represented greater than 10% of our total revenue, totaling 12% for the year ended December 31, 2007, and two customers represented greater than 10% of our total revenue, totaling 16% and 13% for the year ended December 31, 2006. Our top five customers represented 46%, 40%, and 42% of revenue for the years ended December 31, 2008, 2007, and 2006, respectively.

**Revenue by Geographic Region**

	Years Ended Dec. 31,			2007 to 2008		2006 to 2007	
	2008	2007	2006	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
North America*	\$ 19,181	\$ 11,839	\$ 13,029	\$ 7,342	62.0%	\$ (1,190)	(9.1)%
<i>% of total revenue</i>	26%	20%	29%				
Europe	14,524	9,930	8,365	4,594	46.3	1,565	18.7
<i>% of total revenue</i>	20%	17%	19%				
Japan	14,685	13,280	3,347	1,405	10.6	9,933	296.8
<i>% of total revenue</i>	20%	23%	8%				
Taiwan	7,806	9,329	7,647	(1,523)	(16.3)	1,682	22.0
<i>% of total revenue</i>	11%	16%	17%				
Asia Pacific (excluding Japan and Taiwan)	16,879	13,825	12,057	3,054	22.1	1,768	14.7
<i>% of total revenue</i>	23%	24%	27%				
<b>Total revenue</b>	<b>\$ 73,075</b>	<b>\$ 58,203</b>	<b>\$ 44,445</b>	<b>\$ 14,872</b>	<b>25.5%</b>	<b>\$ 13,758</b>	<b>31.0%</b>

\* Primarily the United States.

Sales to customers located outside of North America represented approximately 74%, 80%, and 71% of our revenue during 2008, 2007 and 2006, respectively.

Revenue from customers located in North America increased by \$7.3 million, or 62.0%, to \$19.2 million in 2008 from \$11.8 million in 2007. This increase in 2008 was primarily due to our 4 inch and 6 inch supply agreements with IQE group which commenced in January 2008. Our 4 inch and 6 inch supply agreements with IQE group has been renewed in December 2008, and expires in March 2010 for a total contract price of up to \$14.3 million.

Revenue from customers located in Europe increased by \$4.6 million, or 46.3%, to \$14.5 million in 2008 from \$9.9 million in 2007. This increase resulted mainly from \$2.9 million in increased sales of raw materials to customers in the United Kingdom, \$0.7 million in increased sales to customers in Germany, which was mainly in Ge substrate sales, \$0.6 million in increased sales of 6 inch diameter GaAs substrates to customers in France, and \$0.4 million increase in 4N gallium sales to customers in the Netherlands.

Revenue from customers in Japan increased by \$1.4 million, or 10.6%, to \$14.7 million in 2008 from \$13.3 million in 2007. The increase mainly came from large diameter substrates amounting to \$2.8 million, while raw material sales to existing customers decreased by approximately \$1.4 million as customers' inventory level increased towards the end of 2008.

Revenue from customers in Taiwan decreased by \$1.5 million, or 16.3%, to \$7.8 million in 2008 from \$9.3 million in 2007. We had approximately \$3.9 million less revenues from four existing small diameter LED customers in Taiwan, partially offset by a \$2.4 million increase in revenues from a few customers, including a new LED customer.

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Revenue from customers in the Asia Pacific (excluding Japan and Taiwan) increased by \$3.1 million, or 22.1%, to \$16.9 million in 2008 from \$13.8 million in 2007. Of this increase, sales to customers in the PRC increased by \$2.5 million due to an increase in demand for raw materials and substrates, and sales to customers in Korea increased by \$0.3 million, while sales to customers in Malaysia and Singapore also increased by \$0.3 million from a large customer.

**Gross Margin**

	Years Ended Dec. 31,			2007 to 2008		2006 to 2007	
	2008	2007	2006	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Gross profit	\$ 17,960	\$ 20,261	\$ 12,736	\$ (2,301)	(11.4)%	\$ 7,525	59.1%
Gross Margin %	24.6%	34.8%	28.7%				

Gross margin decreased to 24.6% of total revenue in 2008 from 34.8% of total revenue in 2007. Gross margin in 2008 was positively impacted by sales of approximately \$2.8 million of GaAs wafers that were previously written off. In addition to modest declines in average selling prices during 2008, the deterioration in our gross margin began in the third quarter of 2008 while the most significant drop in gross margin happened during the fourth quarter of 2008 when our gallium joint venture in China, which is housed in and receives services from an affiliated aluminum plant, ceased production for five weeks during the fourth quarter as a result of supply shortage of raw materials from the aluminum plant which had reduced production and halted operations due to falling aluminum prices in the second half of 2008. Accordingly, in order to meet customer supply obligations, our joint venture had to source finished products from another independent third party supplier, resulting in low gross margin for the quarter. Our joint venture has also sourced finished products from this independent third party supplier when demand has exceeded the joint venture's capacity, and will continue to source finished products from this independent third party supplier, despite lower gross margins, if it again experiences supply shortages or if customer demand again exceeds its capacity. In addition, gross margin was negatively impacted as a result of lower production volume (less overhead recoveries), higher warranty expense as a result of warranty reserves from certain customers resulting from our failure to meet specification requirements, and higher unfavorable variances due to lower yields from our GaAs production line. We expect gross margins to remain in the 20% range for 2009.

Gross margin increased to 34.8% of total revenue in 2007 from 28.7% of total revenue in 2006. Gross margin in 2007 was positively impacted by sales of approximately \$2.2 million of GaAs wafers that were previously written off. Product mix also contributed to higher gross margins as we sold InP scrap metal, as well as raw materials, both of which contributed higher gross margins. In addition, we had manufacturing equipment that has become fully depreciated since the third quarter of 2006, and the absence of depreciation expense for this equipment, partially offset by depreciation on property, plant and equipment additions, contributed approximately 2.5 percentage points to gross margin for the twelve months ended December 31, 2007.

**Selling, General and Administrative Expenses**

	Years Ended Dec. 31,			2007 to 2008		2006 to 2007	
	2008	2007	2006	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Selling, general and administrative expenses	\$ 15,751	\$ 13,746	\$ 12,650	2,005	14.6%	1,096	8.7%
% of total revenue	21.6%	23.6%	28.5%				

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Selling, general and administrative expenses increased \$2.0 million to \$15.7 million for 2008 compared to \$13.7 million for 2007. The increase was primarily due to (i) \$1.1 million higher compensation and related expenses, (ii) \$0.7 million higher rental expense as a result of our forfeiture of the rental deposit with the termination of an old lease, (iii) \$0.3 million for increased health insurance and other insurance costs, (iv) \$0.1 million for higher bank fees as we paid off the taxable revenue bond in July 2008, (v) \$0.1 million for higher joint venture labor related and consulting costs, (vi) \$0.1 million higher utility costs, and (vii) \$0.1 million higher stock compensation expenses as a result of annual option grants, partially offset by (viii) \$0.4 million lower legal expenses due to a refund from our insurance carrier, and (ix) \$0.1 million lower bad debt expense as aging improved from collections.

Selling, general and administrative expenses increased \$1.1 million to \$13.8 million for 2007 compared to \$12.7 million for 2006. The increase was primarily due to (i) \$0.6 million higher legal expenses in 2007, including \$0.3 million paid by us in connection with the settlement of the securities class action lawsuit reached on April 24, 2007, offset by our receipt in 2006 of a \$0.3 million refund from insurance, (ii) \$0.5 million higher bad debt expenses, mainly from a \$0.1 million increase to bad debt expense in 2007 for our slow-paying customers in Asia, compared to a \$0.4 million bad debt recovery in 2006 following recovery of an expense in 2005 provided for an Asian customer, (iii) \$0.4 million for increased consulting and audit fees for compliance with the Sarbanes-Oxley Act of 2002, (iv) \$0.4 million for higher joint venture labor related costs, and (v) \$0.2 million higher sales commission due to increased sales volume, partially offset by (vi) the absence in 2007 of \$0.6 million decontamination fees on our property owned in Fremont, California incurred during 2006, (vii) \$0.3 million sales compensation expenses given to customers as compensation for their epitaxial costs on defective wafers supplied to them, and (viii) \$0.1 million reduced depreciation and other expenses.

**Research and Development Expenses**

	Years Ended Dec. 31,			2007 to 2008		2006 to 2007	
	2008	2007	2006	Increase (Decrease)	% Change	Increase (Decrease)	% Change
	(\$ in thousands)						
Research and development expenses	\$ 2,164	\$ 1,699	\$ 2,351	\$ 465	27.4%	\$ (652)	(27.7)%
<i>% of total revenue</i>	3.0%	2.9%	5.3%				

Research and development expenses increased \$0.5 million, or 27.4%, to \$2.2 million for 2008, from \$1.7 million for 2007 mainly from increases of \$0.3 million in salary and related costs as a result of the appointment of our chief technology officer since late 2007 and increases of approximately \$0.2 million in new product testing costs.

Research and development expenses decreased \$0.7 million, or 27.7%, to \$1.7 million for 2007, from \$2.4 million for 2006 mainly from \$0.4 million in savings in salary and related costs as a result of the retirement of Dr. Morris Young, our former chief technology officer. We only appointed a new chief technology officer in the fourth quarter of 2007. In 2007, we also had the absence of \$0.4 million in severance payments that we incurred in 2006, partially offset by \$0.1 million increased consulting fees to enhance our production facilities at one of our joint ventures.

Given the current economic climate, we expect our rate of expenditure on research and development costs in 2009 to remain flat.

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**Impairment (recovery of impairment) on Assets Held for Sale, and Restructuring Charges (Benefit)**

	<u>Years Ended Dec. 31,</u>			<u>2006 to 2007</u>		<u>2006 to 2007</u>	
	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>Increase</u>	<u>%</u>	<u>Increase</u>	<u>%</u>
				<u>(Decrease)</u>	<u>Change</u>	<u>(Decrease)</u>	<u>Change</u>
Impairment (recovery of impairment) on assets held for sale	\$ 83	\$ (481)	\$ 1,417	\$ 564	117.3%	\$ (1,898)	(133.9)%
<i>% of total revenue</i>	<i>0.1%</i>	<i>(0.8)%</i>	<i>3.2%</i>				
Restructuring charge (benefit)	\$	\$	\$ (2)	N/A	N/A	\$ 2	NM
<i>% of total revenue</i>	<i>—%</i>	<i>—%</i>	<i>0.0%</i>				

NM: percentage not meaningful

In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after deducting estimated commission and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. The sale of the property was consummated in March 2008 and we recorded an \$83,000 impairment charge due to the final sales price of the property.

During 2007 and 2008, we had no restructuring charges. In 2006, we recognized a \$2,000 benefit related to an adjustment to a prior accrual.

**Interest Income, Net**

	<u>Years Ended Dec. 31,</u>			<u>2006 to 2007</u>		<u>2006 to 2007</u>	
	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>Increase</u>	<u>%</u>	<u>Increase</u>	<u>%</u>
				<u>(Decrease)</u>	<u>Change</u>	<u>(Decrease)</u>	<u>Change</u>
Interest income, net	\$513	\$704	\$443	\$ (191)	(27.1)%	\$ 261	58.9%
<i>% of total revenue</i>	<i>0.7%</i>	<i>1.2%</i>	<i>1.0%</i>				

Interest income, net decreased \$0.2 million to \$0.5 million for 2008 from \$0.7 million for 2007 as a result of lower balances of our cash and investments used in operations, and lower interest rate yields compared to 2007.

Interest income, net increased \$0.3 million to \$0.7 million for 2007 from \$0.4 million for 2006 as a result of higher balances of our investments which came from the net proceeds of our public offering of common stock, completed in December 2006 and January 2007.

**Other Income and (Expense), Net, and Minority Interests**

	<u>Years Ended Dec. 31,</u>			<u>2007 to 2008</u>		<u>2006 to 2007</u>	
	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>Increase</u>	<u>%</u>	<u>Increase</u>	<u>%</u>
				<u>(Decrease)</u>	<u>Change</u>	<u>(Decrease)</u>	<u>Change</u>
	(\$ in thousands)						
Other income and (expense), net	\$ 1,290	\$ 1,912	\$ 3,672	\$ (622)	(32.5)%	\$ (1,760)	(47.9)%
% of total revenue	1.8%	3.3%	6.1%				
Minority interests	\$ (1,431)	\$ (1,896)	\$ (963)	\$ 465	24.5%	\$ (933)	(96.9)%
% of total revenue	(2.0)%	(3.3)%	(2.2)%				

Other income and expense, net, was \$1.3 million in 2008 compared to other income and expense, net, of \$1.9 million in 2007. Other income, net was \$1.3 million for 2008 primarily due to a realized gain of \$0.4 million on the sale of investments and other income, and investment gains of \$0.9 million from our minority-owned non-consolidated joint ventures.

Other income and expense, net, was \$1.9 million in 2007 compared to other income and expense, net, of \$3.7 million in 2006. Other income, net was \$1.9 million for 2007 primarily due to a realized gain of \$1.0 million on the sale of investments, investment gains of \$0.9 million from our minority-owned non-consolidating joint ventures, receipt of \$0.3 million mainly comprised of insurance proceeds and sale of fully depreciated assets, partially offset by a \$0.3 million expense for foreign exchange losses primarily related to the Japanese yen.

Minority interest in earnings of consolidated subsidiaries for the years ended December 31, 2008, 2007, and 2006 were (\$1.4) million (\$1.9) million, and (\$1.0) million, respectively. The decrease in minority interest from 2007 to 2008 was due to the overall decrease in profitability from our majority-owned consolidated subsidiaries, particularly our gallium joint venture in China. The increase in minority interest from 2006 to 2007 was due to the increase in profitability from our majority-owned consolidated subsidiaries as they had benefited from increased sales due to increased capacity.

**Provision (benefit) for Income Taxes**

	<u>Years Ended Dec. 31,</u>			<u>2007 to 2008</u>		<u>2006 to 2007</u>	
	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>Increase</u>	<u>%</u>	<u>Increase</u>	<u>%</u>
				<u>(Decrease)</u>	<u>Change</u>	<u>(Decrease)</u>	<u>Change</u>
	(\$ in thousands)						
Provision (benefit) for income taxes	\$ 1,023	\$ 728	\$ (1,454)	\$ 295	40.5%	\$ 2,182	150.1%
% of total revenue	1.4%	1.3%	3.3%				

Provision for income taxes for 2008 was \$1.0 million, which was related to our foreign subsidiaries. The increase in provision for income taxes from 2007 to 2008 was due to the phasing out of Chinese tax holidays from some of our consolidated subsidiaries beginning 2008. Due to our uncertainty regarding our future profitability, we recorded a full valuation allowance against our net deferred tax assets of \$54.4 million in 2008, \$53.7 million in 2007, and \$49.9 million in 2006.

Provision for income taxes for 2007 was \$728,000, which was related to our foreign subsidiaries. In 2005, the Internal Revenue Service closed its examination of our tax return for the 2002 tax year, including the calculation of our 1999 and 2000 net operating loss carry back. As a result, we reversed approximately \$2.1 million of income tax payable accrued for potential exposures relating to 2006. This amount is shown as a benefit for income taxes in 2006.

**Gain from Discontinued Operations**

	Years Ended			2007 to 2008		2006 to 2007	
	December 31,			Increase		Increase	%
	2008	2007	2006	(Decrease)	% Change	(Decrease)	Change
Gain from discontinued operations, net of tax	\$—	\$—	\$ 18	N/A	N/A	\$ (18)	NM

NM: percentage not meaningful

In the first quarter of 2007, we dissolved the corporation that previously operated our discontinued operations and transferred the cash balance to our continuing operations. Accordingly, we no longer have discontinued operations. In 2006, we recorded \$18,000 in interest income on cash balances held in discontinued operations.

**Liquidity and Capital Resources**

	Years Ended December 31,		
	2008	2007	2006
	(\$ in thousands)		
Net cash provided by (used in):			
Operating activities	\$ (5,717)	\$ 1,320	\$ (10,263)
Investing activities	3,832	(3,514)	(15,809)
Financing activities	(3,522)	3,924	24,248
Effect of exchange rate changes	593	534	468
Net change in cash and cash equivalents	(4,814)	2,264	(1,356)
Cash and cash equivalents—beginning period	18,380	16,116	17,472
Cash and cash equivalents—end of period	13,566	18,380	16,116
Short-term investments—end of period	17,756	20,825	19,428
Total cash, cash equivalents and short-term investments	\$31,322	\$39,205	\$ 35,544

We consider cash and cash equivalents, and short-term investments as liquid and available for use. Short-term investments are comprised of government bonds and high-grade commercial debt instruments. Also historically included in short-term investments was our investment in common stock of Finisar Corporation, a United States publicly-traded company (Nasdaq: FNSR). During 2006 we sold all of our shares of common stock of Finisar Corporation generating net proceeds of \$4.4 million and recorded a gain of \$3.3 million, which was included in other income (expense). In December 2006 and January 2007, we generated approximately \$29 million in total proceeds as a result of our follow-on stock offering, and we utilized some of the proceeds in 2007 and 2008 mainly for working capital purposes. As of December 31, 2008, our principal sources of liquidity were \$31.3 million in cash and cash equivalents and short-term investments, excluding restricted deposits.

Cash and cash equivalents and short-term investments, decreased \$7.9 million to \$31.3 million as of December 31, 2008 from \$39.2 million as of December 31, 2007. The combined decrease in cash and cash equivalents and short-term investments was primarily due to the use of net cash in operating activities of \$5.7 million, and net cash used in financing activities of \$3.5 million, partially offset by net cash provided by investing activities of \$3.8 million, and \$0.6 million for the effects of exchange rate changes.

Net cash used in operating activities of \$5.7 million for 2008 was primarily comprised of our net loss of \$0.7 million, adjusted for non-cash items of depreciation of \$2.2 million, stock-based compensation of \$0.6 million, a \$0.1 million charge for impairment on assets held for sale, partially

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offset by a realized gain on sale of investments of \$0.3 million and offset by a net increase of \$7.6 million in assets and liabilities. The \$7.6 million net increase in assets and liabilities primarily resulted from a \$10.0 million increase in inventories, a \$0.6 million decrease in other long-term liabilities, a \$0.3 million decrease in income taxes payable and a \$0.1 million increase in other assets, partially offset by a \$2.2 million increase in accounts payable, a \$0.8 million decrease in accounts receivable, and a \$0.5 million decrease in prepaid expenses. Inventories, net, increased by \$10.0 million, as we increased inventory in raw materials and work-in-process to increase production in anticipation of increased forecast sales, and finished goods for consignment orders.

Net cash provided by operating activities of \$1.3 million for 2007 was primarily comprised of our net income of \$5.3 million, adjusted for non-cash items of depreciation of \$1.5 million, stock-based compensation of \$0.5 million, partially offset by a realized gain on sale of investments of \$1.0 million, a recovery of impairment on assets held for sale of \$0.5 million, and by a net increase of \$4.4 million in assets and liabilities. The net increase in assets and liabilities of \$4.4 million resulted from a \$4.3 million increase in inventories, net, a \$2.4 million increase in accounts receivable, net, and a \$0.9 million increase in other assets, partially offset by a \$1.0 million increase in other long-term liabilities, primarily minority interests, a \$0.9 million increase in accrued liabilities, primarily for warranty reserves and accounting fees, a \$0.6 million decrease in prepaid expenses, primarily for insurance premiums, a \$0.5 million increase in accounts payable, and a \$0.2 million increase in income taxes payable.

Net cash provided by investing activities of \$3.8 million for the year ended December 31, 2008 was primarily from the proceeds from the sale of investments of \$24.5 million, proceeds from sale of assets held for sale of \$5.1 million and the decrease of restricted cash of \$3.7 million, partially offset by the purchase of investments totaling \$22.6 million, and the purchase of property, plant and equipment of \$6.8 million.

Net cash used in investing activities of \$3.5 million for the year ended December 31, 2007 included net purchases of investment securities totaling \$0.3 million, net purchases of property and equipment of \$3.7 million, partially offset by a decrease in our restricted deposits of \$0.5 million.

In 2008 we expanded capacity at our China facilities. In 2009, we expect to invest up to approximately \$3.7 million in other projects at our China facilities, having decided to delay certain other expansion activities as a result of the impact of the current worldwide economic conditions.

Net cash used in financing activities of \$3.5 million for the year ended December 31, 2008 consisted of a payment of \$6.7 million related to long term debt, partially offset by \$3.0 million from the proceeds of a line of credit and \$0.2 million from the proceeds from the exercise of employee stock options.

Net cash provided by financing activities of \$3.9 million for the year ended December 31, 2007 consisted of \$3.6 million net proceeds from the issuance of 862,500 shares of common stock as a result of our December 2006 public stock offering, \$0.9 million from the proceeds from the exercise of employee stock options, partially offset by payments of \$0.6 million related to long-term borrowings.

We believe that we have adequate cash and investments to meet our needs over the next 12 months. If our sales decrease, however, our ability to generate cash from operations will be adversely affected which could adversely affect our future liquidity, require us to use cash at a more rapid rate than expected, and require us to seek additional capital. There can be no assurance that such additional capital will be available or, if available it will be at terms acceptable to us. Cash from operations could be affected by various risks and uncertainties, including, but not limited to those set forth below under Item 1A. "Risk Factors" above.

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**Off-Balance Sheet Arrangements**

We do not have any off-balance sheet financing arrangements and have never established any special purpose entities. We have not entered into any options on non-financial assets.

**Contractual Obligations**

As of December 31, 2008, the credit facility maintained by us with a bank included a line of credit with an outstanding amount of \$3.0 million. We have pledged the same amount in cash as collateral for this facility. Accordingly, \$3.0 million of our cash and short-term investments are restricted.

We lease certain office space, manufacturing facilities and property under long-term operating leases expiring at various dates through November 2013. On July 2, 2008, we entered into a new lease agreement with the landlord of the facility at 4281 Technology Drive, Fremont, California with approximately 27,760 square feet. The new lease commenced December 1, 2008 for a term of seven years, with an option by us to cancel the new lease after five years, upon forfeiture of the security deposit and payment of one-half of the fifth year's rent. Total rent expenses under these operating leases were approximately \$1.7 million (including a \$0.7 million forfeiture of rental deposit in terminating the old lease), \$0.5 million and \$0.9 million for years ended December 31, 2008, 2007 and 2006, respectively.

The following table summarizes our contractual obligations as of December 31, 2008 (in thousands):

<u>Contractual Obligations</u>	<u>Payments due by period</u>				
	<u>Total</u>	<u>Less than 1 year</u>	<u>1-3 years</u>	<u>3-5 years</u>	<u>More than 5 years</u>
Line of credit	\$ 3,013	\$ 3,013	\$ —	\$ —	\$ —
Tenant improvement loan	569	73	155	167	174
Operating leases	2,017	294	575	562	586
Total	<u>\$ 5,599</u>	<u>\$ 3,380</u>	<u>\$ 730</u>	<u>\$ 729</u>	<u>\$ 760</u>

**Selected Quarterly Results of Operations**

The following table sets forth unaudited quarterly results for the eight quarters ended December 31, 2008. 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, 2008	Sept. 30, 2008	June 30, 2008	Mar. 31, 2008	Dec. 31, 2007	Sept. 30, 2007	June 30, 2007	Mar. 31, 2007
Revenue	\$15,646	\$17,863	\$19,932	\$19,634	\$17,564	\$14,474	\$13,639	\$12,526
Cost of revenue	14,888	13,326	13,488	13,413	12,270	9,944	8,607	7,121
Gross profit	758	4,537	6,444	6,221	5,294	4,530	5,032	5,405
Operating expenses:								
Selling, general and administrative	3,605	4,901	3,578	3,667	3,218	3,082	3,743	3,703
Research and development	529	562	569	504	508	383	348	460
Impairment (recovery of impairment) on assets held for sale	—	—	—	83	—	—	(481)	—
Total operating expenses	4,134	5,463	4,147	4,254	3,726	3,465	3,610	4,163
Income (loss) from operations	(3,376)	(926)	2,297	1,967	1,568	1,065	1,422	1,242
Interest income, net	80	68	241	124	153	102	225	224
Other income and (expense), net	576	21	(1,166)	428	455	(156)	(272)	(11)
Income (loss) before provision (benefit) for income taxes	(2,720)	(837)	1,372	2,519	2,176	1,011	1,375	1,455
Provision (benefit) for income taxes	(349)	177	635	560	302	153	162	111
Net income (loss)	\$ (2,371)	\$ (1,014)	\$ 737	\$ 1,959	\$ 1,874	\$ 858	\$ 1,213	\$ 1,344
Income (loss) per share—basic	\$ (0.08)	\$ (0.03)	\$ 0.02	\$ 0.06	\$ 0.06	\$ 0.03	\$ 0.04	\$ 0.04
Income (loss) per share—diluted	\$ (0.08)	\$ (0.03)	\$ 0.02	\$ 0.06	\$ 0.06	\$ 0.03	\$ 0.04	\$ 0.04
Shares used in computing income (loss) per share—basic	30,434	30,455	30,421	30,367	30,337	30,150	29,943	29,798
Shares used in computing income (loss) per share—diluted	30,434	30,455	31,562	31,585	31,550	31,464	31,142	31,324

**Recent Accounting Pronouncements**

In September 2006, the FASB issued SFAS No. 157, "Fair Value Measurements" ("SFAS 157"). SFAS 157 defines fair value, establishes a framework and gives guidance regarding the methods used for measuring fair value, and expands disclosures about fair value measurements. SFAS 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods of those fiscal years. In February 2008, the FASB released a FASB Staff Position (FSP FAS 157-2 *Effective Date of FASB Statement No. 157*) which delays the effective date of SFAS 157 for all nonfinancial assets and nonfinancial liabilities, except those that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually) to fiscal years beginning after November 15, 2008. These non-financial items include assets and liabilities such as reporting units measured at fair value in a goodwill impairment test and non-financial assets acquired and liabilities assumed in a business combination. The partial adoption of SFAS 157 as of January 1, 2008 for financial assets and liabilities did not have a material impact on our consolidated financial position, results of operations or cash flows.

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In February 2007, the FASB issued SFAS No. 159, *"The Fair Value Option for Financial Assets and Financial Liabilities—Including an amendment of FASB Statement No. 115"* ("SFAS 159"). SFAS 159 expands the use of fair value accounting to many financial instruments and certain other items. The fair value option is irrevocable and generally made on an instrument-by-instrument basis, even if a company has similar instruments that it elects not to measure based on fair value. SFAS 159 is effective for fiscal years beginning after November 15, 2007. We have not elected the fair value option. Therefore, the adoption of SFAS 159 in the first quarter of fiscal 2008 did not impact our consolidated financial position, results of operations or cash flows.

In December 2007, the FASB issued SFAS No. 141 (revised 2007), *"Business Combinations"*, ("SFAS 141R"). SFAS 141R establishes the principles and requirements for how an acquirer in a business combination (1) recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree, (2) recognizes and measures the goodwill acquired in the business combination or a gain from a bargain purchase and (3) determines what information to disclose to enable users of the financial statements to evaluate the nature and financial effects of the business combination. SFAS 141R will be applicable beginning with our fiscal 2009. The impact of the adoption of SFAS 141R on our results of operations and financial position will depend on the nature and extent of business combinations that we complete, if any, in or after fiscal 2009.

In December 2007, the FASB issued SFAS No. 160, *"Noncontrolling Interests in Consolidated Financial Statements"* ("SFAS 160"). SFAS 160 requires that minority interest be separately reported in the consolidated entity's equity section and that no gain or loss shall be reported when transactions occur between the controlling interest and the non-controlling interests. Furthermore, the acquisition of non-controlling interest by the controlling interest is not treated as a business combination. SFAS 160 is effective for fiscal years beginning after December 15, 2008. We have not yet evaluated the impact that the adoption of SFAS 160 will have on our consolidated financial position, results of operations or cash flows.

In March 2008, the FASB issued SFAS No. 161, *"Disclosures about Derivative Instruments and Hedging Activities"* ("SFAS 161"). SFAS 161 requires companies with derivative instruments to disclose information that should enable financial-statement users to understand how and why a company uses derivative instruments, how derivative instruments and related hedged items affect a company's financial position, financial performance and cash flows. SFAS 161 is effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008. Based on our current operations, we do not expect that the adoption of SFAS 161 will have a material impact on our consolidated financial position or results of operations.

In June 2008, the FASB issued FASB Staff Position ("FSP") Emerging Issues Task Force (EITF) 03-6-1, *"Determining Whether Instruments Granted in Share-Based Payment Transactions Are Participating Securities"* (FSP EITF 03-6-1). FSP EITF 03-6-1 provides that unvested share-based payment awards that contain nonforfeitable rights to dividends or dividend equivalents (whether paid or unpaid) are participating securities and shall be included in the computation of earnings per share pursuant to the two-class method. FSP EITF 03-6-1 is effective for financial statements issued for fiscal years beginning after December 15, 2008 and interim periods within those years. Upon adoption, a company is required to retrospectively adjust its earnings per share data (including any amounts related to interim periods, summaries of earnings and selected financial data) to conform with the provisions in FSP EITF 03-6-1. Early application of FSP EITF 03-6-1 is prohibited. We do not expect that the adoption of FSP EITF 03-6-1 will have a material impact on our consolidated financial position, results of operations or cash flows.

On October 10, 2008, the FASB issued FSP No. 157-3 ("FSP 157-3"), *"Determining the Fair Value of a Financial Asset When the Market for That Asset is Not Active"* ("FSP 157-3"), to clarify the

application of SFAS 157 in a market that is not active, providing an example to illustrate key considerations in determining the fair value of a financial asset when the market for that financial asset is not active. This FSP applies to financial assets within the scope of accounting pronouncements that require or permit fair value measurement in accordance with SFAS 157 and is effective upon issuance. We have determined there is no impact from adopting the provisions of FSP 157-3 on our consolidated financial position, results of operations or cash flows.

In various areas, including revenue recognition, stock option accounting, accounting standards and practices continue to evolve. Additionally, the SEC and the FASB's Emerging Issues Task Force continue to address revenues, stock option accounting related accounting issues. We believe that we are in compliance with all of the rules and related guidance as they currently exist. However, any changes to accounting principles generally accepted in the United States of America in these areas could impact the future accounting of our operations.

**Item 7A. *Quantitative and Qualitative Disclosures about Market Risk***

***Foreign Currency Risk***

A significant portion of our business is conducted in currencies other than the U.S. dollar. The functional currency for our foreign operations is the renminbi, the local currency of China, where our operating expenses are predominantly in the local currency. Since most of our operations are conducted in China, most of our costs are incurred in Chinese currency, which subjects us to fluctuations in the exchange rates between the U.S. dollar and the Chinese renminbi. 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. These risks may be increased by the fluctuations and revaluations of the Chinese renminbi. Our financial results could be adversely affected by factors such as changes in foreign currency exchange rates or weak economic conditions in foreign markets, including the revaluation by China of the renminbi, and any future adjustments that China may make to its currency such as any move it might make to a managed float systems with opportunistic interventions. In the future we may experience foreign exchange losses on our non-functional currency denominated receivables and payables to the extent that we have not mitigated our exposure utilizing foreign currency forward exchange contracts. Foreign exchange losses could have a materially adverse effect on our operating results and cash flows.

We do not currently use short-term forward exchange contracts for hedging purposes to reduce the effects of adverse foreign exchange rate movements. We had previously purchased foreign exchange contracts to hedge against certain trade accounts receivable denominated in Japanese yen. The change in the fair value of the forward contracts was recognized as part of the related foreign currency transactions as they occur. As of December 31, 2008 and 2007, we had no outstanding commitments with respect to foreign exchange contracts.

During 2008, we recorded a net realized foreign exchange gain of \$2,000, included as part of other income in our consolidated statements of operations. We incurred foreign currency transaction exchange gains and losses due to operations in general. It is uncertain whether these currency trends will continue. In the future we may experience foreign exchange losses on our non-functional currency denominated receivables and payables to the extent that we have not mitigated our exposure utilizing foreign currency forward exchange contracts. Foreign exchange losses could have a materially adverse effect on our operating results and cash flows. During 2008, we recorded unrealized foreign currency gains of \$1.8 million, included in the balance of accumulated other comprehensive income on our consolidated balance sheet.

In July 2005, China agreed to a shift in Chinese currency policy. It established a 2% revaluation of the renminbi and referenced the renminbi to a basket of currencies, with a daily trading band of

+/-0.3%. Depending on market conditions and the state of the Chinese economy, it is possible that China will make more adjustments in the future. Over the next five to ten years, China may move to a managed float system, with opportunistic interventions. This reserve diversification may negatively impact the United States dollar and U.S. interest rates, which, in turn, could negatively impact our operating results and financial condition. The functional currency of our Chinese subsidiary, including our joint ventures, is the local currency; since most of our operations are conducted in China, most of our costs are incurred in Chinese currency, which subjects us to fluctuations in the exchange rates between the U.S. dollar and the Chinese renminbi. 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. These risks may be increased by the fluctuation and revaluation of the Chinese renminbi. If we do not effectively manage the risks associated with this currency risk, our revenue, cash flows and financial condition could be adversely affected.

**Interest Rate Risk**

Cash and cash equivalents earning interest and certain variable rate debt instruments are subject to interest rate fluctuations. The following table sets forth the probable impact of a 10% change in interest rates (in thousands):

<u>Instrument</u>	<u>Balance as of December 31, 2008</u>	<u>Current Interest Rate</u>	<u>Projected Annual Interest Income/(Expense)</u>	<u>Proforma 10% Interest Rate Decline Income/(Expense)</u>	<u>Proforma 10% Interest Rate Increase Income/(Expense)</u>
Cash	\$ 13,385	0.50%	\$ 67	\$ 60	\$ 74
Cash equivalents	181	1.74	3	3	3
Investment in debt and equity instruments	20,769	4.61	957	862	1,053
Line of credit	(3,013)	1.58	(48)	(43)	(52)
Tenant improvement loan	(569)	4.00	(23)	(20)	(25)
			<u>\$ 957</u>	<u>\$ 862</u>	<u>\$ 1,053</u>

The primary objective of our investment activities is to preserve principal while maximizing income without significantly increasing risk. Financial instruments that potentially subject us to concentration of credit risk consist primarily of cash and cash equivalents, short-term investments, and trade accounts receivable. We invest primarily in money market accounts, commercial paper instruments, and investment grade securities. We are exposed to credit risks in the event of default by the issuers to the extent of the amount recorded on the consolidated balance sheets. These securities are generally classified as available-for-sale and consequently are recorded on the balance sheet at fair value with unrealized gains or losses reported as a separate component of accumulated other comprehensive income (loss), net of estimated tax. Our cash, cash equivalents and short-term investments are in high-quality securities placed with major banks and financial institutions and commercial paper. We have no investments in auction rate securities. As of December 31, 2008, we have approximately \$22.3 million in principal protected notes with Citicorp Smith Barney with a fair value of approximately \$20.8 million. We expect to decrease our exposure to Citicorp Smith Barney as these principal protected notes come due and the underlying assets are placed into diversified securities.

We perform periodic credit evaluations of our customers' financial condition and generally do not require collateral. Four customers each accounted for 10% or more of our trade accounts receivable balance as of December 31, 2008 one at 34%, two at 11%, and one at 10%, respectively. Four customers each accounted for 10% or more of our trade accounts receivable balance as of December 31, 2007 one at 17%, one at 13% and two at 10%, respectively.

**Equity Risk**

We maintain minority investments in privately-held companies. These investments are reviewed for other than temporary declines in value on a quarterly basis. These investments are classified as other assets in the consolidated balance sheets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Reasons for other than temporary declines in value include whether the related company would have insufficient cash flow to operate for the next twelve months, significant changes in the operating performance and changes in market conditions. As of December 31, 2008 and 2007, the minority investments totaled \$0.4 million for both years.

**Item 8. Consolidated Financial Statements and Supplementary Data**

The consolidated financial statements, related notes thereto and financial statement schedule required by this item are listed and set forth beginning on page 59, and is incorporated by reference here. Supplementary financial information regarding quarterly financial information required by this item is set forth under the caption "Selected Quarterly Results of Operations" in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," and is incorporated by reference here.

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

None.

**Item 9A. Controls and Procedures**

**Evaluation of disclosure controls and procedures.** Disclosure controls and procedures are those controls and procedures designed to ensure that information required to be disclosed in our reports filed under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including the principal executive officer and principal financial officer, to allow timely decisions regarding required disclosure.

As of the end of the period covered by this report, we evaluated the effectiveness of the design and operation of our disclosure controls and procedures pursuant to the rules and regulations promulgated under the Securities Exchange Act of 1934, as amended. This evaluation was done under the supervision and with the participation of our principal executive officer and principal financial officer and other management. Based upon this evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were effective as of December 31, 2008 to provide a reasonable level of assurance that the financial information we are required to disclose in the reports we file or submit under the Exchange Act was recorded, processed, summarized and reported accurately within the time periods specified in the SEC's rules and forms.

**Management's report on internal control over financial reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Internal control over financial reporting is a process designed by, or under the supervision of, our principal executive officer and principal financial officer, and implemented by our Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with

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accounting principles generally accepted in the United States. Internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

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

Our management, under the supervision and with the participation of our principal executive officer and principal financial officer, has assessed the effectiveness of our internal control over financial reporting as of December 31, 2008 based on the criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that our internal control over financial reporting was effective as of December 31, 2008.

The effectiveness of our internal control over financial reporting as of December 31, 2008 has been audited by Burr, Pilger & Mayer LLP, an independent registered public accounting firm, as stated in their report which is included in this Annual Report on Form 10-K.

***Changes in internal control over financial reporting.*** There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2008 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information**

None.

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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

We have audited the internal control over financial reporting of AXT, Inc. and its subsidiaries (the "Company") as of December 31, 2008, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the effectiveness of the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

In our opinion, AXT, Inc. and its subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2008, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of AXT, Inc. and its subsidiaries as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2008 and our report dated March 31, 2009 expressed an unqualified opinion thereon.

/s/ Burr, Pilger & Mayer LLP

San Jose, California  
March 31, 2009

### PART III

The United States Securities and Exchange Commission ("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, Executive Officers and Corporate Governance***

The information required by this item with respect to identification of directors is incorporated by reference to the information contained in the section captioned "Information About our Board of Directors" in the Proxy Statement. The information with respect to our executive officers, is incorporated by reference to the information contained in the section captioned "Executive Officers" in the Proxy Statement. Information with respect to Items 405 of Regulation S-K is incorporated by reference to the information contained in the sections of the Proxy Statement captioned "Section 16(a) Beneficial Ownership Reporting Compliance." There will be no disclosure under Item 407(c)(3). Information with respect to Items 407(d)(4) and 407(d)(5) is incorporated by reference to the information contained in the sections of the Proxy Statement captioned "Corporate Governance—Committees of the Board of Directors."

The Board of Directors of AXT, Inc. has adopted a Code of Conduct and Ethics (the "Code") that applies to our principal executive officers, principal financial officer, and corporate controller, as well as other employees. A copy of this Code has been posted on our Internet website at [www.axt.com](http://www.axt.com). Any amendments to, or waivers from, a provision of our Code that applies to our principal executive officer, principal financial officer, controller, or persons performing similar functions and that relates to any element of the Code enumerated in paragraph (b) of Item 406 of Regulation S-K shall be disclosed by posting such information on our website.

#### **Item 11. *Executive Compensation***

The information required by this Item is incorporated herein by reference to information set forth in our definitive Proxy statement to be filed in connection with our annual meeting of stockholders to be held on May 26, 2009, under the section entitled "Executive Compensation and Other Matters."

#### **Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

The information required by this Item is incorporated herein by reference to information set forth in our definitive Proxy statement to be filed in connection with our annual meeting of stockholders to be held on May 26, 2009, under the section entitled "Security Ownership of Certain Beneficial Owners and Management and Equity Compensation Plan Information."

#### **Item 13. *Certain Relationships and Related Transactions and Director Independence***

Information required by this item will be set forth in the Proxy Statement for the 2009 Annual Meeting of Stockholders under the headings "Compensation Committee Interlocks and Insider Participation" and "Certain Relationships and Related Transactions," which information is incorporated herein by reference.

#### **Item 14. *Principal Accountant Fees and Services***

The information required by this Item is incorporated herein by reference to information set forth in our definitive Proxy statement to be filed in connection with our annual meeting of stockholders to be held on May 26, 2009, under the section entitled "Principal Accounting Firm Fees."

**PART IV**

**Item 15. Exhibits and Financial Statement Schedules**

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

(1) Financial Statements:

**INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

<a href="#">Report of Independent Registered Public Accounting Firm, Burr, Pilger &amp; Mayer LLP</a>	<a href="#">60</a>
<a href="#">Consolidated Balance Sheets</a>	<a href="#">61</a>
<a href="#">Consolidated Statements of Operations</a>	<a href="#">62</a>
<a href="#">Consolidated Statements of Stockholders' Equity</a>	<a href="#">63</a>
<a href="#">Consolidated Statements of Cash Flows</a>	<a href="#">64</a>
<a href="#">Notes to Consolidated Financial Statements</a>	<a href="#">65</a>

(2) Financial Statement Schedules

All schedules have been omitted because the required information is not applicable or because the information required is included in the consolidated financial statements or notes thereto.

(b) Exhibits

See Index to Exhibits attached elsewhere to this Form 10-K. 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.

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

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

We have audited the accompanying consolidated balance sheets of AXT, Inc. and its subsidiaries (the "Company") as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2008. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. 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 consolidated financial statements referred to above present fairly, in all material respects, the financial position of AXT, Inc. and its subsidiaries as of December 31, 2008 and 2007, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2008, in conformity with accounting principles generally accepted in the United States of America.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of the Company's internal control over financial reporting as of December 31, 2008, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 31, 2009 expressed an unqualified opinion thereon.

/s/ Burr, Pilger & Mayer LLP

San Jose, California

March 31, 2009

## AXT, INC.

## CONSOLIDATED BALANCE SHEETS

	December 31,	
	2008	2007
(In thousands, except per share data)		
<b>ASSETS</b>		
Current assets		
Cash and cash equivalents	\$ 13,566	\$ 18,380
Short-term investments	17,756	20,825
Accounts receivable, net of allowances of \$663 and \$379 as of December 31, 2008 and 2007, respectively	11,497	12,149
Inventories	35,082	24,781
Prepaid expenses and other current assets	3,131	3,569
Assets held for sale	—	5,140
Total current assets	81,032	84,844
Property, plant and equipment, net	22,184	15,986
Restricted deposits	3,013	6,700
Other assets	5,433	5,242
Total assets	\$ 111,662	\$ 112,772
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities		
Accounts payable	\$ 6,657	\$ 4,328
Accrued liabilities	1,967	2,330
Accrued compensation and related charges	764	966
Accrued product warranty	1,640	1,030
Line of credit	3,013	—
Current portion of long-term debt	73	450
Income taxes payable	82	390
Total current liabilities	14,196	9,494
Long-term debt, net of current portion	496	6,250
Other long-term liabilities	3,306	3,778
Total liabilities	17,998	19,522
Commitments and contingencies (Note 18)		
Stockholders' equity:		
Preferred stock, \$0.001 par value; 2,000 shares authorized; 883 shares issued and outstanding as of December 31, 2008 and 2007	3,532	3,532
Common stock, \$0.001 par value; 70,000 shares authorized; 30,513 and 30,358 shares issued and outstanding as of December 31, 2008 and 2007, respectively	30	30
Additional paid-in-capital	186,754	185,949
Accumulated deficit	(99,232)	(98,543)
Other comprehensive income	2,580	2,282
Total stockholders' equity	93,664	93,250
Total liabilities and stockholders' equity	\$ 111,662	\$ 112,772

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

**AXT, INC.**
**CONSOLIDATED STATEMENTS OF OPERATIONS**

	Years Ended December 31,		
	2008	2007	2006
	(In thousands, except per share data)		
Revenue	\$ 73,075	\$ 58,203	\$ 44,445
Cost of revenue	55,115	37,942	31,709
Gross profit	17,960	20,261	12,736
Operating expenses:			
Selling, general, and administrative	15,751	13,746	12,650
Research and development	2,164	1,699	2,351
Impairment (recovery) on assets held for sale	83	(481)	1,417
Restructuring benefit	—	—	(2)
Total operating expenses	17,998	14,964	16,416
Income (loss) from continuing operations	(38)	5,297	(3,680)
Interest income, net	513	704	443
Minority interests	(1,431)	(1,896)	(963)
Other income, net	1,290	1,912	3,672
Income (loss) from continuing operations before provision (benefit) for income taxes	334	6,017	(528)
Provision (benefit) for income taxes	1,023	728	(1,454)
Income (loss) from continuing operations	(689)	5,289	926
Discontinued operations:			
Gain from discontinued operations, net of tax	—	—	18
Gain from discontinued operations, net of tax	—	—	18
Net income (loss)	\$ (689)	\$ 5,289	\$ 944
Basic income (loss) per share:			
Income (loss) from continuing operations	\$ (0.03)	\$ 0.17	\$ 0.03
Gain from discontinued operations, net of tax	—	—	—
Net income (loss)	\$ (0.03)	\$ 0.17	\$ 0.03
Shares used in computing basic net income (loss) per share	30,400	30,035	23,303
Diluted income (loss) per share:			
Income (loss) from continuing operations	\$ (0.03)	\$ 0.16	\$ 0.03
Gain from discontinued operations, net of tax	—	—	—
Net income (loss)	\$ (0.03)	\$ 0.16	\$ 0.03
Shares used in computing diluted net income (loss) per share	30,400	31,348	24,600

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

AXT, INC.

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Preferred Stock		Common Stock				Other		Comprehensive Income/(loss)
	Shares	Amount	Shares	Amount	Additional Paid In Capital	Accumulated Deficit	Comprehensive Income/(loss)	Total	
(In thousands)									
Balance as of									
December 31, 2005	883	\$ 3,532	22,977	\$ 23	\$ 155,441	\$ (104,776)	\$ 1,398	\$55,618	\$ (12,409)
Common stock options exercised			284		556			556	
Stock-based compensation					822			822	
Issuance of common stock, net of stock issuance costs of \$1,752			5,750	6	24,117			24,123	
Comprehensive income:									
Net income						944		944	\$ 944
Change in unrealized (loss) gain on marketable securities							(1,331)	(1,331)	(1,331)
Currency translation adjustment							468	468	468
Balance as of									
December 31, 2006	883	3,532	29,011	29	180,936	(103,832)	535	81,200	\$ 81
Common stock options exercised			461		902			902	
Stock-based compensation					498			498	
Issuance of common stock, net of stock issuance costs of \$60			863	1	3,613			3,614	
Issuance of common stock in the form of restricted stock			23						
Comprehensive income:									
Net income						5,289		5,289	\$ 5,289
Change in unrealized (loss) gain on marketable securities							(3)	(3)	(3)
Currency translation adjustment							1,750	1,750	1,750
Balance as of									
December 31, 2007	883	3,532	30,358	30	185,949	(98,543)	2,282	93,250	\$ 7,036
Common stock options exercised			92		171			171	
Stock-based compensation					634			634	
Issuance of common stock in the form of restricted stock			63						
Comprehensive loss:									
Net loss						(689)		(689)	\$ (689)
Change in unrealized (loss) gain on marketable securities							(1,533)	(1,533)	(1,533)
Currency translation adjustment							1,831	1,831	1,831
Balance as of									
December 31, 2008	883	\$ 3,532	30,513	\$ 30	\$ 186,754	\$ (99,232)	\$ 2,580	\$93,664	\$ (391)

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

**AXT, INC.**
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Years Ended December 31,		
	2008	2007	2006
	(In thousands)		
<b>Cash flows from operating activities:</b>			
Net income (loss)	\$ (689)	\$ 5,289	\$ 944
Adjustments to reconcile net income (loss) to cash provided by (used in) operations:			
Depreciation	2,194	1,473	2,625
Amortization (accretion) of marketable securities premium/discount	(9)	(52)	(79)
Stock-based compensation	634	498	822
Impairment (recovery of impairment) on assets held for sale	83	(481)	1,417
Realized gain on sale of investments	(326)	(1,028)	(3,301)
Loss (gain) on disposal of property, plant and equipment	8	(16)	115
Changes in assets and liabilities:			
Accounts receivable, net	805	(2,351)	(4,432)
Inventories	(10,047)	(4,269)	(4,107)
Prepaid expenses	544	591	(2,184)
Other assets	(135)	(874)	(466)
Accounts payable	2,162	461	694
Accrued liabilities	4	893	(640)
Income taxes	(312)	188	(2,317)
Other long-term liabilities	(633)	998	646
Net cash provided by (used in) operating activities	(5,717)	1,320	(10,263)
<b>Cash flows from investing activities:</b>			
Purchases of property, plant and equipment	(6,788)	(3,706)	(4,458)
Proceeds from disposal of property, plant and equipment	5	62	173
Purchases of marketable securities	(22,624)	(36,105)	(27,346)
Proceeds from sale of marketable securities	24,495	35,785	15,522
Proceeds from sale of assets held for sale	5,057	—	—
Decrease in restricted deposits	3,687	450	300
Net cash provided by (used in) investing activities	3,832	(3,514)	(15,809)
<b>Cash flows from financing activities:</b>			
Proceeds from issuance of common stock	171	4,516	24,679
Proceeds from line of credit	3,013	—	—
Long-term debt payments	(6,706)	(592)	(431)
Net cash provided by (used in) financing activities	(3,522)	3,924	24,248
Effect of exchange rate changes	593	534	468
Net increase (decrease) in cash and cash equivalents	(4,814)	2,264	(1,356)
Cash and cash equivalents at the beginning of the year	18,380	16,116	17,472
Cash and cash equivalents at the end of the year	\$ 13,566	\$ 18,380	\$ 16,116
<b>Supplemental disclosures:</b>			

Interest paid	\$	227	\$	382	\$	372
Income taxes paid	\$	1,492	\$	483	\$	1,978

**Supplemental non-cash investing and financing activities:**

Property, plant and equipment acquired through the issuance of debt	\$	575	\$	—	\$	—
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The accompanying notes are an integral part of these consolidated financial statements.

**AXT, INC.**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 1. The Company and Summary of Significant Accounting Policies**

***The Company***

AXT, Inc. ("AXT", "we," "us," and "our" refer to AXT, Inc. and all of its subsidiaries) designs, develops, manufactures and distributes high-performance compound semiconductor substrates. Our substrate products are used primarily in wireless communications, lighting display applications, and fiber optic communications. We believe our vertical gradient freeze, or VGF, technique for manufacturing semiconductor substrates provides significant benefits over other methods and enabled us to become a leading manufacturer of such substrates. We pioneered the commercial use of VGF technology to manufacture gallium arsenide (GaAs) substrates and subsequently used VGF technology to manufacture substrates from indium phosphide (InP), and germanium (Ge). We also manufacture and sell raw materials related to our substrate business through five joint ventures located in China. These joint ventures produce products including 99.99% pure gallium (4N Ga), high purity gallium, arsenic, and germanium, germanium dioxide, paralytic boron nitride (pBN) crucibles, and boron oxide. AXT's ownership interest in these entities ranges from 25 percent to 83 percent. We consolidate the three ventures in which we own a majority or controlling share and employ equity accounting for the two joint ventures in which we have a 25 percent interest. We purchase the materials produced by these ventures for our use and sell other portions of their production to third parties.

***Use of Estimates***

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities 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 materially from these estimates.

***Principles of Consolidation***

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

***Fair Value of Financial Instruments***

The carrying amounts of certain of our financial instruments including cash and cash equivalents, accounts receivable, short-term investments, accounts payable and accrued liabilities approximate fair value due to their short maturities. The carrying amounts of short-term and long-term debt approximate fair value due to the market interest rates that these debts bear and interest rates currently available to us.

***Reclassifications***

Certain reclassifications have been made to the prior years' consolidated financial statements to conform to current year presentation. These reclassifications had no impact on previously reported total assets, stockholders' equity or net income (loss).

### ***Foreign Currency Translation***

The functional currencies of our Chinese subsidiaries are the local currencies. Transaction gains and losses resulting from transactions denominated in currencies other than the U.S. dollar or in the functional currencies of our subsidiaries are included in other income, net 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 (loss) in stockholders' equity.

### ***Revenue Recognition***

We recognize revenue upon the shipment of our products to customers when:

- we have received a signed purchase order placed by our customers,
- the price is fixed or determinable,
- title and risk of ownership has transferred to our customers upon shipment from our dock, receipt at customer's dock, or removal from consignment inventory at customer's location,
- collection of resulting receivables is probable, and
- product returns are reasonably estimable.

We do not provide training, installation or commissioning services. Our terms and conditions of sale do not require customer acceptance. We assess the probability of collection based on a number of factors including past history with the customer and credit worthiness. We provide for future returns based on historical experience, current economic trends and changes in customer demand at the time revenue is recognized. Additionally, we do not provide discounts or other incentives to customers. We present our revenue net of any taxes assessed by any governmental authority.

### ***Accounting for Sales Taxes in Net Revenues***

We report sales taxes collected on sales of our products as a component of net revenues and as accrued liabilities on our consolidated balance sheets. The amount is immaterial for fiscal years 2008, 2007 and 2006.

### ***Concentration of Credit Risk***

Our business is very dependant on the semiconductor industry, which is highly cyclical and has historically experienced downturns as a result of economic changes, overcapacity, and technological advancements. Significant technological changes in the industry or customer requirements, or the emergence of competitive products with new capabilities or technologies, could adversely affect operating results. In addition, a significant portion of our revenues and net income (loss) is derived from international sales. Fluctuations of the United States dollar against foreign currencies and changes in local regulatory or economic conditions, particularly in an emerging market such as China, could adversely affect operating results.

We depend on a single or limited number of suppliers for certain critical materials used in the production of our substrates, such as quartz tubing, and polishing solutions. We generally purchase these materials through standard purchase orders and not pursuant to long-term supply contracts.

Financial instruments that potentially subject us to concentration of credit risk consist primarily of cash equivalents, short-term investments, and trade accounts receivable. We invest primarily in money market accounts, commercial paper instruments, and investment grade securities with high quality

financial institutions. The composition and maturities are regularly monitored by management. Such deposits are in excess of the amount of the insurance provided by the federal government on such deposits. We are exposed to credit risks in the event of default by the issuers to the extent of the amount recorded on the consolidated balance sheets. As of December 31, 2008, we have approximately \$22.3 million in principal protected notes with Citicorp Smith Barney, which had a fair value of approximately \$20.8 million.

We perform ongoing credit evaluations of our customers' financial condition, and limit the amount of credit extended when deemed necessary, but generally do not require collateral. The credit risk in our accounts receivable is substantially mitigated by our credit evaluation process, reasonably short collection terms and the geographical dispersion of sales transactions. One customer represented greater than 10% of revenue for the year ended December 31, 2008, totaling 19%, one customer represented greater than 10% of revenue for the year ended December 31, 2007, totaling 12%, while two customers represented greater than 10% of revenue, totaling 16% and 13%, for the year ended December 31, 2006. Our top five customers represented 46% of revenue for the year ended December 31, 2008, 40% of revenue for the year ended December 31, 2007, and 42% of revenue for the year ended December 31, 2006. We expect that sales to a small number of customers will continue to comprise a significant portion of our revenue in the future. Four customers each accounted for 10% or more of our trade accounts receivable balance as of December 31, 2008 at 34%, 11%, 11% and 10%, respectively. Four customers each accounted for 10% or more of our trade accounts receivable balance as of December 31, 2007 at 17%, 13%, 10% and 10%, respectively.

#### ***Cash Equivalents and Short-Term Investments***

We classify our investments in debt and equity securities as available-for-sale securities as prescribed by Statement of Financial Accounting Standards ("SFAS") No. 115, *Accounting for Certain Investments in Debt and Equity Securities*. We consider investments in highly liquid instruments purchased with an original maturity of three months or less to be cash equivalents. Our short-term investments are reported at fair value as of the respective balance sheet dates with unrealized gains and losses included in accumulated other comprehensive income (loss) within stockholders' equity on the consolidated balance sheets. The amortized cost of securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization is included in other income, net in the consolidated statements of operations. Realized gains and losses and declines in value judged to be other than temporary on available-for-sale securities are also included in other income, net in the consolidated statements of operations. The cost of securities sold is based upon the specific identification method.

All available-for-sale securities with a quoted market value below cost (or adjusted cost) are reviewed in order to determine whether the decline is other-than-temporary. Factors considered in determining whether a loss is temporary include the magnitude of the decline in market value, the length of time the market value has been below cost (or adjusted cost), credit quality, and our ability and intent to hold the securities for a period of time sufficient to allow for any anticipated recovery in market value.

We maintain in restricted deposits an amount equal to the amount of the line of credit withdrawn.

#### ***Accounts Receivable and Allowance for Doubtful Accounts***

Accounts receivable are recorded at the invoiced amount and are not interest bearing. We maintain an allowance for doubtful accounts to reserve for potentially uncollectible trade receivables. We also review our trade receivables by aging category to identify specific customers with known disputes or collectibility issues. We exercise judgment when determining the adequacy of these reserves as we evaluate historical bad debt trends, general economic conditions in the United States and

internationally, and changes in customer financial conditions. Uncollectible receivables are recorded as bad debt expense when all efforts to collect have been exhausted and recoveries are recognized when they are received.

As of December 31, 2006, our allowance for doubtful accounts was \$0.1 million. During 2007, we increased this allowance by \$0.3 million primarily for slow-paying customers in Asia, resulting in the allowance for doubtful accounts of \$0.4 million as of December 31, 2007. As of December 31, 2007, our accounts receivable balance was \$12.1 million, which was net of an allowance for doubtful accounts of \$0.4 million. As of December 31, 2008, our accounts receivable balance was \$11.5 million, which was net of an allowance for doubtful accounts of \$0.6 million. The increase of \$0.2 million in allowance for doubtful accounts from prior year was mainly for one slow-paying customer in the United States in the amount of \$0.4 million, offset by subsequent collections from an Asian customer in the amount of \$0.2 million. No amounts have been written off. If actual uncollectible accounts differ substantially from our estimates, revisions to the estimated allowance for doubtful accounts would be required, which could have a material impact on our financial results for the period.

The allowance for sales returns is also deducted from gross accounts receivable. Our allowance for sales returns was \$48,000 as of December 31, 2006. During 2007, we utilized \$45,000 resulting in the allowance for sales returns of \$3,000 as of December 31, 2007. During 2008, we charged an additional \$130,000 in sales returns resulting in the allowance for sales returns of \$133,000 as of December 31, 2008.

### ***Inventories***

Inventories are stated at the lower of cost (approximated by standard cost) or market. Cost is determined using the weighted average cost method. Our inventory consists of raw materials as well as finished goods and work-in-process that include material, labor and manufacturing overhead costs. Provision for potentially obsolete or slow moving inventory is made based on management's analysis of inventory levels and sales forecasts.

### ***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 3 to 27.5 years. Leasehold improvements are amortized over the shorter of the estimated useful life or the term of the lease. We generally depreciate computers and software over 3 years, office equipment, furniture and fixtures over 3 years, automobiles over 5 years, leasehold improvements over 10 years, and buildings over 27.5 years. Repairs and maintenance costs are expensed as incurred.

### ***Impairment of Long-Lived Assets***

We evaluate the recoverability of property, plant and equipment, and intangible assets with definite lives in accordance with SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets." When events and circumstance indicate that long-lived assets may be impaired, management compares the carrying value of the long-lived assets to the projection of future undiscounted cash flows attributable to such assets and in the event that the carrying value exceeds the future undiscounted cash flows, we record an impairment charge against income equal to the excess of the carrying value over the asset's fair value. In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after

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deducting estimated commission and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. The sale of the property was consummated in March 2008 and we recorded an \$83,000 impairment charge due to the final sales price of the property. We no longer have "Assets held for sale" on the consolidated balance sheet.

### ***Segment Reporting***

Our business is conducted in a single operating segment. Our principal executive officer reviews a single set of financial data that encompasses our entire operations for purposes of making operating decisions and assessing financial performance. Our principal executive officer manages our Company based primarily on broad functional categories of sales, manufacturing, product development and engineering and marketing and strategy. While we obtain financial statements from all of our joint ventures in order to prepare our consolidated financial statements, we do not review them either individually or in the aggregate when making operating decisions for our business. We manage the Company on a consolidated basis with a review of revenue by product. We discuss revenue and capacity for both AXT and our joint ventures collectively, when determining capacity constraints and need for raw materials in our business, and consider their capacity when determining our strategic and product marketing and advertising strategies. While we consolidate three of the joint ventures we do not allocate resources to any of them, nor allocate any portion of overhead, interest and other income, interest expense or taxes to them. We therefore have determined that our joint venture operations do not constitute an operating segment.

### ***Investments***

We invest in equity instruments of privately-held companies for business and strategic purposes. These investments are classified as other assets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Determination of impairment is highly subjective and is based on a number of factors, including an assessment of the strength of investee's management, the length of time and extent to which the fair value has been less than our cost basis, the financial condition and near-term prospects of the investee, fundamental changes to the business prospects of the investee, share prices of subsequent offerings, and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in our carrying value.

### ***Stock-Based Compensation***

We have employee stock option plans, which are described more fully in Note 11—Employee Benefit Plans. We account for stock-based compensation in accordance with the provisions of SFAS No. 123 (revised 2004), "*Share-Based Payment*," ("SFAS 123(R)"), which established accounting for stock-based awards exchanged for employee services. Accordingly, stock-based compensation cost is measured at each grant date, based on the fair value of the award, and is recognized as expense over the employee's requisite service period of the award. All of the Company's stock compensation is accounted for as an equity instrument. The provisions of SFAS 123(R) apply to all awards granted or modified after the date of adoption which was January 1, 2006. The unrecognized expense of awards not yet vested at the date of adoption will be recognized in net income (loss) in the periods after the date of adoption using the same Black-Scholes valuation method and assumptions determined under the original provisions of SFAS No. 123, "*Accounting for Stock-Based Compensation*."

We recorded \$634,000, \$498,000 and \$822,000 in our consolidated statements of operations for the years ended December 31, 2008, 2007 and 2006, respectively. We elected not to capitalize any stock-based compensation to inventory as of January 1, 2007 when the provisions of SFAS 123(R) were

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initially adopted. We utilized the Black-Scholes valuation model for estimating the fair value of the stock compensation granted both before and after the adoption of SFAS 123(R). The following table summarizes compensation costs related to our stock-based compensation awards (in thousands, except per share data):

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Stock-based compensation in the form of employee stock options and restricted stock, included in:			
Cost of revenue	\$ 53	\$ 53	\$ 96
Selling, general and administrative	467	360	539
Research and development	114	85	187
Total stock-based compensation	<u>634</u>	<u>498</u>	<u>822</u>
Tax effect on stock-based compensation	—	—	—
Net effect on net income	<u>\$ 634</u>	<u>\$ 498</u>	<u>\$ 822</u>
Shares used in computing basic net income per share	<u>30,400</u>	<u>30,035</u>	<u>23,303</u>
Shares used in computing diluted net income per share	<u>30,400</u>	<u>31,348</u>	<u>24,600</u>
Effect on basic net income per share	\$ (0.02)	\$ (0.02)	\$ (0.04)
Effect on diluted net income per share	\$ (0.02)	\$ (0.02)	\$ (0.03)

As of December 31, 2008, the total compensation cost related to unvested stock-based awards granted to employees under our stock option plans but not yet recognized was approximately \$1.1 million, net of estimated forfeitures of \$139,000. This cost will be amortized on a straight-line basis over a weighted-average period of approximately 2.79 years and will be adjusted for subsequent changes in estimated forfeitures. As of December 31, 2007, the total compensation cost related to unvested stock-based awards granted to employees under our stock option plans but not yet recognized was approximately \$1.5 million, net of estimated forfeitures of \$53,000. This cost is being amortized on a straight-line basis over a weighted-average period of approximately 2.55 years and will be adjusted for subsequent changes in estimated forfeitures. We elected not to capitalize any stock-based compensation to inventory as of December 31, 2008 and 2007, as the amounts are not significant.

We estimate the fair value of stock options using a Black-Scholes valuation model, consistent with the provisions of SFAS 123(R) and Securities and Exchange Commission Staff Accounting Bulletin No. 107. The weighted-average grant date fair value of our stock options granted to employees during 2008, 2007, and 2006 was \$0.77, \$2.60, and \$2.89 per share, respectively. The fair value of options granted was estimated at the date of grant using the following weighted-average assumptions:

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Risk-free interest rate	2.30%	3.11%	4.7%
Expected life (in years)	4.0	3.9	3.9
Dividend yield	—	—	—
Estimated forfeitures	4.3%	5.7%	12.4%
Volatility	60.5%	59.8%	78.2%

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The dividend yield of zero is based on the fact that we have never paid cash dividends and have no present intention to pay cash dividends. Expected volatility is based on the combination of historical volatility of the Company's common stock and the expected future volatility over the period commensurate with the expected life of the options. The risk-free interest rates are taken from the Daily Federal Yield Curve Rates as of the grant dates as published by the Federal Reserve and represent the yields on actively traded Treasury securities for terms equal to the expected term of the options. The expected term calculation for stock options is based on the observed historical option exercise behavior and post-vesting forfeitures of options by our employees. Assumptions related to the Employee Stock Purchase Plan are not presented as the related compensation expense amounts are insignificant. The Employee Stock Purchase Plan was suspended in February 2006.

### ***Research and Development***

Research and development costs consist primarily of salaries including stock compensation expense and related personnel costs, depreciation and product testing and are expensed as incurred.

### ***Advertising Costs***

Advertising costs, included in selling, general and administrative, are expensed as incurred. Advertising costs for the years ended December 31, 2008, 2007, and 2006 were \$76,000, \$75,000 and \$52,000, respectively.

### ***Shipping and Handling costs***

We include fees billed to customers and costs incurred for shipping and handling as a component of cost of sales.

### ***Income Taxes***

We account 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 net deferred tax assets when management estimates, based on available objective evidence, that it is more likely than not that the future income tax benefit represented by the net deferred tax asset will not be realized.

We adopted FASB Interpretation No. 48 ("FIN 48"), "*Accounting for Uncertainty in Income Taxes—an interpretation of FASB Statement No. 109*," on January 1, 2007. FIN 48 is an interpretation of SFAS No. 109 ("SFAS 109"), "*Accounting for Income Taxes*," and it seeks to reduce the diversity in practice associated with certain aspects of measurement and recognition in accounting for income taxes. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax provision that an entity takes or expects to take in a tax return. Additionally, FIN 48 provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosures, and transition. Under FIN 48, an entity may only recognize or continue to recognize tax positions that meet a "more likely than not" threshold. In accordance with our accounting policy, we recognize accrued interests and penalties related to unrecognized tax benefits as a component of income tax expense. The impact on adoption of FIN 48 is more fully described in Note 13.

### ***Comprehensive Income (Loss)***

We report comprehensive income or loss in accordance with the provisions of SFAS No. 130, "*Reporting Comprehensive Income*," which establishes standards for reporting comprehensive income or loss and its components in the financial statements. The components of other comprehensive income

(loss) consist of unrealized gains and losses on marketable securities and foreign currency translation adjustments. Comprehensive income (loss) is presented in the accompanying consolidated statements of stockholders' equity. The balance of accumulated other comprehensive income is as follows (in thousands):

	<u>As of December 31,</u>	
	<u>2008</u>	<u>2007</u>
Accumulated other comprehensive income:		
Unrealized loss on investments, net	\$(1,579)	\$ (46)
Cumulative translation adjustment	4,159	2,328
	<u>\$ 2,580</u>	<u>\$2,282</u>

### ***Net Income (Loss) Per Share***

Basic net income (loss) per share is computed using the weighted average number of common shares outstanding during the periods. Diluted net income (loss) per share is computed using the weighted average number of common shares outstanding and potentially dilutive common shares outstanding during the periods. Potentially dilutive common shares consist of common shares issuable upon the exercise of stock options. Potentially dilutive common shares are excluded in net loss periods, as their effect would be anti-dilutive.

### ***Recent Accounting Pronouncements***

In September 2006, the FASB issued SFAS No. 157, "*Fair Value Measurements*" ("SFAS 157"). SFAS 157 defines fair value, establishes a framework and gives guidance regarding the methods used for measuring fair value, and expands disclosures about fair value measurements. SFAS 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods of those fiscal years. In February 2008, the FASB released a FASB Staff Position (FSP FAS 157-2-~~Effective Date of FASB Statement No. 157~~) which delays the effective date of SFAS 157 for all nonfinancial assets and nonfinancial liabilities, except those that are recognized or disclosed at fair value in the financial statements on a recurring basis (at least annually) to fiscal years beginning after November 15, 2008. These non-financial items include assets and liabilities such as reporting units measured at fair value in a goodwill impairment test and non-financial assets acquired and liabilities assumed in a business combination. The partial adoption of SFAS 157 as of January 1, 2008 for financial assets and liabilities did not have a material impact on our consolidated financial position, results of operations or cash flows.

In February 2007, the FASB issued SFAS No. 159, "*The Fair Value Option for Financial Assets and Financial Liabilities—Including an amendment of FASB Statement No. 115*" ("SFAS 159"). SFAS 159 expands the use of fair value accounting to many financial instruments and certain other items. The fair value option is irrevocable and generally made on an instrument-by-instrument basis, even if a company has similar instruments that it elects not to measure based on fair value. SFAS 159 is effective for fiscal years beginning after November 15, 2007. We have not elected the fair value option. Therefore, the adoption of SFAS 159 in the first quarter of fiscal 2008 did not impact our consolidated financial position, results of operations or cash flows.

In December 2007, the FASB issued SFAS No. 141 (revised 2007), "*Business Combinations*", ("SFAS 141R"). SFAS 141R establishes the principles and requirements for how an acquirer in a business combination (1) recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquiree, (2) recognizes and measures the goodwill acquired in the business combination or a gain from a bargain purchase and (3) determines what information to disclose to enable users of the financial statements to evaluate the

nature and financial effects of the business combination. SFAS 141(R) will be applicable beginning with our fiscal 2009. The impact of the adoption of SFAS 141(R) on our results of operations and financial position will depend on the nature and extent of business combinations that we complete, if any, in or after fiscal 2009.

In December 2007, the FASB issued SFAS No. 160, *"Noncontrolling Interests in Consolidated Financial Statements"* ("SFAS 160"). SFAS 160 requires that minority interest be separately reported in the consolidated entity's equity section and that no gain or loss shall be reported when transactions occur between the controlling interest and the non-controlling interests. Furthermore, the acquisition of non-controlling interest by the controlling interest is not treated as a business combination. SFAS 160 is effective for fiscal years beginning after December 15, 2008. We have not yet evaluated the impact that the adoption of SFAS 160 will have on our consolidated financial position, results of operations or cash flows.

In March 2008, the FASB issued SFAS No. 161, *"Disclosures about Derivative Instruments and Hedging Activities"* ("SFAS 161"). SFAS 161 requires companies with derivative instruments to disclose information that should enable financial-statement users to understand how and why a company uses derivative instruments, how derivative instruments and related hedged items affect a company's financial position, financial performance and cash flows. SFAS 161 is effective for financial statements issued for fiscal years and interim periods beginning after November 15, 2008. Based on our current operations, we do not expect that the adoption of SFAS 161 will have a material impact on our consolidated financial position or results of operations.

In June 2008, the FASB issued FASB Staff Position ("FSP") Emerging Issues Task Force (EITF) 03-6-1, *"Determining Whether Instruments Granted in Share-Based Payment Transactions Are Participating Securities"* (FSP EITF 03-6-1). FSP EITF 03-6-1 provides that unvested share-based payment awards that contain nonforfeitable rights to dividends or dividend equivalents (whether paid or unpaid) are participating securities and shall be included in the computation of earnings per share pursuant to the two-class method. FSP EITF 03-6-1 is effective for financial statements issued for fiscal years beginning after December 15, 2008 and interim periods within those years. Upon adoption, a company is required to retrospectively adjust its earnings per share data (including any amounts related to interim periods, summaries of earnings and selected financial data) to conform with the provisions in FSP EITF 03-6-1. Early application of FSP EITF 03-6-1 is prohibited. We do not expect that the adoption of FSP EITF 03-6-1 will have a material impact on our consolidated financial position, results of operations or cash flows.

On October 10, 2008, the FASB issued FSP No. 157-3 ("FSP 157-3"), *"Determining the Fair Value of a Financial Asset When the Market for That Asset is Not Active"* ("FSP 157-3"), to clarify the application of SFAS 157 in a market that is not active, providing an example to illustrate key considerations in determining the fair value of a financial asset when the market for that financial asset is not active. This FSP applies to financial assets within the scope of accounting pronouncements that require or permit fair value measurement in accordance with SFAS 157 and is effective upon issuance. We have determined there is no impact from adopting the provisions of FSP 157-3 on our consolidated financial position, results of operations or cash flows.

## **Note 2. Discontinued Operations**

In June 2003, we announced the discontinuation of our opto-electronics division, which we had established as part of our acquisition of Lyte Optronics, Inc. in May 1999, and thereafter segregated the results of operations of the opto-electronics division from continuing operations and reported them separately as discontinued operations in our consolidated statements of operations for all periods presented.

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In September 2003, we completed the sale of substantially all of the assets of our opto-electronics business to Lumei Optoelectronics Corp. (Lumei) and Dalian Luming Science and Technology Group, Co., Ltd. for the Chinese Renminbi (RMB) equivalent of \$9.6 million. A portion of the purchase price equal to \$1.0 million was held in escrow to satisfy any claims that the purchasers might make for breaches of representations or warranties by us. After resolution of all claims made against the escrow, approximately \$0.2 million was received from escrow in 2004, while the remaining \$0.6 million was received in 2005. For the year ended December 31, 2005, we recorded a \$0.6 million gain from escrow refund, a \$0.1 million gain in property tax refunds and gain on disposal of properties, offset by \$0.2 million in expenses totaling a net gain of \$0.5 million.

In June 2005, we completed the sale of a building located in Monterey Park, California. We received net proceeds on the sale of the property of approximately \$1.3 million and accordingly recorded a gain on disposal of \$0.1 million.

In 2006, the \$18,000 in income was from interest on cash balances held in the discontinued operations.

In the first quarter of 2007, we dissolved the corporation that previously operated our discontinued operations and transferred the cash balance to our continuing operations. Accordingly, we no longer have discontinued operations.

Our consolidated financial statements have been presented to reflect the opto-electronics business as a discontinued operation for all periods presented. Operating results of the discontinued operation are as follows (in thousands):

	Years Ended		
	December 31,		
	2008	2007	2006
Revenue	\$—	\$—	\$ —
Cost of revenue	—	—	—
Gross profit	—	—	—
Operating expenses:			
Selling, general and administrative	—	—	—
Total operating expenses	—	—	—
Gain from operations	—	—	—
Other income, net	—	—	18
Gain from discontinued operations before gain on disposal	—	—	18
Gain on disposal	—	—	—
Net gain from discontinued operations	\$—	\$—	\$ 18

The carrying value of the assets and liabilities of the discontinued opto-electronics business is zero.

**Note 3. Cash, Cash Equivalents and Investments**

Our cash, cash equivalents and investments are classified as follows (in thousands):

	December 31, 2008				December 31, 2007			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized (Loss)	Fair Value
<b>Classified as:</b>								
Cash	\$ 13,385	\$ —	\$ —	\$ 13,385	\$ 10,818	\$ —	\$ —	\$10,818
<b>Cash equivalents:</b>								
Money market fund	181	—	—	181	7,562	—	—	7,562
US Treasury and agency securities	—	—	—	—	—	—	—	—
Total cash equivalents	181	—	—	181	7,562	—	—	7,562
Total cash and cash equivalents	13,566	—	—	13,566	18,380	—	—	18,380
<b>Investments:</b>								
US Treasury and agency securities	—	—	—	—	1,400	—	—	1,400
Asset-backed securities	—	—	—	—	3,820	—	(77)	3,743
Commercial paper	—	—	—	—	3,300	—	(115)	3,185
Corporate bonds	22,348	—	(1,579)	20,769	19,051	260	(114)	19,197
Total investments	22,348	—	(1,579)	20,769	27,571	260	(306)	27,525
Total cash, cash equivalents and investments	\$ 35,914	\$ —	\$ (1,579)	\$ 34,335	\$ 45,951	\$ 260	\$ (306)	\$45,905
<b>Contractual maturities on investments:</b>								
Due within 1 year	\$ 4,060			\$ 3,822	\$ 2,050			\$ 2,050
Due after 1 through 5 years	18,286			16,947	25,521			25,475
	\$ 22,346			\$ 20,769	\$ 27,571			\$27,525

The investments include \$3.0 million and \$6.7 million recorded as restricted deposits on the consolidated balance sheets as of December 31, 2008 and 2007. The \$3.0 million restricted deposit was a drawdown of our line of credit facility, with an annual interest rate of approximately 4% as of December 31, 2008.

We manage our investments as a single portfolio of highly marketable securities that is intended to be available to meet our current cash requirements. We have no investments in auction rate securities. For the year ended December 31, 2008, we had \$0.3 million of gross realized gains on sales of our available-for-sale securities. For the year ended December 31, 2007, we had \$1.0 million of gross realized gains on sales of our available-for-sale securities.

The gross unrealized losses related to our portfolio of available-for-sale securities were primarily due to a decrease in the fair value of debt securities as a result of an increase in interest rates during 2008. We have determined that the gross unrealized losses on our available-for-sale securities as of December 31, 2008 are temporary in nature. We reviewed our investment portfolio to identify and evaluate investments that have indications of possible impairment. Factors considered in determining whether a loss is temporary include the magnitude of the decline in market value, the length of time the market value has been below cost (or adjusted cost), credit quality, and our ability and intent to hold the securities for a period of time sufficient to allow for any anticipated recovery in market value.

The following table provides a breakdown of our available-for-sale securities with unrealized losses as of December 31, 2008 and 2007 (in thousands):

	In Loss Position < 12 months		In Loss Position > 12 months		Total In Loss Position	
	Fair	Gross	Fair	Gross	Fair	Gross
	Value	Unrealized (Loss)	Value	Unrealized (Loss)	Value	Unrealized (Loss)
<b>2008</b>						
Investments:						
Asset-backed securities	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Commercial paper	—	—	—	—	—	—
Corporate bonds	17,583	(1,365)	3,186	(214)	20,769	(1,579)
<b>Total in loss position</b>	<b>\$17,583</b>	<b>\$ (1,365)</b>	<b>\$3,186</b>	<b>\$ (214)</b>	<b>\$20,769</b>	<b>\$ (1,579)</b>

	In Loss Position < 12 months		In Loss Position > 12 months		Total In Loss Position	
	Fair	Gross	Fair	Gross	Fair	Gross
	Value	Unrealized (Loss)	Value	Unrealized (Loss)	Value	Unrealized (Loss)
<b>2007</b>						
Investments:						
US Treasury and agency securities	\$ 3,743	\$ (77)	\$—	\$ —	\$ 3,743	\$ (77)
Asset-backed securities	3,185	(115)	—	—	3,185	(115)
Corporate bonds	13,286	(114)	—	—	13,286	(114)
<b>Total in loss position</b>	<b>\$ 20,214</b>	<b>\$ (306)</b>	<b>\$—</b>	<b>\$ —</b>	<b>\$20,214</b>	<b>\$ (306)</b>

**Investments in Privately-held Companies**

We have made strategic investments in private companies located in China in order to gain access at a competitive cost to raw materials that are critical to our substrate business (see Note 6). As of December 31, 2008 and December 31, 2007, our investments in unconsolidated privately-held companies had a carrying value of \$4.1 million and \$3.3 million, respectively, and are included in "other assets" in the condensed consolidated balance sheets.

**Fair Value Measurements**

On January 1, 2008, we adopted SFAS 157 which defines fair value, establishes a framework for using fair value to measure assets and liabilities, and expands disclosures about fair value measurements. SFAS 157 applies whenever other statements require or permit assets or liabilities to be measured at fair value. SFAS 157 is effective for fiscal years beginning after November 15, 2007, except for non-financial assets and liabilities that are recognized or disclosed at fair value in the financial statements on a nonrecurring basis, for which application has been deferred for one year.

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The following table summarizes our financial assets and liabilities measured at fair value on a recurring basis in accordance with SFAS 157 as of December 31, 2008 (in thousands):

	Balance as of December 31, 2008	Quoted Prices in Active Markets of Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)
Assets:			
Short-term investments:			
Money market fund	\$ 181	\$ 181	\$ —
Corporate bonds	20,769	—	20,769
<b>Total</b>	<b>\$ 20,950</b>	<b>\$ 181</b>	<b>\$ 20,769</b>
Liabilities	\$ —	\$ —	\$ —

Our financial assets and liabilities are valued using market prices on both active markets (Level 1) and less active markets (Level 2). Level 1 instrument valuations are obtained from real-time quotes for transactions in active exchange markets involving identical assets. Level 2 instrument valuations are obtained from readily-available pricing sources for comparable instruments. As of December 31, 2008, we did not have any assets or liabilities without observable market values that would require a high level of judgment to determine fair value (Level 3 assets).

**Items Measured at Fair Value on a Nonrecurring Basis**

Certain assets that are subject to nonrecurring fair value measurements are not included in the table above. These assets include equity and cost method investments in private companies. We did not record other-than-temporary impairment charges for either of these investments during 2008.

**Note 4. Inventories, Net**

The components of inventory are summarized below (in thousands):

	As of December 31,	
	2008	2007
Inventories:		
Raw materials	\$17,863	\$11,154
Work in process	12,961	12,254
Finished goods	4,258	1,373
	<b>\$35,082</b>	<b>\$24,781</b>

**Note 5. Property, Plant and Equipment, Net**

The components of our property, plant and equipment are summarized below (in thousands):

	<u>As of December 31,</u>	
	<u>2008</u>	<u>2007</u>
Property, plant and equipment:		
Building	\$ 16,100	\$ 12,642
Machinery and equipment	26,225	22,835
Leasehold improvements	1,961	861
Construction in progress	2,207	2,290
	<u>46,493</u>	<u>38,628</u>
Less: accumulated depreciation and amortization	(24,309)	(22,642)
	<u>\$ 22,184</u>	<u>\$ 15,986</u>

Depreciation expense was \$2.2 million, \$1.5 million, and \$2.6 million for the years ended 2008, 2007, and 2006, respectively.

**Note 6. Investments in Privately-held Companies**

We have made strategic investments in private companies located in China in order to gain access to raw materials at a competitive cost that are critical to our substrate business.

Our investments are summarized below (in thousands):

<u>Company</u>	<u>Investment Balance</u>		<u>Accounting</u>	<u>Ownership</u>
	<u>As of December 31,</u>	<u>As of December 31,</u>		
	<u>2008</u>	<u>2007</u>		
Beijing JiYa Semiconductor Material Co., Ltd	\$ 996	\$ 996	Consolidated	46%
Nanjing Jin Mei Gallium Co., Ltd	592	592	Consolidated	83%
Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd	410	410	Consolidated	70%
Xilingol Tongli Germanium Co. Ltd	2,906	2,138	Equity	25%
Emeishan Jia Mei High Purity Metals Co., Ltd	843	761	Equity	25%

Our ownership of Beijing Ji Ya Semiconductor Material Co., Ltd. (JiYa) is 46%. We continue to consolidate JiYa as we have significant influence in management and have a majority control of the board. Our chief financial officer is chairman of the board, while our chief operating officer, and our president of joint venture operations are members of the board. Our former chief executive officer, formerly a member of this board of directors, resigned from this board on March 17, 2009.

Our ownership of Nanjing Jin Mei Gallium Co., Ltd. (Jin Mei) is 83%. We continue to consolidate Jin Mei as we have significant influence in management and have a majority control of the board. Our chief operating officer is chairman of the board, while our president of joint venture operations is a member of the board. Our former chief executive officer, formerly a member of this board of directors, resigned from this board on March 17, 2009.

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We have significant influence over management of Beijing BoYu Semiconductor Vessel Craftwork Technology Co., Ltd (BoYu), have a controlling financial interest of 70%, and have a majority control of the board. Our chief operating officer and our president of joint venture operations are members of the board. Our former chief executive officer has resigned as chairman of the board of BoYu effective March 17, 2009.

Although we have representation on the boards of directors of each of these companies, the daily operations of each of these companies, are managed by local management and not by us. Decisions concerning their respective short term strategy and operations, any capacity expansion and annual capital expenditures, and decisions concerning sales of finished product, are made by local management without input from us.

The investment balances for the two companies accounted for under the equity method are included in other assets in the consolidated balance sheets and totaled \$3.7 million and \$2.9 million as of December 31, 2008 and 2007, respectively. We own 25% of the ownership interests in each of these companies. These two companies are not considered variable interest entities because:

- both companies have sustainable businesses of their own;
- our voting power is proportionate to our ownership interests;
- we only recognize our respective share of the losses and/or residual returns generated by the companies if they occur; and
- we do not have controlling financial interest in, do not maintain operational or management control of, do not control the board of directors of, and are not required to provide additional investment or financial support to either company.

During 2008, 2007 and 2006, the three consolidated joint ventures generated \$3.8 million, \$4.4 million and \$2.5 million of income, respectively, of which \$1.4 million, \$1.9 million and \$1.0 million, respectively was allocated to minority interests, resulting in \$2.4 million, \$2.5 million and \$1.5 million, respectively to our net income. Our equity earnings from the two-minority owned joint ventures that are not consolidated are recorded as other income (loss), net and totaled \$0.9 million, \$1.0 million and \$0.2 million for 2008, 2007 and 2006, respectively. Undistributed retained earnings relating to our investments in these companies were \$11.1 million, \$7.8 million, and \$4.4 million, respectively as of December 31, 2008, 2007 and 2006. Net income recorded from our investments was \$3.3 million, \$3.5 million, and \$1.8 million for the years ended December 31, 2008, 2007 and 2006, respectively.

### **Note 7. Other Investments**

As of December 31, 2008 we maintain minority investments in two private companies. During 2006 we sold all of our shares of common stock of the only publicly traded company we held, Finisar Corporation (Nasdaq: FNSR), generating net proceeds of \$4.4 million and recording a gain of \$3.3 million, which is included in other income, net. Our investments in these private companies are reviewed for other than temporary declines in value on a quarterly basis. These investments are classified as other assets in the consolidated balance sheets and are accounted for under the cost method as we do not have the ability to exercise significant influence over their operations. We monitor our investments for impairment and record reductions in carrying value when events or changes in circumstances indicate that the carrying value may not be recoverable. Reasons for other than temporary declines in value include whether the related company would have insufficient cash flow to operate for the next twelve months, significant changes in the operating performance and changes in market conditions. As of December 31, 2008 and 2007, the minority investments totaled approximately \$0.4 million for both years.

**Note 8. Impairment (recovery) on Assets Held for Sale**

In the third quarter of 2006, we incurred an impairment charge of \$1.4 million to write down our U.S. property in Fremont, California, which was being decontaminated and was being prepared for sale. In the second quarter of 2007, we benefited from a recovery of impairment on this asset held for sale in connection with our adjustment of the fair value. We recorded a \$481,000 market value adjustment after we entered into an agreement with an independent third party purchaser in June 2007 to purchase the property for estimated net proceeds of \$5.1 million, after deducting estimated commission and selling expenses. In the fourth quarter of 2007, that agreement was terminated and we entered into a new sales agreement with another independent third party purchaser to purchase this property for a similar amount. In the first quarter of 2008, we completed the sale of our U.S. property in Fremont, California for \$5.3 million in gross proceeds and \$5.1 million in net proceeds after deducting commissions and selling expenses. We recorded an \$83,000 impairment charge upon the sale of the property.

**Note 9. Debt*****Credit Facility***

As of December 31, 2008, the credit facility maintained by us with a bank included a line of credit with an outstanding amount of \$3.0 million and carries an annual interest rate of approximately 4%. We have pledged this amount as collateral for this facility. Accordingly, \$3.0 million of cash and short-term investments are restricted.

***Long-Term Debt***

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

	<u>As of</u> <u>December 31,</u>	
	<u>2008</u>	<u>2007</u>
Taxable revenue bonds, collateralized by a letter of credit from a bank, bearing interest at the H15 30 day bond yield for commercial paper which was 5.16% as of December 31, 2007, maturing December 2023	\$ —	\$6,700
Tenant improvement loan at 4.00%	569	—
	<u>569</u>	<u>6,700</u>
Less current portion	(73)	(450)
	<u>\$496</u>	<u>\$6,250</u>
Maturities of long-term debt as of December 31, 2008 were as follows:		
2009	\$ 73	
2010	76	
2011	79	
2012	82	
2013	85	
Thereafter	174	
	<u>\$569</u>	

**Note 10. Stockholders' Equity**

In August 2004, we announced the adoption of a stock repurchase program in accordance with Rule 10b5-1 of the Securities Exchange Act of 1934 to provide for the repurchase of up to \$2 million of our common stock. This plan was extended for one year in July 2005. Repurchases were made from

time to time in the open market during the twelve-month period ended July 31, 2006, at prevailing market prices using our own cash resources. As of December 31, 2008, we had 30,512,899 shares of common stock outstanding and no shares were repurchased in 2007 and 2008 under this program, which has now expired.

The 883,000 shares of \$0.001 par value Series A preferred stock issued and outstanding as of December 31, 2008 and 2007, valued at \$3,532,000 are non-voting and non-convertible preferred stock with a 5.0% cumulative annual dividend rate payable when declared by the board of directors and \$4 per share liquidation preference over common stock. These preferred shares were issued to Lyte Optronics, Inc. stockholders in connection with the completion of our acquisition of Lyte Optronics, Inc. on May 28, 1999.

## **Note 11. Employee Benefit Plans**

### ***Stock Option Plans and Equity Incentive Plans***

In July 1997, our board of directors approved the 1997 Stock Option Plan ("1997 Plan"), which provides for the grant of incentive and non-qualified stock options to our employees, consultants and directors. Under the 1997 Plan, 5,423,583 shares of common stock have been authorized for issuance. 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% 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% at the end of one year and 2.1% each month thereafter, with full vesting after four years.

In May 2007, our shareholders approved our 2007 Equity Incentive Plan (the "2007 Plan"). The 2007 Plan is a restatement of the 1997 Plan which was scheduled to expire in 2007. The share reserve of the 1997 Plan became the reserve of the 2007 Plan, together with 1,300,000 additional shares approved for issuance under the 2007 Plan. As of December 31, 2008, approximately 2.5 million shares remained available for grant under the 2007 Plan. Awards may be made under the 2007 Plan of stock options, stock appreciation rights, restricted stock, restricted stock units, performance shares, performance units, deferred compensation awards and other stock-based awards. Stock options and stock appreciation rights awarded under the 2007 Plan may not be repriced without stockholder approval. Stock options and stock appreciation rights may not be granted below fair market value. Stock options or stock appreciation rights generally shall not be fully vested over a period of less than three years from the date of grant and cannot be exercised more than 10 years from the date of grant. Restricted stock, restricted stock units, and performance awards generally shall not vest faster than over a three-year period (or a twelve-month period if vesting is based on a performance measure). In December 2008, the 2007 Plan was amended to comply with the applicable requirements under Section 409A of the Internal Revenue Code.

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The following summarizes our stock option activity under the 1997 Plan and the 2007 Plan, and the related weighted average exercise price within each category for each of the years ended December 31, 2006, 2007, and 2008 (in thousands, except per share data):

	<u>Available for Grant</u>	<u>Number of Options Outstanding</u>	<u>Weighted- average Exercise Price</u>	<u>Weighted- average Remaining Contractual Life</u> (in years)	<u>Aggregate Intrinsic Value</u>
Balance as of December 31, 2005	2,008	2,917	\$ 2.30		
Granted	(180)	180	4.52		
Exercised	—	(284)	1.96		
Canceled	85	(85)	1.50		
Balance as of December 31, 2006	1,913	2,728	2.51	6.37	\$7,091
Additional shares authorized	1,300				
Plan shares expired	(124)				
Granted	(354)	354	5.89		
Exercised	—	(461)	1.95		
Canceled	144	(144)	5.04		
Balance as of December 31, 2007	2,879	2,477	2.95	6.93	\$8,858
Plan shares expired	(34)				
Granted	(413)	413	1.60		
Exercised	—	(92)	1.85		
Canceled	34	(34)	7.00		
Balance as of December 31, 2008	2,466	2,764	\$ 2.74	6.61	\$ 92
Options vested and expected to vest as of December 31, 2008		2,710	\$ 2.73	6.54	\$ 92
Options exercisable as of December 31, 2008		1,914	\$ 2.58	5.57	\$ 85

The options outstanding and exercisable as of December 31, 2008 were in the following exercise price ranges (in thousands, except per share data):

Range of Exercise Price	Options Outstanding as of December 31, 2008			Options Vested and Exercisable as of December 31, 2008	
	Shares	Weighted- average Exercise Price	Weighted- average Remaining Contractual Life	Shares	Weighted- Average Exercise Price
\$1.17 - \$ 1.38	1,199	\$ 1.28	5.90	1,093	\$ 1.28
\$1.39 - \$ 1.44	5	\$ 1.43	6.64	4	\$ 1.43
\$1.45 - \$ 2.24	824	\$ 1.88	7.03	407	\$ 2.17
\$2.25 - \$ 6.31	678	\$ 4.95	7.63	351	\$ 4.34
\$6.32 - \$41.50	58	\$ 19.17	2.60	58	\$ 19.17
	<u>2,764</u>	\$ 2.74	6.61	<u>1,914</u>	\$ 2.58

The total intrinsic value of options exercised for the years ended December 31, 2008, 2007 and 2006 were \$0.3 million, \$1.4 million and \$0.4 million, respectively. Cash received from option exercises for the years ended December 31, 2008, 2007 and 2006 were \$0.2 million, \$0.9 million, and \$0.6 million, respectively.

As of December 31, 2007 and 2006, options to purchase 1,638,000 shares and 1,857,000 shares at weighted average exercise prices of \$2.56 and \$2.74 per share were vested and exercisable, respectively.

**Restricted stock awards**

A summary of activity related to restricted stock awards for the year ended December 31, 2008 is presented below:

	Shares	Weighted- Average Grant Date Fair Value
Non-vested restricted stock shares outstanding as of December 31, 2006	—	
Restricted stock shares granted	23,480	\$ 4.26
Restricted stock shares vested	—	
Non-vested restricted stock shares outstanding as of December 31, 2007	23,480	\$ 4.26
Restricted stock shares granted	62,892	\$ 1.59
Restricted stock shares vested	(7,828)	\$ 4.26
Non-vested restricted stock shares outstanding as of December 31, 2008	78,544	\$ 2.12

As of December 31, 2008, we had \$145,000 of unrecognized compensation expense, net of forfeitures, related to restricted stock awards, which will be recognized over the weighted average period of 2.47 years. During the year ended December 31, 2008, 7,828 shares of restricted stock were vested. No shares of restricted stock were vested during 2007.

**Retirement Savings Plan**

We have a 401(k) Savings Plan ("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. In 2006 we amended the savings plan to allow all full-time participants (as defined) to contribute up to 10% of their earnings to the Savings Plan with a discretionary matching amount provided by us. Our contributions to the Savings Plan were \$0.4 million, \$0.4 million, and \$0.4 million for the years ended December 31, 2008, 2007 and 2006, respectively.

**Note 12. Guarantees****Indemnification Agreements**

We enter into standard indemnification arrangements in the ordinary course of business. Pursuant to these arrangements, we indemnify, hold harmless, and agree to reimburse the indemnified parties for losses suffered or incurred by the indemnified party, generally their business partners or customers, in connection with any U.S. patent, or any copyright or other intellectual property infringement claim by any third party with respect to our products. The term of these indemnification agreements is generally perpetual anytime after the execution of the agreement. The maximum potential amount of future payments we could be required to make under these agreements is unlimited. We have never incurred costs to defend lawsuits or settle claims related to these indemnification agreements. As a result, we believe the estimated fair value of these agreements is minimal.

We have entered into indemnification agreements with our directors and officers that may require us to indemnify our directors and officers against liabilities that may arise by reason of their status or service as directors or officers, other than liabilities arising from willful misconduct of a culpable nature; to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified; and to obtain directors' and officers' insurance if available on reasonable terms, which we currently have in place.

**Product Warranty**

We warrant our products for a specific period of time, generally twelve months, against material defects. We provide for the estimated future costs of warranty obligations in cost of sales when the related revenue is recognized. The accrued warranty costs represent the best estimate at the time of sale of the total costs that we expect to incur to repair or replace product parts, which fail while still under warranty. The amount of accrued estimated warranty costs are primarily based on historical experience as to product failures as well as current information on repair costs. On a quarterly basis, we review the accrued balances and update the historical warranty cost trends. The following table reflects the change in our warranty accrual during 2008 and 2007 (in thousands):

	Years Ended December 31,	
	2008	2007
Beginning accrued warranty and related costs	\$ 1,030	\$ 459
Charged to cost of revenue	1,022	792
Actual warranty expenditures	(412)	(221)
Ending accrued warranty and related costs	\$ 1,640	\$ 1,030

**Note 13. Income Taxes**

Consolidated (loss) income before provision for income taxes includes non-U.S. loss of approximately \$4.8 million for the year ended December 31, 2008 and non-U.S. income of approximately \$4.5 million and \$7.2 million for the years ended December 31, 2007 and 2006, respectively. The Company recorded a current tax provision (benefit) of \$1.0 million, \$0.7 million, and \$(1.5) million for the years ended December 31, 2008, 2007 and 2006, respectively. The components of the provision (benefit) for income taxes are summarized below (in thousands):

	Years Ended December 31,		
	2008	2007	2006
Current:			
Federal	\$ —	\$ —	\$(2,064)
State	52	9	4
Foreign	971	719	606
Total current	1,023	728	(1,454)
Deferred:			
Federal	—	—	—
State	—	—	—
Total deferred	—	—	—
Total net provision (benefit) for income taxes	\$1,023	\$728	\$(1,454)

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

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Statutory federal income tax rate	35.0%	35.0%	35.0%
State income taxes, net of federal tax benefits	1.9	0.1	0.5
Change in valuation allowance	60.1	(3.8)	50.3
Stock compensation	8.6	1.6	60.8
Foreign rate differences	(71.9)	(19.7)	(470.7)
Dividend from PRC investee	38.1	—	45.0
Net loss from privately-held PRC investments	(17.5)	(4.2)	(15.3)
Other	3.6	0.2	3.4
Effective tax rate	<u>57.9%</u>	<u>9.2%</u>	<u>(291.0)%</u>

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

	<u>As of December 31,</u>	
	<u>2008</u>	<u>2007</u>
Deferred tax assets:		
Net operating loss	\$ 49,737	\$ 48,925
Accruals and reserves not yet deductible	3,988	3,960
Credits	1,944	1,972
	<u>55,669</u>	<u>54,857</u>
Deferred tax liabilities:		
Unrepatriated foreign earnings	(1,239)	(1,239)
	<u>(1,239)</u>	<u>(1,239)</u>
Net deferred tax assets	54,430	53,618
Valuation allowance	(54,430)	(53,618)
Net deferred tax assets	<u>\$ —</u>	<u>\$ —</u>

As of December 31, 2008, we have federal and state net operating loss carryforwards of approximately \$140.4 million and \$41.2 million, respectively, which will expire beginning in 2022 and 2015, respectively. In addition, we have federal tax credit carryforwards of approximately \$1.6 million, which will expire beginning in 2019. We also have state tax credit carryforwards of approximately \$596,000, of which \$286,000 is manufacturing investment credit that will expire beginning in 2010.

The deferred tax assets valuation allowance as of December 31, 2008 is attributed to U.S. federal, and state deferred tax assets, which result primarily from future deductible accruals, reserves and tax depreciation expense, net operating loss carryforwards, and tax credit carryforwards. The Company believes that, based on a number of factors, the available objective evidence creates sufficient uncertainty regarding the realizability of the deferred tax assets such that a full valuation allowance has been recorded. These factors include the Company's history of losses, and the lack of carryback capacity to realize deferred tax assets. The valuation allowance increased by \$0.8 million, increased by \$3.7 million, and decreased by \$1.0 million, for the years ended December 31, 2008, 2007 and 2006, respectively.

Our consolidated subsidiaries in China have been granted various tax holidays since 2000. Benefits under the tax holidays vary by jurisdiction. Some of our consolidated subsidiaries' tax holidays have expired on December 31, 2007.

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In accordance with Section 382 of the Internal Revenue Code, the amounts of and benefits from net operating loss and tax credit carryforwards may be impaired or limited in certain circumstances. Events which cause limitations in the amount of net operating losses or credits that we may utilize in any one year include, but are not limited to, a cumulative ownership change of more than 50% as defined, over a three year period.

As a result of the implementation of Interpretation 48, we recognized \$16.4 million in the liability for unrecognized tax benefits. Of this amount, none was accounted for as a reduction to the January 1, 2007 balance of retained earnings. The amount decreased tax loss carryforwards in the U.S., which are fully offset by a valuation allowance.

We recognize interest and penalties related to uncertain tax positions in income tax expense. Income tax expense for the year ended December 31, 2008 includes no interest and penalties. As of December 31, 2008, we have no accrued interest and penalties related to uncertain tax positions.

We file income tax returns in the U.S. federal, various states and foreign jurisdictions. We have substantially concluded all U.S. federal and state income tax matters through December 31, 2007.

A reconciliation of the beginning and ending amount of the gross unrecognized tax benefits is as follows (in thousands):

Gross unrecognized tax benefits balance as of December 31, 2007	\$ 16,403
Add:	
Additions based on tax positions related to the current year	—
Additions for tax positions of prior years	—
Gross unrecognized tax benefits balance as of December 31, 2008	\$ 16,403

Excluding the effects of recorded valuation allowances for deferred tax assets, \$16.4 million of the unrecognized tax benefit would favorably impact the effective tax rate in future periods if recognized.

**Note 14. Net income (loss) per Share**

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

	Years Ended December 31,		
	2008	2007	2006
<b>Numerator:</b>			
Income (loss) from continuing operations	\$ (689)	\$ 5,289	\$ 926
Gain from discontinued operations, net of tax	—	—	18
Less: Preferred stock dividends	(177)	(177)	(177)
<b>Net income (loss) to common stockholders</b>	<b>\$ (866)</b>	<b>\$ 5,112</b>	<b>\$ 767</b>
<b>Denominator:</b>			
Denominator for basic net income (loss) per share—weighted average common shares	30,400	30,035	23,303
<b>Effect of dilutive securities:</b>			
Common stock options	—	1,310	1,297
Restricted stock awards	—	3	—
<b>Denominator for dilutive net income (loss) per share</b>	<b>30,400</b>	<b>31,348</b>	<b>24,600</b>
<b>Basic net income (loss) per share:</b>			
Income (loss) from continuing operations	\$ (0.03)	\$ 0.17	\$ 0.03
<b>Net income (loss) to common stockholders</b>	<b>\$ (0.03)</b>	<b>\$ 0.17</b>	<b>\$ 0.03</b>
<b>Diluted net income (loss) per share:</b>			
Income (loss) from continuing operations	\$ (0.03)	\$ 0.16	\$ 0.03
<b>Net income (loss) to common stockholders</b>	<b>\$ (0.03)</b>	<b>\$ 0.16</b>	<b>\$ 0.03</b>
Options excluded from diluted net income (loss) per share as the impact is anti-dilutive	2,764	360	362
Restricted stock excluded from diluted net income (loss) per share as the impact is anti-dilutive	79	—	—

**Note 15. Segment Information and Foreign Operations**

**Segment Information**

We operate in one segment for the design, development, manufacture and distribution of high-performance compound semiconductor substrates and sale of materials. In accordance with SFAS No. 131, "Disclosures about Segments of an Enterprise and Related Information," our chief operating decision-maker has been identified as the principal executive officer, who reviews operating results to make decisions about allocating resources and assessing performance for the company. Since we operate in one segment, all financial segment and product line information can be found in the consolidated financial statements.

**Note 15. Segment Information and Foreign Operations (Continued)****Product Type**

The following table represents revenue amounts (in thousands) by type:

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Product type:			
GaAs	\$49,610	\$40,219	\$36,511
InP	1,935	1,916	1,705
Ge	4,248	2,225	909
Raw materials	17,232	13,790	5,293
Other	50	53	27
	<u>\$73,075</u>	<u>\$58,203</u>	<u>\$44,445</u>

**Geographical Information**

The following table represents revenue amounts (in thousands) reported for products shipped to customers in the corresponding geographic region:

	<u>Years Ended December 31,</u>		
	<u>2008</u>	<u>2007</u>	<u>2006</u>
Product revenue:			
North America*	\$19,181	\$11,839	\$13,029
Europe	14,524	9,930	8,365
Japan	14,685	13,280	3,347
Taiwan	7,806	9,329	7,647
Asia Pacific (excluding Japan and Taiwan)	16,879	13,825	12,057
	<u>\$73,075</u>	<u>\$58,203</u>	<u>\$44,445</u>

\* Primarily the United States

Long-lived assets consist primarily of property, plant and equipment, and are attributed to the geographic location in which they are located. Long-lived assets by geographic region were as follows (in thousands):

	<u>As of December 31,</u>	
	<u>2008</u>	<u>2007</u>
Long-lived assets:		
United States of America	\$ 867	\$ 149
China	21,317	15,837
	<u>\$22,184</u>	<u>\$15,986</u>

**Note 16. Foreign Exchange Contracts and Transaction Gains/Losses**

As of December 31, 2008, and 2007, we had no outstanding commitments with respect to foreign exchange contracts.

**Note 16. Foreign Exchange Contracts and Transaction Gains/Losses (Continued)**

We incurred foreign currency transaction exchange gains (losses) of \$2,000, \$(320,000), and \$(123,000) for the years ended December 31, 2008, 2007, and 2006, respectively.

**Note 17. Related Party Transactions**

Our executive officers retain board seats on the Board of Directors of the companies in which we have invested in our China joint ventures. See Note 6 for further details.

**Note 18. Commitments and Contingencies**

***Legal Matters***

On October 15, 2004, a purported securities class action lawsuit was filed in the United States Court for the Northern District of California, City of Harper Woods Employees Retirement System v. AXT, Inc. et al., No. C 04 4362 MJJ. The Court consolidated the case with a subsequent related case and appointed a lead plaintiff. On April 5, 2005, the lead plaintiff filed a consolidated complaint, captioned as Morgan v. AXT, Inc. et al., No. C 04 4362 MJJ. The lawsuit named AXT, Inc. and our former chief technology officer as defendants, and was brought on behalf of a class of all purchasers of our securities from February 6, 2001 through April 27, 2004. The complaint alleged that we announced financial results during this period that were false and misleading. No specific amount of damages was claimed. On September 23, 2005, the Court granted our motion to dismiss the complaint, with leave to amend. The lead plaintiff filed an amended complaint, which we had moved to dismiss. On April 24, 2007, we reached a settlement of this litigation. On February 27, 2008, the district court approved the settlement, and subsequently entered a judgment of dismissal.

The claims of a former employee, Steve X. Chen, that his employment termination was due to his race and national origin were resolved without cost to the Company.

***Leases***

We lease certain office space, manufacturing facilities and property under long-term operating leases expiring at various dates through November 2015. On July 2, 2008, we entered into a new lease agreement with the landlord of the facility at 4281 Technology Drive, Fremont, California with approximately 27,760 square feet. The new lease commenced December 1, 2008 for a term of seven years, with an option by us to cancel the new lease after five years, upon forfeiture of the security deposit and payment of one-half of the fifth year's rent. Total rent expenses under these operating leases were \$1.7 million (including a \$0.7 million forfeiture of rental deposit in terminating the old lease), \$0.5 million and \$0.7 million for the years ended December 31, 2008, 2007 and 2006, respectively, which were net of sublease income of \$0.3 million, \$0.2 million and \$0.2 million, respectively. Our sublease income was terminated in December 2008. Total minimum lease payments under these leases as of December 31, 2008 are summarized below (in thousands):

	<b>Lease Payment</b>
2009	\$ 294
2010	303
2011	272
2012	275
2013	287
Thereafter	586
	<u>\$ 2,017</u>

**Note 18. Commitments and Contingencies (Continued)****Purchase Obligations**

Through the normal course of business, we purchase or place orders for the necessary materials of our products from various suppliers and we commit to purchase products where it may incur a penalty if the agreement was canceled. Our purchase agreement to purchase eighteen thousand kilograms of gallium was terminated on December 31, 2008. As of December 31, 2008 we do not have any material purchase obligations.

**Note 19. Unaudited Quarterly Consolidated Financial Data**

	Quarter			
	First	Second	Third	Fourth
(in thousands, except per share data)				
<b>2007:</b>				
Revenue	\$12,526	\$13,639	\$14,474	\$17,564
Gross profit	5,405	5,032	4,530	5,294
Net income	1,344	1,213	858	1,874
Net income per share, basic	\$ 0.04	\$ 0.04	\$ 0.03	\$ 0.06
Net income per share, diluted	\$ 0.04	\$ 0.04	\$ 0.03	\$ 0.06
<b>2008:</b>				
Revenue	\$19,634	\$19,932	\$17,863	\$15,646
Gross profit	6,221	6,444	4,537	758
Net income (loss)	1,959	737	(1,014)	(2,371)
Net income (loss) per share, basic	\$ 0.06	\$ 0.02	\$ (0.03)	\$ (0.08)
Net income (loss) per share, diluted	\$ 0.06	\$ 0.02	\$ (0.03)	\$ (0.08)

**Note 20. Subsequent Event**

Dr. Philip C.S. Yin, our former Chairman and Chief Executive Officer, resigned as an executive officer and as a member of the Board of Directors, effective March 17, 2009. The Board of Directors has invested Wilson W. Cheung, the Company's Chief Financial Officer, with the responsibility of administering day-to-day operations. Mr. Cheung is expected to perform the functions of principal executive officer in addition to his function as Chief Financial Officer during this transition period, and pending the appointment of an interim chief executive officer to serve until a successor Chief Executive Officer is named.

In addition, Mr. Jesse Chen, a director since 1998 and our Lead Independent Director, has been named non-executive Chairman of the Board of Directors.

## SIGNATURES

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

AXT, Inc.

By: /s/ WILSON W. CHEUNG

Wilson W. Cheung  
*Chief Financial Officer and Corporate Secretary*  
*(Principal Executive Officer and*  
*Principal Financial Officer)*

Date: March 31, 2009

## POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Jesse Chen and Wilson W. Cheung, 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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ WILSON W. CHEUNG</u> Wilson W. Cheung	Chief Financial Officer and Corporate Secretary <i>(Principal Executive Officer and</i> <i>Principal Financial Officer)</i>	March 31, 2009
<u>/s/ RAYMOND A. LOW</u> Raymond A. Low	Vice President, Corporate Controller <i>(Principal Accounting Officer)</i>	March 31, 2009
<u>/s/ JESSE CHEN</u> Jesse Chen	Chairman of the Board of Directors	March 31, 2009
<u>/s/ DAVID C. CHANG</u> David C. Chang	Director	March 31, 2009
<u>/s/ LEONARD LEBLANC</u> Leonard LeBlanc	Director	March 31, 2009
<u>/s/ MORRIS S. YOUNG</u> Morris S. Young	Director	March 31, 2009

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**AXT, Inc.**

**EXHIBITS**

**TO**

**FORM 10-K ANNUAL REPORT**

**For the Year Ended December 31, 2008**

<b>Exhibit Number</b>	<b>Description</b>
3.1(3)	Restated Certificate of Incorporation
3.2(4)	Certificate of Designation, Preferences and Rights of Series A Preferred Stock (which is incorporated herein by reference to Exhibit 2.1 to the registrant's form 8-K dated May 28, 1999).
3.3(5)	Second Amended and Restated By Laws
3.1(3)	Restated Certificate of Incorporation
3.1(3)	Restated Certificate of Incorporation
4.2(5)	Rights Agreement dated April 24, 2001 by and between AXT, Inc. and ComputerShare Trust Company, Inc.
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.*
10.5(1)	1998 Employee Stock Purchase Plan and forms of agreements thereunder.*
10.6(1)	2007 Stock Option Plan and forms of agreements thereunder.*
10.7(2)	Purchase and Sale Agreement by and between Limar Realty Corp #23 and AXT, Inc. dated April 1998.
10.10(3)	Bond Purchase Contract between Dain Rauscher Incorporated and AXT, Inc. dated December 1, 1998.
10.11(3)	Remarketing Agreement between Dain Rauscher Incorporated and AXT, Inc. dated December 1, 1998.
10.15(6)	Reimbursement Agreement between Wells Fargo Bank National Association and AXT, Inc. dated April 7, 2003.
10.16(7)	Asset purchase agreements dated September 4, 2003 by and between Dalian Luming Science and Technology Group, Ltd and AXT, Inc. and by and between Lumei Optoelectronics Corp., AXT, Inc., Lyte Optronics, Inc., Beijing Tongmei Xtal Technology and Xiamen Advanced Semiconductor Co., Ltd.
10.17(8)	Offer letter to Mr. Philip C.S. Yin.*
10.18(9)	Offer letter to Mr. Minsheng Lin.*
10.19(10)	Employment agreement between the Company and Mr. Wilson W. Cheung.*
10.20(11)	Agreement respecting severance payment between the Company and Dr. Morris S. Young.*
10.21(12)	Employment agreement between the Company and Mr. Davis Zhang.*
10.27(13)	Purchase and Sale Agreement by and between Car West Auto Body, Inc., a California corporation and AXT, Inc. dated February 19, 2008.
10.28(14)	Lease agreement dated July 2, 2008 between AXT, Inc. and T. Drive Partners, L.P., a California partnership
10.29(15)	6-inch Supply Agreement dated December 31, 2008 between AXT, Inc. and IQE plc.**
10.30(15)	4-inch Supply Agreement dated December 31, 2008 between AXT, Inc. and IQE plc.**
10.31	2007 Equity Incentive Plan (amended December 8, 2008).
10.32	2009 Executive Bonus Plan.*
21.1(16)	List of Subsidiaries.
23.1	Consent of Independent Registered Public Accounting Firm, Burr, Pilger & Mayer LLP.
24.1	Power of Attorney (see signature page).
31.1	Certification by principal executive officer and principal financial officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

Exhibit Number	Description
32.1	Certification by principal executive officer and principal financial officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
(1)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Registration Statement on Form S-1 on March 17, 1998.
(2)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Registration Statement on Amendment No. 2 to Form S-1 on May 11, 1998.
(3)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Annual Report on Form 10-K for the year ended December 31, 1998.
(4)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 8-K on June 14, 1999.
(5)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 8-K on May 30, 2001.
(6)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 10-Q on May 9, 2003.
(7)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 10-Q on November 13, 2003.
(8)	Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on March 17, 2006.
(9)	Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on June 30, 2006.
(10)	Incorporated by reference to exhibit 99.2 to registrant's Form 8-K filed with the SEC on June 30, 2006.
(11)	Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on March 30, 2006.
(12)	Incorporated by reference to exhibit 99.1 to registrant's Form 8-K filed with the SEC on January 17, 2007.
(13)	Incorporated by reference to exhibit 10.22 to registrant's Form 8-K filed with the SEC on March 5, 2007.
(14)	Incorporated by reference to the exhibit as of the same number as filed with the SEC in our Form 8-K on July 8, 2008.
(15)	Incorporated by reference to the exhibits as of the same numbers as filed with the SEC in our Form 8-K on January 5, 2009.
(16)	Incorporated by reference to exhibit 21.1 to registrant's Form S-3/A (333-135474) filed with the SEC on July 28, 2007.
*	Management contract or compensatory plan.
**	Confidential treatment has been requested of the SEC for portions of the exhibit.



AXT, Inc.

2007 Equity Incentive Plan

(As Amended Through December 8, 2008)

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**AXT, Inc.**  
**2007 Equity Incentive Plan**  
**(As Amended Through December , 2008)**

1. **ESTABLISHMENT, PURPOSE AND TERM OF PLAN.**

1.1 **Establishment.** The AXT, Inc. 2007 Equity Incentive Plan (the “*Plan*”) is hereby adopted April 30, 2007 subject to approval by the stockholders of the Company (the date of such approval, the “*Effective Date*”). The Plan is an amendment and restatement of the AXT, Inc. 1997 Stock Option Plan. An Award under the Plan shall be subject to the terms of the Plan and governing Agreements in effect on the date of the Award’s grant.

1.2 **Purpose.** The purpose of the Plan is to advance the interests of the Participating Company Group and its stockholders by providing an incentive to attract and retain the best qualified personnel to perform services for the Participating Company Group, by motivating such persons to contribute to the growth and profitability of the Participating Company Group, by aligning their interests with interests of the Company’s stockholders, and by rewarding such persons for their services by tying a significant portion of their total compensation package to the success of the Company. The Plan seeks to achieve this purpose by providing for Awards in the form of Options, Stock Appreciation Rights, Restricted Stock Awards, Performance Shares, Performance Units, Restricted Stock Units, Deferred Compensation Awards and other Stock-Based Awards as described below.

1.3 **Term of Plan.** The Plan shall continue in effect until the earlier of its termination by the Board or the date on which all of the shares of Stock available for issuance under the Plan have been issued and all restrictions on such shares under the terms of the Plan and the agreements evidencing Awards granted under the Plan have lapsed. However, Awards shall not be granted later than ten (10) years from the Effective Date. The Company intends that the Plan comply with Section 409A of the Code (including any amendments to or replacements of such section), and the Plan shall be so construed.

2. **DEFINITIONS AND CONSTRUCTION.**

2.1 **Definitions.** Whenever used herein, the following terms shall have their respective meanings set forth below:

(a) “*Affiliate*” means (i) an entity, other than a Parent Corporation, that directly, or indirectly through one or more intermediary entities, controls the Company or (ii) an entity, other than a Subsidiary Corporation, that is controlled by the Company directly, or indirectly through one or more intermediary entities. For this purpose, the term “control” (including the term “controlled by”) means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of the relevant entity, whether through the ownership of voting securities, by contract or otherwise; or shall have such other meaning assigned such term for the purposes of registration on Form S-8 under the Securities Act.

(b) **“Award”** means any Option, SAR, Restricted Stock Award, Performance Share, Performance Unit, Restricted Stock Unit or Deferred Compensation Award or other Stock-Based Award granted under the Plan.

(c) **“Award Agreement”** means a written agreement between the Company and a Participant setting forth the terms, conditions and restrictions of the Award granted to the Participant.

(d) **“Board”** means the Board of Directors of the Company.

(e) **“Change in Control”** means, unless such term or an equivalent term is otherwise defined with respect to an Award by the Participant’s Award Agreement or written contract of employment or service, the occurrence of any of the following:

(i) an Ownership Change Event or a series of related Ownership Change Events (collectively, a **“Transaction”**) in which the stockholders of the Company immediately before the Transaction do not retain immediately after the Transaction, in substantially the same proportions as their ownership of shares of the Company’s voting stock immediately before the Transaction, direct or indirect beneficial ownership of more than fifty percent (50%) of the total combined voting power of the outstanding voting securities of the Company or, in the case of an Ownership Change Event described in Section 2.1(y)(iii), the entity to which the assets of the Company were transferred (the **“Transferee”**), as the case may be; or

(ii) the liquidation or dissolution of the Company.

For purposes of the preceding sentence, indirect beneficial ownership shall include, without limitation, an interest resulting from ownership of the voting securities of one or more corporations or other business entities which own the Company or the Transferee, as the case may be, either directly or through one or more subsidiary corporations or other business entities. The Board shall have the right to determine whether multiple sales or exchanges of the voting securities of the Company or multiple Ownership Change Events are related, and its determination shall be final, binding and conclusive.

(f) **“Code”** means the Internal Revenue Code of 1986, as amended, and any applicable regulations or administrative guidelines promulgated thereunder.

(g) **“Committee”** means the Compensation Committee or other committee of the Board duly appointed to administer the Plan and having such powers as shall be specified by the Board. If no committee of the Board has been appointed to administer the Plan, the Board shall exercise all of the powers of the Committee granted herein, and, in any event, the Board may in its discretion exercise any or all of such powers, *provided, however,* that any discretionary grants to non-Employee Directors shall only be made by a Board committee comprised solely of independent directors.. The Committee shall have the exclusive authority to administer the Plan and shall have all of the powers granted herein, including, without limitation, the power to amend or terminate the Plan at any time, subject to the terms of the Plan and any applicable limitations imposed by law.

(h) **“Company”** means AXT, Inc., a Delaware corporation, or any Successor.

(i) **“Consultant”** means a person engaged to provide consulting or advisory services (other than as an Employee or a member of the Board) to a Participating Company.

(j) **“Deferred Compensation Award”** means an award of Stock Units granted to a Participant pursuant to Section 11 of the Plan.

(k) **“Director”** means a member of the Board or of the board of directors of any Participating Company.

(l) **“Disability”** means the permanent and total disability of the Participant, within the meaning of Section 22(e)(3) of the Code.

(m) **“Dividend Equivalent”** means a credit, made at the discretion of the Committee or as otherwise provided by the Plan, to the account of a Participant in an amount equal to the cash dividends paid on one share of Stock for each share of Stock represented by an Award held by such Participant.

(n) **“Employee”** means any person treated as an employee (including an Officer or a member of the Board who is also treated as an employee) in the records of a Participating Company and, with respect to any Incentive Stock Option granted to such person, who is an employee for purposes of Section 422 of the Code; provided, however, that neither service as a member of the Board nor payment of a director’s fee shall be sufficient to constitute employment for purposes of the Plan. The Company shall determine in good faith and in the exercise of its discretion whether an individual has become or has ceased to be an Employee and the effective date of such individual’s employment or termination of employment, as the case may be. For purposes of an individual’s rights, if any, under the Plan as of the time of the Company’s determination, all such determinations by the Company shall be final, binding and conclusive, notwithstanding that the Company or any court of law or governmental agency subsequently makes a contrary determination.

(o) **“Exchange Act”** means the Securities Exchange Act of 1934, as amended.

(p) **“Fair Market Value”** means, as of any date, the value of a share of Stock or other property as determined by the Committee, in its discretion, or by the Company, in its discretion, if such determination is expressly allocated to the Company herein, subject to the following:

(i) Except as otherwise determined by the Committee, if, on such date, the Stock is listed on a national or regional securities exchange or market system, the Fair Market Value of a share of Stock shall be the closing price of a share of Stock as quoted on such national or regional securities exchange or market system constituting the primary market for the Stock on the day of determination, as reported in The Wall Street Journal or such other source as the Company deems reliable. If there is no such closing price on the day of

determination, the Fair Market Value of a share of Stock under this Section 2.1(p)(i) shall be the closing price of a share of Stock on the next trading day following the day of determination.

(ii) Notwithstanding the foregoing, the Committee may, in its discretion, determine the Fair Market Value on the basis of the closing, high, low or average sale price of a share of Stock or the actual sale price of a share of Stock received by a Participant, on such date, the preceding trading day, the next succeeding trading day or an average determined over a specified period of trading days that is within thirty (30) days before or thirty (30) days after such date, provided that, with respect to the grant of an Option or SAR, the commitment to grant such Award based on such valuation method must be irrevocable before the beginning of the specified period. The Committee may vary its method of determination of the Fair Market Value as provided in this Section for different purposes under the Plan to the extent consistent with the requirements of Section 409A.

(iii) If, on such date, the Stock is not listed on a national or regional securities exchange or market system, the Fair Market Value of a share of Stock shall be as determined by the Committee in good faith without regard to any restriction other than a restriction which, by its terms, will never lapse, and in a manner consistent with the requirements of Section 409A.

(q) ***“Incentive Stock Option”*** means an Option intended to be (as set forth in the Award Agreement) and which qualifies as an incentive stock option within the meaning of Section 422(b) of the Code.

(r) ***“Insider”*** means an Officer, a Director or any other person whose transactions in Stock are subject to Section 16 of the Exchange Act.

(s) ***“Insider Trading”*** means the written policy of the Company pertaining to the purchase, sale, transfer or other disposition of the Company’s equity securities by Directors, Officers, Employees or other service providers who may possess material, nonpublic information regarding the Company or its securities.

(t) ***“Non-Control Affiliate”*** means any entity in which any Participating Company has an ownership interest and which the Committee shall designate as a Non-Control Affiliate.

(u) ***“Nonemployee Director”*** means a Director who is not an Employee.

(v) ***“Nonstatutory Stock Option”*** means an Option not intended to be (as set forth in the Award Agreement) an incentive stock option within the meaning of Section 422(b) of the Code.

(w) ***“Officer”*** means any person designated by the Board as an officer of the Company.

- (x) **“Option”** means the right to purchase Stock at a stated price for a specified period of time granted to a Participant pursuant to Section 6 of the Plan. An Option may be either an Incentive Stock Option or a Nonstatutory Stock Option.
- (y) **“Option Expiration Date”** means the date of expiration of the Option’s term as set forth in the Award Agreement.
- (z) An **“Ownership Change Event”** shall be deemed to have occurred if any of the following occurs with respect to the Company: (i) the direct or indirect sale or exchange in a single or series of related transactions by the stockholders of the Company of more than fifty percent (50%) of the voting stock of the Company; (ii) a merger or consolidation in which the Company is a party; or (iii) the sale, exchange, or transfer of all or substantially all, as determined by the Board in its discretion, of the assets of the Company.
- (aa) **“Parent Corporation”** means any present or future “parent corporation” of the Company, as defined in Section 424(e) of the Code.
- (bb) **“Participant”** means any eligible person who has been granted one or more Awards.
- (cc) **“Participating Company”** means the Company or any Parent Corporation, Subsidiary Corporation or Affiliate.
- (dd) **“Participating Company Group”** means, at any point in time, all entities collectively which are then Participating Companies.
- (ee) **“Performance Award”** means an Award of Performance Shares or Performance Units.
- (ff) **“Performance Award Formula”** means, for any Performance Award, a formula or table established by the Committee pursuant to Section 9.3 of the Plan which provides the basis for computing the value of a Performance Award at one or more threshold levels of attainment of the applicable Performance Goal(s) measured as of the end of the applicable Performance Period.
- (gg) **“Performance Goal”** means a performance goal established by the Committee pursuant to Section 9.3 of the Plan.
- (hh) **“Performance Period”** means a period established by the Committee pursuant to Section 9.3 of the Plan at the end of which one or more Performance Goals are to be measured.
- (ii) **“Performance Share”** means a bookkeeping entry representing a right granted to a Participant pursuant to Section 9 of the Plan to receive a payment equal to the value of a Performance Share, as determined by the Committee, based on performance.

- (jj) **“Performance Unit”** means a bookkeeping entry representing a right granted to a Participant pursuant to Section 9 of the Plan to receive a payment equal to the value of a Performance Unit, as determined by the Committee, based upon performance.
- (kk) **“Restricted Stock Award”** means an Award of Restricted Stock.
- (ll) **“Restricted Stock Unit”** or **“Stock Unit”** means a bookkeeping entry representing a right granted to a Participant pursuant to Section 10 or Section 11 of the Plan, respectively, to receive a share of Stock on a date determined in accordance with the provisions of Section 10 or Section 11, as applicable, and the Participant’s Award Agreement.
- (mm) **“Restriction Period”** means the period established in accordance with Section 8.4 of the Plan during which shares subject to a Restricted Stock Award are subject to Vesting Conditions.
- (nn) **“Rule 16b-3”** means Rule 16b-3 under the Exchange Act, as amended from time to time, or any successor rule or regulation.
- (oo) **“SAR”** or **“Stock Appreciation Right”** means a bookkeeping entry representing, for each share of Stock subject to such SAR, a right granted to a Participant pursuant to Section 7 of the Plan to receive payment in any combination of shares of Stock or cash of an amount equal to the excess, if any, of the Fair Market Value of a share of Stock on the date of exercise of the SAR over the exercise price.
- (pp) **“Section 409A”** means Section 409A of the Code.
- (qq) **“Section 409A Deferred Compensation”** means compensation provided pursuant to an Award that constitutes deferred compensation subject to and not exempted from the requirements of Section 409A.
- (rr) **“Section 162(m)”** means Section 162(m) of the Code.
- (ss) **“Securities Act”** means the Securities Act of 1933, as amended.
- (tt) **“Service”** means a Participant’s employment or service with the Participating Company Group, whether in the capacity

of an Employee, a Director or a Consultant. Unless otherwise provided by the Committee, a Participant's Service shall not be deemed to have terminated merely because of a change in the capacity in which the Participant renders such Service or a change in the Participating Company for which the Participant renders such Service, provided that there is no interruption or termination of the Participant's Service. Furthermore, a Participant's Service shall not be deemed to have terminated if the Participant takes any military leave, sick leave, or other bona fide leave of absence approved by the Company. However, if any such leave taken by a Participant exceeds ninety (90) days, then on the ninety-first (91st) day following the commencement of such leave the Participant's Service shall be deemed to have terminated, unless the Participant's right to return to Service is guaranteed by statute or contract. Notwithstanding the foregoing, unless otherwise designated by the Company or required by law, a leave of absence shall not be treated as Service for purposes of determining vesting under the Participant's Award Agreement. A Participant's Service shall

be deemed to have terminated either upon an actual termination of Service or upon the entity for which the Participant performs Service ceasing to be a Participating Company. Subject to the foregoing, the Company, in its discretion, shall determine whether the Participant's Service has terminated and the effective date of such termination.

(uu) **"Stock"** means the common stock of the Company, as adjusted from time to time in accordance with Section 4.2 of the Plan.

(vv) **"Stock-Based Awards"** means any award that is valued in whole or in part by reference to, or is otherwise based on, the Stock, including dividends on the Stock, but not limited to those Awards described in Sections 6 through 11 of the Plan.

(ww) **"Subsidiary Corporation"** means any present or future "subsidiary corporation" of the Company, as defined in Section 424(f) of the Code.

(xx) **"Successor"** means a corporation into or with which the Company is merged or consolidated or which acquires all or substantially all of the assets of the Company and which is designated by the Board as a Successor for purposes of the Plan.

(yy) **"Ten Percent Owner"** means a Participant who, at the time an Option is granted to the Participant, owns stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of a Participating Company (other than an Affiliate) within the meaning of Section 422(b)(6) of the Code.

(zz) **"Vesting Conditions"** mean those conditions established in accordance with Section 8.4 or Section 10.2 of the Plan prior to the satisfaction of which shares subject to a Restricted Stock Award or Restricted Stock Unit Award, respectively, remain subject to forfeiture or a repurchase option in favor of the Company upon the Participant's termination of Service.

2.2 **Construction.** Captions and titles contained herein are for convenience only and shall not affect the meaning or interpretation of any provision of the Plan. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

### 3. ADMINISTRATION.

3.1 **Administration by the Committee.** The Plan shall be administered by the Committee. All questions of interpretation of the Plan or of any Award shall be determined by the Committee, and such determinations shall be final and binding upon all persons having an interest in the Plan or such Award.

3.2 **Authority of Officers.** Any Officer shall have the authority to act on behalf of the Company with respect to any matter, right, obligation, determination or election which is the responsibility of or which is allocated to the Company herein, provided the Officer has apparent authority with respect to such matter, right, obligation, determination or election.

3.3 **Administration with Respect to Insiders.** With respect to participation by Insiders in the Plan, at any time that any class of equity security of the Company is registered pursuant to Section 12 of the Exchange Act, the Plan shall be administered in compliance with the requirements, if any, of Rule 16b-3.

3.4 **Committee Complying with Section 162(m).** While the Company is a “publicly held corporation” within the meaning of Section 162(m), the Board may establish a Committee of “outside directors” within the meaning of Section 162(m) to approve the grant of any Award which might reasonably be anticipated to result in the payment of employee remuneration that would otherwise exceed the limit on employee remuneration deductible for income tax purposes pursuant to Section 162(m).

3.5 **Powers of the Committee.** In addition to any other powers set forth in the Plan and subject to the provisions of the Plan, the Committee shall have the full and final power and authority, in its discretion:

- (a) to determine the persons to whom, and the time or times at which, Awards shall be granted and the number of shares of Stock or units to be subject to each Award;
- (b) to determine the type of Award granted and to designate Options as Incentive Stock Options or Nonstatutory Stock Options;
- (c) to determine the Fair Market Value of shares of Stock or other property;
- (d) to determine the terms, conditions and restrictions applicable to each Award (which need not be identical) and any shares acquired pursuant thereto, including, without limitation, (i) the exercise or purchase price of shares purchased pursuant to any Award, (ii) the method of payment for shares purchased pursuant to any Award, (iii) the method for satisfaction of any tax withholding obligation arising in connection with Award, including by the withholding or delivery of shares of Stock, (iv) the timing, terms and conditions of the exercisability or vesting of any Award or any shares acquired pursuant thereto, (v) the Performance Award Formula and Performance Goals applicable to any Award and the extent to which such Performance Goals have been attained, (vi) the time of the expiration of any Award, (vii) the effect of the Participant’s termination of Service on any of the foregoing, and (viii) all other terms, conditions and restrictions applicable to any Award or shares acquired pursuant thereto not inconsistent with the terms of the Plan;
- (e) to determine whether an Award will be settled in shares of Stock, cash, or in any combination thereof;
- (f) to approve one or more forms of Award Agreement;
- (g) to amend, modify, extend, cancel or renew any Award or to waive any restrictions or conditions applicable to any Award or any shares acquired pursuant thereto;

(h) to accelerate, continue, extend or defer the exercisability or vesting of any Award or any shares acquired pursuant thereto, including with respect to the period following a Participant's termination of Service;

(i) without the consent of the affected Participant and notwithstanding the provisions of any Award Agreement to the contrary, to unilaterally substitute at any time a Stock Appreciation Right providing for settlement solely in shares of Stock in place of any outstanding Option, provided that such Stock Appreciation Right covers the same number of shares of Stock and provides for the same exercise price (subject in each case to adjustment in accordance with Section 4.2) as the replaced Option and otherwise provides substantially equivalent terms and conditions as the replaced Option, as determined by the Committee;

(j) to prescribe, amend or rescind rules, guidelines and policies relating to the Plan, or to adopt sub-plans or supplements to, or alternative versions of, the Plan, including, without limitation, as the Committee deems necessary or desirable to comply with the laws or regulations of or to accommodate the tax policy, accounting principles or custom of, foreign jurisdictions whose citizens may be granted Awards;

(k) to correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award Agreement and to make all other determinations and take such other actions with respect to the Plan or any Award as the Committee may deem advisable to the extent not inconsistent with the provisions of the Plan or applicable law; and

(l) to delegate to any proper Officer the authority to grant one or more Awards, without further approval of the Committee, to any person eligible pursuant to Section 5, other than a person who, at the time of such grant, is an Insider; provided, however, that (i) the exercise price per share of each such Option shall be equal to the Fair Market Value per share of the Stock on the effective date of grant, and (ii) each such Award shall be subject to the terms and conditions of the appropriate standard form of Award Agreement approved by the Committee and shall conform to the provisions of the Plan and such other guidelines as shall be established from time to time by the Committee.

3.6 **Indemnification.** In addition to such other rights of indemnification as they may have as members of the Board or the Committee or as officers or employees of the Participating Company Group, members of the Board or the Committee and any officers or employees of the Participating Company Group to whom authority to act for the Board, the Committee or the Company is delegated shall be indemnified by the Company against all reasonable expenses, including attorneys' fees, actually and necessarily incurred in connection with the defense of any action, suit or proceeding, or in connection with any appeal therein, to which they or any of them may be a party by reason of any action taken or failure to act under or in connection with the Plan, or any right granted hereunder, and against all amounts paid by them in settlement thereof (provided such settlement is approved by independent legal counsel selected by the Company) or paid by them in satisfaction of a judgment in any such action, suit or proceeding, except in relation to matters as to which it shall be adjudged in such action, suit or proceeding that such person is liable for gross negligence, bad faith or intentional misconduct in duties; provided, however, that within sixty (60) days after the institution of such action, suit or

proceeding, such person shall offer to the Company, in writing, the opportunity at its own expense to handle and defend the same.

3.7 **Arbitration.** Any dispute or claim concerning any Awards granted (or not granted) pursuant to this Plan and any other disputes or claims relating to or arising out of the Plan shall be fully, finally and exclusively resolved by binding arbitration conducted pursuant to the Commercial Arbitration Rules of the American Arbitration Association. By accepting an Award, Participants and the Company waive their respective rights to have any such disputes or claims tried by a judge or jury.

3.8 **Repricing Prohibited.** Without the affirmative vote of holders of a majority of the shares of Stock cast in person or by proxy at a meeting of the stockholders of the Company at which a quorum representing a majority of all outstanding shares of Stock is present or represented by proxy, the Committee shall not approve a program providing for either (a) the cancellation of outstanding Options or SARs and the grant in substitution therefore of new Awards having a lower exercise price or (b) the amendment of outstanding Options or SARs to reduce the exercise price thereof. This paragraph shall not be construed to apply to the issuance or assumption of an Award in a transaction to which Code section 424(a) applies, within the meaning of Section 424 of the Code.

4. **SHARES SUBJECT TO PLAN.**

4.1 **Maximum Number of Shares Issuable.** Subject to adjustment as provided in Section 4.2, the maximum aggregate number of shares of Stock that may be issued under the Plan shall be seven million five hundred fifty thousand (7,550,000) (including the shares of Stock issuable under the Plan prior to the Effective Date) and shall consist of authorized but unissued or reacquired shares of Stock or any combination thereof. Any shares of Stock that are Subject to Awards of Options or SARs shall be counted against the limit as one (1) share for every one (1) share granted. Any shares of Stock that are subject to Awards (other than Options or SARs) shall be counted against this limit as two (2) shares for every one (1) share granted. If an outstanding Award for any reason expires or is terminated or canceled without having been exercised or settled in full, or if shares of Stock acquired pursuant to an Award subject to forfeiture or repurchase are forfeited or repurchased by the Company, the shares of Stock allocable to the terminated portion of such Award or such forfeited or repurchased shares of Stock shall again be available for issuance under the Plan. When a SAR settled in shares of Stock is exercised, the total number of shares subject to the SAR Agreement with respect to which the exercise occurs shall count against the limit, regardless of the number of shares actually issued in settlement of the SAR. Shares used to pay the exercise price of an option shall not again become available for future grant or issuance under the Plan. Shares used to satisfy tax withholding obligations shall not become available for future grant or issuance under the Plan. To the extent an Award is settled in cash rather than shares of Stock, such cash payment shall not reduce the number of shares available for issuance under the Plan.

4.2 **Adjustments for Changes in Capital Structure.** Subject to any required action by the stockholders of the Company and the requirements of Section 409A and 424 of the Code to the extent applicable, in the event of any change in the Stock effected without receipt of consideration by the Company, whether through merger, consolidation, reorganization,

reincorporation, recapitalization, reclassification, stock dividend, stock split, reverse stock split, split-up, split-off, spin-off, combination of shares, exchange of shares, or similar change in the capital structure of the Company, or in the event of payment of a dividend or distribution to the stockholders of the Company in a form other than Stock (excepting normal cash dividends) that has a material effect on the Fair Market Value of shares of Stock, appropriate adjustments shall be made in the number and kind of shares subject to the Plan and to any outstanding Awards, in the Award limits set forth in Section 5.4, and in the exercise or purchase price per share under any outstanding Award in order to prevent dilution or enlargement of Participants' rights under the Plan. For purposes of the foregoing, conversion of any convertible securities of the Company shall not be treated as "effected without receipt of consideration by the Company." If a majority of the shares which are of the same class as the shares that are subject to outstanding Awards are exchanged for, converted into, or otherwise become (whether or not pursuant to an Ownership Change Event) shares of another corporation (the "**New Shares**"), the Committee may unilaterally amend the outstanding Options to provide that such Options are exercisable for New Shares. In the event of any such amendment, the number of shares subject to, and the exercise price per share of, the outstanding Awards shall be adjusted in a fair and equitable manner as determined by the Board, in its discretion. Any fractional share resulting from an adjustment pursuant to this Section 4.2 shall be rounded down to the nearest whole number. The Committee in its sole discretion, may also make such adjustments in the terms of any Award to reflect, or related to, such changes in the capital structure of the Company or distributions as it deems appropriate, including modification of Performance Goals, Performance Award Formulas and Performance Periods. The adjustments determined by the Committee pursuant to this Section 4.2 shall be final, binding and conclusive.

## 5. **ELIGIBILITY AND AWARD LIMITATIONS**

5.1 **Persons Eligible for Awards.** Awards may be granted only to Employees, Consultants and Directors.

5.2 **Participation.** Awards are granted solely at the discretion of the Committee, other than Nonemployee Director Awards that may be granted by the Committee or a subcommittee of independent members of the Board. Eligible persons may be granted more than one Award. However, eligibility in accordance with this Section shall not entitle any person to be granted an Award, or, having been granted an Award, to be granted an additional Award.

5.3 **Incentive Stock Option Limitations.**

(a) **Persons Eligible.** An Incentive Stock Option may be granted only to a person who, on the effective date of grant, is an Employee of the Company, a Parent Corporation or a Subsidiary Corporation (each being an "**ISO-Qualifying Corporation**"). Any person who is not an Employee of an ISO-Qualifying Corporation on the effective date of the grant of an Option to such person may be granted only a Nonstatutory Stock Option.

(b) **Fair Market Value Limitation.** To the extent that options designated as Incentive Stock Options (granted under all stock option plans of the Participating Company Group, including the Plan) become exercisable by a Participant for the first time during any calendar year for stock having a Fair Market Value greater than One Hundred

Thousand Dollars (\$100,000), the portion of such options which exceeds such amount shall be treated as Nonstatutory Stock Options. For purposes of this Section, options designated as Incentive Stock Options shall be taken into account in the order in which they were granted, and the Fair Market Value of stock shall be determined as of the time the option with respect to such stock is granted. If the Code is amended to provide for a limitation different from that set forth in this Section, such different limitation shall be deemed incorporated herein effective as of the date and with respect to such Options as required or permitted by such amendment to the Code. If an Option is treated as an Incentive Stock Option in part and as a Nonstatutory Stock Option in part by reason of the limitation set forth in this Section, the Participant may designate which portion of such Option the Participant is exercising. In the absence of such designation, the Participant shall be deemed to have exercised the Incentive Stock Option portion of the Option first. Upon exercise, shares issued pursuant to each such portion shall be separately identified.

#### 5.4 **Award Limits.**

(a) **Maximum Number of Shares Issuable Pursuant to Incentive Stock Options.** Subject to adjustment as provided in Section 4.2, the maximum aggregate number of shares of Stock that may be issued under the Plan pursuant to the exercise of Incentive Stock Options shall not exceed seven million five hundred fifty thousand (7,550,000) shares. The maximum aggregate number of shares of Stock that may be issued under the Plan pursuant to all Awards other than Incentive Stock Options shall be the number of shares determined in accordance with Section 4.1, subject to adjustment as provided in Section 4.2.

(b) **Limits on Full Value Awards.** Any Restricted Stock Awards, Restricted Stock Unit Awards and Performance Awards (“**Full Value Awards**”) which vest on the basis of the Participant’s continued Service shall not provide for vesting which is any more rapid than annual pro rata vesting over a three (3) year period and any Full Value Awards which vest upon the attainment of Performance Goals shall provide for a Performance Period of at least twelve (12) months. There shall be no acceleration of vesting of such Full Value Awards except in connection with death, Disability or Change in Control.

(c) **Section 162(m) Award Limits.** The following limits shall apply to the grant of any Award if, at the time of grant, the Company is a “publicly held corporation” within the meaning of Section 162(m).

(i) **Options and SARs.** Subject to adjustment as provided in Section 4.2, no Employee shall be granted within any fiscal year of the Company one or more Options or Freestanding SARs which in the aggregate are for more than five hundred thousand (500,000) shares of Stock reserved for issuance under the Plan.

(ii) **Restricted Stock, Restricted Stock Unit Awards and Performance Shares.** Subject to adjustment as provided in Section 4.2, no Employee shall be granted within any fiscal year of the Company one or more Restricted Stock Awards or Restricted Stock Unit Awards, subject to Vesting Conditions based on the attainment of Performance Goals, or Performance Shares, for more than three hundred thousand shares (300,000) shares of Stock in the aggregate under the Plan.

(iii) **Performance Units.** Subject to adjustment as provided in Section 4.2, no Employee shall be granted Performance Units which could result in such Employee receiving more than two million dollars (\$2,000,000) for each full fiscal year of the Company contained in the Performance Period for such Award. No Participant may be granted more than one Performance Award for the same Performance Period.

## 6. TERMS AND CONDITIONS OF OPTIONS.

Options shall be evidenced by Award Agreements specifying the number of shares of Stock covered thereby, in such form as the Committee shall from time to time establish. No Option or purported Option shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Award Agreements evidencing Options may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

6.1 **Exercise Price.** The exercise price for each Option shall be established in the discretion of the Committee; provided, however, that (a) the exercise price per share shall be not less than the Fair Market Value of a share of Stock on the effective date of grant of the Option and (b) no Incentive Stock Option granted to a Ten Percent Owner shall have an exercise price per share less than one hundred ten percent (110%) of the Fair Market Value of a share of Stock on the effective date of grant of the Option. Notwithstanding the foregoing, an Option (whether an Incentive Stock Option or a Nonstatutory Stock Option) may be granted with an exercise price lower than the minimum exercise price set forth above if such Option is granted pursuant to an assumption or substitution for another option in a manner qualifying under the provisions of Section 424(a) of the Code.

### 6.2 **Exercisability and Term of Options.**

(a) **Option Vesting and Exercisability.** Options shall be exercisable at such time or times, or upon such event or events, and subject to such terms, conditions, performance criteria and restrictions as shall be determined by the Committee and set forth in the Award Agreement evidencing such Option; provided, however, that (a) no Option shall be exercisable after the expiration of ten (10) years after the effective date of grant of such Option, (b) no Incentive Stock Option granted to a Ten Percent Owner shall be exercisable after the expiration of five (5) years after the effective date of grant of such Option, and (c) no Option shall become fully vested in a period of less than three (3) years from the date of grant, other than in connection with a termination of Service without cause or a Change in Control or in the case of an option granted to a Nonemployee Director. Subject to the foregoing, unless otherwise specified by the Committee in the grant of an Option, any Option granted hereunder shall terminate ten (10) years after the effective date of grant of the Option, unless earlier terminated in accordance with its provisions, or the terms of the Plan.

(b) **Participant Responsibility for Exercise of Option.** Each Participant is responsible for taking any and all actions as may be required to exercise any Option in a timely manner, and for properly executing any documents as may be required for the exercise of an Option in accordance with such rules and procedures as may be established from time to time. By signing an Option Agreement each Participant acknowledges that information

regarding the procedures and requirements for the exercise of any Option is available upon such Participant's request. The Company shall have no duty or obligation to notify any Participant of the expiration date of any Option.

### 6.3 **Payment of Exercise Price.**

(a) **Forms of Consideration Authorized.** Except as otherwise provided below, payment of the exercise price for the number of shares of Stock being purchased pursuant to any Option shall be made (i) in cash, by check or in cash equivalent, (ii) by tender to the Company, or attestation to the ownership, of shares of Stock owned by the Participant having a Fair Market Value not less than the exercise price, (iii) provided that the Participant is an Employee, and not an Officer or Director (unless otherwise not prohibited by law, including, without limitation, any regulation promulgated by the Board of Governors of the Federal Reserve System) and in the Company's sole and absolute discretion at the time the Option is exercised, by delivery of the Participant's promissory note in a form approved by the Company for the aggregate exercise price, provided that, if the Company is incorporated in the State of Delaware, the Participant shall pay in cash that portion of the aggregate exercise price not less than the par value of the shares being acquired, (iv) by such other consideration as may be approved by the Committee from time to time to the extent permitted by applicable law, or (v) by any combination thereof. The Committee may at any time or from time to time grant Options which do not permit all of the foregoing forms of consideration to be used in payment of the exercise price or which otherwise restrict one or more forms of consideration.

#### (b) **Limitations on Forms of Consideration.**

(i) **Tender of Stock.** Notwithstanding the foregoing, an Option may not be exercised by tender to the Company, or attestation to the ownership, of shares of Stock to the extent such tender or attestation would constitute a violation of the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

(ii) **Payment by Promissory Note.** No promissory note shall be permitted if the exercise of an Option using a promissory note would be a violation of any law. Any permitted promissory note shall be on such terms as the Committee shall determine. The Committee shall have the authority to permit or require the Participant to secure any promissory note used to exercise an Option with the shares of Stock acquired upon the exercise of the Option or with other collateral acceptable to the Company. Unless otherwise provided by the Committee, if the Company at any time is subject to the regulations promulgated by the Board of Governors of the Federal Reserve System or any other governmental entity affecting the extension of credit in connection with the Company's securities, any promissory note shall comply with such applicable regulations, and the Participant shall pay the unpaid principal and accrued interest, if any, to the extent necessary to comply with such applicable regulations.

6.4 **Effect of Termination of Service.**

(a) ***Option Exercisability.*** Subject to earlier termination of the Option as otherwise provided herein and unless otherwise provided by the Committee, an Option shall

be exercisable after a Participant's termination of Service only during the applicable time periods provided in the Award Agreement.

(b) **Extension if Exercise Prevented by Law.** Notwithstanding the foregoing, unless the Committee provides otherwise in the Award Agreement, if the exercise of an Option within the applicable time periods is prevented by the provisions of Section 14 below, the Option shall remain exercisable until three (3) months (or such longer period of time as determined by the Committee, in its discretion) after the date the Participant is notified by the Company that the Option is exercisable, but in any event no later than the Option Expiration Date.

(c) **Extension if Participant Subject to Section 16(b).** Notwithstanding the foregoing, if a sale within the applicable time periods of shares acquired upon the exercise of the Option would subject the Participant to suit under Section 16(b) of the Exchange Act, the Option shall remain exercisable until the earliest to occur of (i) the tenth (10th) day following the date on which a sale of such shares by the Participant would no longer be subject to such suit, (ii) the one hundred and ninetieth (190th) day after the Participant's termination of Service, or (iii) the Option Expiration Date.

6.5 **Transferability of Options.** During the lifetime of the Participant, an Option shall be exercisable only by the Participant or the Participant's guardian or legal representative. Prior to the issuance of shares of Stock upon the exercise of an Option, the Option shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution. Notwithstanding the foregoing, to the extent permitted by the Committee, in its discretion, and set forth in the Award Agreement evidencing such Option, a Nonstatutory Stock Option shall be assignable or transferable subject to the applicable limitations, if any, described in the General Instructions to Form S-8 Registration Statement under the Securities Act.

## 7. TERMS AND CONDITIONS OF STOCK APPRECIATION RIGHTS.

Stock Appreciation Rights shall be evidenced by Award Agreements specifying the number of shares of Stock subject to the Award, in such form as the Committee shall from time to time establish. No SAR or purported SAR shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Award Agreements evidencing SARs may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

7.1 **Types of SARs Authorized.** SARs may be granted in tandem with all or any portion of a related Option (a "**Tandem SAR**") or may be granted independently of any Option (a "**Freestanding SAR**"). A Tandem SAR may be granted either concurrently with the grant of the related Option or at any time thereafter prior to the complete exercise, termination, expiration or cancellation of such related Option.

7.2 **Exercise Price.** The exercise price for each SAR shall be established in the discretion of the Committee; provided, however, that (a) the exercise price per share subject

to a Tandem SAR shall be the exercise price per share under the related Option and (b) the exercise price per share subject to a Freestanding SAR shall be not less than the Fair Market Value of a share of Stock on the effective date of grant of the SAR.

7.3 **Exercisability and Term of SARs.**

(a) **Tandem SARs.** Tandem SARs shall be exercisable only at the time and to the extent, and only to the extent, that the related Option is exercisable, subject to such provisions as the Committee may specify where the Tandem SAR is granted with respect to less than the full number of shares of Stock subject to the related Option.

(b) **Freestanding SARs.** Freestanding SARs shall be exercisable at such time or times, or upon such event or events, and subject to such terms, conditions, performance criteria and restrictions as shall be determined by the Committee and set forth in the Award Agreement evidencing such SAR; provided, however, that no Freestanding SAR shall be exercisable after the expiration of ten (10) years after the effective date of grant of such SAR. No SAR shall become fully vested in a period of less than three (3) years from the date of grant, other than in connection with a termination of Service or a Change in Control or in the case of an SAR granted to a Nonemployee Director.

7.4 **Deemed Exercise of SARs.** If, on the date on which an SAR would otherwise terminate or expire, the SAR by its terms remains exercisable immediately prior to such termination or expiration and, if so exercised, would result in a payment to the holder of such SAR, then any portion of such SAR which has not previously been exercised shall automatically be deemed to be exercised as of such date with respect to such portion.

7.5 **Effect of Termination of Service.** Subject to earlier termination of the SAR as otherwise provided herein and unless otherwise provided by the Committee in the grant of an SAR and set forth in the Award Agreement, an SAR shall be exercisable after a Participant's termination of Service only as provided in the Award Agreement.

7.6 **Nontransferability of SARs.** During the lifetime of the Participant, an SAR shall be exercisable only by the Participant or the Participant's guardian or legal representative. Prior to the exercise of an SAR, the SAR shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution.

8. **TERMS AND CONDITIONS OF RESTRICTED STOCK AWARDS.**

Restricted Stock Awards shall be evidenced by Award Agreements specifying the number of shares of Stock subject to the Award, in such form as the Committee shall from time to time establish. No Restricted Stock Award or purported Restricted Stock Award shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Award Agreements evidencing Restricted Stock Awards may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

8.1 **Types of Restricted Stock Awards Authorized.** Restricted Stock Awards may or may not require the payment of cash compensation for the stock. Restricted Stock Awards may be granted upon such conditions as the Committee shall determine, including, without limitation, upon the attainment of one or more Performance Goals described in Section 9.4. If either the grant of a Restricted Stock Award or the lapsing of the Restriction Period is to be contingent upon the attainment of one or more Performance Goals, the Committee shall follow procedures substantially equivalent to those set forth in Sections 9.3 through 9.5(a).

8.2 **Purchase Price.** The purchase price, if any, for shares of Stock issuable under each Restricted Stock Award and the means of payment shall be established by the Committee in its discretion.

8.3 **Purchase Period.** A Restricted Stock Award requiring the payment of cash consideration shall be exercisable within a period established by the Committee.

8.4 **Vesting and Restrictions on Transfer.** Shares issued pursuant to any Restricted Stock Awards will be subject to Vesting Conditions as described in 5.4(b), and may be based upon the satisfaction of such Service requirements, conditions, restrictions or performance criteria, including, without limitation, Performance Goals as described in Section 9.4, as shall be established by the Committee and set forth in the Award Agreement evidencing such Award. During any Restriction Period in which shares acquired pursuant to a Restricted Stock Award remain subject to Vesting Conditions, such shares may not be sold, exchanged, transferred, pledged, assigned or otherwise disposed of other than as provided in the Award Agreement or as provided in Section 8.7. Upon request by the Company, each Participant shall execute any agreement evidencing such transfer restrictions prior to the receipt of shares of Stock hereunder.

8.5 **Voting Rights; Dividends and Distributions.** Except as provided in this Section, Section 8.4 and any Award Agreement, during the Restriction Period applicable to shares subject to a Restricted Stock Award, the Participant shall have all of the rights of a stockholder of the Company holding shares of Stock, including the right to vote such shares and to receive all dividends and other distributions paid with respect to such shares. However, in the event of a dividend or distribution paid in shares of Stock or any other adjustment made upon a change in the capital structure of the Company as described in Section 4.2, any and all new, substituted or additional securities or other property (other than normal cash dividends) to which the Participant is entitled by reason of the Participant's Restricted Stock Award shall be immediately subject to the same Vesting Conditions as the shares subject to the Restricted Stock Award with respect to which such dividends or distributions were paid or adjustments were made.

8.6 **Effect of Termination of Service.** Unless otherwise provided by the Committee in the grant of a Restricted Stock Award and set forth in the Award Agreement, if a Participant's Service terminates for any reason, whether voluntary or involuntary (including the Participant's death or disability), then the Participant shall forfeit to the Company any shares acquired by the Participant pursuant to a Restricted Stock Award which remain subject to Vesting Conditions as of the date of the Participant's termination of Service in exchange for the payment of the purchase price, if any, paid by the Participant. The Company shall have the right

to assign at any time any repurchase right it may have, whether or not such right is then exercisable, to one or more persons as may be selected by the Company.

8.7 **Nontransferability of Restricted Stock Award Rights.** Prior to the issuance of shares of Stock pursuant to a Restricted Stock Award, rights to acquire such shares shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or the laws of descent and distribution. All rights with respect to a Restricted Stock Award granted to a Participant hereunder shall be exercisable during his or her lifetime only by such Participant or the Participant's guardian or legal representative.

9. **TERMS AND CONDITIONS OF PERFORMANCE AWARDS.**

Performance Awards shall be evidenced by Award Agreements in such form as the Committee shall from time to time establish. No Performance Award or purported Performance Award shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Award Agreements evidencing Performance Awards may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

9.1 **Types of Performance Awards Authorized.** Performance Awards may be in the form of either Performance Shares or Performance Units. Each Award Agreement evidencing a Performance Award shall specify the number of Performance Shares or Performance Units subject thereto, the Performance Award Formula, the Performance Goal(s) and Performance Period applicable to the Award, and the other terms, conditions and restrictions of the Award.

9.2 **Initial Value of Performance Shares and Performance Units.** Unless otherwise provided by the Committee in granting a Performance Award, each Performance Share shall have an initial value equal to the Fair Market Value of one (1) share of Stock, subject to adjustment as provided in Section 4.2, on the effective date of grant of the Performance Share. Each Performance Unit shall have an initial value determined by the Committee. The final value payable to the Participant in settlement of a Performance Award determined on the basis of the applicable Performance Award Formula will depend on the extent to which Performance Goals established by the Committee are attained within the applicable Performance Period established by the Committee.

9.3 **Establishment of Performance Period, Performance Goals and Performance Award Formula .** In granting each Performance Award, the Committee shall establish in writing the applicable Performance Period, Performance Award Formula and one or more Performance Goals which, when measured at the end of the Performance Period, shall determine on the basis of the Performance Award Formula the final value of the Performance Award to be paid to the Participant. To the extent compliance with the requirements under Section 162(m) with respect to "performance-based compensation" is desired, the Committee shall establish the Performance Goal(s) and Performance Award Formula applicable to each Performance Award no later than the earlier of (a) the date ninety (90) days after the

commencement of the applicable Performance Period or (b) the date on which 25% of the Performance Period has elapsed, and, in any event, at a time when the outcome of the Performance Goals remains substantially uncertain. Once established, the Performance Goals and Performance Award Formula shall not be changed during the Performance Period. The Company shall notify each Participant granted a Performance Award of the terms of such Award, including the Performance Period, Performance Goal(s) and Performance Award Formula.

9.4 **Measurement of Performance Goals.** Performance Goals shall be established by the Committee on the basis of targets to be attained (“**Performance Targets**”) with respect to one or more measures of business or financial performance (each, a “**Performance Measure**”), subject to the following:

(a) **Performance Measures.** Performance Measures shall have the same meanings as used in the Company’s financial statements, or, if such terms are not used in the Company’s financial statements, they shall have the meaning applied pursuant to generally accepted accounting principles, or as used generally in the Company’s industry. Performance Measures shall be calculated with respect to the Company and each Subsidiary Corporation consolidated therewith for financial reporting purposes or such division or other business unit as may be selected by the Committee. For purposes of the Plan, the Performance Measures applicable to a Performance Award shall be calculated in accordance with generally accepted accounting principles, but prior to the accrual or payment of any Performance Award for the same Performance Period and excluding the effect (whether positive or negative) of any change in accounting standards or any extraordinary, unusual or nonrecurring item, as determined by the Committee, occurring after the establishment of the Performance Goals applicable to the Performance Award. Each such adjustment, if any, shall be made solely for the purpose of providing a consistent basis from period to period for the calculation of Performance Measures in order to prevent the dilution or enlargement of the Participant’s rights with respect to a Performance Award. Performance Measures may be one or more of the following, as determined by the Committee: (i) sales revenue; (ii) gross margin; (iii) operating margin; (iv) operating income; (v) pre-tax profit; (vi) earnings before stock-based compensation expense, interest, taxes and depreciation and amortization; (vii) earnings before interest, taxes and depreciation and amortization; (viii) earnings before interest and taxes; (ix) net income; (x) expenses; (xi) the market price of the Stock; (xii) stock price; (xiii) earnings per share; (xiv) return on stockholder equity; (xv) return on capital; (xvi) return on net assets; (xvii) economic value added; (xviii) market share; (xix) customer service; (xx) customer satisfaction; (xxi) safety; (xxii) total stockholder return; (xxiii) free cash flow; (xxiv) net operating income; (xxv) operating cash flow; (xxvi) return on investment; (xxvii) employee satisfaction; (xxviii) employee retention; (xxix) balance of cash, cash equivalents and marketable securities; (xxx) product development; (xxxi) research and development expenses; (xxxii) completion of an identified special project; (xxxiii) completion of a joint venture or other corporate transaction; (xxxiv) inventory balance; (xxxv) inventory turnover ratio; or (xxxvi) such other measures as determined by the Committee consistent with this Section 9.4(a).

(b) **Performance Targets.** Performance Targets may include a minimum, maximum, target level and intermediate levels of performance, with the final value of a Performance Award determined under the applicable Performance Award Formula by the level

attained during the applicable Performance Period. A Performance Target may be stated as an absolute value or as a value determined relative to a standard selected by the Committee.

#### 9.5 **Settlement of Performance Awards.**

(a) ***Determination of Final Value.*** As soon as practicable following the completion of the Performance Period applicable to a Performance Award, the Committee shall certify in writing the extent to which the applicable Performance Goals have been attained and the resulting final value of the Award earned by the Participant and to be paid upon its settlement in accordance with the applicable Performance Award Formula.

(b) ***Discretionary Adjustment of Award Formula.*** In its discretion, the Committee may, either at the time it grants a Performance Award or at any time thereafter, provide for the positive or negative adjustment of the Performance Award Formula applicable to a Performance Award that is not intended to constitute “qualified performance based compensation” to a “covered employee” within the meaning of Section 162(m) (a “***Covered Employee***”) to reflect such Participant’s individual performance in his or her position with the Company or such other factors as the Committee may determine. With respect to a Performance Award intended to constitute qualified performance-based compensation to a Covered Employee, the Committee shall have the discretion to reduce some or all of the value of the Performance Award that would otherwise be paid to the Covered Employee upon its settlement notwithstanding the attainment of any Performance Goal and the resulting value of the Performance Award determined in accordance with the Performance Award Formula.

(c) ***Payment in Settlement of Performance Awards.*** As soon as practicable following the Committee’s determination and certification in accordance with Sections 9.5(a) and (b), but in any event within the Short-Term Deferral Period described in Section 15.1 (except as otherwise provided below or consistent with the requirements of Section 409A), payment shall be made to each eligible Participant (or such Participant’s legal representative or other person who acquired the right to receive such payment by reason of the Participant’s death) of the final value of the Participant’s Performance Award. Payment of such amount shall be made in cash in a lump sum or in installments, shares of Stock (either fully vested or subject to vesting), or a combination thereof, as determined by the Committee.

9.6 **Voting Rights; Dividend Equivalent Rights and Distributions.** Participants shall have no voting rights with respect to shares of Stock represented by Performance Share Awards until the date of the issuance of such shares, if any (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). However, the Committee, in its discretion, may provide in the Award Agreement evidencing any Performance Share Award that the Participant shall be entitled to receive Dividend Equivalents with respect to the payment of cash dividends on Stock having a record date prior to the date on which the Performance Shares are settled or forfeited. Such Dividend Equivalents, if any, shall be credited to the Participant in the form of additional whole Performance Shares as of the date of payment of such cash dividends on Stock. The number of additional Performance Shares (rounded to the nearest whole number) to be so credited shall be determined by dividing (a) the amount of cash dividends paid on such date with respect to the number of shares of Stock represented by the Performance Shares previously credited to the

Participant by (b) the Fair Market Value per share of Stock on such date. Dividend Equivalents may be paid currently or may be accumulated and paid to the extent that Performance Shares become nonforfeitable, as determined by the Committee. Settlement of Dividend Equivalents may be made in cash, shares of Stock, or a combination thereof as determined by the Committee, and may be paid on the same basis as settlement of the related Performance Share as provided in Section 9.5. Dividend Equivalents shall not be paid with respect to Performance Units. In the event of a dividend or distribution paid in shares of Stock or any other adjustment made upon a change in the capital structure of the Company as described in Section 4.2, appropriate adjustments shall be made in the Participant's Performance Share Award so that it represents the right to receive upon settlement any and all new, substituted or additional securities or other property (other than normal cash dividends) to which the Participant would be entitled by reason of the shares of Stock issuable upon settlement of the Performance Share Award, and all such new, substituted or additional securities or other property shall be immediately subject to the same Performance Goals as are applicable to the Award.

9.7 **Effect of Termination of Service.** Unless otherwise provided by the Committee in the grant of a Performance Award and set forth in the Award Agreement, the effect of a Participant's termination of Service on the Performance Award shall be as follows:

(a) **Death or Disability.** If the Participant's Service terminates because of the death or Disability of the Participant before the completion of the Performance Period applicable to the Performance Award, the final value of the Participant's Performance Award shall be determined by the extent to which the applicable Performance Goals have been attained with respect to the entire Performance Period and shall be prorated based on the number of months of the Participant's Service during the Performance Period. Payment shall be made following the end of the Performance Period in any manner permitted by Section 9.5.

(b) **Other Termination of Service.** If the Participant's Service terminates for any reason except death or Disability before the completion of the Performance Period applicable to the Performance Award, such Award shall be forfeited in its entirety; provided, however, that in the event of an involuntary termination of the Participant's Service, the Committee, in its sole discretion, may waive the automatic forfeiture of all or any portion of any such Award (e.g., by determining the final value of the Participant's Performance Award in the manner provided by Section 9.7(a)) and provide for payment following the end of the Performance Period in any manner permitted by Section 9.5.

9.8 **Nontransferability of Performance Awards.** Prior to settlement in accordance with the provisions of the Plan, no Performance Award shall be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution. All rights with respect to a Performance Award granted to a Participant hereunder shall be exercisable during his or her lifetime only by such Participant or the Participant's guardian or legal representative.

10. **TERMS AND CONDITIONS OF RESTRICTED STOCK UNIT AWARDS.**

Restricted Stock Unit Awards shall be evidenced by Award Agreements specifying the number of Restricted Stock Units subject to the Award, in such form as the Committee shall from time to time establish. No Restricted Stock Unit Award or purported Restricted Stock Unit Award shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Award Agreements evidencing Restricted Stock Units may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

10.1 **Grant of Restricted Stock Unit Awards.** Restricted Stock Unit Awards may be granted upon such conditions as the Committee shall determine, including, without limitation, upon the attainment of one or more Performance Goals described in Section 9.4. If either the grant of a Restricted Stock Unit Award or the Vesting Conditions with respect to such Award is to be contingent upon the attainment of one or more Performance Goals, the Committee shall follow procedures substantially equivalent to those set forth in Sections 9.3 through 9.5(a).

10.2 **Vesting.** Restricted Stock Units may or may not be made subject to Vesting Conditions based upon the satisfaction of such Service requirements, conditions, restrictions or performance criteria, including, without limitation, Performance Goals as described in Section 9.4, as shall be established by the Committee and set forth in the Award Agreement evidencing such Award. The Committee, in its discretion, may provide in any Award Agreement evidencing a Restricted Stock Unit Award that, if the satisfaction of Vesting Conditions with respect to any shares subject to the Award would otherwise occur on a day on which the sale of such shares would violate the provisions of the Insider Trading Policy, then the satisfaction of the Vesting Conditions automatically shall be determined on the first to occur of (a) the next trading day on which the sale of such shares would not violate the Insider Trading Policy or (b) the later of (i) last day of the calendar year in which the original vesting date occurred or (ii) the last day of the Company's taxable year in which the original vesting date occurred.

10.3 **Voting Rights, Dividend Equivalent Rights and Distributions.** Participants shall have no voting rights with respect to shares of Stock represented by Restricted Stock Units until the date of the issuance of such shares (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). However, the Committee, in its discretion, may provide in the Award Agreement evidencing any Restricted Stock Unit Award that the Participant shall be entitled to receive Dividend Equivalents with respect to the payment of cash dividends on Stock having a record date prior to the date on which Restricted Stock Units held by such Participant are settled. Such Dividend Equivalents, if any, shall be paid by crediting the Participant with additional whole Restricted Stock Units as of the date of payment of such cash dividends on Stock. The number of additional Restricted Stock Units (rounded to the nearest whole number) to be so credited shall be determined by dividing (a) the amount of cash dividends paid on such date with respect to the number of shares of Stock represented by the Restricted Stock Units previously credited to the Participant by (b) the Fair Market Value per share of Stock on such date. Such additional Restricted Stock Units shall be subject to the same terms and conditions and shall be settled in the same manner and at the same

time (or as soon thereafter as practicable) as the Restricted Stock Units originally subject to the Restricted Stock Unit Award. In the event of a dividend or distribution paid in shares of Stock or any other adjustment made upon a change in the capital structure of the Company as described in Section 4.2, appropriate adjustments shall be made in the Participant's Restricted Stock Unit Award so that it represents the right to receive upon settlement any and all new, substituted or additional securities or other property (other than normal cash dividends) to which the Participant would be entitled by reason of the shares of Stock issuable upon settlement of the Award, and all such new, substituted or additional securities or other property shall be immediately subject to the same Vesting Conditions as are applicable to the Award.

10.4 **Effect of Termination of Service.** Unless otherwise provided by the Committee in the grant of a Restricted Stock Unit Award and set forth in the Award Agreement, if a Participant's Service terminates for any reason, whether voluntary or involuntary (including the Participant's death or disability), then the Participant shall forfeit to the Company any Restricted Stock Units pursuant to the Award which remain subject to Vesting Conditions as of the date of the Participant's termination of Service.

10.5 **Settlement of Restricted Stock Unit Awards.** The Company shall issue to a Participant on the date on which Restricted Stock Units subject to the Participant's Restricted Stock Unit Award vest or on such other date determined by the Committee, in its discretion, and set forth in the Award Agreement one (1) share of Stock (and/or any other new, substituted or additional securities or other property pursuant to an adjustment described in Section 10.3) for each Restricted Stock Unit then becoming vested or otherwise to be settled on such date, subject to the withholding of applicable taxes. Notwithstanding the foregoing, if permitted by the Committee and set forth in the Award Agreement, the Participant may elect, consistent with the requirements of Section 409A, to defer receipt of all or any portion of the shares of Stock or other property otherwise issuable to the Participant pursuant to this Section, and such deferred issuance date(s) and amount(s) elected by the Participant shall be set forth in the Award Agreement.

10.6 **Nontransferability of Restricted Stock Unit Awards.** Prior to the issuance of shares of Stock in settlement of a Restricted Stock Unit Award, the Award shall not be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution. All rights with respect to a Restricted Stock Unit Award granted to a Participant hereunder shall be exercisable during his or her lifetime only by such Participant or the Participant's guardian or legal representative.

## 11. **DEFERRED COMPENSATION AWARDS**

11.1 **Establishment of Deferred Compensation Award Programs.** This Section 11 shall not be effective unless and until the Committee determines to establish a program pursuant to this Section. The Committee, in its discretion and upon such terms and conditions as it may determine, consistent with the requirements of Section 409A, may establish one or more programs pursuant to the Plan under which:

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(a) Participants designated by the Committee who are Insiders or otherwise among a select group of highly compensated Employees may irrevocably elect, prior to a date specified by the Committee in compliance with Section 409A, to reduce such Participant's compensation otherwise payable in cash (subject to any minimum or maximum reductions imposed by the Committee) and to be granted automatically at such time or times as specified by the Committee one or more Awards of Stock Units with respect to such numbers of shares of Stock as determined in accordance with the rules of the program established by the Committee and having such other terms and conditions as established by the Committee.

(b) Participants designated by the Committee who are Insiders or otherwise among a select group of highly compensated Employees may irrevocably elect, prior to a date specified by the Committee in compliance with Section 409A, to be granted automatically an Award of Stock Units with respect to such number of shares of Stock and upon such other terms and conditions as established by the Committee in lieu of:

- (i) shares of Stock otherwise issuable to such Participant upon the exercise of an Option;
- (ii) cash or shares of Stock otherwise issuable to such Participant upon the exercise of an SAR; or
- (iii) cash or shares of Stock otherwise issuable to such Participant upon the settlement of a Performance Award or

Performance Unit.

11.2 **Terms and Conditions of Deferred Compensation Awards.** Deferred Compensation Awards granted pursuant to this Section 11 shall be evidenced by Award Agreements in such form as the Committee shall from time to time establish. No such Deferred Compensation Award or purported Deferred Compensation Award shall be a valid and binding obligation of the Company unless evidenced by a fully executed Award Agreement. Award Agreements evidencing Deferred Compensation Awards may incorporate all or any of the terms of the Plan by reference and shall comply with and be subject to the following terms and conditions:

- (a) ***Vesting Conditions.*** Deferred Compensation Awards shall not be subject to any vesting conditions.
- (b) ***Terms and Conditions of Stock Units.***

(i) **Voting Rights; Dividend Equivalent Rights and Distributions.** Participants shall have no voting rights with respect to shares of Stock represented by Stock Units until the date of the issuance of such shares (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). However, a Participant shall be entitled to receive Dividend Equivalents with respect to the payment of cash dividends on Stock having a record date prior to date on which Stock Units held by such Participant are settled. Such Dividend

Equivalents shall be paid by crediting the Participant with additional whole and/or fractional Stock Units as of the date of payment of such cash dividends on Stock. The method of determining the number of additional Stock Units to be so credited shall be specified by the Committee and set forth in the Award Agreement.

Such additional Stock Units shall be subject to the same terms and conditions and shall be settled in the same manner and at the same time (or as soon thereafter as practicable) as the Stock Units originally subject to the Stock Unit Award. In the event of a dividend or distribution paid in shares of Stock or any other adjustment made upon a change in the capital structure of the Company as described in Section 4.2, appropriate adjustments shall be made in the Participant's Stock Unit Award so that it represent the right to receive upon settlement any and all new, substituted or additional securities or other property (other than normal cash dividends) to which the Participant would be entitled by reason of the shares of Stock issuable upon settlement of the Award.

(ii) **Settlement of Stock Unit Awards.** A Participant electing to receive an Award of Stock Units pursuant to this Section 11 shall specify at the time of such election a settlement date with respect to such Award in compliance with the requirements of Section 409A. The Company shall issue to the Participant as soon as practicable following the earlier of the settlement date elected by the Participant or the date of termination of the Participant's Service, a number of whole shares of Stock equal to the number of whole Stock Units subject to the Stock Unit Award. Such shares of Stock shall be fully vested, and the Participant shall not be required to pay any additional consideration (other than applicable tax withholding) to acquire such shares. Any fractional Stock Unit subject to the Stock Unit Award shall be settled by the Company by payment in cash of an amount equal to the Fair Market Value as of the payment date of such fractional share.

(iii) **Nontransferability of Stock Unit Awards.** Prior to their settlement in accordance with the provision of the Plan, no Stock Unit Award shall be subject in any manner to anticipation, alienation, sale, exchange, transfer, assignment, pledge, encumbrance, or garnishment by creditors of the Participant or the Participant's beneficiary, except transfer by will or by the laws of descent and distribution. All rights with respect to a Stock Unit Award granted to a Participant hereunder shall be exercisable during his or her lifetime only by such Participant or the Participant's guardian or legal representative.

12. **OTHER STOCK-BASED AWARDS.**

In addition to the Awards set forth in Sections 6 through 11 above, the Committee, in its sole discretion, may carry out the purpose of this Plan by awarding Stock-Based Awards as it determines to be in the best interests of the Company and subject to such other terms and conditions as it deems necessary and appropriate.

13. **EFFECT OF CHANGE IN CONTROL ON AWARDS.**

13.1 **Accelerated Vesting.** The Committee, in its sole discretion, may provide in any Award Agreement or, in the event of a Change in Control, may take such actions as it deems appropriate to provide for the acceleration of the exercisability and vesting in connection with such Change in Control of any or all outstanding Options and SARs and shares acquired upon the exercise of such Options and SARs upon such conditions and to such extent as the Committee shall determine.

13.2 **Assumption or Substitution.** In the event of a Change in Control, the surviving, continuing, successor, or purchasing corporation or other business entity or parent thereof, as the case may be (the **“Acquiring Corporation”**), may, without the consent of the Participant, either assume the Company’s rights and obligations under outstanding Options and SARs or substitute for outstanding Options and SARs substantially equivalent options or stock appreciation rights for the Acquiring Corporation’s stock. Any Options or SARs which are neither assumed or substituted for by the Acquiring Corporation in connection with the Change in Control nor exercised as of the date of the Change in Control shall terminate and cease to be outstanding effective as of the date of the Change in Control. Notwithstanding the foregoing, shares acquired upon exercise of an Option or SAR prior to the Change in Control and any consideration received pursuant to the Change in Control with respect to such shares shall continue to be subject to all applicable provisions of the Award Agreement evidencing such Award except as otherwise provided in such Award Agreement. Furthermore, notwithstanding the foregoing, if the corporation the stock of which is subject to the outstanding Options or SARs immediately prior to an Ownership Change Event described in Section 2.1(y)(i) constituting a Change in Control is the surviving or continuing corporation and immediately after such Ownership Change Event less than fifty percent (50%) of the total combined voting power of its voting stock is held by another corporation or by other corporations that are members of an affiliated group within the meaning of Section 1504(a) of the Code without regard to the provisions of Section 1504(b) of the Code, the outstanding Options and SARs shall not terminate unless the Board otherwise provides in its discretion.

13.3 **Effect of Change in Control on Restricted Stock and Other Type of Awards.** The Committee may, in its discretion, provide in any Award Agreement evidencing a Restricted Stock or Other Type of Award that, in the event of a Change in Control, the lapsing of any applicable Vesting Condition, Restriction Period or Performance Goal applicable to the shares subject to such Award held by a Participant whose Service has not terminated prior to the Change in Control shall be accelerated and/or waived effective immediately prior to the consummation of the Change in Control to such extent as specified in such Award Agreement. Any acceleration, waiver or the lapsing of any restriction that was permissible solely by reason of this Section 13.3 and the provisions of such Award Agreement shall be conditioned upon the consummation of the Change in Control.

14. **COMPLIANCE WITH SECURITIES LAW.**

The grant of Awards and the issuance of shares of Stock pursuant to any Award shall be subject to compliance with all applicable requirements of federal, state and foreign law with respect to such securities and the requirements of any stock exchange or market system upon which the Stock may then be listed. In addition, no Award may be exercised or shares issued pursuant to an Award unless (a) a registration statement under the Securities Act shall at the time of such exercise or issuance be in effect with respect to the shares issuable pursuant to the Award or (b) in the opinion of legal counsel to the Company, the shares issuable pursuant to the Award may be issued in accordance with the terms of an applicable exemption from the registration requirements of the Securities Act. The inability of the Company to obtain from any regulatory body having jurisdiction the authority, if any, deemed by the Company’s legal counsel to be necessary to the lawful issuance and sale of any shares hereunder shall relieve the Company of any liability in respect of the failure to issue or sell such shares as to which such requisite

authority shall not have been obtained. As a condition to issuance of any Stock, the Company may require the Participant to satisfy any qualifications that may be necessary or appropriate, to evidence compliance with any applicable law or regulation and to make any representation or warranty with respect thereto as may be requested by the Company.

15. **COMPLIANCE WITH SECTION 409A.**

15.1 **Awards Subject to Section 409A.** The Company intends that Awards granted pursuant to the Plan shall either be exempt from or comply with Section 409A, and the Plan shall be so construed. The provisions of this Section 15 shall apply to any Award or portion thereof that constitutes or provides for payment of Section 409A Deferred Compensation. Such Awards may include, without limitation:

(a) A Nonstatutory Stock Option or SAR that includes any feature for the deferral of compensation other than the deferral of recognition of income until the later of (i) the exercise or disposition of the Award or (ii) the time the stock acquired pursuant to the exercise of the Award first becomes substantially vested.

(b) Any Restricted Stock Unit Award or Performance Award that either (i) provides by its terms for settlement of all or any portion of the Award at a time or upon an event that will or may occur later than the end of the Short-Term Deferral Period (as defined below) or (ii) permits the Participant granted the Award to elect one or more dates or events upon which the Award will be settled after the end of the Short-Term Deferral Period.

Subject to the provisions of Section 409A, the term "Short-Term Deferral Period" means the 2½ month period ending on the later of (i) the 15th day of the third month following the end of the Participant's taxable year in which the right to payment under applicable portion of the Award is no longer subject to a substantial risk of forfeiture or (ii) the 15th day of the third month following the end of the Company's taxable year in which the right to payment under the applicable portion of the Award is no longer subject to a substantial risk of forfeiture. For this purpose, the term "substantial risk of forfeiture" shall have the meaning provided by Section 409A.

15.2 **Deferral and/or Distribution Elections.** Except as otherwise permitted or required by Section 409A, the following rules shall apply to any compensation deferral and/or payment elections (each, an "Election") that may be permitted or required by the Committee pursuant to an Award providing Section 409A Deferred Compensation:

(a) Elections must be in writing and specify the amount of the payment in settlement of an Award being deferred, as well as the time and form of payment as permitted by this Plan.

(b) Elections shall be made by the end of the Participant's taxable year prior to the year in which services commence for which an Award may be granted to such Participant.

(c) Elections shall continue in effect until a written revocation or change in Election is received by the Company, except that a written revocation or change in

Election must be received by the Company prior to the last day for making the Election determined in accordance with paragraph (b) above or as permitted by Section 15.3.

**15.3 Subsequent Elections.** Except as otherwise permitted or required by Section 409A, any Award providing Section 409A Deferred Compensation which permits a subsequent Election to delay the payment or change the form of payment in settlement of such Award shall comply with the following requirements:

(a) No subsequent Election may take effect until at least twelve (12) months after the date on which the subsequent Election is made.

(b) Each subsequent Election related to a payment in settlement of an Award not described in Section 15.4(b), 15.4(c) or 15.4(f) must result in a delay of the payment for a period of not less than five (5) years from the date on which such payment would otherwise have been made.

(c) No subsequent Election related to a payment pursuant to Section 15.4(d) shall be made less than twelve (12) months before the date on which such payment would otherwise have been made.

(d) Subsequent Elections shall continue in effect until a written revocation or change in the subsequent Election is received by the Company, except that a written revocation or change in a subsequent Election must be received by the Company prior to the last day for making the subsequent Election determined in accordance the preceding paragraphs of this Section 15.3.

**15.4 Payments Pursuant to Deferral Elections.** Except as otherwise permitted or required by Section 409A, an Award providing Section 409A Deferred Compensation must provide for payment in settlement of the Award only upon one or more of the following:

(a) The Participant's separation from service (as defined by Section 409A);

(b) The Participant's becoming Disabled (as defined below);

(c) The Participant's death;

(d) A time or fixed schedule that is either (i) specified by the Committee upon the grant of an Award and set forth in the Award Agreement evidencing such Award or (ii) specified by the Participant in an Election complying with the requirements of Section 15.2 or 15.3, as applicable;

(e) A change in the ownership or effective control or the Company or in the ownership of a substantial portion of the assets of the Company determined in accordance with Section 409A; or

- (f) The occurrence of an Unforeseeable Emergency (as defined by Section 409A).

Notwithstanding any provision of the Plan or an Award Agreement to the contrary, to the extent that any amount constituting Section 409A Deferred Compensation would become payable under this Plan by reason of a Change in Control, such amount shall become payable only if the event constituting a Change in Control would also constitute a change in ownership or effective control of the Company or a change in the ownership of a substantial portion of the assets of the Company within the meaning of Section 409A.

Notwithstanding any provision of the Plan or an Award Agreement to the contrary, except as otherwise permitted by Section 409A, no payment pursuant to Section 15.4(a) in settlement of an Award providing for Section 409A Deferred Compensation may be made to a Participant who is a "specified employee" (as defined by Section 409A) as of the date of the Participant's separation from service before the date (the "Delayed Payment Date") that is six (6) months after the date of such Participant's separation from service, or, if earlier, the date of the Participant's death. All such amounts that would, but for this paragraph, become payable prior to the Delayed Payment Date shall be accumulated and paid on the Delayed Payment Date.

15.5 **Unforeseeable Emergency.** The Committee shall have the authority to provide in the Award Agreement evidencing any Award providing for Section 409A Deferred Compensation for payment in settlement of all or a portion of such Award in the event that a Participant establishes, to the satisfaction of the Committee, the occurrence of an Unforeseeable Emergency. In such event, the amount(s) distributed with respect to such Unforeseeable Emergency cannot exceed the amounts reasonably necessary to satisfy the emergency need plus amounts necessary to pay taxes reasonably anticipated as a result of such distribution(s), after taking into account the extent to which such emergency need is or may be relieved through reimbursement or compensation by insurance or otherwise, by liquidation of the Participant's assets (to the extent the liquidation of such assets would not itself cause severe financial hardship) or by cessation of deferrals under the Award. All distributions with respect to an Unforeseeable Emergency shall be made in a lump sum as soon as practicable following the Committee's determination that an Unforeseeable Emergency has occurred.

The occurrence of an Unforeseeable Emergency shall be judged and determined by the Committee. The Committee's decision with respect to whether an Unforeseeable Emergency has occurred and the manner in which, if at all, the payment in settlement of an Award shall be altered or modified, shall be final, conclusive, and not subject to approval or appeal.

15.6 **Disabled.** The Committee shall have the authority to provide in any Award providing Section 409A Deferred Compensation for payment in settlement of such Award in the event that the Participant becomes Disabled. A Participant shall be considered "Disabled" if either:

- (a) the Participant is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than twelve (12) months, or

(b) the Participant is, by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than twelve (12) months, receiving income replacement benefits for a period of not less than three (3) months under an accident and health plan covering employees of the Participant's employer.

All distributions payable by reason of a Participant becoming Disabled shall be paid in a lump sum or in periodic installments as established by the Participant's Election. If the Participant has made no Election with respect to distributions upon becoming Disabled, all such distributions shall be paid in a lump sum upon the determination that the Participant has become Disabled.

15.7 **Death.** If a Participant dies before complete distribution of amounts payable upon settlement of an Award subject to Section 409A, such undistributed amounts shall be distributed to his or her beneficiary under the distribution method for death established by the Participant's Election upon receipt by the Committee of satisfactory notice and confirmation of the Participant's death. If the Participant has made no Election with respect to distributions upon death, all such distributions shall be paid in a lump sum upon receipt by the Committee of satisfactory notice and confirmation of the Participant's death.

15.8 **Prohibition of Acceleration of Payments.** Notwithstanding any provision of the Plan or an Award Agreement to the contrary, this Plan does not permit the acceleration of the time or schedule of any payment under an Award providing Section 409A Deferred Compensation, except as permitted by Section 409A.

## 16. **TAX WITHHOLDING.**

16.1 **Tax Withholding in General.** The Company shall have the right to deduct from any and all payments made under the Plan, or to require the Participant, through payroll withholding, cash payment or otherwise, including by means of a Cashless Exercise or Net Exercise of an Option, to make adequate provision for, the federal, state, local and foreign taxes, if any, required by law to be withheld by the Participating Company Group with respect to an Award or the shares acquired pursuant thereto. The Company shall have no obligation to deliver shares of Stock, to release shares of Stock from an escrow established pursuant to an Award Agreement, or to make any payment in cash under the Plan until the Participating Company Group's tax withholding obligations have been satisfied by the Participant.

16.2 **Withholding in Shares.** The Company shall have the right, but not the obligation, to deduct from the shares of Stock issuable to a Participant upon the exercise or settlement of an Award, or to accept from the Participant the tender of, a number of whole shares of Stock having a Fair Market Value, as determined by the Company, equal to all or any part of the tax withholding obligations of the Participating Company Group. The Fair Market Value of any shares of Stock withheld or tendered to satisfy any such tax withholding obligations shall not exceed the amount determined by the applicable minimum statutory withholding rates.

17. **AMENDMENT OR TERMINATION OF PLAN.**

The Board or the Committee may amend, suspend or terminate the Plan at any time. However, without the approval of the Company's stockholders, there shall be (a) no increase in the maximum aggregate number of shares of Stock that may be issued under the Plan (except by operation of the provisions of Section 4.2), (b) no change in the class of persons eligible to receive Incentive Stock Options, (c) no removal of the stockholder approval requirement in Section 3.8 related to option and SAR repricings, and (d) no other amendment of the Plan that would require approval of the Company's stockholders under any applicable law, regulation or rule. Except as provided by the next sentence, no amendment, suspension or termination of the Plan shall affect any then outstanding Award unless expressly provided by the Board or the Committee. In any event, no amendment, suspension or termination of the Plan may adversely affect any then outstanding Award without the consent of the Participant. Notwithstanding any other provision of the Plan to the contrary, the Committee may, in its sole and absolute discretion and without the consent of any Participant, amend the Plan or any Award Agreement, to take effect retroactively or otherwise, as it deems necessary or advisable for the purpose of conforming the Plan or such Award Agreement to any present or future law, regulation or rule applicable to the Plan, including, but not limited to, Section 409A.

18. **MISCELLANEOUS PROVISIONS.**

18.1 **Repurchase Rights.** Shares issued under the Plan may be subject to one or more repurchase options, or other conditions and restrictions as determined by the Committee in its discretion at the time the Award is granted. The Company shall have the right to assign at any time any repurchase right it may have, whether or not such right is then exercisable, to one or more persons as may be selected by the Company. Upon request by the Company, each Participant shall execute any agreement evidencing such transfer restrictions prior to the receipt of shares of Stock hereunder and shall promptly present to the Company any and all certificates representing shares of Stock acquired hereunder for the placement on such certificates of appropriate legends evidencing any such transfer restrictions.

18.2 **Provision of Information.** Each Participant shall be given access to information concerning the Company equivalent to that information generally made available to the Company's common stockholders.

18.3 **Rights as Employee, Consultant or Director.** No person, even though eligible pursuant to Section 5, shall have a right to be selected as a Participant, or, having been so selected, to be selected again as a Participant. Nothing in the Plan or any Award granted under the Plan shall confer on any Participant a right to remain an Employee, Consultant or Director or interfere with or limit in any way any right of a Participating Company to terminate the Participant's Service at any time. To the extent that an Employee of a Participating Company other than the Company receives an Award under the Plan, that Award shall in no event be understood or interpreted to mean that the Company is the Employee's employer or that the Employee has an employment relationship with the Company.

18.4 **Rights as a Stockholder.** A Participant shall have no rights as a stockholder with respect to any shares covered by an Award until the date of the issuance of such

shares (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company). No adjustment shall be made for dividends, distributions or other rights for which the record date is prior to the date such shares are issued, except as provided in Section 4.2 or another provision of the Plan.

18.5 **Fractional Shares.** The Company shall not be required to issue fractional shares upon the exercise or settlement of any Award.

18.6 **Severability.** If any one or more of the provisions (or any part thereof) of this Plan shall be held invalid, illegal or unenforceable in any respect, such provision shall be modified so as to make it valid, legal and enforceable, and the validity, legality and enforceability of the remaining provisions (or any part thereof) of the Plan shall not in any way be affected or impaired thereby.

18.7 **Beneficiary Designation.** Subject to local laws and procedures, each Participant may file with the Company a written designation of a beneficiary who is to receive any benefit under the Plan to which the Participant is entitled in the event of such Participant's death before he or she receives any or all of such benefit. Each designation will revoke all prior designations by the same Participant, shall be in a form prescribed by the Company, and will be effective only when filed by the Participant in writing with the Company during the Participant's lifetime. If a married Participant designates a beneficiary other than the Participant's spouse, the effectiveness of such designation may be subject to the consent of the Participant's spouse. If a Participant dies without an effective designation of a beneficiary who is living at the time of the Participant's death, the Company will pay any remaining unpaid benefits to the Participant's legal representative.

18.8 **Unfunded Obligation.** Participants shall have the status of general unsecured creditors of the Company. Any amounts payable to Participants pursuant to the Plan shall be unfunded and unsecured obligations for all purposes, including, without limitation, Title I of the Employee Retirement Income Security Act of 1974. No Participating Company shall be required to segregate any monies from its general funds, or to create any trusts, or establish any special accounts with respect to such obligations. The Company shall retain at all times beneficial ownership of any investments, including trust investments, which the Company may make to fulfill its payment obligations hereunder. Any investments or the creation or maintenance of any trust or any Participant account shall not create or constitute a trust or fiduciary relationship between the Committee or any Participating Company and a Participant, or otherwise create any vested or beneficial interest in any Participant or the Participant's creditors in any assets of any Participating Company. The Participants shall have no claim against any Participating Company for any changes in the value of any assets which may be invested or reinvested by the Company with respect to the Plan. Each Participating Company shall be responsible for making benefit payments pursuant to the Plan on behalf of its Participants or for reimbursing the Company for the cost of such payments, as determined by the Company in its sole discretion. In the event the respective Participating Company fails to make such payment or reimbursement, a Participant's (or other individual's) sole recourse shall be against the respective Participating Company, and not against the Company. A Participant's acceptance of an Award pursuant to the Plan shall constitute agreement with this provision.

PLAN HISTORY AND NOTES TO COMPANY

April 30, 2007 Board adopts Plan with a reserve of seven million five hundred fifty thousand (7,550,000) shares, including a pre Effective Date reserve of five million hundred thousand (5,800,000) shares.

May 22, 2007 Stockholders approve Plan.

December 8, 2008 Board amends Plan to comply with Section 409A of the Code.

## AXT, INC.

## FISCAL 2009 EXECUTIVE INCENTIVE BONUS PLAN

The following are the terms of the 2009 Executive Bonus Plan approved by the Compensation Committee of the Board of Directors of AXT, Inc. (the “*Company*”) on December 8, 2008 (the “*Plan*”).

**A. Purpose**

1. The terms of the Plan have been established to attract, motivate, retain and reward the Company’s executive officers and all other officers of the Company for driving the Company to achieve specific corporate objectives.
2. The Plan provides for the payment of quarterly cash bonuses based upon Company financial targets and individual performance target objectives.

**B. Eligibility**

1. Those eligible to participate in the Plan are the Company’s executive officers as determined pursuant to Section 16 of the Securities Exchange Act of 1934, as amended and any other officers of the Company designated by the Compensation Committee (each, an “*Officer*” and collectively, the “*Officers*”).

**C. Determination of Bonus Amounts**

1. The Compensation Committee has determined that each individual Officer will have an “*Individual Bonus Percentage*” and an “*Individual Target Bonus*” as defined below, which will vary depending on such Officer’s position and responsibilities in the Company.
  2. Bonuses payable will be determined based upon achievement of corporate financial targets (the “*Corporate Targets*”) and individual targets established for each Officer (the “*Individual Targets*”). Achievement of the Corporate Targets will represent 80% of the total bonus, and achievement of the Individual Targets will represent 20% of the total bonus. The Corporate Targets shall be comprised of four financial targets, revenue (“*Total Revenue Target*”), gross profit (“*Gross Profit Target*”), operating expense (“*Operating Expense Target*”) and net income (“*Net Income Target*”). The actual quarterly Corporate Targets are as set forth on Exhibit A hereto and incorporated herein.
  3. The Corporate Targets are weighted 10% for each of the Total Revenue Target, Gross Profit Target and Operating Expense Target, and 50% for the Net Income Target, for a total of 80% of the total bonus. Accordingly, the “*Corporate Target Achievement Multiplier*” means, for each quarter, the sum of the (a) actual Total Revenue for such quarter divided by the Total Revenue Target multiplied by 0.1, (b) actual Gross Profit for such quarter divided by the Gross Profit Target multiplied by 0.1, (c) actual Total Operating Expense for such quarter
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divided by Operating Expense Target multiplied by 0.1, and (d) actual Total Net Income for such quarter divided by the Net Income Target multiplied by 0.5, subject to Section 4 below.

4. The threshold achievement for each Corporate Target is 90% of the Company's operating plan for such target for such quarter, and the maximum achievement for each Corporate Target is 120% of the Company's operating plan for such target for such quarter. A minimum threshold net income level must be achieved before any bonus will be payable (the "**Threshold Net Income**"). In the event that actual Net Income is negative for any particular quarter, the Corporate Target Achievement Multiplier shall be deemed to be equal to zero. In addition, no Corporate Target shall be deemed achieved unless a minimum threshold of greater than 90% attainment of the target for such Corporate Target for such quarter, as set forth on Exhibit A, is achieved, and no bonus shall be payable for any period in which the Company does not achieve at least 90% for all three of the corporate financial objectives, including the effect of the bonus payable. Achievement beyond 100%, being in excess of 120% of the operating plan, shall result in no additional bonus being paid.

In no event shall the Individual Bonus Earned by any Officer in any quarter represent more than 120% of the Quarterly Individual Target Bonus, and in no event shall achievement of any individual Corporate Target represent more than 120% of such Corporate Target for such quarter (i.e, achievement of the Total Revenue Target, Gross Profit Target and Operating Expense Target shall not represent more than 12% of the Corporate Target Achievement Multiplier in any quarter, and the Net Income Target shall not represent more than 60% of the Corporate Target Achievement Multiplier in any quarter, and the Individual Targets shall not represent more than 48% of the Individual Bonus Earned by any Officer in any quarter.

5. The 80% portion of the bonus represented by achievement of the Corporate Targets shall be determined by multiplying the Corporate Target Achievement Multiplier times the result obtained by dividing the Individual Target Bonus by four. The Corporate Target Achievement Multiplier does not vary based upon the Officer's position and responsibilities and is applicable to all Officers.

6. Achievement of the Individual Targets, representing 20% of the Plan, shall be determined each quarter by the Chief Executive Officer for all Officers other than the Chief Executive Officer, pursuant to objectives established by the Chief Executive Officer for each such Officer. Achievement of the Individual Targets by the Chief Executive Officer shall be determined each quarter by the Compensation Committee, based upon objectives established by the Compensation Committee each quarter for the Chief Executive Officer.

#### **D. Individual Target Percentages**

1. "**Individual Bonus Percentage**" means the percentage of a respective Officer's base salary that is targeted as a bonus payment under the Plan assuming exactly one hundred percent achievement by the Company of each of the Corporate Targets and Individual Targets (as defined below). The Individual Bonus Percentage for each Officer is set as a percentage of base salary and varies based upon the Officer's position and responsibilities. The Individual Bonus Percentage for each Officer under the Plan is as follows:

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Name	Target Bonus
Philip C.S. Yin	57.75
Minsheng Lin	46.2
Wilson Cheung	42
Davis Zhang	31.5
Robert Ochrym	52.5
John Cerilli	42
Raymond Low	21

2. “**Individual Target Bonus**” for each fiscal year means the amount equal to a respective Officer’s base salary multiplied by such Officer’s Individual Bonus Percentage. The Individual Target Bonus for each quarter shall be one-fourth of the annual Individual Target Bonus. The “**Quarterly Individual Target Bonus**” shall be the Individual Target Bonus divided by four. The “**Individual Bonus Earned**” means the amount equal to Individual Target Bonus multiplied by the Corporate Target Achievement Multiplier. The maximum amount of funds available for distribution to Officers under the Plan shall be equal to the sum of each Officer’s Individual Target Bonus.

**E. Plan Changes**

1. The Board or the Compensation Committee may modify the financial performance goals at any time based on changes in business conditions during the year and may grant bonuses to Officers even if the financial performance goals are not met. In its discretion, the Compensation Committee may, either at the time it grants an award under the Plan or at any time thereafter, provide for the adjustment of the award formula applicable to an award granted to any participant under the Plan to reflect such participant’s individual performance in his or her position with the Company or such other factors as the Compensation Committee may determine. Notwithstanding the attainment of any performance goal under the Plan, the Compensation Committee shall have the discretion, on the basis of such criteria as it may establish, to reduce the amount of or to eliminate any final award that would otherwise be paid, and retains the absolute discretion to amend, modify or terminate the Plan at any time.

2. Nothing in this Plan will interfere with or limit in any way the right of the Company or the right of any individual to terminate the employment relationship at any time, with or without cause.

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**Exhibit 23.1**

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-143366, 333-38858 and 333-67297) of AXT, Inc. of our reports dated March 31, 2009 relating to the consolidated financial statements and the effectiveness of internal control over financial reporting, which appear in this Form 10-K.

/s/ Burr, Pilger & Mayer LLP

San Jose, California

March 31, 2009

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[Exhibit 23.1](#)

**CERTIFICATION PURSUANT TO 18 U.S.C. RULE 13a-14(a)/15d-14(a)  
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Wilson W. Cheung, certify that:

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

March 31, 2009

/s/ WILSON W. CHEUNG

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Wilson W. Cheung  
*Chief Financial Officer and Corporate Secretary*

*(Principal Executive Officer and  
Principal Financial Officer)*

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[Exhibit 31.1](#)



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[Exhibit 32.1](#)