

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

The following discussion contains, in addition to historical information, forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Statements that are other than historical information are forward-looking statements. For example, statements relating to our beliefs, expectations, plans and projections are forward-looking statements, as are statements that certain actions, conditions or circumstances will continue or change. Forward-looking statements involve risks and uncertainties. Consequently, our actual results may differ materially from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences or prove any forward-looking statements, by hindsight to be overly optimistic or unachievable, include, but are not limited to, the following:

- Ability to refinance our convertible subordinated notes payable due in 2006;
- Changes or slowdowns in general economic conditions or conditions in the semiconductor, semiconductor capital equipment and flat panel display industries and other industries in which our customers operate;
- Acceptance by our customers of products manufactured or planned to be manufactured at our China-based manufacturing facility;
- Ability to transition a substantial portion of our materials purchases to high-quality, low-cost suppliers local to our Shenzhen, China facility ("Tier 1 Asian suppliers");
- Timing and nature of orders placed by our customers, including their product acceptance criteria;
- Future warranty costs in excess of anticipated levels;
- Periodic charges for excess and obsolete inventory;
- Pricing competition from our competitors;
- Lower average selling prices than anticipated;
- Costs incurred and judgments resulting from patent or other litigation;
- Component shortages or allocations or other factors that change our levels of inventory or substantially increase our spending on inventory;
- The introduction of new products by us or our competitors;
- Changes in our customers' inventory management practices; and
- Customer cancellations of previously placed orders and shipment delays.

For a discussion of these and other factors that may impact our realization of our forward-looking statements, see "Cautionary Statements – Risk Factors" within Item 1 of Part I of this Form 10-K.

Executive Summary

We focused substantial attention in 2004 on reducing costs, by making significant progress in our transition of high-volume manufacturing from our Fort Collins, Colorado facility to our Shenzhen, China facility, methodically addressing our inventory and materials costs, and bringing greater discipline to our product life-cycle program. By the end of 2004, we had transitioned to our Shenzhen facility production of 19 of the 25 product lines we currently plan to transition. We expect to transfer the remaining 6 product lines by the end of 2005. Also by the end of 2004, we had selected Tier 1 Asian suppliers for a substantial portion of the parts and components anticipated to be used in the production of these 25 product lines. During the transition of the product lines to our Shenzhen facility, we have been incurring significant operating and logistics

costs as a result of duplicate manufacturing facilities in Shenzhen and Fort Collins, which has placed significant downward pressure on our gross margin. As the transition of production progresses, in addition to our realizing significantly lower labor and other costs at the Shenzhen facility compared to our Fort Collins facility, the need for the inefficient duplicate manufacturing and related costs should decline.

Our net loss for 2004 was \$12.7 million, compared to a net loss of \$44.2 million in 2003 and \$41.4 million in 2002. The improvement was principally due to the higher sales base. Our sales in 2004 were \$395.3 million, a 51% increase over sales in 2003, and our sales in 2003 reflected an increase of 10% over sales in 2002. Our increasing sales from 2003 to 2004 principally reflect recovery from the 2002-2003 downturns in the semiconductor, semiconductor capital equipment, and flat panel display industries. Our sales in the second half of 2004, however, were 15% lower than our sales in the first half of 2004, due to decreasing sales to our semiconductor OEM customers, offset by continued growth in the flat panel display and other advanced thin film markets such as industrial coatings. We believe the decline in our sales to our semiconductor OEM customers reflects an industry slowdown.

Our gross margin remained low in 2004. We expect gross margin to improve as the transition of high-volume manufacturing to our Shenzhen facility and move to Tier 1 Asian suppliers progress. We also expect the operational changes we have effected, particularly in our pricing, procurement and product life-cycle management programs, to positively impact our gross margin beginning in 2005.

Results of Operations

The following table summarizes certain data as a percentage of sales extracted from our consolidated statements of operations:

	<u>Years Ended December 31,</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
Sales.....	100.0%	100.0%	100.0%
Cost of sales	<u>69.7</u>	<u>66.5</u>	<u>71.2</u>
Gross profit.....	<u>30.3</u>	<u>33.5</u>	<u>28.8</u>
Operating expenses:			
Research and development.....	13.0	19.7	20.5
Selling, general and administrative.....	15.8	20.6	27.9
Litigation damages.....	--	--	1.7
Restructuring charges.....	1.0	1.6	3.8
Impairment of intangible assets	<u>0.9</u>	<u>0.4</u>	<u>0.8</u>
Total operating expenses.....	<u>30.7</u>	<u>42.3</u>	<u>54.7</u>
Loss from operations.....	(0.4)	(8.8)	(25.9)
Other expense.....	<u>(1.8)</u>	<u>(3.6)</u>	<u>(0.7)</u>
Net loss before income taxes	(2.2)	(12.4)	(26.6)
(Provision) benefit for income taxes.....	<u>(1.0)</u>	<u>(4.5)</u>	<u>9.3</u>
Net loss	<u>(3.2)%</u>	<u>(16.9)%</u>	<u>(17.3)%</u>

SALES

The following tables summarize annual net sales, and percentages of net sales, by customer type for each of the three years in the period ended December 31, 2004:

	<u>Years Ended December 31,</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
		(In thousands)	
Semiconductor capital equipment.....	\$238,728	\$155,153	\$163,108
Data storage.....	29,229	26,397	13,570
Flat panel display.....	56,304	28,953	19,826
Advanced product applications.....	71,044	51,899	42,394
	<u>\$395,305</u>	<u>\$262,402</u>	<u>\$238,898</u>

	<u>Years Ended December 31,</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
Semiconductor capital equipment.....	60%	59%	68%
Data storage.....	8	10	6
Flat panel display.....	14	11	8
Advanced product applications.....	18	20	18
	<u>100%</u>	<u>100%</u>	<u>100%</u>

The following tables summarize annual net sales, and percentages of net sales, by geographic region for each of the three years in the period ended December 31, 2004. The following amounts do not contemplate where our customers may subsequently transfer our products.

	<u>Years Ended December 31,</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
		(In thousands)	
United States and Canada.....	\$208,002	\$124,185	\$143,698
Europe.....	59,552	48,185	32,791
Asia.....	126,862	88,919	61,327
Rest of world.....	889	1,113	1,082
	<u>\$395,305</u>	<u>\$262,402</u>	<u>\$238,898</u>

	<u>Years Ended December 31,</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
United States and Canada.....	53%	47%	60%
Europe.....	15	19	14
Asia.....	32	34	26
Rest of world.....	--	--	--
	<u>100%</u>	<u>100%</u>	<u>100%</u>

Total sales were \$395.3 million in 2004, \$262.4 million in 2003 and \$238.9 million in 2002, representing an increase of 10% from 2002 to 2003 and 51% from 2003 to 2004. This growth is due primarily to recovery from downturns in the semiconductor and semiconductor capital equipment industries, and continued growth of the flat panel display industry. In 2004, the industry upturns were most notable in the first half of the year. Sales in the second half of 2004 decreased 15% from the first half, as the semiconductor capital equipment industry appears to be entering a slowdown. Looking forward, we expect that this slowdown will continue in the near term.

Our sales to the semiconductor capital equipment industry declined by approximately 5% from 2002 to 2003 and increased by approximately 54% from 2003 to 2004, due primarily to the cyclical nature of this industry.

Our sales to the data storage, flat panel display and advanced product applications markets, have been steadily increasing each year from 2001 through 2004. This growth is primarily attributed to market share gains, order trends and the general expansion of end customer products including large flat panel displays, liquid crystal displays, DVD applications and applications

dependent upon industrial coatings. Flat panel display sales have grown most notably, with an increase of 46% from 2002 to 2003 and 94% from 2003 to 2004. The 94% increase from 2003 to 2004 was primarily driven by sales of our new Summit™ DC power system to OEM customers building PVD tools for Generation 6 and Generation 7 panel sizes.

Certain of our major customers require shipping terms of FOB destination point. When the majority of our shipments were made from Fort Collins the one-day shipping time in the United States resulted in minimal delay of revenue recognition from time of shipment. Given the volume of shipments coming from China to the United States, beginning in 2005, we will be delaying the recognition of revenue for these shipments by five to seven days on sales to these certain major customers.

The impact of the acquisitions of Aera Japan, Ltd. (“Aera”) and Dressler HF Technik GmbH (“Dressler”) on the 2002 sales level was minimal and would not impact the sales growth percentage from 2002 to 2003, as a vast majority of the 2002 sales of these entities were included in the consolidated operating results.

GROSS MARGIN

Our gross margin was 30.3% in 2004, 33.5% in 2003 and 28.8% in 2002. Our gross margins during these years have been adversely affected principally by the following factors:

- The lower sales base caused in large part by the severe downturn in the semiconductor equipment industry during 2002 and most of 2003, resulted in lower absorption of our fixed costs;
- Lower average selling prices than anticipated;
- During our transition of high-volume manufacturing to Shenzhen, China beginning in 2003, we have been required to operate manufacturing facilities in both Shenzhen and Fort Collins to produce the same products, which has required duplicate management, procurement and engineering teams, as well as facilities costs, and the transition has taken longer than initially anticipated;
- Increased shipping and related costs in 2003 and 2004 for products manufactured in our Shenzhen facility;
- High demand for two product groups with margins lower than our corporate average;
- Charges for excess and obsolete inventory were approximately \$11.3 million in 2004, \$3.0 million in 2003 and \$5.8 million in 2002; and
- Warranty costs, particularly with respect to the introduction of new products, were approximately \$10.5 million in 2004, \$8.1 million in 2003, and \$13.2 million in 2002.

The improvement in gross margin from 2002 to 2003 was primarily due to cost reduction measures and improved absorption of overhead due to the higher sales base.

The decline in gross margin from 2003 to 2004 was primarily due to: lower average selling prices than anticipated; increasing manufacturing costs at the Shenzhen facility as production of more product lines were transferred and customers began accepting products from such facility, without equivalent decreases in manufacturing and facilities costs at our Fort Collins facility (impact of approximately 200 – 300 basis points); high demand during 2004 for product lines with relatively low margins; and excess and obsolete inventory charges during the fourth quarter of 2004 resulting from changes in our product life-cycle management program, discontinuance of

certain products in select markets, the product mix shift from 200mm wafers to 300mm wafers and the expected continued slowdown in the semiconductor industry in the near term.

We have taken measures to bring greater discipline to our pricing, procurement and product life-cycle management programs. We expect gross margin to improve as the transition of high-volume manufacturing to our Shenzhen facility and move to Tier 1 Asian suppliers progress, resulting in lower labor and materials costs.

However, factors that could cause our gross margins to be negatively impacted in 2005 and beyond include, but are not limited to the following:

- Decrease in average selling prices;
- Costs associated with the continued transition of our high-volume manufacturing to our new China facility, including costs incurred to operate duplicate manufacturing facilities and increased shipping and related costs;
- Unanticipated costs to comply with our customers' strict and extensive requirements, especially related to our China transition and move to Tier 1 Asian suppliers;
- Cost reduction programs initiated by semiconductor manufacturers and semiconductor capital equipment manufacturers that negatively impact our average selling price;
- Warranty costs in excess of historical rates and our expectations;
- Increased levels of excess and obsolete inventory, either due to market conditions, the introduction of new products by our competitors, or our decision to discontinue certain product lines; and
- Changes in foreign currency exchange rates that might affect our costs.

RESEARCH AND DEVELOPMENT

The market for our subsystems for vacuum process systems and related accessories is characterized by ongoing technological changes. We believe that continued and timely development of new highly differentiated products and enhancements to existing products to support OEM requirements is necessary for us to maintain a competitive position in the markets we serve. Accordingly, we devote a significant portion of our personnel and financial resources to research and development projects and seek to maintain close relationships with our customers and other industry leaders in order to remain responsive to their product requirements. We believe that the continued investment in research and development and ongoing development of new products are essential to the expansion of our markets, and expect to continue to make significant investments in research and development activities. Since our inception, all of our research and development costs have been expensed as incurred.

Our research and development expenses were \$51.5 million in 2004, \$51.6 million in 2003 and \$49.0 million in 2002. As a percentage of sales, research and development expenses decreased from 20.5% in 2002 to 19.7% in 2003 and to 13.0% in 2004, due primarily to the higher sales base. The 5.4% increase in research and development expenses from 2002 to 2003 was primarily due to increases in payroll and depreciation of equipment used for new product development. We expect our 2005 research and development expenses to decrease from 2004 in dollar terms, primarily due to less engineering support needed in connection with our transition of high-volume product manufacturing to China and a refocusing of our efforts on the critical platforms that we expect to need in the next few years.

SELLING, GENERAL AND ADMINISTRATIVE

Our selling expenses support domestic and international sales and marketing activities that include personnel, trade shows, advertising, and other selling and marketing activities. We constantly monitor our sales and marketing levels to meet current industry conditions. Our general and administrative expenses support our worldwide corporate, legal, patent, tax, financial, corporate governance, administrative, information systems and human resource functions in addition to our general management.

Selling, general and administrative (“SG&A”) expenses were \$62.4 million in 2004, \$54.0 million in 2003 and \$66.6 million in 2002. As a percentage of sales, SG&A expenses decreased from 27.9% in 2002 to 20.6% in 2003 and to 15.8% in 2004 due to the increasing sales base and our cost reduction measures, including the closures of certain locations in each year. Partially offsetting the decrease as a percentage of sales from 2003 to 2004, is an increase in selling expense in 2004 of \$3.8 million due to a change in accounting estimate related to our demonstration equipment. During the fourth quarter, as a result of the continuing process of obtaining and analyzing historical data and our plan for use of the current and future demonstration equipment, we made a change in the estimated useful life of the demonstration equipment. As a result of this change in estimate, the net book value of demonstration equipment was written-off to SG&A expense, and going forward, rather than amortizing this equipment to SG&A expense over two years, the expense will be recorded as the demonstration equipment is placed into service at our customers’ or potential customers’ location. We do not expect this change to have a material impact on our operating results going forward.

Patent litigation expenses from 2002 through 2004 have comprised a portion of our SG&A expenses. In addition to litigation damages paid to MKS as described below, we have recorded legal fees and expenses related to litigation with MKS and others of approximately 2% to 8% of our total SG&A expenses for each of the three years in the period ended December 31, 2004.

LITIGATION DAMAGES

During 2002, we recorded a charge of \$4.2 million pertaining to damages awarded by a jury in a patent infringement case in which we were the defendant. The Applied Science and Technology, or ASTeX, division of MKS Instruments, Inc. (“MKS”) was the plaintiff in the case, which was tried in a Delaware court. Sales of the product in question have accounted for less than five percent of our total sales each year since the product’s introduction. We entered into a settlement agreement with MKS allowing us to sell the infringing product to one of our customers subsequent to the date of the jury award. Under the settlement agreement, royalties payable to MKS from sales of the infringing product were not material in 2004 and 2003.

RESTRUCTURING CHARGES

We recorded restructuring charges totaling \$9.1 million in 2002, primarily associated with changes in operations designed to reduce redundancies and better align our mass flow controller business acquired in January 2002 within our operating framework. Our restructuring plans and associated costs consisted of \$6.0 million to close and consolidate certain manufacturing facilities, and \$3.1 million for related headcount reductions of approximately 223 employees.

At the end of 2002, we announced major changes in our operations to occur through 2003. These included establishing the manufacturing location in China; consolidating worldwide sales forces; a move to Tier 1 Asian suppliers; and the intention to close or sell certain facilities.

Associated with the above plan, we recognized restructuring charges of approximately \$4.3 million during 2003. These charges consisted of the recognition of expense for involuntary employee termination benefits for 109 employees in our United States operations; voluntary employee termination benefits, primarily in our Japanese operations for 36 employees; and asset impairments incurred as a result of closing our Longmont, CO manufacturing facilities.

During 2004, in conjunction with our continuing progress in transitioning our high-volume manufacturing to Shenzhen, China, we recorded \$3.9 million of restructuring charges, primarily attributable to employee severance and termination costs for 262 employees in the Fort Collins facility. These headcount reductions will be offset, in part, by new hires in the Shenzhen, China facility. Additional restructuring charges approximating \$2.0 million are expected in the first half of 2005, related to employee severance and termination costs incurred for approximately 70 employees in the Hajiochi, Japan facility, as manufacturing from this facility is also being transferred to Shenzhen, China.

GOODWILL AND OTHER INTANGIBLE ASSET IMPAIRMENTS

Whenever events or circumstances indicate that the carrying value of our goodwill or other intangible assets may not be recoverable, we perform tests for impairment of these assets and record impairment charges, as necessary. Such events or circumstances include downturns or anticipated downturns in the industries in which we serve, changes in customer technology requirements, and other changes in circumstances affecting the underlying value of the recorded asset. We recorded impairment charges of our amortizable intangible assets of \$3.3 million in 2004, \$1.2 million in 2003 and \$1.9 million in 2002.

OTHER INCOME (EXPENSE)

Other income (expense) consists primarily of interest income and expense, foreign exchange gains and losses and other miscellaneous gains, losses, income and expense items.

Interest income was approximately \$1.7 million in 2004 and 2003 and \$3.3 million in 2002. The decline in interest income from 2002 to 2003 was due to our lower level of investment in marketable securities and the overall lower rate of interest paid on our investments which resulted from the Federal Reserve lowering interest rates during the period. The average rate of return on our marketable securities decreased from 2.0% in 2002 to 1.8% in 2003. During 2003, we sold approximately \$10.1 million of marketable securities to fund our operations, capital expenditures and payments on our senior borrowings. From 2003 to 2004, the decrease in our level of investment in marketable securities was offset by increased rates of return. The rate of return on our marketable securities increased from an average of 1.8% in 2003 to 2.2% in 2004. During 2004, we sold approximately \$25.0 million of marketable securities to fund our operations, capital expenditures and payments on our senior borrowings.

Interest expense consists principally of interest on our convertible subordinated notes, amortization of our deferred offering costs on these notes, and bank loans and capital leases assumed in the acquisition of Aera in January 2002. Interest expense was approximately \$11.0 million in 2004, \$11.3 million in 2003 and \$12.5 million in 2002. Interest expense decreased from 2002 to 2003 due to the repurchase of approximately \$15.4 million of our 5.25% convertible subordinated notes and \$3.5 million of our 5.00% convertible subordinated notes in the fourth quarter of 2002 and due to the repayment of approximately \$12.8 million of senior borrowings and capital lease obligations during 2003. Interest expense decreased from 2003 to 2004 due to

the repayment of approximately \$8.6 million of senior borrowings and capital leases during 2004, offset in part by a new borrowing of approximately \$1.6 million.

Our foreign subsidiaries' sales are primarily denominated in currencies other than the U.S. dollar. We recorded net foreign currency gains of \$1.0 million in 2004, \$869,000 in 2003 and \$5.3 million in 2002.

Our foreign currency gain in 2002 was primarily related to an intercompany loan of Japanese yen, which was settled in January 2003 that we made to our wholly owned subsidiary Advanced Energy Japan K.K., which has a functional currency of yen, for the purpose of effecting the acquisition of Aera. The loan was transacted in the first quarter of 2002, for approximately 5.7 billion yen, approximately \$44.0 million based upon an exchange rate of 130:1. During the first half of that year, the U.S. dollar weakened significantly against the yen to approximately 119:1, resulting in a gain of \$4.9 million. In July and September 2002, we entered into various foreign currency forward contracts with our primary banks to mitigate the effects of potential future currency fluctuations between the U.S. dollar and the yen until the associated intercompany obligations were settled.

In the fourth quarter of 2002, we repurchased approximately \$15.4 million of our 5.25% convertible subordinated notes and \$3.5 million of our 5.00% convertible subordinated notes in the open market at an aggregate cost of approximately \$14.5 million. These purchases resulted in a gain of \$4.2 million.

Net miscellaneous income of \$1.0 million was recorded in 2004, primarily due to the gain on sale of marketable equity securities of \$703,000 and the sale of our Noah chiller business for a gain of \$404,000. Net miscellaneous expense items were \$644,000 in 2003 and \$2.1 million in 2002. Net miscellaneous expense in 2003 and 2002 was primarily related to the impairment of a marketable equity security. During the fourth quarter of 2002, the fair value of this security continued a substantial decline, and we determined the decline was other than temporary as defined by the Financial Accounting Standards Board. As a result we recorded an impairment charge of approximately \$1.5 million. In the first quarter of 2003, this security continued to decline in value, and we recorded an additional impairment charge of \$175,000. Since the first quarter of 2003, the value of this security has appreciated; however the increase in the fair value of this security will not be reflected in income until the security is sold.

(PROVISION) BENEFIT FOR INCOME TAXES

We account for income taxes in accordance with Statement of Financial Accounting Standard ("SFAS") No. 109, "Accounting for Income Taxes." SFAS No. 109 requires deferred tax assets and liabilities to be recognized for temporary differences between the tax basis and financial reporting basis of assets and liabilities, computed at current tax rates, as well as for the expected tax benefit of net operating loss and tax credit carryforwards. During 2003, we recorded valuation allowances against certain of our United States and foreign net deferred tax assets in jurisdictions where we have incurred significant losses in 2001, 2002 and 2003. Given such experience, management could not conclude that it was more likely than not that these net deferred tax assets would be realized. Accordingly, our management, in accordance with SFAS No. 109, in evaluating the recoverability of these net deferred tax assets, was required to place greater weight on our historical results as compared to projections regarding future taxable income.

If we generate future taxable income, or should we be able to conclude that sufficient taxable income is reasonably assured based on profitable operations, in the appropriate tax jurisdictions, against which these tax attributes may be applied, some portion or all of the valuation allowance will be reversed and a corresponding reduction in income tax expense will be reported in future periods. A portion of the valuation allowance relates to the benefit from stock-based compensation. Any reversal of valuation allowance from this item will be reflected as a component of stockholders' equity.

The income tax provision of \$3.9 million for 2004 represented an effective tax rate of negative 45% and the income tax provision of \$11.8 million for 2003 represented an effective tax rate of negative 36%, due to taxable income earned in certain foreign jurisdictions. The income tax benefit of \$22.3 million for 2002 represented an effective tax rate of 35%.

When recording acquisitions, we have recorded valuation allowances due to the uncertainty related to the realization of certain deferred tax assets existing at the acquisition dates. The amount of deferred tax assets considered realizable is subject to adjustment in future periods if estimates of future taxable income are changed. Reversals of valuation allowances recorded in purchase accounting will be reflected as a reduction of goodwill in the period of reversal. For the year ended December 31, 2004, valuation allowances established in purchase accounting were reversed with a corresponding reduction in goodwill of approximately \$3.3 million.

Quarterly Results of Operations

The following tables present unaudited quarterly results in dollars and as a percentage of sales for each of the eight quarters in the period ended December 31, 2004. We believe that all necessary adjustments have been included in the amounts stated below to present fairly such quarterly information. Due to the volatility of the industries in which our customers operate the operating results for any quarter are not necessarily indicative of results for any subsequent period.

	Quarters Ended							
	Mar. 31, 2003	June 30, 2003	Sept. 30, 2003	Dec. 31, 2003	Mar. 31, 2004	June 30, 2004	Sept. 30, 2004	Dec. 31, 2004
	(In thousands, except per share data)							
Sales.....	\$56,158	\$62,946	\$ 68,567	\$ 74,731	\$104,487	\$108,869	\$ 93,550	\$ 88,399
Gross profit.....	17,950	20,273	23,093	26,631	38,414	36,962	29,740	14,563
(Loss) income from operations	(10,885)	(6,825)	(5,741)	319	9,810	8,754	1,855	(21,963)
Other expense.....	(2,750)	(2,340)	(2,261)	(1,957)	(1,155)	(2,417)	(1,994)	(1,690)
Net (loss) income	<u>\$(8,590)</u>	<u>\$(5,774)</u>	<u>\$(27,438)</u>	<u>\$(2,439)</u>	<u>\$ 6,924</u>	<u>\$ 4,470</u>	<u>\$(1,136)</u>	<u>\$(23,005)</u>
Diluted (loss) earnings per share.....	<u>\$ (0.27)</u>	<u>\$ (0.18)</u>	<u>\$ (0.85)</u>	<u>\$ (0.08)</u>	<u>\$ 0.21</u>	<u>\$ 0.13</u>	<u>\$ (0.03)</u>	<u>\$ (0.70)</u>
	Quarters Ended							
	Mar. 31, 2003	June 30, 2003	Sept. 30, 2003	Dec. 31, 2003	Mar. 31, 2004	June 30, 2004	Sept. 30, 2004	Dec. 31, 2004
Percentage of Sales:								
Sales.....	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Gross margin	32.0	32.2	33.7	35.6	36.8	34.0	31.8	16.5
(Loss) income from operations	(19.4)	(10.8)	(8.4)	0.4	9.4	8.0	2.0	(24.8)
Other expense.....	(4.9)	(3.7)	(3.3)	(2.6)	(1.1)	(2.2)	(2.1)	(1.9)
Net (loss) income	<u>(15.3)%</u>	<u>(9.2)%</u>	<u>(40.0)%</u>	<u>(3.3)%</u>	<u>6.6%</u>	<u>4.1%</u>	<u>(1.2)%</u>	<u>(26.0)%</u>

We had a loss in the fourth quarter of 2004 of \$23.0 million. Pretax charges in the fourth quarter included \$9.2 million to cost of sales for increased excess and obsolete inventory reserves, \$3.8 million to selling, general and administrative for the change in estimate of the useful life of the demonstration equipment (see Note 1 within Part II, Item 8), \$3.7 million to restructuring for employee severance and termination costs primarily attributable to the Fort Collins facility (see Note 3 within Part II, Item 8), \$3.3 million to impairment of intangible assets related to certain

amortizable intangible assets acquired in conjunction with our purchase of Dressler and Aera (see Note 8 within Part II, Item 8). These items contributed significantly to our fourth quarter 2004 results. We increased our reserve for excess and obsolete inventory in the fourth quarter of 2004 as a result of the fourth quarter strategic management decision to discontinue certain product offerings, the outlook for near term demand, and the declining trend in our sales from the second quarter of 2004 to the fourth quarter of 2004.

We had a loss of \$27.4 million in the third quarter of 2003. During this quarter we recorded a valuation allowance against certain of our U.S. and foreign net deferred tax assets in jurisdictions where we have recognized significant losses (see Note 12 within Part II, Item 8).

Due to the cyclical nature of the semiconductor capital equipment industry as well as the other industries in which our customers operate, and the sudden changes resulting in severe downturns and upturns, we have experienced and expect to continue to experience significant fluctuations in our quarterly operating results. Our levels of operating expenditures are based, in part, on expectations of future revenues that such expenses support. If revenue levels in a particular quarter do not meet expectations, operating results may be adversely affected.

Liquidity and Capital Resources

At December 31, 2004, our principal sources of liquidity consisted of cash, cash equivalents and marketable securities of \$108.0 million, and a credit facility consisting of a \$25.0 million revolving line of credit, none of which was outstanding at December 31, 2004. Advances under the revolving line of credit would bear interest at the prime rate minus 1% (4.75% at March 24, 2005). Any advances under this revolving line of credit will be due and payable in May 2005. We are subject to covenants on our line of credit that provide certain restrictions related to working capital, net worth, acquisitions and payment and declaration of dividends. We were in compliance with all such covenants at December 31, 2004.

During 2004, our cash, cash equivalents and marketable securities decreased \$26.9 million from \$134.9 million at December 31, 2003 to \$108.0 million at December 31, 2004, primarily due to use in operations, capital expenditures and senior borrowing repayments. Due to the same uses, our cash, cash equivalents and marketable securities decreased \$37.4 million from \$172.3 million at December 31, 2002 to \$134.9 million at December 31, 2003. In 2006, when our convertible subordinated notes become due, it is possible we may need substantial funds to repay such debt, which totaled \$187.7 million at December 31, 2004. Our 5.00% convertible subordinated notes with a principal balance of \$121.5 million are due September 1, 2006, and our 5.25% convertible subordinated notes with a principal balance of \$66.2 million are due November 15, 2006. We will be required to repay the notes at maturity, unless we can refinance the debt or the noteholders convert their notes into common stock before the maturity dates. Noteholders will be unlikely to convert their notes unless our stock price rises above the conversion levels of the notes. Our 5.00% convertible subordinated notes are convertible into common stock at \$29.83 per share, and our 5.25% convertible subordinated notes are convertible into common stock at \$49.53 per share. At March 24, 2005, the closing price of our common stock on the Nasdaq National Market was \$9.35 per share. We therefore do not expect the noteholders to convert their notes prior to maturity. As a result, we are exploring ways to refinance the notes, as well as potential sales of assets that are not critical to our core operations.

To address our liquidity requirements, we have set a goal to reduce our quarterly operating breakeven point to a level based upon \$70 million to \$75 million sales, after our transition to

China-based manufacturing and to Tier 1 Asian suppliers is complete, which we estimate to occur by the end of 2005. Additionally, we may raise capital through the public or private markets during 2005 by issuing common stock or convertible debt securities, or a combination of the two. Such proceeds will be used to realign our capital structure and provide liquidity for the next semiconductor capital equipment up-cycle. However, we cannot provide assurance that such sources of liquidity will be available to us on commercially reasonable terms, or at all.

We have historically financed our operations and capital requirements through a combination of cash provided by operations, the issuance of long-term debt and common stock, bank loans, capital lease obligations and operating leases. However, with the exception of the second quarter of 2004, we have not generated positive cash flow from operations since 2001.

Operating activities used cash of \$11.4 million in 2004, reflecting our net loss of \$12.7 million partially offset by non-cash items of \$39.1 million and increased by net working capital changes of approximately \$37.8 million. Non-cash items primarily consisted of depreciation and amortization of \$21.1 million and increased provision for excess and obsolete inventory of \$11.3 million. Net working capital changes primarily consisted of a \$19.8 million related to increased inventory excluding inventory reserve increases, \$8.9 million related to increased trade accounts receivable and \$5.8 million related to decreased trade accounts payable.

Investing activities provided cash of \$12.3 million in 2004, which primarily consisted of \$25.0 million from proceeds on the sale of marketable securities, offset by \$14.0 million for the purchase of property and equipment. We expect to make between \$10.0 million and \$11.0 million of capital expenditures in 2005, due in part to our continued investment in our manufacturing operations as well as our information technology infrastructure. Our planned level of capital expenditures is subject to frequent revisions as our business experiences sudden changes and as we move into industry upturns and downturns and expected sales levels change. In addition, changes in foreign currency exchange rates may significantly impact our capital expenditures in a particular period.

Investing cash flows experience significant fluctuations from year to year as we buy and sell marketable securities, which we convert to cash to fund strategic investments and our current operations, and as we transfer cash into marketable securities when we attain levels of cash that are greater than needed for current operations. However, we do not expect to generate significant levels of cash that are greater than needed for our current operations in the near term.

Financing activities used cash of \$5.2 million in 2004, which primarily consisted of payments on our senior borrowings and capital lease obligations of \$8.6 million, partially offset by \$1.8 million from the exercise of employee stock options and sale of common stock through our employee stock purchase plan and \$1.6 million from the proceeds of a senior borrowing used to purchase a building in South Korea.

We expect our financing activities to continue to fluctuate in the future. If market conditions and our financial position are deemed appropriate, we may repurchase additional convertible notes in the open market. Our payments under capital lease obligations and senior borrowings may also increase in the future if we enter into additional capital lease obligations or change the level of our bank financing. Our estimated payments under capital lease obligations and senior borrowings during 2005 will be approximately \$3.7 million. However, a significant portion of these obligations are held in countries other than the United States; therefore, future foreign currency fluctuations, especially between the U.S. dollar and the yen, could cause significant fluctuations in our estimated 2005 payment obligations.

CONTRACTUAL OBLIGATIONS

The following table sets forth our future payments due under significant off-balance sheet arrangements, long-term debt and capital lease obligations as of December 31, 2004.

Contractual Obligations	Payments Due by Period (In thousands)						
	2005	2006	2007	2008	2009	Thereafter	Total
Convertible subordinated notes (1)	\$ --	\$187,718	\$ --	\$ --	\$ --	\$ --	\$187,718
Senior borrowings	3,432	2,185	2,073	--	--	--	7,690
Capital lease obligations	303	225	112	57	40	--	737
Operating lease obligations	6,062	5,492	4,443	3,761	2,957	9,432	32,147
Inventory purchase obligations	5,000	2,500	--	--	--	--	7,500
Total obligations	<u>\$ 14,797</u>	<u>\$198,120</u>	<u>\$ 6,628</u>	<u>\$ 3,818</u>	<u>\$ 2,997</u>	<u>\$ 9,432</u>	<u>\$235,792</u>

(1) Cash requirements for interest on these notes approximate \$9.6 million annually.

Please refer to Note 10 Convertible Subordinated Notes Payable, Note 9 Senior Borrowings, Note 14 Commitments And Contingencies and Note 16 Related Party Transactions included in Part II, Item 8 of this Form 10-K for further discussion regarding our significant off-balance sheet arrangements, long-term debt and capital lease obligations.

Our inventory purchase obligations consist of minimum purchase commitments we entered into to ensure we have an adequate supply of critical components to meet the demand of our customers. We believe that these inventory purchases will be consumed in our on-going operations during the respective years of purchase commitment.

We have also committed to advance up to \$850,000 to a privately held company in exchange for an exclusive intellectual property license. The amount and timing of this advance is dependent upon the privately held company achieving certain development milestones. As of December 31, 2004, approximately \$50,000 has been advanced under this agreement, which was recorded within research and development expense in the consolidated statement of operations.

Recent Acquisitions

On January 18, 2002, we acquired Aera Japan Limited, or Aera, a privately held Japanese corporation. Aera supplies the semiconductor capital equipment industry with product lines that include digital mass flow controllers, thermal-based mass flow controllers, pressure-based mass flow controllers, liquid mass flow controllers and liquid vapor delivery systems. Aera provides us with a key leadership position in the gas delivery market. In addition, Aera's products expand our offering of critical subsystem solutions that enable the plasma-based manufacturing processes used in the manufacture of semiconductors.

On March 28, 2002, we acquired Dressler HF Technik GmbH, or Dressler, a privately owned Stolberg, Germany-based provider of power supplies and matching networks. We acquired Dressler to expand our product offerings to customers in the semiconductor, data storage and flat panel equipment markets with Dressler's power product portfolio that includes a wide range of power levels and radio frequencies. In addition, with inroads already made into the laser and medical markets, Dressler enables us to explore new market opportunities. Dressler also strengthens our presence in the European marketplace and has well-established relationships with many European customers, who look to Dressler for innovative technical capability, high-quality products, and highly responsive customer service.

The results of operations of these acquired companies are included in our consolidated statements of operations as of and since the date of acquisition. The pro forma results for the

Company, Aera and Dressler for the year ended December 31, 2002, assuming the acquisitions of Aera and Dressler occurred on January 1, 2002, are not presented as the difference between the pro forma results and actual results are not material.

Critical Accounting Policies and Estimates

The above discussion and analysis of our financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. In preparing our consolidated financial statements, we must make estimates and judgments that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities at the date of our financial statements. Actual results may differ from these estimates under different assumptions or conditions. We have evaluated the accounting policies used in the preparation of the consolidated financial statements and related notes under Part II, Item 8 of this Form 10-K and believe that our accounting policies are reasonable and appropriate. We believe that the following critical accounting policies, among others, are most critical as they relate to our more significant judgments and estimates used in the preparation of our consolidated financial statements.

REVENUE RECOGNITION -- The Company's standard shipping term is freight on board ("FOB") shipping point, for which revenue is recognized upon shipment of its products, at which time title passes to the customer, the price is fixed and collectability is reasonably assured. For certain customers, the Company has FOB destination terms, for which revenue is recognized upon receipt of the products by the customer, at which time title passes to the customer, the price is fixed and collectability is reasonably assured. Generally, the Company does not have obligations to its customers after its products are shipped under FOB shipping point terms or after its products are received by the customer under FOB destination terms, other than pursuant to warranty obligations. In limited instances the Company provides installation of its products. In accordance with Emerging Issues Task Force Issue 00-21 "Accounting for Revenue Arrangements With Multiple Deliverables", the Company allocates revenue based on the fair value of the delivered item, generally the product, and the undelivered item, installation, based on their respective fair values. Revenue related to the undelivered item is deferred until the services have been completed. In certain limited instances, some of the Company's customers have negotiated product acceptance provisions relative to specific orders. Under these circumstances, the Company defers revenue recognition until the related acceptance provisions have been satisfied. Revenue deferrals are reported as customer deposits and deferred revenue in the consolidated balance sheet.

In certain instances, the Company requires its customers to pay for a portion or all of their purchases prior to the Company building or shipping these products. Cash payments received prior to shipment are recorded as customer deposits and deferred revenue in the consolidated balance sheets, and then recognized as revenue upon shipment of the products. The Company does not offer price protections to its customers or allow returns, unless covered by its normal policy for repair of defective products.

WARRANTY POLICY -- The Company offers warranty coverage for its products, typically ranging from 12 to 24 months after shipment. The Company estimates the anticipated costs of repairing products under warranty based on the historical cost of the repairs and expected failure rates. The assumptions used to estimate warranty accruals are reevaluated periodically in light of actual experience and, when appropriate, the accruals are adjusted. The Company's determination of the appropriate level of warranty accrual is subjective and based on estimates.

The industries in which the Company operates are subject to rapid technological change and, as a result, the Company periodically introduces newer, more complex products, which tend to result in increased warranty costs. Estimated warranty costs are recorded at the time of sale of the related product, and are recorded within cost of sales in the consolidated statement of operations.

EXCESS AND OBSOLETE INVENTORY-- Inventory is written down or written off when it becomes obsolete, generally due to engineering changes to a product or discontinuance of a product line, or when it is deemed excess. Judgment by management is necessary in estimating the net realizable value of inventory based primarily upon forecasts of product demand. Charges for excess and obsolete inventory are recorded, as necessary, within cost of sales in the consolidated statement of operations.

STOCK-BASED COMPENSATION -- At December 31, 2004, the Company had three active stock-based compensation plans, which are more fully described in Note 18 within Part II, Item 8. The Company accounts for employee stock-based compensation using the intrinsic value method prescribed by Accounting Principles Board (“APB”) Opinion No. 25, “Accounting for Stock Issued to Employees” and related interpretations. APB Opinion No. 25 requires the use of the intrinsic value method, which measures compensation cost as the excess, if any, of the quoted market price of the stock at the measurement date over the amount an employee must pay to acquire the stock. With the exception of certain options granted in 1999 and 2000 by a shareholder of Sekidenko, Inc., prior to its acquisition by the Company (which was accounted for as a pooling of interests), all options granted under these plans have an exercise price equal to the market value of the underlying common stock on the date of grant, therefore no stock-based compensation cost is reflected in the Company’s net loss. The Company makes disclosures of pro forma net loss and loss per share as if the fair-value-based method of accounting had been applied as required by SFAS No. 123, “Accounting for Stock-Based Compensation” and as amended by SFAS No. 148, “Accounting for Stock-Based Compensation – Transition and Disclosure” (see Note 18 within Part II, Item 8).

The Company will adopt the provisions of SFAS No. 123(R), “Share Based Compensation”, as of the Company’s third quarter of fiscal year 2005, as further discussed under the heading “New Accounting Pronouncements” under Note 1 within Part II, Item 8. The adoption of this statement may have a significant impact on the Company’s results of operations as the Company will be required to record compensation expense in the consolidated statement of operations rather than disclose the impact on the Company’s results of operations within the notes to the consolidated financial statements.

COMMITMENTS AND CONTINGENCIES -- We are involved in disputes and legal actions arising in the normal course of our business. While we currently believe that the amount of any ultimate potential loss would not be material to our financial position, the outcome of these actions is inherently difficult to predict. In the event of an adverse outcome, the ultimate potential loss could have a material adverse effect on our financial position or reported results of operations in a particular quarter. An unfavorable decision, particularly in patent litigation, could require material changes in production processes and products or result in our inability to ship products or components found to have violated third-party patent rights. We accrue loss contingencies in connection with our commitments and contingencies, including litigation, when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated.

GOODWILL AND OTHER INTANGIBLE ASSETS -- Goodwill represents the excess of the cost over the fair market value of net tangible and identifiable intangible assets of acquired businesses.

Goodwill and certain other intangible assets with indefinite lives are not amortized. Instead, goodwill and other indefinite-lived intangible assets are subject to periodic (at least annual) tests for impairment. For the periods presented, the Company does not have any indefinite-lived intangible assets, other than goodwill. Impairment testing is performed in two steps: (i) the Company assesses goodwill for potential impairment by comparing the fair value of its reporting unit with its carrying value, and (ii) if potential impairment is indicated because the reporting unit's fair value is less than its carrying amount, the Company measures the amount of impairment loss by comparing the implied fair value of goodwill with the carrying amount of that goodwill.

Finite-lived intangible assets continue to be amortized using the straight-line method over their estimated useful lives and are reviewed for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to our investment portfolio and long-term debt obligations. We generally place our investments with high-credit quality issuers and by policy are averse to principal loss and seek to protect and preserve our invested funds by limiting default risk, market risk and reinvestment risk. As of December 31, 2004, our investments in marketable securities consisted primarily of commercial paper, municipal bonds and notes and institutional money markets. These securities are highly liquid. Earnings on our marketable securities are typically invested into similar securities. In 2004, the rates we earned on our marketable securities averaged approximately 2.2% on a before tax equivalent basis. The impact on interest income of a 10% decrease in the average interest rate would have decreased interest income by approximately \$174,000 in 2004, \$170,000 in 2003 and \$300,000 in 2002. Interest rate risk on our investment portfolio has decreased since 2002 with the decrease in our marketable securities balance, which is primarily attributable to the use of these funds in operations, for the acquisitions of Aera in January 2002 and Dressler in March 2002, and for the repurchase of a portion of our convertible subordinated notes in the fourth quarter of 2002.

The interest rates on our subordinated debt are fixed, specifically, at 5.25% for the \$66.2 million of our debt that is due in November 2006, and at 5.00% for the \$121.5 million of our debt that is due in September 2006. Our offerings of subordinated debt in 1999 and 2001 increased our fixed interest expense upon each issuance, though interest expense was partially reduced by the repurchases of portions of these offerings. Because these rates are fixed, we believe there is no risk of increased interest expense with regard to these instruments.

The interest rates on the borrowings of one of our foreign subsidiaries are variable and as of December 31, 2004 ranged from 1.5% to 3.1%. We believe a 10% increase in the average interest rate on these instruments would not have a material effect on our financial position or results of operations.

Foreign Currency Exchange Rate Risk

We transact business in various foreign countries. Our primary foreign currency cash flows are generated in countries in Asia and Europe. In 2004 compared to 2003, the U.S. dollar weakened on average approximately 7% against the Japanese yen and 9% against the euro. It is highly uncertain how currency exchange rates will fluctuate in the future. We have entered into various foreign currency forward exchange contracts to mitigate against currency fluctuations in the Japanese yen, Taiwanese dollar, South Korean won and Chinese yuan. The notional amount of our foreign currency contracts at December 31, 2004 was \$13.9 million. The potential fair value loss for a hypothetical 10% adverse change in foreign currency exchange rates at December 31, 2004, would be approximately \$1.5 million, which would be essentially offset by corresponding gains related to the underlying assets. At December 31, 2004 we held foreign currency forward exchange contracts, maturing through January 2005, primarily to purchase U.S. dollars and sell various foreign currencies. The following table summarizes our outstanding contracts as of December 31, 2004:

(In thousands)	Notional Amounts	Market Settlement Amounts	Unrealized (Loss)/Gain
	<u> </u>	<u> </u>	<u> </u>
Japanese yen contracts.....	\$ 8,200	\$ 8,263	\$ 63
Taiwanese dollar contracts	4,000	4,031	31
South Korean won contract	1,300	1,315	15
Chinese yuan contract	400	398	(2)
Balance at December 31, 2004.....	<u>\$13,900</u>	<u>\$14,007</u>	<u>\$ 107</u>

We also have long-term non-U.S. dollar-denominated debt of \$4.3 million and \$5.9 million as of December 31, 2004 and 2003, respectively. A weakening of the U.S. dollar by 10% against the applicable Asian currencies would have resulted in unrealized translation losses of approximately \$473,000 and \$646,000 as of December 31, 2004 and 2003, respectively. We will continue to evaluate various methods to minimize the effects of currency fluctuations when we translate the financial statements of our foreign subsidiaries into U.S. dollars.