

# ADVANCED ENERGY INDUSTRIES INC

## FORM 424B4

(Prospectus filed pursuant to Rule 424(b)(4))

Filed 10/20/1997

Address	1625 SHARP POINT DR FT COLLINS, Colorado 80525
Telephone	970-221-4670
CIK	0000927003
Industry	Electronic Instr. & Controls
Sector	Technology
Fiscal Year	12/31

**PROSPECTUS**

**2,500,000 Shares**

[LOGO]

**Common Stock**

Of the 2,500,000 shares of Common Stock, \$0.001 par value ("Common Stock"), of Advanced Energy Industries, Inc. ("Advanced Energy" or the "Company") offered hereby, 1,000,000 shares are being offered by the Company and 1,500,000 shares are being offered by certain stockholders of the Company (the "Selling Stockholders"). The Company will not receive any of the proceeds from the sale of shares by the Selling Stockholders. See "Principal and Selling Stockholders."

The Common Stock is quoted on the Nasdaq National Market under the symbol "AEIS." On October 16, 1997, the last reported sale price of the Common Stock on the Nasdaq National Market was \$31.6875 per share. See "Price Range of Common Stock."

**THE COMMON STOCK OFFERED HEREBY INVOLVES A HIGH DEGREE OF RISK.  
SEE "RISK FACTORS" BEGINNING ON PAGE 5.**

**THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.**

	Price to Public	Underwriting Discounts and Commissions (1)	Proceeds to Company (2)	Proceeds to Selling Stockholders
Per Share.....	\$31.00	\$1.59	\$29.41	\$29.41
Total (3).....	\$77,500,000	\$3,975,000	\$29,410,000	\$44,115,000

(1) For information regarding indemnification of the Underwriters, see "Underwriting."

(2) Before deducting estimated expenses of the Offering payable by the Company, estimated at \$600,000.

(3) The Company and the Selling Stockholders have granted the Underwriters an option, exercisable within 30 days from the date hereof, to purchase up to 375,000 additional shares of Common Stock on the same terms set forth above, solely to cover over-allotments, if any. If such option is exercised in full, the total Price to Public will be \$89,125,000, the Underwriting Discounts and Commissions will be \$4,571,250, the Proceeds to Company will be \$33,821,500 and the Proceeds to Selling Stockholders will be \$50,732,250. See "Underwriting."

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The shares of Common Stock are offered by the Underwriters, subject to prior sale, receipt and acceptance by them and subject to the right of the Underwriters to reject any order in whole or in part and to certain other conditions. It is expected that delivery of the shares of Common Stock will be made through the office of UBS Securities LLC, 299 Park Avenue, New York, New York, on or about October 22, 1997.

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**UBS SECURITIES**

**LEHMAN BROTHERS**

**PAINWEBBER INCORPORATED**

**BANCAMERICA ROBERTSON STEPHENS**

OCTOBER 17, 1997

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The following documents heretofore filed with the Securities and Exchange Commission (the "Commission") by Advanced Energy are hereby specifically incorporated by reference into this Prospectus:

- (a) Annual Report on Form 10-K for the fiscal year ended December 31, 1996, filed March 21, 1997, as amended on Form 10-K/A, filed September 15, 1997;
- (b) Quarterly Reports on Form 10-Q for the quarters ended March 31, 1997 and June 30, 1997;
- (c) Current Reports on Form 8-K dated (i) August 15, 1997, filed August 19, 1997, as amended on Form 8-K/A, filed September 16, 1997 (the "Form 8-K Regarding Tower") and (ii) October 13, 1997, filed October 14, 1997; and
- (d) The description of the Common Stock contained in Advanced Energy's Registration Statement on Form 8-A filed on October 12, 1995, and any amendment or report filed for the purpose of updating such description.

All reports and other documents subsequently filed by Advanced Energy with the Commission pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), after the date of this Prospectus and prior to the termination of this Offering, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of filing of such reports and other documents.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference in this Prospectus will be deemed to be modified or superseded for the purposes of this Prospectus to the extent that a statement contained herein, or in any subsequently filed document which also is or is deemed to be incorporated by reference herein, modifies or supersedes that statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this Prospectus.

ADVANCED ENERGY WILL PROVIDE WITHOUT CHARGE TO EACH PERSON TO WHOM THIS PROSPECTUS IS DELIVERED, UPON WRITTEN OR ORAL REQUEST OF SUCH PERSON, A COPY OF ANY OR ALL OF THE FOREGOING DOCUMENTS INCORPORATED BY REFERENCE HEREIN (OTHER THAN EXHIBITS TO SUCH DOCUMENTS, UNLESS SUCH EXHIBITS ARE SPECIFICALLY

INCORPORATED BY REFERENCE INTO SUCH DOCUMENT). REQUESTS FOR SUCH DOCUMENTS SHOULD BE DIRECTED TO RICHARD P. BECK OF ADVANCED ENERGY, 1625 SHARP POINT DRIVE, FORT COLLINS, COLORADO 80525; TELEPHONE NUMBER: (970) 221-4670.

Advanced Energy, Microsweep, Sparc and Sparc-LE and the Advanced Energy logo are registered trademarks of the Company. Arc-Check, Arc-Out, Astral, Fixed-Match, GenCal, Matchless, Pinnacle, Sparc-VS and Starburst are unregistered trademarks of the Company. Other brand names and trademarks appearing in this Prospectus are the properties of their respective holders.

In this Prospectus, unless the context otherwise requires (i) "Consolidated Financial Statements" refers to the Company's audited consolidated financial statements for the years ended December 31, 1996, 1995 and 1994, (ii) "Unaudited Consolidated Financial Statements" refers to the Company's unaudited consolidated financial statements for the quarters and six month periods ended June 30, 1997 and 1996, and (iii) "Pro Forma Condensed Consolidated Balance Sheet" refers to the Company's pro forma condensed consolidated balance sheet at June 30, 1997, which gives pro forma effect to the Company's acquisition of Tower Electronics, Inc. ("Tower"), the allocation of the purchase price therefor and certain transactions occurring in connection therewith, including the borrowing by the Company of \$12 million under a term loan, as if all of such transactions had occurred on June 30, 1997, all of which financial statements are included elsewhere in this Prospectus. Except as otherwise noted herein, financial and other information with respect to the Company in this Prospectus does not include information with respect to Tower and assumes no exercise of the Underwriters' over-allotment option.

CERTAIN PERSONS PARTICIPATING IN THIS OFFERING MAY ENGAGE IN TRANSACTIONS THAT STABILIZE, MAINTAIN OR OTHERWISE AFFECT THE PRICE OF THE COMMON STOCK, INCLUDING STABILIZING BIDS, SYNDICATE COVERING TRANSACTIONS AND THE IMPOSITION OF PENALTY BIDS. FOR A DESCRIPTION OF THESE ACTIVITIES, SEE "UNDERWRITING."

IN CONNECTION WITH THIS OFFERING, CERTAIN UNDERWRITERS MAY ENGAGE IN PASSIVE MARKET MAKING TRANSACTIONS IN THE COMMON STOCK ON THE NASDAQ NATIONAL MARKET IN ACCORDANCE WITH RULE 103 OF REGULATION M. SEE "UNDERWRITING."

## PROSPECTUS SUMMARY

THE FOLLOWING SUMMARY IS QUALIFIED IN ITS ENTIRETY BY THE MORE DETAILED INFORMATION, INCLUDING "RISK FACTORS" AND THE CONSOLIDATED FINANCIAL STATEMENTS AND NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS AND THE UNAUDITED

CONSOLIDATED FINANCIAL STATEMENTS AND NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS, APPEARING ELSEWHERE IN THIS PROSPECTUS. THIS PROSPECTUS CONTAINS

FORWARD-LOOKING STATEMENTS (WITHIN THE MEANING OF SECTION 27A OF THE SECURITIES ACT OF 1933, AS AMENDED, AND SECTION 21E OF THE EXCHANGE ACT), INCLUDING ESTIMATES AND EXPECTATIONS AS TO FINANCIAL RESULTS AND BUSINESS OPERATIONS, THAT INVOLVE RISKS AND UNCERTAINTIES. THE COMPANY'S ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THE RESULTS DISCUSSED IN THE FORWARD-LOOKING STATEMENTS. FACTORS THAT MIGHT CAUSE SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED IN "RISK FACTORS."

### THE COMPANY

Advanced Energy is a leading supplier of power conversion and control systems incorporated in plasma-based thin film production equipment. The Company's systems are key elements of semiconductor, data storage, flat panel display, and a range of other industrial manufacturing equipment that utilize gaseous plasmas to deposit or etch thin film layers on materials or substrates such as silicon, glass and metals. The effectiveness of plasma-based production processes depends in large part on the quality of the electrical power used to ignite and manipulate the plasma. The Company's power conversion and control systems refine, modify and control the raw power from a utility and produce power which is uniform, predictable and precisely repeatable to permit the production of identical films of unvarying thickness on a mass scale. The Company's systems are used in an array of thin film processes such as physical vapor deposition, etch, chemical vapor deposition, plasma enhanced chemical vapor deposition and ion implantation, as well as a broad range of thin film applications such as the production of semiconductors, magnetic hard disks, CD-ROMs, audio and video discs, thin film heads, liquid crystal displays and optical, glass and automobile coatings. The Company's customers include Applied Materials, Lam Research, Balzers/Leybold, Eaton, Intevac, Multi-Arc, Novellus, Singulus Technologies, Sputtered Films and ULVAC Technologies.

In recent years, significant technological advances in thin film processes have enabled the manipulation of materials on the atomic and molecular level. Manufacturers can now both deposit and etch layers of materials that are less than one hundredth of a micron in thickness. By using modern thin film production processes, manufacturers are better able to control and alter the electrical, magnetic, optical and mechanical characteristics of materials. Thin film processes have been employed most extensively in the semiconductor industry, where multiple thin film layers of insulating or conductive material are deposited on a wafer or substrate. These processes are now used in a growing range of diverse industries. Thin film production was initially accomplished using either liquid chemical or thermal processes. Plasma-based process technology was developed to address the limitations of wet chemistry and thermal technologies in certain applications requiring thinner, more precise film, and to enable new applications.

The Company has achieved its market leadership position by providing systems which convert externally supplied power, operate over a wide range of power levels, control utility instabilities such as brownouts and surges created by raw utility power sources, control intense localized electrical discharges known as arcs and control system instabilities which arise from the use of exotic gases and inherently unstable electrode arrangements. All of the Company's products employ sophisticated switchmode technology that affords plasma-based systems a greater ability to prevent arcs, which can slow down the throughput of a plasma process and may even destroy the substrate or the power conversion and control system. The Company believes the combination of its in-depth knowledge of plasma physics, its approach to product customization and its reusable engineering product design methodology have enabled it to develop the widest range of power conversion and control systems in the industry.

Since inception, the Company has produced over 90,000 power conversion and control systems. Approximately 61%, 64% and 65% of the Company's sales in 1995, 1996 and the first six months of 1997, respectively, were to customers in the semiconductor equipment industry. Advanced Energy sells its systems primarily through direct sales personnel to customers in the United States, Japan and Europe. The Company also sells through distributors to customers in Japan, Korea, Australia, France, Hong Kong, Italy, Mexico, Singapore, Sweden and Taiwan. International sales represented 29%, 24% and 24% of the Company's sales in 1995, 1996 and the first six months of 1997, respectively. The Company maintains sales and service offices in the United States in Fort Collins, Colorado; Austin, Texas; Concord, Massachusetts; and Milpitas, California; and outside the United States in Tokyo, Japan; Filderstadt, Germany; and Bicester, United Kingdom.

On August 15, 1997, the Company acquired all of the outstanding stock of Tower Electronics, Inc., pursuant to a Share Purchase Agreement dated as of August 11, 1997. Tower designs and manufactures custom, high performance switchmode power supplies. Tower's principal customers are in the telecommunications, medical and non-impact printing industries and include U.S. Robotics (recently acquired by 3Com Corporation) and its contract manufacturer, VideoJet Systems International, Medtronic and Intermedics. Tower had revenues of \$13.4 million for its fiscal year ended September 30, 1996. The purchase price consisted of \$16 million paid at closing plus an additional contingent payment to be based on Tower's sales in 1998. The acquisition of Tower is a part of the Company's strategy to diversify its product offerings and expand its customer base.

The Company was incorporated in Colorado in 1981 and reincorporated in Delaware in September 1995. As used in this Prospectus, references to "Advanced Energy" or the "Company" refer to Advanced Energy Industries, Inc. and its consolidated subsidiaries. The Company's executive offices are located at 1625 Sharp Point Drive, Fort Collins, Colorado 80525, and its telephone number is (970) 221-4670.

## THE OFFERING

Common Stock offered by:	
The Company.....	1,000,000 shares
The Selling Stockholders.....	1,500,000 shares
Total Common Stock offered.....	2,500,000 shares
Common Stock to be outstanding after the Offering....	22,447,604 shares (1)
Use of proceeds.....	Repayment of debt and general corporate purposes, including working capital and potential strategic acquisitions. See "Use of Proceeds."
Nasdaq National Market Symbol.....	AEIS

## SUMMARY CONSOLIDATED FINANCIAL DATA (IN THOUSANDS, EXCEPT PER SHARE DATA)

	Years Ended December 31,					Six Months Ended June 30,	
	1992	1993	1994	1995	1996	1996	1997
STATEMENT OF OPERATIONS DATA:							
Sales.....	\$23,950	\$31,577	\$51,857	\$94,708	\$98,852	\$56,997	\$53,358
Gross profit.....	11,609	15,248	25,814	45,394	36,814	22,758	20,060
Income from operations.....	575	3,701	10,003	21,478	8,211	7,229	6,641
Net income.....	\$ 301	\$ 3,417	\$ 5,963	\$13,281	\$ 5,144	\$ 4,335	\$ 4,055
Net income per share (2).....	--	--	\$ 0.32	\$ 0.69	\$ 0.24	\$ 0.20	\$ 0.19
Weighted average number of common and common equivalent shares outstanding.....	17,315	17,894	18,605	19,310	21,666	21,657	21,906
June 30, 1997							
	December 31, 1996		Actual	Pro Forma (3)		Pro Forma As Adjusted(3)(4)	
BALANCE SHEET DATA:							
Cash and cash equivalents.....	\$ 11,231		\$ 11,183	\$ 10,859		\$ 27,579	
Working capital.....	35,179		40,757	39,481		58,601	
Total assets.....	56,031		66,051	77,982		94,702	
Total debt.....	2,051		1,534	14,923		2,923	
Stockholders' equity.....	46,496		50,625	47,545		76,265	

(1) Based on the number of shares outstanding as of October 15, 1997. Excludes 1,311,752 shares of Common Stock issuable under the Company's 1995 Stock Option Plan (the "Option Plan") at a weighted average exercise price of approximately \$7.19 per share; 22,500 shares issuable under the Company's 1995 Non-Employee Directors' Stock Option Plan (the "Director Plan") at a weighted average exercise price of \$13.20 per share; and 176,736 shares issuable under the Company's 1995 Stock Purchase Plan (the "Purchase Plan"). Options to purchase an additional 270,484 shares and 25,000 shares are eligible to be granted under the Option Plan and the Director Plan, respectively.

(2) Prior to January 1, 1994, the Company was treated as an S corporation for tax purposes and, accordingly, net income per share for the years ended December 31, 1992 and 1993 has not been calculated. On a pro forma basis, assuming federal, state and foreign income tax rates aggregating 40.0%, net income and net income per share for the year ended December 31, 1992 would have been \$181,000 and \$0.01, respectively, and for the year ended December 31, 1993 would have been \$2,047,000 and \$0.11, respectively.

(3) Gives pro forma effect to the Tower acquisition, allocation of the purchase price therefor and certain transactions occurring in connection therewith, including the borrowing by the Company of \$12,000,000 under a term loan, as if all of such transactions had occurred on June 30, 1997. See Pro Forma Condensed Consolidated Balance Sheet. For additional information regarding the Tower acquisition, see "Business--

Recent Acquisition" and the Form 8-K Regarding Tower.

(4) As adjusted to reflect the sale by the Company of 1,000,000 shares of Common Stock offered hereby at the public offering price of \$31.00 per share, deduction of underwriting discounts and commissions and estimated expenses payable by the Company, and the application of the estimated net proceeds therefrom. See "Use of Proceeds" and "Capitalization."

## **RISK FACTORS**

IN ADDITION TO THE OTHER INFORMATION CONTAINED IN THIS PROSPECTUS, THE FOLLOWING RISK FACTORS SHOULD BE CONSIDERED CAREFULLY IN EVALUATING THE COMPANY AND ITS BUSINESS BEFORE PURCHASING THE COMMON STOCK OFFERED HEREBY. THIS PROSPECTUS CONTAINS FORWARD-LOOKING STATEMENTS, INCLUDING ESTIMATES AND EXPECTATIONS AS TO FINANCIAL RESULTS AND BUSINESS OPERATIONS, THAT INVOLVE RISKS AND UNCERTAINTIES. THE COMPANY'S ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THE RESULTS DISCUSSED IN THE FORWARD-LOOKING STATEMENTS. FACTORS THAT MIGHT CAUSE SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED BELOW.

### **QUARTERLY OPERATING RESULTS ARE SUBJECT TO SIGNIFICANT FLUCTUATIONS**

The Company has experienced and expects to continue to experience significant fluctuations in its quarterly operating results. As a supplier of subsystems to equipment manufacturers, the Company's sales often are subject to its customers' production schedules. A substantial and increasing proportion of the Company's shipments are made on a just-in-time basis in which the shipment of systems occurs within a few days or hours after an order is received. Due to the short time between receipt of orders and shipments, the Company operates with a low level of backlog. Moreover, this backlog at any point in time is not sufficient to meet the Company's revenue expectations for a particular quarter and orders generally are subject to cancellation or delay at the customer's option without penalty. As a result of these factors, it is difficult for the Company to predict accurately the timing and level of revenues for a particular quarter. The Company's quarterly revenues are also affected by a variety of other factors, including specific economic conditions in the industries in which the Company's customers operate, particularly the semiconductor industry; the timing of the receipt of orders from major customers; customer cancellations or shipment delays; pricing competition; component shortages resulting in manufacturing delays; changes in customers' inventory management practices; exchange rate fluctuations and the introduction of new products by the Company or its competitors. In addition, electronics companies, including companies in the semiconductor capital equipment industry, are subject to ongoing pressure to reduce costs. This has in the past caused and is continuing to cause the Company's current and prospective customers to exert pricing pressure and make other demands on the Company, which may include faster delivery times and longer payment terms, which could lead to significant changes in revenue and operating margins from quarter to quarter.

The Company's gross profit and operating income in a particular quarter are affected by a number of factors, including product mix, price changes, outsourcing costs, manufacturing efficiencies and costs incurred to respond to specific feature requests by customers. Generally, the Company's gross profit and operating income have fluctuated significantly as a result of these factors in the past, and such fluctuations are expected to continue. In particular, as the Company expands manufacturing capacity, manufacturing overhead and other costs may be incurred prior to full utilization of the additional facilities. Further, production of the Company's systems, particularly new systems, often requires long lead times, during which time the Company must expend substantial funds and management effort. As a result, the Company may incur significant development and other expenses without realizing corresponding revenue in the same quarter. In addition, many of the Company's expenses, which are based in part on expectations of future revenue, are fixed. Accordingly, if revenue levels in a particular quarter do not meet expectations, operating results will be disproportionately adversely affected. Currently, the Company is in the process of rapidly increasing production and capacity to meet current and anticipated demand for its products, which has involved substantial expenditures and commitments by the Company. If the Company does not generate the revenue it anticipated when it began these production and capacity increases, its operating results will be adversely affected. This dynamic negatively impacted the Company throughout 1996 and the first quarter of 1997. In late 1995, the Company was in a growth mode similar to that which it is experiencing today, and when the semiconductor capital equipment market went through the major downturn of 1996, the Company's operating results were severely impacted, which in turn had a material adverse effect on the market price of the Company's Common Stock. Further fluctuations in operating results on a quarterly basis could have a material adverse effect on the market price of the Common Stock. See "--The Semiconductor and Semiconductor Equipment Industries Are Highly Volatile" and "Management's Discussion and Analysis of Financial Condition and Results of Operations--Quarterly Results of Operations."

## **RESULTS FOR THIRD QUARTER OF 1997 AFFECTED BY WATER-RELATED DAMAGE AND ACQUISITION OF TOWER**

The Company sustained substantial water-related damage to its manufacturing facilities and certain equipment and inventory during a severe rainstorm on July 29, 1997, which interrupted production and shipments. The Company was able to resume some production within a few days and returned to full production by mid-September 1997. The Company was unable to fulfill certain orders because of the production interruption, which was prolonged primarily by the Company's inability to replace in a timely manner components that had been lost or damaged in the rainstorm. The Company has worked closely with suppliers to accelerate deliveries of key components to reduce backlog and to continue to fulfill new orders as they are received. Although the Company's revenues reported for the third quarter of 1997 reflect an improvement over revenues for the second quarter of 1997, the Company believes its revenues and operating results for the quarter ended September 30, 1997 were adversely affected by the production interruption. The Company's insurance policies may not cover any or all of the costs incurred by the Company in connection with the rainstorm. Although the Company continues to negotiate with its insurance carriers as to the extent of coverage, which the Company expects will depend principally on classification of losses and damages, the Company recorded a one-time charge of \$3.0 million in the third quarter of 1997 for property damage and cleanup costs. The final costs, which cannot presently be determined, could be larger. In addition, the Company recorded a one-time charge of \$3.1 million for in-process research and development costs in connection with the acquisition of Tower. See "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business--Recent Acquisition."

## **THE SEMICONDUCTOR AND SEMICONDUCTOR EQUIPMENT INDUSTRIES ARE HIGHLY VOLATILE**

Approximately 61%, 64% and 65% of the Company's sales in 1995, 1996, and the first six months of 1997, respectively, were made to customers in the semiconductor equipment industry. The Company expects that its business will continue to depend in significant part on the semiconductor and semiconductor equipment industries for the foreseeable future. The Company's business depends in large part upon capital expenditures by manufacturers of semiconductor devices, which in turn depend upon the current and anticipated market demand for semiconductor devices and products utilizing such devices. The semiconductor industry historically has been highly volatile and has experienced periods of oversupply, resulting in significantly reduced demand for semiconductor fabrication equipment. In 1996, the semiconductor industry experienced a significant downturn, which caused a number of the Company's customers, including Applied Materials and Lam Research, to drastically reduce and, in some cases cancel, their orders from the Company. Applied Materials and Lam Research together accounted for approximately 47% and 45% of the Company's revenues during 1996 and the first six months of 1997, respectively. Because the Company is a supplier of subsystems to equipment manufacturers and a substantial and increasing proportion of the Company's shipments are made on a just-in-time basis, events such as a rapid drop in demand for the Company's products from a particular customer that may occur with limited advance notice can have an adverse impact on the Company. Failure to respond promptly to such reductions in revenue has had in the past and in the future could have a material adverse effect on the Company's operating results. In addition, the Company has observed that semiconductor capital equipment manufacturers and their suppliers have often been more negatively affected by downturns in the semiconductor industry than device manufacturers. Although there have been indications that the semiconductor and semiconductor equipment industries have begun to recover from the 1996 downturn, there can be no assurance that such industries will continue to improve or that there will not be further downturns or slowdowns in any of the markets that the Company serves, any or all of which could have a material adverse effect on the Company's business, financial condition and results of operations. See "Business--Markets, Applications and Customers."

## **SIGNIFICANT SALES ARE CONCENTRATED AMONG A FEW CUSTOMERS**

The Company's sales generally are concentrated among a small number of customers. Sales to the Company's ten largest customers accounted for approximately 73% and 77% of the Company's sales in 1996 and the first six months of 1997, respectively. Sales to Applied Materials and Lam Research, the two leading domestic manufacturers of semiconductor fabrication equipment, together accounted for approximately 47% and 45% of the Company's sales during 1996 and the first six months of 1997, respectively. The Company expects that sales of its systems to Applied Materials and Lam Research will continue to account for a high



percentage of its sales in the foreseeable future. The loss of any of its major customers, particularly Applied Materials or Lam Research, or a reduction in orders from any of such customers, including reductions caused by changes in a customer's competitive position or economic conditions in the industries in which the Company's customers compete, could have a material adverse effect on the Company's business, financial condition and results of operations. None of the Company's customers has entered into a long-term agreement requiring it to purchase the Company's systems. Similarly, Tower's sales historically have been concentrated among a small number of customers. Tower's sales to U.S. Robotics (recently acquired by 3Com Corporation) and its contract manufacturer accounted for approximately 74% of Tower's total sales in the nine months ended June 30, 1997. The success of the Company's acquisition of Tower will depend in large part on retention of Tower's major customers, including U.S. Robotics and its contract manufacturer, and the level of orders received from such customers. Orders received by Tower from U.S. Robotics and its contract manufacturer have declined substantially since June 30, 1997, and the Company anticipates that Tower's sales to such customers in the near term will be significantly lower than such sales had been immediately prior to the acquisition. Although the Company cannot predict with certainty whether or for how long the current reduction in orders from U.S. Robotics and its contract manufacturer will continue, the Company expects sales to such customers to be significantly lower in the second half of 1997 than such sales had been in the first half of 1997. As a result, Tower's total sales, and potentially its gross margins, through at least the end of 1997 are expected to be significantly lower than in prior periods. The Company does not believe that Tower's expected results through the end of 1997 will have a material adverse effect on the Company's consolidated results of operations during such period. See "--The Semiconductor and Semiconductor Equipment Industries Are Highly Volatile," "--Risks Associated with Recent and Potential Future Acquisitions," "Business--Markets, Applications and Customers" and Note 14 to the Consolidated Financial Statements. For additional information regarding the Tower acquisition, see the Form 8-K Regarding Tower.

## **RISKS ASSOCIATED WITH MANUFACTURING FACILITY**

All of the Company's manufacturing is conducted at its facility in Fort Collins, Colorado. In July 1997, the Company sustained substantial damage to its facilities and certain equipment and inventory due to excess surface water caused by a severe rainstorm in Fort Collins. The Company was forced to cease manufacturing temporarily and did not resume full production until mid-September 1997. The Company's insurance policies may not cover any or all of the costs incurred by the Company in connection with the rainstorm. As a result, the Company expects that it will be required to record a one-time charge in the third quarter of 1997 for such losses, which charge is currently estimated to be between \$2.5 million and \$3.0 million. The final charge, which cannot presently be determined, could be larger. Such charge will have a material adverse effect on the Company's results for such quarter. Because all of the Company's manufacturing is conducted in one location, there can be no assurance that future natural or other occurrences, out of the Company's control, will not have a material adverse effect on the Company's operations. Cessation of manufacturing or the Company's inability to operate the Fort Collins facility at full capacity for any extended period could have a material adverse effect on the Company's business, financial condition and results of operations. See "Business--Manufacturing."

## **RISKS ASSOCIATED WITH RECENT AND POTENTIAL FUTURE ACQUISITIONS**

The Company intends to expand its product offerings and customer base in part by acquiring other businesses, products and technologies that are complementary to those of the Company. In 1997, the Company acquired Tower and, in a separate transaction, acquired all of the assets of MIK Physics, Inc. ("MIK"). The assets acquired from MIK consisted predominantly of inventory, and the purchase price paid by the Company was immaterial. Tower designs and manufactures custom, high performance switchmode power supplies for use principally in the telecommunications, medical and non-impact printing industries, and MIK has developed technology to design and manufacture high power systems for certain industrial uses. The Company has limited experience in the markets served by Tower and MIK, and there can be no assurance that the Company will be able to compete in these markets successfully or that it will be able to operate the acquired businesses profitably. Acquisitions generally involve a number of risks related to integration, including difficulties associated with assimilating the personnel and operations of an acquired business, the Company's inability to achieve expected financial results or strategic goals for an acquired business, the potential disruption of the Company's ongoing business, the diversion of significant management and other resources and the maintenance of uniform standards, controls, procedures and policies. The Company intends

to continue to operate Tower's business out of Tower's existing facilities in Fridley, Minnesota, and, accordingly, will be required to manage two geographically separated manufacturing locations. Failure to integrate Tower and MIK, or any future acquisitions, without substantial costs, delays or other operational or financial problems could have a material adverse effect on the Company's business, financial condition and results of operations. Further, future acquisitions by the Company may result in dilutive issuances of equity securities, the incurrence of debt, large one-time expenses and the creation of goodwill or other intangible assets that could result in significant amortization expense. In addition, there can be no assurance that the Company will be able to identify, negotiate and consummate acquisitions that it considers advantageous to its business plans. For additional information regarding the Tower acquisition, see "Business--Recent Acquisition" and the Form 8-K Regarding Tower.

## **MANAGEMENT OF GROWTH**

The Company has been experiencing a period of rapid growth and expansion since the semiconductor and semiconductor equipment industries have begun to recover from the downturn in 1996. Such growth and expansion has placed, and is expected to continue to place, significant demands on the Company's resources. The management of such growth will require the Company to continue to improve and expand its management, operational and financial systems, procedures and controls, including accounting and other internal management systems, quality control, delivery and service capabilities. In early 1997, the Company began implementation of an integrated information management system that incorporates substantially all of the Company's internal financial and business systems, procedures and controls. The new system has been fully implemented in the United States, but the Company has postponed implementation of the new system at its international locations, due primarily to a shortage of trained personnel and other resources. In addition, the Company intends to continue to operate Tower's business out of Tower's existing facilities in Fridley, Minnesota and has retained all of Tower's employees. The failure to manage growth effectively, including delays or difficulties implementing new systems, procedures and controls or integrating acquisitions in a timely manner and without disruption of the Company's operations, could have a material adverse effect on the Company's business, financial condition and results of operations.

The recent growth in many of the Company's product lines has required the Company to invest in additional equipment, personnel, physical facilities and other infrastructure to meet current and anticipated manufacturing demands. The Company has hired, and expects that it will need to continue to hire, a significant number of new employees, particularly personnel with technical backgrounds for the Company's engineering and technical support staffs. The market for such personnel has become increasingly competitive, particularly in Northern Colorado where there has been a significant increase in the business activities of other companies in the electronics and manufacturing sectors. Because of this competition for qualified labor, the Company has occasionally experienced delays in meeting its staffing requirements. There can be no assurance that the Company will be able to recruit, train and retain a sufficient number of technical employees. Protracted inability of the Company to recruit and train adequate numbers of qualified personnel on a timely basis could adversely affect the Company's ability to manufacture, sell and support its systems. To expand its internal manufacturing capacity and to accommodate the continuing expansion of its employee base, the Company increased its physical facilities in Fort Collins, Colorado by approximately 31,000 square feet in August 1997. The new facilities are expected to be in production in the fourth quarter of 1997. The Company also depends on outsourced suppliers for the manufacturing of certain components and subassemblies of its systems. There can be no assurance that the Company will be able to adequately increase its manufacturing facilities and capacity to meet demand for its products or that, in the event of a downturn or slowdown in such demand, the Company will be able to reduce its production activities or absorb its increased overhead and outsourcing costs. The Company expects that its operating expenses will continue to increase. There can be no assurance that the Company's future sales will increase in an amount necessary to cover planned increases in operating expenses. Continued expansion of the Company could significantly strain the Company's management, financial and other resources. The Company also may seek to enhance its growth by acquiring other businesses, products and technologies that are complementary to those of the Company. See "--Risks Associated with Recent and Potential Future Acquisitions" and "Business--Recent Acquisition."

## **SUPPLY CONSTRAINTS AND DEPENDENCE ON SOLE AND LIMITED SOURCE SUPPLIERS**

Manufacture of the Company's power conversion and control systems requires numerous electronic components. Dramatic growth in the electronics industry has significantly increased demand for such components. This demand can result in periodic shortages and allocations, which the Company has experienced from time to time. The Company expects that shortages and allocations of electronic components and subassemblies will continue in the foreseeable future and could result in shipment delays. Such delays could damage the Company's relationships with current and prospective customers, which in turn could have a material adverse effect on the Company's business, financial condition and results of operations. In this regard, the Company experienced a temporary delay in replacing certain key components that had been lost or damaged in the July 1997 rainstorm in Fort Collins. See "--Results for Third Quarter of 1997 Affected by Water-Related Damage and Acquisition of Tower" and "Management's Discussion and Analysis of Financial Condition and Results of Operations--Quarterly Results of Operations."

The Company relies on sole and limited source suppliers for certain parts and subassemblies. Such reliance involves several risks, including a potential inability to obtain an adequate supply of required components, reduced control over pricing and timing of delivery of components and suppliers' potential inability to develop technologically advanced products to support the Company's growth and development of new systems. The Company believes that alternative sources could be obtained and qualified, if necessary, for most sole and limited source parts. However, if the Company were forced to seek alternative sources of supply or to manufacture such components or subassemblies internally, it may be required to redesign its systems, which could prevent the Company from shipping its systems to its customers on a timely basis. This could damage the Company's relationships with current and potential customers, which could have a material adverse effect on the Company's business, financial condition and results of operations. See "Business--Manufacturing."

## **DEPENDENCE ON DESIGN WINS; BARRIERS TO OBTAINING NEW CUSTOMERS; HIGH LEVEL OF CUSTOMIZED SYSTEMS**

Equipment manufacturers begin new system design projects periodically due to the constantly changing nature of semiconductor fabrication technology. It is important for the Company to work with these manufacturers early in their design cycle because it is common for modifications to the Company's equipment to be required to meet the requirements of the new system. As the design cycle nears completion, one or two vendors are chosen by the equipment manufacturer to provide the power conversion equipment to be used with the early system shipments. Being selected as one of these vendors is called a "design win." The Company believes that achieving these "design wins" is critical to retaining existing customers and to obtaining new customers. Because power conversion and control systems vary in characteristics such as power dimensions and modes of interfacing with the customer's equipment, once a power conversion and control system is selected for use in a particular system or product, it is unlikely that it will be displaced during the life of that system or product. As a result, the Company's failure to achieve design wins for semiconductor fabrication and other equipment could have a material and prolonged adverse effect on the Company's sales and growth. The Company also believes that equipment manufacturers often select their suppliers based on factors such as long-term relationships. Accordingly, the Company may be at a disadvantage in achieving design wins from equipment manufacturers who are not currently customers. There can be no assurance that the Company's systems will be selected by existing or potential customers for new products.

In order to achieve design wins, the Company typically must customize its systems for use in particular equipment and for particular customers. Such customization increases the Company's research and development expenses and can strain its engineering and management resources. In addition, there can be no assurance that such investment will result in design wins for the Company. Because a substantial proportion of the Company's business involves the just-in-time shipment of systems, the Company must keep a relatively large number and variety of customized systems in inventory. As the Company develops new systems and as its customers develop new products, systems in inventory may become obsolete. There can be no assurance that such inventory obsolescence will not have a material adverse effect on the Company's business, financial condition and results of operations. See "Business--Strategy."

## **RAPID TECHNOLOGICAL CHANGE AND DEPENDENCE ON NEW SYSTEM INTRODUCTIONS**

The market for power conversion and control systems is characterized by ongoing technological developments and changing customer requirements. The markets in which the Company's customers compete are also characterized by continually evolving technology. The Company's success depends upon its ability to continue to improve existing systems and to develop and introduce new systems that keep pace with technological advances and adapt to support its customers' changing needs. There can be no assurance that the Company will continue to be able to improve its existing systems or develop new systems that will adequately address the changing needs of its customers and the marketplace. Even if the Company is able to develop improved or new systems, there can be no assurance that such systems will be cost-effective or introduced in a timely manner. Development and introduction of new systems may involve significant costs that are difficult to forecast. Failure of the Company to develop or introduce improved systems and new systems in a timely manner could have a material adverse effect on the Company's business, financial condition and results of operations, as well as on its customer relationships. See "Business--Technology" and "Business--Products."

## **COMPETITION**

The Company faces substantial competition, primarily from established companies, some of which have greater financial, marketing and technical resources than the Company. The trend toward consolidation in the semiconductor equipment industry has made it increasingly important to have the resources necessary to compete effectively across a broad range of product offerings, to fund customer service and support on a worldwide basis and to invest in research and development. The Company expects its competitors to continue to develop new products aimed at applications currently served by the Company, to continue to improve the design and performance of their systems, and to introduce new systems with competitive performance characteristics. To remain competitive, the Company believes it will be required to maintain a high level of investment in research and development and sales and marketing. There can be no assurance that the Company will have sufficient resources to continue to make such investments or that the Company will be able to make the technological advances necessary to maintain its competitive position. In addition, new products developed by competitors could make pricing more competitive, which may necessitate significant price reductions by the Company or result in lost orders, either of which could have a material adverse effect on the Company's business, financial condition and results of operations. In addition, electronics companies, including companies in the semiconductor capital equipment industry, have been characterized by ongoing pressure to reduce costs. This has in the past caused and is continuing to cause the Company's current and prospective customers to exert pricing pressure and make other demands on the Company, which could lead to significant changes in revenue and operating margins from quarter to quarter. Failure to adequately respond to such pressure and demands could result in loss of customers, which could have a material adverse effect on the Company. See "Business--Competition."

## **DEPENDENCE ON THE JAPANESE MARKET AND JAPANESE DISTRIBUTOR**

The future performance of the Company will depend, in part, upon its ability to compete successfully in Japan, one of the largest markets for semiconductor fabrication equipment and flat panel display equipment, and a major market for data storage and other industrial equipment utilizing the Company's systems. The Japanese market has historically been difficult for non-Japanese companies to penetrate. Because the Company's success in a market depends on having its products designed into existing and future equipment, the Company believes that it may be at a competitive disadvantage with respect to its Japanese competitors who have had the opportunity to develop strong relationships with Japanese equipment manufacturers and whose systems are currently designed into such potential customers' equipment. The Company also believes that its future performance will depend on its non-Japanese customers' ability to compete successfully in the Japanese market. The Company's non-Japanese customers compete directly with Japanese equipment manufacturers who may have a competitive advantage over such customers for the same reasons that Japanese manufacturers of power conversion and control systems may have a competitive advantage over the Company. Although the Company and a number of its significant non-Japanese customers have begun to establish operations in Japan, there can be no assurance that the Company or its customers will be able to maintain or improve their competitive positions in Japan.

The Company sells its systems in Japan both directly and through a single distributor, Landmark Technology Corporation. Sales in Japan through Landmark Technology Corporation represented approximately 3% and 2% of the Company's total sales in 1996 and the first six months of 1997. Although the Company believes that it maintains a good relationship with Landmark Technology Corporation, there can be no assurance that the relationship will continue. Termination of such relationship or a reduction of sales through Landmark Technology Corporation could have a material adverse effect on the Company's ability to compete in the Japanese market. See "Business--Competition" and Note 12 to the Consolidated Financial Statements.

## **RISKS ASSOCIATED WITH INTERNATIONAL SALES**

The markets in which the Company competes are becoming increasingly globalized. As a result, the Company's customers increasingly require service and support on a worldwide basis. The Company has invested substantial financial and management resources to develop an international infrastructure to meet the needs of its customers worldwide. The Company maintains sales and service offices outside the United States in Tokyo, Japan; Filderstadt, Germany; and Bicester, United Kingdom. The Company also plans to open offices in Seoul, South Korea and Taiwan. There can be no assurance that the Company's investments will enable it to compete successfully in the international market or to meet the service and support needs of such customers. Approximately 29%, 24% and 24% of the Company's sales in 1995, 1996 and the first six months of 1997, respectively, were attributable to customers outside the United States. The Company expects sales outside the United States to continue to represent a significant portion of future sales. Sales to customers outside the United States are subject to various risks, including exposure to currency fluctuations, the imposition of governmental controls, political and economic instability, trade restrictions, changes in tariffs and taxes, and longer payment cycles typically associated with international sales. The Company has entered into various forward foreign exchange contracts to mitigate the effect of depreciation of the Japanese Yen; however, there can be no assurance that this or other hedging techniques can successfully protect the Company against substantial currency fluctuations. The Company has not employed hedging techniques with respect to any other currencies, but as a matter of policy would consider entering into forward foreign exchange contracts or obtaining lines of credit in foreign currencies if it observed significant fluctuations in currencies that comprise a significant portion of the Company's revenues. The Company's international activities are also subject to the difficulties of managing overseas distributors and representatives, and difficulties of staffing and managing foreign subsidiary operations.

The Company's systems are subject to numerous foreign government standards and regulations that are continually being amended. For example, the Company has invested significant resources to re-design its systems to meet European standards for electromagnetic compatibility which came into effect in 1996 and for safety that came into effect in 1997. Although the Company endeavors to meet foreign technical and regulatory standards, there can be no assurance that the Company's products will continue to comply with foreign government standards and regulations, or changes thereto, or that it will be cost effective for the Company to redesign its products to comply with such standards and regulations. The inability of the Company to design or redesign products to comply with foreign standards or any significant or prolonged decline in the Company's international operations could have a material adverse effect on the Company's business, financial condition and results of operations.

## **INTELLECTUAL PROPERTY RIGHTS**

The Company's success depends in large part on the technical innovation of its products. While the Company attempts to protect its intellectual property rights through patents and non-disclosure agreements, it believes that its success will depend to a greater degree upon innovation, technological expertise and its ability to adapt its products to new technology. There can be no assurance that the Company will be able to protect its technology or that competitors will not be able to develop similar technology independently. In addition, the laws of certain foreign countries may not protect the Company's intellectual property to the same extent as do the laws of the United States. No assurance can be given that the Company's patents will be sufficiently broad to protect the Company's technology, nor that any existing or future patents will not be challenged, invalidated or circumvented, or that the rights granted thereunder will provide meaningful

competitive advantages to the Company. Any of such events could have a material adverse effect on the Company's business, financial condition and results of operations.

Although the Company is not aware of any infringement by its products of any patents or proprietary rights of others, there can be no assurance that such infringements do not exist or will not occur in the future. Litigation may be necessary in the future to enforce patents issued to the Company, to protect trade secrets or know how owned by the Company, to defend the Company against claimed infringement of the rights of others or to determine the scope and validity of the proprietary rights of others. Any such litigation could result in substantial cost and diversion of effort by the Company, which could have a material adverse effect on the Company's business, financial condition and results of operations. Moreover, adverse determinations in such litigation could result in the Company's loss of proprietary rights, subject the Company to significant liabilities to third parties, require the Company to seek licenses from third parties or prevent the Company from manufacturing or selling its products, any of which could have a material adverse effect on the Company's business, financial condition and results of operations. See "Business--Intellectual Property."

## **GOVERNMENTAL REGULATIONS**

The Company is subject to federal, state, local and foreign regulations, including environmental regulations and regulations relating to the design and operation of its power conversion and control systems. The Company must ensure that its systems meet certain safety and emissions standards, many of which standards vary across the countries in which the Company's systems are used. The Company believes that it is in compliance with current regulations and that it has obtained all necessary permits, approvals and authorizations to conduct its business; however, compliance with future regulations could require the Company to redesign certain systems, make capital expenditures or otherwise to incur substantial costs. The failure to comply with current or future regulations could result in the imposition of fines on the Company, suspension of production or the inability to offer certain systems in specified markets, any of which events could have a material adverse effect on the Company's financial condition or results of operations.

## **DEPENDENCE ON KEY PERSONNEL**

The Company's success depends to a large extent upon the efforts and abilities of Douglas S. Schatz, President and Chief Executive Officer, and other key managerial and technical employees. Although the Company recently has made significant additions to its management team, the loss of Mr. Schatz or other key employees could have a material adverse effect on the Company's business, financial condition and results of operations. Furthermore, the Company does not maintain key-man life insurance on Mr. Schatz or any other employee. The Company has not entered, and in the foreseeable future does not intend to enter, into written employment agreements, other than confidentiality and non-compete agreements, with any of its employees. In addition, the Company's future operating results depend in part upon its ability to attract and retain qualified employees, particularly highly-skilled engineers for the development of new systems and products. The competition for such personnel is intense. There can be no assurance that the Company will be successful in attracting and retaining qualified engineers and other employees. See "--Management of Growth" and "Management."

## **CONTROL BY MANAGEMENT AND PRINCIPAL STOCKHOLDERS**

Upon completion of the Offering, all of the officers and directors of the Company as a group, and Douglas S. Schatz individually, will hold or will be deemed to beneficially own approximately 68.4% and 54.1% of the outstanding Common Stock of the Company, respectively (66.5% and 53.0% if the Underwriters' over-allotment option is exercised in full). Accordingly, existing management will continue to hold sufficient voting power to enable it to elect all of the directors and to continue to control the business and affairs of the Company for the foreseeable future. Such concentration of ownership may have the effect of delaying, deferring or preventing a change in control of the Company. In addition, substantially all of the facilities leased by the Company are owned by entities in which certain of the Company's officers and directors have a financial interest. See "Management" and "Principal and Selling Stockholders."

## **MANAGEMENT WILL HAVE BROAD DISCRETION OVER USE OF PROCEEDS**

The Company intends to use approximately \$12 million of the net proceeds from this Offering to repay certain indebtedness. The remainder of the net proceeds, approximately \$16.8 million, will be used for general corporate purposes, including working capital. Management therefore will have broad discretion over the use of the majority of the net proceeds from this Offering, which uses likely will not require stockholder approval. There can be no assurance that the Company's use of the proceeds from this Offering will be profitable to the Company or will enhance the value of the Company's capital stock.

## **ANTI-TAKEOVER PROVISIONS**

Certain provisions of the Company's Certificate of Incorporation and By-laws could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of the Company. Such provisions could limit the price that certain investors might be willing to pay in the future for shares of the Company's Common Stock. Certain of these provisions (i) allow the Company to issue Preferred Stock with rights senior to those of the Common Stock without any further vote or action by the stockholders, (ii) limit the right of the stockholders to call a special meeting of stockholders, and (iii) allow the Company to impose various procedural and other requirements that could make it more difficult for stockholders to effect certain corporate actions. See "Description of Capital Stock."

## **VOLATILITY OF MARKET PRICE OF COMMON STOCK**

The stock market generally, and the market for technology stocks in particular, have experienced significant price and volume fluctuations, which have often been unrelated or disproportionate to the operating performance of such companies. From the initial public offering of the Common Stock in November 1995 through October 16, 1997, the closing price of the Common Stock on the Nasdaq National Market has ranged from \$3.50 to \$33.9375. There can be no assurance that the market for the Common Stock will not be subject to similar fluctuations. Many factors, including future announcements concerning the Company or its competitors, variations in operating results, announcements of technological innovations, the introduction of new products or changes in product pricing policies by the Company or its competitors, changes in earnings estimates by securities analysts and general stock market trends, could cause the market price of the Common Stock to fluctuate substantially. See "Price Range of Common Stock."

## USE OF PROCEEDS

The net proceeds to the Company from the sale of the 1,000,000 shares of Common Stock offered by the Company hereby are estimated to be approximately \$28.8 million (\$33.2 million if the Underwriters' over-allotment option is exercised in full), after deduction of underwriting discounts and commissions and estimated expenses payable by the Company in connection with the Offering. The Company will not receive any of the proceeds from the sale of the shares of Common Stock offered by the Selling Stockholders.

The Company intends to use approximately \$12 million of the proceeds to fully repay indebtedness under a term loan obtained in August 1997 from Silicon Valley Bank and the Bank of Hawaii in connection with the Tower acquisition (the "Term Loan"). The Term Loan matures in August 2002 and bears interest at the Prime Rate (8.5% at October 15, 1997) less 0.25%, adjustable to the Prime Rate minus 0.50% if certain financial ratios are achieved. Prepayment of the Term Loan prior to August 1998 will result in a penalty of 0.75% of the amount prepaid, or approximately \$90,000, which amount also will be paid with a portion of the net proceeds from this Offering. The Company intends to use the remainder of the proceeds for general corporate purposes, including working capital. The Company intends to expand its product offerings and customer base in part by acquiring other businesses, products and technologies that are complementary to those of the Company. Accordingly, a portion of the net proceeds may be used for acquisitions, although the Company has no present agreements or commitments with respect to any such transaction. Pending such uses, the Company will invest the net proceeds in short-term, investment-grade, interest-bearing marketable securities.

## DIVIDEND POLICY

The Company intends to retain future earnings to finance its business. Accordingly, the Company does not anticipate paying cash or other dividends on the Common Stock in the foreseeable future. Furthermore, the Company's credit facilities prohibit the declaration or payment of any cash dividends on the Common Stock.

## PRICE RANGE OF COMMON STOCK

The Common Stock was approved for quotation on the Nasdaq National Market beginning November 22, 1995 under the symbol "AEIS." The following table sets forth, for the periods indicated, the range of intra-day high and low sales prices, as reported by the Nasdaq National Market:

	High -----	Low -----
1995		
Fourth Quarter (beginning November 22).....	\$11	\$8 1/4
1996		
First Quarter.....	10	6 1/2
Second Quarter.....	9 1/8	5 3/4
Third Quarter.....	7 3/4	4 1/2
Fourth Quarter.....	7 1/4	2 7/8
1997		
First Quarter.....	8 3/8	5 1/4
Second Quarter.....	15 3/8	7 1/8
Third Quarter.....	33 3/8	14 1/2
Fourth Quarter (through October 16).....	38 1/8	25

On October 16, 1997, the last reported sale price for the Common Stock, as reported by the Nasdaq National Market, was \$31.6875. As of October 16, 1997, the Company had 378 holders of record of the Common Stock.



## CAPITALIZATION

The following table sets forth the capitalization of the Company as of June 30, 1997 and as adjusted as of such date to reflect the sale of the Common Stock offered by the Company hereby and application of the estimated net proceeds therefrom.

	June 30, 1997		
	Actual	Pro Forma (1)	Pro Forma As Adjusted (1)(2)
		(in thousands)	
Short-term debt (including current portion of long-term debt).....	\$ 745	\$ 4,534	\$ 2,134
Long-term debt (excluding current portion).....	\$ 789	\$ 10,389	\$ 789
Stockholders' equity:			
Preferred stock, \$0.001 par value, 1,000,000 shares authorized; none issued and outstanding.....	--	--	--
Common stock, \$0.001 par value, 30,000,000 shares authorized; 21,289,962 shares issued and outstanding and pro forma; and 22,414,575 shares issued and outstanding pro forma as adjusted (3)..	21	21	22
Additional paid-in capital.....	23,102	23,102	51,911
Retained earnings.....	29,120	26,040	25,950
Stockholders' notes receivable.....	(1,083)	(1,083)	(1,083)
Deferred compensation.....	(58)	(58)	(58)
Cumulative translation adjustment.....	(477)	(477)	(477)
Total stockholders' equity.....	50,625	47,545	76,265
Total capitalization.....	\$ 52,159	\$ 62,468	\$ 79,188

(1) Gives pro forma effect to the Tower acquisition, allocation of the purchase price therefor and transactions occurring in connection therewith, including the borrowing by the Company of \$12,000,000 under the Term Loan, as if all of such transactions had occurred on June 30, 1997. See the Pro Forma Condensed Consolidated Balance Sheet. For additional information regarding the Tower acquisition, see "Business--Recent Acquisition" and the Form 8-K Regarding Tower.

(2) As adjusted to reflect the sale by the Company of 1,000,000 shares of Common Stock offered hereby at the public offering price of \$31.00 per share, deduction of underwriting discounts and commissions and estimated expenses payable by the Company, and the application of the estimated net proceeds therefrom. See "Use of Proceeds" and "Capitalization."

(3) Includes 31,500 shares issued and outstanding pro forma as adjusted acquired by certain Selling Stockholders pursuant to the exercise of stock options and sold in the Offering by such Selling Stockholders. See "Principal and Selling Stockholders." Excludes shares of Common Stock reserved for issuance, but not issued as of June 30, 1997, under the Option Plan, the Director Plan and the Purchase Plan.

## SELECTED CONSOLIDATED FINANCIAL STATEMENTS

The following selected consolidated financial data is qualified by reference to, and should be read in conjunction with the Consolidated Financial Statements and Notes to Consolidated Financial Statements and the discussion thereof included elsewhere in this Prospectus. The selected consolidated financial data as of and for each of the years in the five-year period ended December 31, 1996, are derived from consolidated financial statements that have been audited by Arthur Andersen LLP, independent accountants, whose report with respect thereto is included elsewhere in this Prospectus. The data for the six months ended June 30, 1997 and 1996 are derived from the Unaudited Consolidated Financial Statements, which have been prepared on the same basis as the audited Consolidated Financial Statements and, in the opinion of the Company, include all adjustments, consisting only of normal recurring adjustments necessary for a fair statement of the results for the unaudited periods. Operating results for the six months ended June 30, 1997 are not necessarily indicative of the results that may be expected for the entire year ending December 31, 1997.

	Years Ended December 31,					Six Months Ended June 30,	
	1992	1993	1994	1995	1996	1996	1997
	(in thousands, except share data)						
STATEMENT OF OPERATIONS DATA:							
Sales.....	\$ 23,950	\$ 31,577	\$ 51,857	\$ 94,708	\$ 98,852	\$ 56,997	\$ 53,358
Cost of sales.....	12,341	16,329	26,043	49,314	62,038	34,239	33,298
Gross profit.....	11,609	15,248	25,814	45,394	36,814	22,758	20,060
Operating expenses:							
Research and development.....	3,606	4,716	5,849	10,522	13,760	7,143	6,334
Sales and marketing.....	3,258	3,414	4,658	6,201	8,590	4,331	4,135
General and administrative.....	4,170	3,417	5,304	7,193	6,253	4,055	2,950
Total operating expenses.....	11,034	11,547	15,811	23,916	28,603	15,529	13,419
Income from operations.....	575	3,701	10,003	21,478	8,211	7,229	6,641
Other income (expense).....	(270)	(278)	(300)	(393)	93	(236)	(101)
Income before income taxes.....	305	3,423	9,703	21,085	8,304	6,993	6,540
Provision for income taxes.....	4	6	3,740	7,804	3,160	2,658	2,485
Net income.....	\$ 301	\$ 3,417	\$ 5,963	\$ 13,281	\$ 5,144	\$ 4,335	\$ 4,055
Net income per share (1).....	--	--	\$ 0.32	\$ 0.69	\$ 0.24	\$ 0.20	\$ 0.19
Weighted average common and common equivalent shares outstanding....	17,315	17,894	18,605	19,310	21,666	21,657	21,906
	December 31,					June 30,	
	1992	1993	1994	1995	1996	1997	
	(in thousands)						
BALANCE SHEET DATA:							
Cash and cash equivalents.....	\$ 346	\$ 378	\$ 368	\$ 13,332	\$ 11,231	\$ 11,183	
Working capital.....	2,849	3,587	7,773	33,749	35,179	40,757	
Total assets.....	9,310	13,389	23,149	55,319	56,031	66,051	
Total debt.....	2,680	8,459	9,946	2,484	2,051	1,534	
Stockholders' equity.....	4,025	1,011	7,218	41,087	46,496	50,625	

(1) Prior to January 1, 1994, the Company was treated as an S corporation for tax purposes and, accordingly, net income per share for the years ended December 31, 1992 and 1993 has not been calculated. On a pro forma basis, assuming federal, state and foreign income tax rates aggregating 40.0%, net income and net income per share for the year ended December 31, 1992 would have been \$181,000 and \$0.01, respectively, and for the year ended December 31, 1993 would have been \$2,047,000 and \$0.11, respectively.

## **MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

THIS PROSPECTUS CONTAINS FORWARD-LOOKING STATEMENTS, INCLUDING ESTIMATES AND EXPECTATIONS AS TO FINANCIAL RESULTS AND BUSINESS OPERATIONS, THAT INVOLVE RISKS AND UNCERTAINTIES. THE COMPANY'S ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THE RESULTS DISCUSSED IN THE FORWARD-LOOKING STATEMENTS. FACTORS THAT MIGHT CAUSE SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED IN "RISK FACTORS."

### **OVERVIEW**

The Company designs, manufactures, markets and supports power conversion and control systems used in industrial processes. The Company's systems are key elements in products that utilize gaseous plasmas to deposit or etch thin film layers on materials or substrates such as silicon, glass and metals. The Company commenced operations in 1981 and has been profitable each year since its inception. The Company markets and sells its systems primarily to original equipment manufacturers (OEMs) of semiconductor, flat panel display, data storage and other industrial thin film manufacturing equipment. A substantial and increasing proportion of the Company's sales are made on a just-in-time basis in which the shipment of systems occurs within a few days or hours after an order is received. The Company recognizes revenues, which are derived from the sales of power conversion and control systems, upon shipment of its systems.

The semiconductor equipment industry accounted for approximately 61%, 64% and 65% of the Company's sales in 1995, 1996 and the first six months of 1997, respectively. The Company had benefited from strong growth in the semiconductor industry until the downturn in the semiconductor and semiconductor equipment industries in 1996. The two largest customers of the Company are also the largest domestic semiconductor equipment manufacturers. The Company has also experienced growth in sales to the other industries it serves during the last three years, with the exception of a decline in sales to the flat panel display industry in 1996, primarily in Japan. The future success of the Company depends on continued growth of the semiconductor equipment industry, data storage industry, flat panel display industry, and other industries requiring thin film manufacturing processes. To date, the Company has been successful in achieving a number of "design wins" which have resulted in the Company obtaining new customers and solidifying relationships with its existing customers. The Company believes that its ability to continue to achieve design wins with existing and new customers will be critical to its future success. See "Risk Factors--The Semiconductor and Semiconductor Industries Are Highly Volatile" and "Risk Factors--Dependence on Design Wins; Barriers to Obtaining New Customers; High Level of Customized Systems."

The Company sustained substantial water-related damage to its manufacturing facilities and certain equipment and inventory during a severe rainstorm on July 29, 1997, which interrupted production and shipments. The Company was able to resume some production within a few days and returned to full production by mid-September 1997. The Company was unable to fulfill certain orders because of the production interruption, which was prolonged primarily by the Company's inability to replace in a timely manner components that had been lost or damaged in the rainstorm. The Company has worked closely with suppliers to accelerate deliveries of key components to reduce backlog and to continue to fulfill new orders as they are received. Although the Company's revenues reported for the third quarter of 1997 reflect an improvement over revenues for the second quarter of 1997, the Company believes its revenues for the quarter ended September 30, 1997 were adversely affected by the production interruption. The Company recorded a one-time charge of \$3.0 million in the third quarter of 1997 for property damage and clean-up costs incurred as a result of the water-related damage. The final costs, which cannot presently be determined, could be larger. The extent of insurance coverage, if any, is unresolved. In addition, the Company recorded a one-time charge of \$3.1 million for in-process research and development costs in connection with the acquisition of Tower. See "Risk Factors--Results for the Third Quarter of 1997 Affected by Water-Related Damage and Acquisition of Tower" and "--Recent Acquisition."

### **RESULTS FOR THIRD QUARTER OF 1997**

For the quarter ended September 30, 1997, the Company reported net sales of \$42.6 million, an increase of 97% over net sales of \$21.6 million in the comparable period of 1996 and an increase of 30% over net sales of \$32.7 million in the quarter ended June 30, 1997, and net income of \$517,000, an increase over net income

of \$123,000 in the comparable period of 1996 and a decrease from net income of \$3.3 million in the quarter ended June 30, 1997. Net income for the third quarter of 1997 reflects a one-time charge of \$3.0 million for property damage and clean-up costs incurred in connection with the July 1997 rainstorm and a one-time charge of \$3.1 million for in-process research and development costs in connection with the Tower acquisition. Gross margin increased to 40% for the third quarter of 1997, compared with 30.5% for the third quarter of 1996 and 38.4% for the second quarter of 1997.

## **RECENT ACQUISITION**

In August 1997, the Company acquired Tower Electronics, Inc., a designer and manufacturer of custom, high performance switchmode power supplies. Tower's power supplies have an average selling price of approximately \$350 and are used principally in the telecommunications, medical and non-impact printing industries. Its principal customers include U.S. Robotics (recently acquired by 3Com Corporation) and its contract manufacturer, VideoJet Systems International, Medtronic and Intermedics. Tower had revenues of \$13.4 million for its fiscal year ended September 30, 1996. The purchase price consisted of \$14.5 million in cash, which was financed in part by the \$12.0 million Term Loan, and a promissory note to the seller in the original principal amount of \$1.5 million (the "Tower Note"), which were delivered by the Company at closing, as well as an earnout provision, pursuant to which the seller will be entitled to additional consideration if Tower's sales achieve certain levels in 1998. Pursuant to the earnout provision, the Company will pay (a) 1.33 times the amount, if any, by which Tower's sales for the year ending December 31, 1998 exceed \$16.0 million, up to a maximum payment of \$4.0 million, plus (b) 0.50 times the amount, if any, by which such sales exceed \$20 million. If Tower's sales for 1998 do not exceed \$16.0 million, no additional consideration will be paid pursuant to the earnout provision. The Tower Note matures in August 1998 and is non-interest bearing.

The acquisition has been accounted for using the purchase method of accounting. In connection with the acquisition, the Company acquired certain intangible assets, including completed and developmental technologies. The Company estimates that Tower's completed technology and related product base has a remaining life of five to seven years. As a result, the Company currently estimates that its depreciation and amortization expense will increase by approximately \$1.3 million annually for the next several years. With respect to the identifiable, incomplete research and development projects that were underway at the time of the acquisition ("in-process projects"), the Company has recorded a one-time charge of \$3.1 million in the third quarter of 1997 for "in-process research and development costs." These incomplete development costs, which relate to enhancing Tower's technical designs and product performance, have no alternative future use and, accordingly, were charged to expense at the purchased date. The Company has budgeted approximately \$3.0 million for the next two years to continue research and development efforts with respect to the in-process projects. Although no assurance can be given that the in-process projects will achieve technological feasibility or be commercially successful, management believes the likelihood of such development is reasonable as part of its on-going research and development program. The Company believes that successful development and commercialization of the in-process projects will result in increased revenues. If the Company is unable to complete development of the in-process projects, such revenues will not be realized even though the research and development expenses will have been incurred. The Company does not believe that the failure to develop the in-process projects will have a material adverse effect on its results of operations. Any additional consideration paid pursuant to the earnout provision will be accounted for as additional purchase price. See the Form 8-K Regarding Tower, the Pro Forma Condensed Consolidated Balance Sheet and "Risk Factors-- Results for the Third Quarter of 1997 Affected by Water-Related Damage and Acquisition of Tower" and "Risk Factors--Risks Associated with Recent and Potential Future Acquisitions."

## RESULTS OF OPERATIONS

The following table sets forth certain statement of operations data of the Company expressed as a percentage of sales:

	Year Ended December 31,			Six Months Ended June 30,	
	1994	1995	1996	1996	1997
Sales.....	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of sales.....	50.2	52.1	62.8	60.1	62.4
Gross margin.....	49.8	47.9	37.2	39.9	37.6
Operating expenses:					
Research and development.....	11.3	11.1	13.9	12.5	11.9
Sales and marketing.....	9.0	6.5	8.7	7.6	7.7
General and administrative.....	10.2	7.6	6.3	7.1	5.5
Total operating expenses.....	30.5	25.2	28.9	27.2	25.1
Income from operations.....	19.3	22.7	8.3	12.7	12.5
Other income (expense).....	(0.6)	(0.4)	0.1	(0.4)	(0.2)
Income before income taxes.....	18.7	22.3	8.4	12.3	12.3
Provision for income taxes.....	7.2	8.3	3.2	4.7	4.7
Net income.....	11.5%	14.0%	5.2%	7.6%	7.6%

## SIX MONTH PERIODS ENDED JUNE 30, 1997 AND 1996

**SALES.** Sales for the first six months of 1997 were \$53.4 million, a decrease of 6.0% from sales of \$57.0 million in the comparable period in 1996. The Company's decrease in sales between the periods presented has resulted from decreased unit sales of the Company's systems. A significant part of the sales decrease is attributable to decreased demand by domestic semiconductor equipment customers, primarily the Company's two largest customers, reflecting the downturn in the entire semiconductor equipment industry that affected the Company's results throughout 1996 and during the first quarter of 1997. Partially offsetting these decreases, sales in Japan were up 156% from the comparable period in 1996 due to increased unit sales.

**GROSS MARGIN.** The Company's gross margin for the first six months of 1997 was 37.6%, down from 39.9% in the comparable period in 1996. The 2.3% decline in gross margin between the periods was due primarily to underabsorption of manufacturing overhead costs resulting from the lower sales base and increases in customer service costs as a percentage of sales.

**RESEARCH AND DEVELOPMENT.** Research and development expenses for the first six months of 1997 were \$6.3 million, down from \$7.1 million in the comparable period of 1996, representing a decrease of 11%. This decrease resulted from a reduction in allocation of infrastructure costs to research and development. As a percentage of sales, research and development expenses decreased to 11.9% in the first six months of 1997 from 12.5% in the comparable period in 1996.

The Company believes that continued research and development investment is essential to ongoing development of new products. Since inception, all research and development costs have been internally funded and expensed.

**SALES AND MARKETING.** Sales and marketing expenses for the first six months of 1997 were \$4.1 million, down from \$4.3 million in the comparable period in 1996, representing a decrease of 5%. As a percentage of sales, sales and marketing expenses increased to 7.7% in the first six months of 1997 from 7.6% in the comparable period in 1996.

The Company is in the process of reorganizing its sales and marketing team to better address the specific needs of its customers. In March 1996, the Company hired a vice president of sales, marketing and customer support. The Company intends to open a new support office in South Korea in 1997. As a result of these and other factors, sales and marketing expenses are expected to continue to increase in future periods.

**GENERAL AND ADMINISTRATIVE.** General and administrative expenses for the first six months of 1997 were \$3.0 million, down from \$4.1 million in the comparable period in 1996, representing a decrease of 27%. This decrease was primarily a reduction in payroll and benefits expenses. As a percentage of sales, general and administrative expenses decreased to 5.5% in the first six months of 1997 from 7.1% in the comparable period in 1996.

**OTHER INCOME (EXPENSE).** Other expense was \$0.1 million for the first six months of 1997, compared to other expense of \$0.2 million in the comparable period in 1996.

**PROVISION FOR INCOME TAXES.** The income tax provision of \$2.5 million for the first six months of 1997 represented an estimated effective rate of 38.0%.

#### **YEARS ENDED DECEMBER 31, 1994, 1995 AND 1996**

**SALES.** Sales were \$51.9 million, \$94.7 million and \$98.9 million in 1994, 1995 and 1996, respectively, representing an increase of 82% from 1994 to 1995 and 4% from 1995 to 1996. The Company's sales growth during all periods presented resulted from the increased unit sales of the Company's systems. A substantial portion of the Company's sales growth since 1994 is attributable to higher system sales to the Company's two largest customers, both of whom are primarily semiconductor equipment OEMs. The relatively slow sales growth from 1995 to 1996 was primarily attributable to the downturn in the semiconductor equipment industry in 1996.

Sales to international customers, primarily in Japan, Asia and Europe, were approximately \$16.7 million, \$27.3 million, and \$24.0 million in 1994, 1995 and 1996, respectively. These amounts represented 32%, 29% and 24% of sales for those periods. During these periods, sales in Japan were primarily to flat panel display and data storage equipment manufacturers and sales in Europe were primarily to data storage equipment manufacturers.

**GROSS MARGIN.** The Company's gross margin was 49.8%, 47.9% and 37.2% in 1994, 1995 and 1996, respectively. The decreases in gross margin from 1994 to 1995 and to a much greater extent from 1995 to 1996 were generally due to higher material costs and other costs associated with the Company's outsourcing efforts. In addition, gross margin in 1996 was negatively affected due to underabsorption of manufacturing overhead as a result of substantially lower sales in the second half of 1996. Further, gross margin was negatively impacted throughout 1996 by a shift in product mix toward products with higher materials cost as a percentage of sales and by customer service costs which increased as a percentage of sales due to the lower sales base.

From 1994 to 1996, the average selling price per unit has remained relatively constant. Historically, price competition has not had a material effect on margins. However, competitive pressures on the Company and its customers may produce a decline in average selling prices for certain products. Any material decline in average selling prices not offset by reduced costs could result in a material decline in the Company's gross margins.

The Company provides warranty coverage for its systems ranging from 12 to 24 months. The Company estimates the anticipated costs of repairing its systems under such warranties based on the historical average costs of the repairs. To date, the Company has not experienced significant warranty costs in excess of its recorded reserves.

**RESEARCH AND DEVELOPMENT.** The Company's research and development costs are associated with researching new technologies, developing new products and improving existing product designs. Research and development expenses were \$5.8 million, \$10.5 million and \$13.8 million for 1994, 1995 and 1996, respectively, representing an increase of 81% from 1994 to 1995 and 31% from 1995 to 1996. As a percentage of sales, research and development expenses decreased from 11.3% in 1994 to 11.1% in 1995 and increased to 13.9% in 1996. The increase in expenses from 1995 to 1996 is primarily associated with increases in payroll costs and outside service costs incurred to support new product development and standards compliance certification.

The Company believes that continued research and development investment is essential to ongoing development of new products and does not expect any significant decline in spending. Since inception, all research and development costs have been internally funded and expensed.

**SALES AND MARKETING.** Sales and marketing expenses support domestic and international sales and marketing activities which include personnel, trade shows, advertising, and other marketing activities. Sales and marketing expenses were \$4.7 million, \$6.2 million and \$8.6 million for 1994, 1995 and 1996, respectively. This represented a 32% increase from 1994 to 1995 and a 39% increase from 1995 to 1996. The increases are attributable to increases in payroll, promotional materials, advertising, commissions and travel costs associated with expansion to support the increase in sales volume. As a percentage of sales, these expenses decreased from 9.0% in 1994 to 6.5% in 1995 and increased to 8.7% in 1996. The increase of sales and marketing as a percentage of sales during 1996 was attributed to a lower than anticipated sales base achieved during the period.

**GENERAL AND ADMINISTRATIVE.** General and administrative expenses support the worldwide financial, administrative, information systems and human resources functions of the Company. General and administrative expenses were \$5.3 million, \$7.2 million and \$6.3 million which represented 10.2%, 7.6% and 6.3% of sales for 1994, 1995 and 1996, respectively. The overall decrease as a percentage of sales from 1994 to 1996 is attributable to the Company's effort to maintain a level of general and administrative costs that do not increase at the same rate as sales. Most of the decreases in these costs were recognized in payroll, recruitment fees, and travel.

**OTHER INCOME (EXPENSE).** Other income consists primarily of foreign exchange gains and losses and other miscellaneous income and expense items. The majority of the Company's foreign sales are denominated in local currencies. The Company recognized a foreign exchange gain of \$0.4 million in 1994, primarily due to increases in the values of both the German Deutsch Mark and the Japanese Yen. An increase in the value of the Deutsch Mark of 7% and a decrease in the value of the Yen of 4% resulted in essentially no foreign exchange gain or loss in 1995. During 1996 the Company recorded a net foreign exchange loss of \$0.4 million primarily as a result of a 12% decrease in the value of the Yen. During the second half of 1996, the Company entered into various forward foreign exchange contracts to mitigate the effect of depreciation in the Yen. The Company continues to evaluate various policies to minimize the effect of currency fluctuations.

Interest expense consists principally of borrowings under the Company's bank credit and capital lease facilities and was approximately \$0.6 million, \$0.6 million and \$0.2 million for the years 1994, 1995 and 1996, respectively. Interest expense decreased from 1995 to 1996 primarily as a result of repayments of equipment loans and less borrowing due to the availability of working capital provided from the proceeds of the Company's initial public offering in November 1995.

Interest income was approximately \$0.1 million, \$0.1 million and \$0.5 million for the years 1994, 1995 and 1996, respectively. The increase in 1996 was due primarily to earnings on investments made from the proceeds of the initial public offering in November 1995.

**PROVISION FOR INCOME TAXES.** The income tax provision of \$7.8 million in 1995 represented a 37.0% effective tax rate. The income tax provision of \$3.2 million for 1996 represented an effective rate of 38.1%. The increase in the Company's tax rate from 1995 to 1996 is primarily attributed to a higher effective state tax rate resulting from a larger proportion of the Company's sales being shipped to higher tax rate jurisdictions, particularly California. Changes in the relative earnings of the Company and its foreign subsidiaries affect the Company's consolidated effective tax rate. To the extent that a larger percentage of taxable earnings are derived from the Company's foreign subsidiaries whose tax rates are higher than domestic tax rates, the Company could experience a higher consolidated effective tax rate.

## **QUARTERLY RESULTS OF OPERATIONS**

The following table presents unaudited quarterly results in dollars and as a percentage of sales for the eight quarters ended June 30, 1997. The Company believes 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							
	Sept. 30 1995	Dec. 31 1995	Mar. 31 1996	June 30 1996	Sept. 30 1996	Dec. 31 1996	Mar. 31 1997	June 30 1997
	(in thousands, except per share data)							
Sales.....	\$ 25,554	\$ 26,170	\$ 27,166	\$ 29,831	\$ 21,639	\$ 20,216	\$ 20,667	\$ 32,690
Cost of sales.....	12,734	14,842	17,035	17,204	15,047	12,752	13,158	20,139
Gross profit.....	12,820	11,328	10,131	12,627	6,592	7,464	7,509	12,551
Operating expenses:								
Research and development.....	2,711	3,416	3,498	3,645	3,349	3,268	2,821	3,513
Sales and marketing.....	1,571	1,908	2,083	2,248	2,201	2,058	1,799	2,336
General and administrative.....	1,801	1,778	1,725	2,330	933	1,265	1,248	1,702
Total operating expenses.....	6,083	7,102	7,306	8,223	6,483	6,591	5,868	7,551
Income from operations.....	6,737	4,226	2,825	4,404	109	873	1,641	5,000
Other income (expense).....	(562)	73	(170)	(66)	97	232	(387)	286
Income before income taxes.....	6,175	4,299	2,655	4,338	206	1,105	1,254	5,286
Provision for income taxes.....	2,116	1,583	982	1,676	83	419	489	1,996
Net income.....	\$ 4,059	\$ 2,716	\$ 1,673	\$ 2,662	\$ 123	\$ 686	\$ 765	\$ 3,290
Net income per share.....	\$ 0.21	\$ 0.13	\$ 0.08	\$ 0.12	\$ 0.01	\$ 0.03	\$ 0.04	\$ 0.15
Weighted average common and common equivalent shares outstanding.....	19,170	20,577	21,794	21,653	21,622	21,728	21,821	21,991

	Quarters Ended							
	Sept. 30 1995	Dec. 31 1995	Mar. 31 1996	June 30 1996	Sept. 30 1996	Dec. 31 1996	Mar. 31 1997	June 30 1997
PERCENTAGE OF SALES:								
Sales.....	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of sales.....	49.8	56.7	62.7	57.7	69.5	63.1	63.7	61.6
Gross profit.....	50.2	43.3	37.3	42.3	30.5	36.9	36.3	38.4
Operating expenses:								
Research and development.....	10.6	13.1	12.9	12.2	15.5	16.2	13.6	10.8
Sales and marketing.....	6.1	7.3	7.7	7.5	10.2	10.2	8.7	7.1
General and administrative.....	7.0	6.8	6.3	7.8	4.3	6.2	6.0	5.2
Total operating expenses.....	23.7	27.2	26.9	27.5	30.0	32.6	28.3	23.1
Income from operations.....	26.5	16.1	10.4	14.8	0.5	4.3	8.0	15.3
Other income (expense).....	(2.3)	.3	(0.6)	(0.3)	0.5	1.2	(1.9)	0.9
Income before income taxes.....	24.2	16.4	9.8	14.5	1.0	5.5	6.1	16.2
Provision for income taxes.....	8.3	6.0	3.6	5.6	0.4	2.1	2.4	6.1
Net income.....	15.9%	10.4%	6.2%	8.9%	0.6%	3.4%	3.7%	10.1%

The Company has experienced and expects to continue to experience significant fluctuations in its quarterly operating results. The Company's expense levels are based, in part, on expectations of future revenues. If revenue levels in a particular quarter do not meet expectations, operating results may be adversely affected. A variety of factors have an influence on the level of the Company's revenues in a particular quarter. These factors include general economic conditions, specific economic conditions in the industries the Company serves, the timing of the receipt of orders from major customers, customer cancellations or delay of shipments, specific feature requests by customers, production delays or manufacturing inefficiencies, exchange rate fluctuations, management decisions to commence or discontinue product lines, the Company's ability to design, introduce and manufacture new products on a cost effective and timely basis, the introduction of new products by the Company or its competitors, pricing pressures exerted by the Company's customers, the



timing of research and development expenditures, and expenses related to acquisitions, strategic alliances, and the further development of marketing and service capabilities.

A substantial portion of the Company's shipments are made on a just-in-time basis in which shipment of systems occurs within a few days or hours after an order is received. The Company's backlog is not meaningful because of the level of just-in-time shipments. The Company is dependent on obtaining orders for shipment in a particular quarter to achieve its revenue objectives for that quarter. Accordingly, it is difficult for the Company to predict accurately the timing and level of sales in a particular quarter. Due to its just-in-time program, the Company anticipates quarterly fluctuations in sales will continue to occur. The Company's quarterly operating results in 1995, 1996 and 1997 to date reflect primarily the changing demand for the Company's products during this period, principally from manufacturers of semiconductor equipment, and the Company's ability to quickly adjust its manufacturing capacity to meet this demand. Demand from the semiconductor equipment companies, reflecting an overall industry slowdown, dropped significantly in the third and fourth quarters of 1996 and the first quarter of 1997, and demand from the data storage market dropped in the fourth quarter of 1996. Segments of the data storage industry are cyclical as new manufacturing lines are installed. Additionally, sales to the flat panel display industry, primarily in Japan, were significantly lower throughout 1996 compared to 1995.

The Company's gross margin fluctuated significantly on a quarterly basis in 1995, 1996 and 1997 to date, primarily reflecting utilization of manufacturing capacity. While average selling prices remained relatively constant throughout the periods presented, beginning in the fourth quarter 1995 gross margins were significantly lower than historical levels due primarily to the substantial drop in unit shipments that resulted from the semiconductor downturn. Additionally, gross margin in the fourth quarter of 1995 was negatively impacted by increased costs associated with small quantity purchases for parts required for a design change required by the Company's customers selling to European users; an increase in personnel to support anticipated demand; increased costs for outsourced subassemblies; an increase in the manufacturing organizations' portion of facilities and information systems; and increased costs associated with the expansion of the customer service organization. The decrease of gross margin to 37.3% in the first quarter of 1996 was primarily attributable to higher costs associated with outsourcing assemblies, changes in product mix, and costs associated with expanding into additional manufacturing facilities. The increase in gross margin to 42.3% in the second quarter of 1996 resulted from price reductions achieved through negotiations with the Company's supplier base, a reduction in consigned labor outsourcing, lower pricing as a result of purchasing negotiations, and a decision to produce high labor content printed circuit boards in-house. Additionally, gross margin was positively impacted by higher revenues than in the first quarter which resulted in more favorable absorption of manufacturing overhead. The reduction in gross margin to 30.5% in the third quarter of 1996 was primarily the result of underabsorbed fixed manufacturing costs from reduced revenue, as revenues in the third quarter of 1996 were \$8.2 million lower than in the second quarter of 1996, and from higher fixed overhead expenses from expanded physical capacity. Additionally, gross margin was negatively impacted by a shift in product mix toward products on which material costs as a percentage of sales were higher than the previous quarter. Increased customer service costs, as a percentage of sales also contributed to the lower gross margin. The improvement of gross margin to 36.9% in the fourth quarter of 1996 was attributable to a favorable product mix, decreased direct material costs and decreased customer service costs, each of which decreased as a percentage of sales, and favorable adjustments resulting from a review of inventory reserves for excess, obsolete, and revaluation. Gross margin remained relatively stable during the first quarter of 1997, when compared to the fourth quarter of 1996. The improvement of gross margin to 38.4% in the second quarter of 1997 was primarily attributable to more favorable absorption of manufacturing overhead resulting from a 58% increase in sales compared to the first quarter of 1997.

The Company's operating expenses increased on a quarterly basis through the first half of 1996. Since the fourth quarter of 1995, operating expenses have included additional legal and administrative expenses as a result of being a publicly held company. Additionally, the Company has expensed costs incurred for consultants used in the implementation of a new information management system software. The Company expects expenses related to the implementation of the software to continue through 1998 as additional phases are implemented, including integration of the information systems of the Company's international subsidiaries. Decreases in the second half of 1996 reflect a company-wide restructuring and the implementation of cost containment measures in the third quarter. In general, operating expenses as a percentage of sales have declined during periods of rapid sales growth, when sales have increased at a rate faster than the Company's ability to add personnel and facilities to support the growth. At the same time, operating expenses as a percentage of sales has increased during periods of flat or declining sales, when the Company has invested in operating infrastructure to support anticipated future growth. This was essentially the case from the fourth quarter of 1995 through the fourth quarter of 1996, when the Company continued to invest in research and development, sales and marketing and general and administrative functions despite experiencing the slow to declining sales growth during the capital equipment industry slowdown. Operating expenses in the first quarter of 1997 decreased in dollars and as a percentage of sales as a result of cost containment measures instituted in response to relatively flat sales growth resulting from the downturn. In the second quarter of 1997, operating expenses increased in anticipation of increased sales to semiconductor equipment manufacturing customers and decreased as a percentage of sales as a result of the 58% increase in sales during that quarter.

## **LIQUIDITY AND CAPITAL RESOURCES**

Since its inception, the Company has financed its operations, acquired equipment and met its working capital requirements through borrowings under its revolving line of credit, long-term loans secured by property and equipment and cash flow from operations, and, from November 1995, proceeds from its initial public offering.

Cash provided by operations totaled \$1.2 million for the first six months of 1997 compared to \$0.2 million for the same period in 1996. Cash provided in the first six months of 1997 was primarily a result of net income and increases in accounts payable offset by increases in accounts receivable and inventories. Cash provided in the comparable period in 1996 was primarily a result of net income offset by increases in accounts receivable and inventories and decreases in accounts payable.

Investing activities, consisting primarily of equipment acquisitions, used cash of \$0.8 million in the first six months of 1997, versus \$4.4 million in the comparable period in 1996. In the first quarter of 1996 the Company equipped and moved into a new 56,000 square foot building. Financing activities in the first six months of 1997 used cash of \$0.5 million and consisted primarily of repayment of notes payable and capital lease obligations. In the comparable period in 1996, financing activities used cash of \$0.4 million and consisted primarily of repayment of notes payable and capital lease obligations, partially offset by proceeds from the sale of Common Stock. The Company has updated its capital spending outlook and plans to spend approximately \$5.0 million through the remainder of 1997 for the acquisition of manufacturing and test equipment and furnishings.

As of June 30, 1997, the Company had working capital of \$40.8 million. The Company's principal sources of liquidity consisted of \$11.2 million of cash and cash equivalents and \$10.0 million available under a \$10.0 million revolving line of credit (the "Prior Line of Credit") that bore interest at the Prime Rate. In August 1997, the Company entered into a new credit facility (the "New Credit Facility") consisting of (i) a \$10.0 million revolving line of credit which replaces the Prior Line of Credit, (ii) the \$12.0 million Term Loan and (iii) a \$4.0 million line of credit to acquire or refinance borrowings for equipment. Advances under the new revolving line of credit bear interest at either the Prime Rate (8.5% at October 15, 1997) minus 0.75% or the LIBOR Rate plus 175 basis points, at the Company's option. All advances under the revolving line of credit will be due and payable in August 1999. The Term Loan bears interest at the Prime Rate minus 0.25%, adjustable to the Prime Rate minus 0.50% if certain financial ratios are achieved, with principal due in 20 equal quarterly installments commencing October 1, 1997. Mandatory annual prepayments are required on the Term Loan based on the lesser of \$3 million or the amount by which fiscal earnings before interest, taxes, debt and amortization exceeds \$20 million. The Company will repay the Term Loan with a portion of the net proceeds from this Offering, which will cause the Company to incur a prepayment penalty of 0.75% of the

amount of the prepayment, or approximately \$90,000, which amount also will be paid with a portion of the net proceeds from this Offering. Advances under the equipment line of credit bear interest at the Prime Rate minus 0.5% and interest will be payable monthly through August 1998 and quarterly thereafter until fully paid. The New Credit Facility contains certain financial covenants requiring the Company to maintain a minimum (i) quick ratio, (ii) debt to tangible net worth ratio, (iii) net worth, (iv) profitability and (v) debt service coverage. As of the date of this Prospectus, the Company believes that it is in compliance with all of such financial covenants. The Company also has a pre-existing term loan, under which the Company had borrowed approximately \$1.5 million in October 1996, for equipment financing for its United States operations. At October 15, 1997, approximately \$1.1 million was outstanding under such term loan, which bears interest at the Prime Rate minus 0.25%, and will be due and payable in November 1999.

The Company believes that its cash and cash equivalents, cash flow from operations, available borrowings and the proceeds of this Offering will be sufficient to meet the Company's working capital needs through mid-1998. After that time, the Company may require additional equity or debt financing to address its working capital, capital equipment or expansion needs. In addition, any significant acquisitions by the Company may require additional equity or debt financings to fund the purchase price, if paid in cash. There can be no assurance that additional funding will be available when required or that it will be available on terms acceptable to the Company.

## **BUSINESS**

THIS PROSPECTUS CONTAINS FORWARD-LOOKING STATEMENTS THAT INVOLVE RISKS AND UNCERTAINTIES. THE COMPANY'S ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THE RESULTS DISCUSSED IN THE FORWARD-LOOKING STATEMENTS. FACTORS THAT MIGHT CAUSE SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED IN "RISK FACTORS."

### **GENERAL**

Advanced Energy is a leading supplier of power conversion and control systems incorporated in plasma-based thin film production equipment. The Company's systems are key elements of semiconductor, data storage, flat panel display, and a range of other industrial manufacturing equipment that utilize gaseous plasmas to deposit or etch thin film layers on materials or substrates such as silicon, glass and metals. The effectiveness of plasma-based production processes depends in large part on the quality of the electrical power used to ignite and manipulate the plasma. The Company's power conversion and control systems refine, modify and control the raw power from a utility and produce power which is uniform, predictable and precisely repeatable to permit the production of identical films of unvarying thickness on a mass scale. The Company's systems are used in an array of thin film processes such as physical vapor deposition, etch, chemical vapor deposition, plasma enhanced chemical vapor deposition and ion implantation, as well as a broad range of thin film applications such as the production of semiconductors, magnetic hard disks, CD-ROMs, audio and video discs, thin film heads, liquid crystal displays and optical, glass and automobile coatings. The Company's customers include Applied Materials, Lam Research, Balzers/Leybold, Eaton, Intevac, Multi-Arc, Novellus, Singulus Technologies, Sputtered Films and ULVAC Technologies.

Since inception, the Company has produced over 90,000 power conversion and control systems. Approximately 61%, 64% and 65% of the Company's sales in 1995, 1996 and the first six months of 1997, respectively, were to customers in the semiconductor equipment industry. Advanced Energy sells its systems primarily through direct sales personnel to customers in the United States, Japan and Europe. The Company also sells through distributors to customers in Japan, Korea, Australia, France, Hong Kong, Italy, Mexico, Singapore, Sweden and Taiwan. International sales represented 29%, 24% and 24% of the Company's sales in 1995, 1996 and the first six months of 1997, respectively. The Company maintains sales and service offices in the United States in Fort Collins, Colorado; Austin, Texas; Concord, Massachusetts; and Milpitas, California; and outside the United States in Tokyo, Japan; Filderstadt, Germany; and Bicester, United Kingdom.

### **BACKGROUND**

#### **THE MARKET FOR PLASMA-BASED THIN FILM PRODUCTION PROCESSES**

Manufacturing processes in use today employ thin film technology to deposit, etch and modify thin layers of materials on substrates such as silicon, glass and metals. In recent years significant technological advances in thin film processes have enabled the manipulation of materials on the atomic and molecular level. Manufacturers can now both deposit and etch layers of materials in films that are less than a hundredth of a micron in thickness. By using modern thin film production processes, manufacturers are able to control and alter the electrical, magnetic, optical and mechanical characteristics of materials. The ongoing demand for improvements in the performance, capacity and speed of products produced by thin film processing, such as integrated circuits, flat panel displays, and magnetic media, is driving the development of more advanced thin film technology to permit the production of increasingly thinner, more consistent and more precise layers of film.

Thin film production processes are now used in a broad and rapidly growing range of industrial manufacturing processes. Thin film processes have been employed most extensively in the semiconductor industry. In the fabrication of integrated circuits, multiple thin film layers of insulating or conductive materials, each becoming an integral part of microscopic device and circuitry features, are deposited on a wafer or substrate. For example, the current generation dynamic random access memory chips (DRAMs) are manufactured with ten to thirty layers of film and an overall thickness of no more than 0.5 microns. Thin film manufacturing processes similar to those employed in the semiconductor industry are increasingly being used in the production of flat panel displays such as the monitors in portable computers. Such processes are also used extensively in the data storage industry in the production of compact discs, video discs and computer hard disks. Thin film processes for data storage products are employed to create the optical and magnetic storage mediums, as well as to deposit protective wear surfaces on the finished products. In addition, industrial

manufacturers have begun to use thin film processes to apply coatings or films to a wide range of products, including solar panels, architectural glass, eyeglasses, tools, bar-code readers, lenses, automotive parts, front surface mirrors, decorative wrappings and food product packaging.

The primary applications for thin film manufacturing include deposition (in which a layer of material is deposited on a surface) and etch (in which unneeded portions of a layer are removed). Thin film production was initially accomplished with liquid chemical (wet chemistry processing) or thermal processes. Over time, those processes became inadequate for many applications as the demand for products requiring thinner, more precise films increased. Plasma-based process technology was developed to address the limitations of wet chemistry and thermal technologies in certain applications and to enable new applications.

Today plasma processing is broadly used by thin film manufacturers. A plasma is commonly created by applying enough electrical force to a gas at reduced pressure to separate electrons from their parent atoms. Although the distance of separation is small, the atom is transformed to a highly energetic state. In plasma-based thin film processing, the material to be altered (the substrate) and one or more specific gases are inserted into a vacuum chamber. The plasma created from the gases is then manipulated by electrical forces to alter the molecular characteristics of the substrate surface. Due to its electrical character, plasma is an inherently more controllable and accurate production process for many applications than thermal or wet chemistry processes. Using electrical forces it is possible to more precisely control the arrival rate, angle and energy of molecules at the surface being modified. Because of the precision provided by plasma's electrical character, plasma process technology is expected to continue evolving to meet the worldwide growth in demand for smaller, more versatile electronics, finer visual resolution products and denser data storage mediums.

Below is an illustration of a plasma-based production process:

[Illustration titled "Plasma Process Illustration" depicting in diagram form the flow of utility power to a power conversion and control system, with arrows identifying the plasma, ions, electric field and substrate in the vacuum process system.]

### **POWER CONVERSION AND CONTROL SYSTEM REQUIREMENTS**

The effectiveness of plasma-based production processes depends in large part on the quality of the electrical power used to ignite and manipulate the plasma. A power conversion and control system used in a plasma process must refine, modify and control the raw power from a utility and produce power which is uniform, predictable and precisely repeatable to permit the production of identical thin films of unvarying thickness on a mass scale. Instability of electrical forces in the plasma may damage or destroy the substrate under production, as well as the power conversion and control system. To avoid instabilities, a power conversion and control system must react within microseconds (millionths of a second) to changes in the level of the utility supplied power, the electrical characteristics of the plasma and process control settings. The key requirements for plasma processing power conversion and control systems are:

**CONVERSION AND CONTROL OF HIGH POWER.** Plasma production requires the generation of extremely high levels of electrical power, usually in the range of 500 to 25,000 watts. In contrast, the power level required to operate most home and office electrical equipment is generally far below 500 watts. A power conversion and control system must include the ability to properly convert the externally supplied power, and must also make accurate and fast measurements so the system can be dynamically controlled. These measurements are difficult because of the strong electrical fields and electrical noise that result from the high power concentration and the

nature of the plasma itself. Additionally, a power conversion and control system must meet the small footprint requirements of a clean room environment while minimizing the impact of the concentration of electrical radiation and heat caused by tightly packed high power circuitry.

**CONTROL OVER A WIDE RANGE OF POWER LEVELS.** Power conversion and control systems for plasma processes must operate over a wide range of power levels in order to support a variety of plasma processes and applications. For example, a power conversion and control system may need to operate at power levels which vary by a factor of one thousand. In contrast, the power supplies used in most home and office electrical equipment generally only need to operate at power levels which vary by no more than a factor of two. One of the most challenging requirements for plasma process power conversion and control systems is the need for system instrumentation to make rapid measurements, at both low and high levels of power, of many electrical characteristics, including current, voltage, power and impedance levels, with precision, speed and accuracy at every level.

**CONTROL OF UTILITY INSTABILITIES.** Incoming power from a utility supplier is subject to brownouts, surges, voltage transients and general voltage variations. A power conversion and control system must serve as a buffer from the variability of raw utility power sources. Under normal operating conditions (excluding brownouts), voltage from the utility source may vary by as much as +/- 10%. In comparison, even a 1% variance in the power supply to a plasma chamber may cause significant defects in the film under production.

**CONTROL OF ARCS.** One of the most critical problems that arise from a failure to control power in a plasma process is arcing, intense localized electrical discharges which act like lightning. Arcs often cause serious damage to both the substrate and the power conversion and control equipment. A power conversion and control system must not only be rugged enough to withstand the impact of abrupt electrical changes in the plasma, but must also contain circuitry to extinguish arcs as they occur. In order to effectively control arcs, the power system must act to control the power levels within less than a microsecond.

**CONTROL OF SYSTEM INSTABILITIES.** In some advanced plasma processes using exotic gases and electrode arrangements, the current and voltage in the plasma may fluctuate causing system instabilities. The power conversion and control system must promptly detect the changing electrical characteristics of the plasma and adjust the power supply to prevent such instabilities. If such system instabilities are not properly controlled, the thin films will lack uniformity, which may seriously impair the yield and performance of the products being manufactured.

## **CHARACTERISTICS OF THE POWER CONVERSION AND CONTROL SYSTEM MARKET**

The plasma processing industry requires a wide range of power frequencies for plasma-based thin film processes, from zero frequency direct current (DC) to alternating current (AC) at frequencies of several gigahertz. Frequency influences the type of physical and chemical activity which will occur in the plasma. Power conversion and control systems change the frequency of raw utility power, as required for particular applications. For example, DC is typically used in physical vapor deposition (PVD) processes, including sputtering, while high frequency AC such as radio frequencies (RF) are typically used in etch and chemical vapor deposition (CVD) processes.

Power conversion and control systems for plasma processes often need to be highly customized to meet application and customer requirements. This customization involves developing unique design and component configurations to permit specific variations in power, voltage, current and frequency levels, modification for interfacing with customer equipment, and adjustments to controls and external packaging requirements. The long term challenge facing manufacturers of power conversion and control systems is to efficiently produce these complex, highly customized systems in a cost effective manner. Moreover, power conversion and control systems must be continuously adapted to address the requirements of the growing number of applications using thin film production processes.

## **THE ADVANCED ENERGY SOLUTION**

Advanced Energy has been a pioneer in the development of power conversion and control systems for advanced plasma production processes. The Company believes that it introduced the first switchmode sputtering power conversion and control system for PVD applications, the first switchmode based AC power conversion and control system for plasma-enhanced chemical vapor deposition (PECVD) and the first compact general switchmode radio frequency system for plasma applications. In addition, the Company was the first to introduce products incorporating active arc prevention capability, the first ultra-compact high power radio frequency switchmode power conversion and control systems for semiconductor etch applications, and the first Matchless RF power conversion and control system eliminating the need for a tuner or matching network.

The following diagram provides a representation of the architecture incorporated in Advanced Energy's power conversion and control systems. The specific example below illustrates the architecture of the Company's DC systems. Although the Company's AC systems differ slightly in certain respects, the architecture pictured in the diagram is generally representative of all of the Company's AC power conversion and control systems.

[Block diagram titled "AE Product Architecture" depicting the flow of utility power to a plasma through a DC power conversion and control system. The diagram of the power conversion and control system consists of seven blocks: Rectifier AC-->DC, Inverter DC-->AC, Output Filter, Controls, Customer Interface, Instrumentation and Logic.]

Key elements of the Advanced Energy solution include:

**KNOWLEDGE OF PLASMA PROCESSES.** Since its inception, the Company has built a large base of expertise in the interaction between plasma processes and power conversion and control systems. This knowledge allows the Company to develop systems that optimize the customer's plasma processes and applications, and to assist customers in developing new process applications. A core competency of the Company is its ability to advise customers of design advantages which may be achieved in both plasma production processes for specific applications and in the power conversion and control systems. The Company has placed Company scientists and engineers within customer sites to support customers in their process development. The Company believes this application of knowledge and resources is unique in the industry and represents a key competitive strength.

**UTILIZATION OF SWITCHMODE TECHNOLOGY.** The Company believes that it developed the first switchmode power conversion and control systems for plasma processing. Switchmode power conversion is a digitally based solution to power conversion that represents an improvement over previously employed alternatives. Switchmode based systems are smaller, lighter and faster due to the use of high speed switching. Switchmode technology also enables rapid control of the high power required in plasma production processes and improves the response time to random variables in the system. In addition, switchmode has the benefit of significantly reducing the stored energy in a system, a major cause of arcing. The Company's first switchmode PVD system, the MDX, introduced in 1983, reduced the amount of stored energy by a factor of 100 to 1,000 times compared to the technology then in use and fostered the development and widespread use of PVD sputtering processes.

**MEASUREMENT AND CONTROL SOLUTIONS.** The Company has designed its systems to incorporate high speed, highly precise electronic measurement and system controls. Multiple sensors continually measure current, voltage and other electrical properties of the plasma. These measurements are converted into signals, processed with digital signal processors, and the results then converted to input signals for the power conversion and control systems. The Company's power conversion and control systems thus dynamically control the flow of

power delivered, minimize stored energy, make precise system adjustments, compensate for random variabilities and notify the user of out-of-range conditions. These dynamic in-system controls enable the Company's systems to prevent or eliminate arc and other system or utility related instabilities.

## **STRATEGY**

The Company is a leading provider of power conversion and control systems for plasma processing equipment. The Company's initial focus has been on building a leadership position in the semiconductor, flat panel display and data storage markets, which presently constitute the predominant markets for plasma-based thin film processing equipment. To continue its penetration of these markets and to pursue opportunities in a broad range of emerging industrial markets, the Company has adopted the following strategies:

**PROVIDE UNIQUE SOLUTION FOR CUSTOMERS.** The Company pursues a product development strategy based on providing solutions optimized to meet specific application and customer requirements. The Company works closely with its customer's present and future power conversion and control needs. The Company intends to continue investing to enhance its applications expertise. By offering customized power conversion and control solutions early in the customer's development process and then making the solutions available on a timely basis, the Company increases its chances of obtaining design wins necessary for volume production.

**OFFER COMPREHENSIVE PRODUCT PORTFOLIO.** The Company offers products in all of the major frequencies used in plasma processes and in the full spectrum of required power levels. The Company offers products or technologies which address the power conversion and control requirements for all of the predominant plasma-based processes employed in the semiconductor industry, and for the PVD sputtering requirements of the flat panel, data storage and industrial markets. The Company also has products for non-plasma semiconductor processes such as ion implantation. By offering a full range of systems, the Company seeks to provide responsive and comprehensive solutions for all of a customer's power conversion and control needs.

**UTILIZE REUSABLE ENGINEERING AND MODULAR DESIGN METHODOLOGY.** The Company's strategy is to provide customers with fast-time-to-market solutions through "reusable engineering" and "modular design" approaches. The Company designs many of the components of its power conversion and control systems so that either the same component used in systems of one product platform can be used in systems of another product platform (modular design) or the core technology of a component can be incorporated in a like component of a new system or a new product platform (reusable engineering). By utilizing reusable engineering and programmable software based architectures, the Company is able to modify its basic platforms to create solutions that are tailored for specific applications and customer requirements. The Company achieves efficiencies by designing its products to have an open architecture and common features, standard components and interfaces across a variety of processes. As a result, the Company believes it has the capability to deliver a broad range of customized products within short lead times and on a competitively priced basis.

**TARGET EMERGING INDUSTRIAL OPPORTUNITIES.** The Company is focusing its marketing activities to capitalize on emerging industrial applications having the potential to use plasma-based production processes. Some of these new applications require power levels significantly greater than those required in the semiconductor, flat panel display and data storage markets. The Company has been making increasing investments in technologies for these very high power levels, including development of new DC and AC power systems and high power pulsed systems. The emerging industrial opportunities include applications in the manufacturing of automobiles, tools, architectural glass and other products where thin film sputtering processes are now being adopted.

**DIVERSIFY MARKETS AND PRODUCT OFFERINGS.** The Company's power conversion and control systems generally range in price from \$3,000 to \$100,000, with an average price of approximately \$9,000, and are sold principally to semiconductor equipment manufacturers. The Company intends to diversify its markets and product offerings through research and development, as well as through acquisitions of other businesses, products and technologies. The Tower and MIK acquisitions provide the Company with additional product lines and entry into other markets, such as telecommunications, medical and non-impact printing.

## **TECHNOLOGY**

The Company believes it has developed particular expertise in the following technologies which distinguish its power conversion and control systems.

**SWITCHMODE TECHNOLOGY.** All of the Company's power conversion and control systems utilize switchmode power conversion technology. Switchmode power conversion is a technique which takes the raw utility power



supply (AC power), and first converts the AC current to direct current (DC) by a rectifier. Special high speed semiconductor switches then convert the uncontrolled direct current power to increased frequency power which is much higher (1,000 to 20,000 times greater) than the frequency of raw utility power. The high frequency power is passed through a transformer to electrically isolate the system from the raw utility power, and for impedance matching to the plasma impedance requirements. The AC power is then reconverted to DC power by a second high speed rectifier. The converted DC power is used to ignite and manipulate the plasma. Instrumentation circuits measure the output, and this information is fed back to control circuits which vary the switch elements to maintain the inputs to the plasma at the level requested by the user, regardless of the incoming line voltage. The higher frequency voltage produced by the switchmode action can be transformed and further processed with components that are tens to hundreds of times smaller than competing "linear" and "line frequency" designs. The switchmode technique has been extensively used in low power applications such as personal computers, but the power levels required by plasmas are much greater and require significantly different techniques and components. In addition, the unstable nature of the plasma places unusually harsh demands on the fragile high speed semiconductor switches used for switchmode operation.

**ARC PREVENTION TECHNOLOGY.** Even though a plasma is electrically neutral, the momentarily separated ions and electrons in a plasma may not be uniformly distributed. This uneven distribution can produce miniature lightning bolts, known as arcs, which slow down the throughput of a plasma process, and may even destroy the substrate or the power conversion and control system. The Company has introduced several products that actually prevent the formation of arcs by controlling the distribution of electrons. For the many situations where arcs cannot be prevented, the Company's systems contain circuitry that detects the onset of an arc, controls the extinguishing of the arc and then reapplies power in a manner that avoids damage or delays in the plasma production process. The system responses for the prevention and suppression of arcs are initiated in less than a microsecond.

**MINIMIZATION OF STORED ENERGY.** Stored energy is the amount of energy in a power conversion and control system that is available to flow into the plasma during an arc, and cannot be stopped without diversion or interruption circuitry. Stored energy must be minimized for advanced plasma processes, because the desired characteristics of the thin film can be ruined by uncontrolled energy within the plasma. One of the Company's first switchmode products, the MDX, which was introduced in 1983, reduced the amount of stored energy by a factor of 100 to 1,000 times compared to existing power conversion and control systems. In 1995 the Company introduced the MDX-Pinnacle system which incorporates new proprietary technology that allows a further dramatic reduction in stored energy (by as much as 1,000 times) over other systems currently in use.

**DIGITAL DESIGNS.** The Company's products contain sophisticated sensor technology and high speed digital circuitry, including embedded microcontrollers, general and programmable array logic elements, field programmable gate arrays and digital signal processors. A substantial portion of the intelligence of the Company's power conversion and control systems is incorporated in Company-designed software that runs on digital circuitry. The use of industry standard components and proprietary software has provided the Company with faster and more stable operation of feedback loops in the products, greater flexibility in its manufacturing processes, as well as greater product reliability.

**HYBRID DESIGN TECHNOLOGY.** The Company has developed substantial internal hybrid microelectronic design expertise that has enabled it to develop components that are smaller, more rugged, more reliable and create less heat than commercially available components. Hybrid microcircuits involve the packaging of integrated circuits and other electrical circuitry on a smaller substrate than is possible with printed circuit boards. Using its expertise with hybrid microelectronics, the Company pioneered the use of printed inductors and hybrid-based high frequency switches in plasma-based power conversion and control systems, which allowed significant improvements in the precision and performance of the Company's measurement instrumentation.

**PULSING TECHNOLOGY.** The Company is incorporating pulsed power technology in an increasing number of its systems for use in certain industrial applications. In these applications, the power is momentarily interrupted and then reapplied. Pulsed power is now used with frequencies ranging from 10Hz to 250Khz. In certain applications, pulsed power is allowing substantial improvements in process capability, including significant improvements in arc prevention. Pulsing technology requires complex techniques that require skills in a broad range of power conversion and control technologies.

## PRODUCTS

The Company's use of switchmode power conversion and control technology has enabled it to develop a line of products which has permitted the development of new plasma processing applications. In 1982, the Company introduced its first low frequency switchmode power conversion and control system specifically designed for use in plasma processes. In 1983, the Company introduced its first DC system designed for use in PVD sputtering applications. This DC based system is a compact, cost-effective power solution, which greatly reduced stored energy, a major limitation in the use of PVD systems. In the early 1990s, the Company introduced the first fully switchmode radio frequency (RF) power conversion and control systems for use in semiconductor etch applications. This product achieved significant design wins because of its smaller size and precise control attributes. The Company has recently introduced a family of accessories which provide major improvements in arc prevention and suppression. The Company is currently extending the power range of its systems to much higher power levels to enable it to supply products for emerging industrial applications. The Company's products generally range in price from \$3,000 to \$100,000, with an average price of approximately \$9,000.

The following chart sets forth the Company's principal product lines and related basic information:

	PRODUCT PLATFORM	DESCRIPTION	POWER/CURRENT LEVEL	MAJOR PROCESS APPLICATIONS
Direct Current Products	MDX	Power Control and conversion system	500W-80kW	PVD - Metal sputtering - Reactive sputtering
	MDX-II	Power control and conversion system	15kW-120kW	PVD - Metal sputtering - Reactive sputtering
	Pinnacle	Power control and conversion system	6kW-120kW	PVD - Metal sputtering
	Sparc-LE	Arc management accessory	1kW-60kW	For use with MDX systems
Low and Mid- Frequency Products	PE	Low frequency power control and conversion system	1.25kW-30kW	CVD PVD - Reactive sputtering Surface modification
	PD	Mid frequency power control and conversion system	1.25kW-3.5kW	CVD PVD - Reactive sputtering Surface modification
Radio Frequency Products	RFX	Power control and conversion system	600W	General R&D
	RFG	Power control and conversion system	600W-5.5kW	Etch CVD
	RFXII	Power control and conversion system	600W-5.5kW	Etch CVD
	ID	Ion-beam conversion and control system	500W-5kW	Ion-beam deposition Ion implantation Ion-beam etching/milling
	AZX	Tuner	100W-5kW	Impedance matching network
	RFZ	Probe	50W-5kW	Impedance measurement tool

## **DIRECT CURRENT PRODUCTS**

**THE MDX SERIES.** The Company's MDX series of products was introduced in 1983. These products are most commonly used as DC power supplies for PVD sputtering where precise control, superior arc prevention and suppression and low stored energy characteristics are required. They are also used as bias supplies for RF sputtering, tool coating and some etching systems. The MDX series consists of six different product lines that provide a range of power levels from 500 W to 120 kW. The Company's second generation product, the MDX II, was introduced in 1991 to support higher power levels and to meet strict European regulatory requirements. A lower cost model in the MDX series, the MDX-L, was introduced in 1992.

**THE PINNACLE SERIES.** The Pinnacle series, introduced in 1995, is the most recent product line in the MDX series. Pinnacle was developed primarily for use in DC PVD sputtering processes and provides substantial improvements in arc prevention, arc suppression capability, reduced size, higher precision and expanded control capability.

**SPARC-LE ACCESSORIES.** The Company's Sparc-LE line of DC accessories, introduced in 1993, is designed both to reduce the number of arcs that occur in plasma-based processes and to reduce the arc energy if arcs do occur. The Sparc-LE accessories are especially effective in applications involving the deposition of insulative materials where the reaction between the plasma and target is likely to produce more severe arc conditions. The Sparc-LE accessories are most commonly used with the MDX product lines. The Sparc-LE arc prevention and suppression technology has been incorporated directly into the Pinnacle systems.

## **LOW AND MID-FREQUENCY PRODUCTS**

**THE PE AND PD SERIES.** The PE low frequency power systems were introduced in 1982. The PE series systems are air cooled and primarily intended for use in certain PVD, CVD and industrial surface modification applications, including dual cathode sputtering and printed circuit board de-smearing. The PE series systems range in frequency from 25kHz to 100kHz. The low frequency PE systems and the PD series of mid-frequency power conversion and control systems, introduced in 1990, represented significant technological advancements by applying switchmode techniques to higher frequencies. The water-cooled PD systems are used primarily in semiconductor etch and CVD applications. The PD series range in frequency from 275kHz to 400kHz. Both the PE and PD series systems have single-stage power generation, and include systems that incorporate pulsed power technology.

## **RADIO FREQUENCY PRODUCTS**

**THE RF SERIES.** The RFX system is a 13.56MHz, 600W, air-cooled platform introduced in 1985. This system is used primarily in research and development applications. The RFG and RFXII, introduced in 1991 and 1992, respectively, are water-cooled power conversion and control systems utilizing a new hybrid-based switchmode technology. The RFG and RFXII systems operate at frequencies ranging from 4MHz to 13.56MHz. These systems were the first entirely switchmode-based RF designs. The RF systems are most commonly used in semiconductor processes, including RF sputtering, plasma etching/deposition, and reactive ion etching applications. The RFXII is a compact system which incorporates new impedance matching technology. This technology eliminates certain previously required motors, gear trains, variable capacitors and inductors and servomechanism circuitry, which results in cost savings and improvements in reliability.

**THE ID SERIES.** The ID power conversion and control systems, introduced in 1981, were the first products designed by the Company. These systems were specifically designed to power broad beam ion-sources. ID series systems are composed of a coordinated set of multiple special purpose power supplies that are used for ion-beam deposition and sputtering, ion implantation and ion-beam etching and milling.

**THE AZX SERIES.** The AZX series tuners are RF matching networks designed as accessories to match the complex electrical characteristics of a plasma to the requirements of the Company's RF series of power conversion and control systems. AZX tuners, introduced in 1989, are also sold separately for incorporation into other vendors' power conversion and control systems. The AZX tuners typically operate at a 13.56MHz frequency range. The need for these tuner products is reduced with the advent of the Matchless technology designed into the RFXII system.

**THE RFZ IMPEDANCE PROBE.** The RF impedance probe, introduced in 1993, is used for measuring the RF properties of a plasma. The sensing technology incorporated in the RF impedance probe allows accurate, real-time measurement of power, voltage, current and impedance levels under actual powered process conditions.

## **MARKETS, APPLICATIONS AND CUSTOMERS**

### **MARKETS**

Approximately 61%, 64% and 65% of the Company's sales in 1995, 1996 and the first six months of 1997, respectively, were made to customers in the semiconductor equipment industry. The Company's power conversion and control systems are also used in other markets, including flat panel display, data storage and various industrial applications. The following is a discussion of the major markets for the Company's systems:

**SEMICONDUCTOR MANUFACTURING EQUIPMENT MARKET.** The Company's products are sold primarily to semiconductor equipment manufacturers for incorporation into equipment used to make integrated circuits. The Company's products are currently employed in a variety of applications, including deposition, etch, ion implantation and megasonic cleaning. The precision control over plasma processes afforded by the use of the Company's power conversion and control systems allows its customers to manufacture semiconductor fabrication systems that produce integrated circuits with reduced feature size and increased speed and performance. The Company anticipates that the semiconductor industry will continue to be a substantial part of its business for the foreseeable future.

**FLAT PANEL DISPLAY MANUFACTURING EQUIPMENT MARKET.** The Company also sells its systems to manufacturers of flat panel displays (FPDs) and flat panel projection devices (FPPs), both of which have fabrication processes similar to those employed in manufacturing integrated circuits. FPDs produce bright, sharp, large, color-rich images on flat, lightweight screens, such as notebook computer monitors. Currently, there are three major types of FPDs: liquid crystal displays, field emitter displays and gas plasma displays. Two types of FPP, another emerging display technology, are currently in production: liquid crystal projection and digital micro-mirror displays. The Company sells its products to all three of the active FPD markets, as well as to each of the FPP markets.

**DATA STORAGE MANUFACTURING EQUIPMENT MARKETS.** The Company's products are sold both to data storage equipment manufacturers and to data storage device manufacturers for use in producing a variety of products, including compact discs, computer hard disks (both media and thin film heads), CD-ROMs and digital video discs. These products use a PVD sputtering process to produce optical and magnetic thin film layers, as well as a protective wear layer. In this market the trend towards higher recording densities is driving the demand for increasingly dense, thinner and more precise films. The use of equipment incorporating magnetic media to store analog and digital data continues to expand with the growth of the laptop, desktop, and workstation computer markets.

**INDUSTRIAL MARKETS.** The Company sells its products to both OEMs and producers of end products in a variety of industrial markets. Thin films for optical purposes are used in the manufacture of many industrial products, including solar panels, architectural glass, eyeglasses, lens coatings, bar-code readers and front surface mirrors. Thin films of diamond coatings and other materials are now being applied to products in plasma-based processes to strengthen and harden surfaces on such diverse products as tools, automotive parts and hip joint replacements. A variety of industrial packaging applications, such as decorative wrapping and food packaging, are also enabled by thin film processes utilizing the Company's products. The advanced thin film production processes allow precise control of various optical and physical properties, including color, transparency and electrical and thermal conductivity. The improved adhesion and high film quality resulting from plasma processing makes it the preferred method of applying the thin films. Many of these industrial applications require power levels substantially greater than those used in the Company's other markets.

## APPLICATIONS

The Company's products have been sold for use in connection with the following processes and applications:

Semiconductor	Data Storage	Flat Panel Display	Industrial/Research
PVD (Metal)	Thin film heads	Liquid crystal displays	Optical coatings
Etch	CD-ROMs	Active matrix LCDs	Automobile coatings
PECVD (Metal)	Audio discs	Digital micro-mirror	Food package coatings
Ion implantation	Recordable CDs	Plasma displays	Glass coatings
CVD	Hard disk magnetic layers	Large flat panel displays	Consumer products coatings
PECVD (dielectrics)	Hard disk carbon wear coatings	Field emission displays	Circuit board etch-back and de-smear
Magnet field controls	Magneto-optic CDs	LCD projection	Photo voltaics
Photo resist stripping	Digital video discs (DVD)		Medical applications
Megasonic cleaning			Superconductors
Etch (post-treatment)			Diamond-like coatings
Electrostatic chuck			Chemical, physical and materials research
Epitaxy			Cutting tool hard coatings

## CUSTOMERS

The Company has sold its systems worldwide to more than 100 OEMs and directly to more than 500 end-user customers. Since inception, the Company has produced more than 90,000 power conversion and control systems. The Company's largest customers are involved principally in the semiconductor market. The Company also has significant customers in the data storage, flat panel display and industrial markets. Sales to Applied Materials and Lam Research in 1996 and the first six months of 1997 together accounted for approximately 47% and 45% of the Company's total sales, respectively. The Company expects that sales of its products to Applied Materials and Lam Research will continue to account for a high percentage of its sales in the foreseeable future. Following is a representative list of the Company's customers, each of which generated at least \$250,000 in revenues for the Company in the first six months of 1997:

Applied Materials	Multi-Arc
Balzers/Leybold	Novellus
Eaton Corporation	Shibaura
Fujitsu	Singulus Technologies
Intevac	Sputtered Films
Komag	ULVAC Technologies
Lam Research	VERTEQ

## RECENT ACQUISITION

In August 1997, the Company acquired Tower Electronics, Inc., a designer and manufacturer of custom, high performance switchmode power supplies. Tower's principal customers are in the telecommunications, medical and non-impact printing industries and include U.S. Robotics, a subsidiary of 3Com Corporation, VideoJet Systems International, Medtronic and Intermedics. Tower had revenues of approximately \$13.4 million for its fiscal year ended September 30, 1996. The purchase price consisted of \$16 million paid at closing plus an additional contingent payment to be based on Tower's sales in 1998. The acquisition of Tower is part of the Company's strategy to diversify its product offerings and expand its customer base. See the Form 8-K Regarding Tower and the Pro Forma Condensed Consolidated Balance Sheet.

The Company intends to retain Tower as a direct subsidiary and to continue Tower's manufacturing operations out of Tower's existing facilities, which consist of approximately 21,000 square feet of leased space in Fridley, Minnesota. The Company also has retained all of Tower's approximately 85 full-time employees. See "Risk Factors--Risks Associated with Recent and Potential Future Acquisitions."

## **MARKETING, SALES AND SERVICE**

The Company sells its systems primarily through direct sales personnel to customers in the United States, Japan and Europe. In the United States, the Company's sales personnel are located at the Company's headquarters in Fort Collins, Colorado, and in regional sales offices in Austin, Texas; Concord, Massachusetts; and Milpitas, California. To serve customers in Asia and Europe, the Company has sales offices in Tokyo, Japan; Bicester, United Kingdom; and Filderstadt, Germany which have primary responsibility for sales in their respective markets. The Company also sells to customers in Japan through Landmark Technology Corporation and has distributors and sales representatives in France, Italy, Israel, Korea, Singapore, Sweden, Taiwan and Hong Kong.

Sales outside the United States represented approximately 29%, 24% and 24% of the Company's total sales during 1995, 1996 and the first six months of 1997, respectively. The Company expects sales outside the United States to continue to represent a significant portion of future sales. Although the Company has not experienced any significant difficulties in connection with its international sales, such sales are subject to certain risks, including exposure to currency fluctuations, the imposition of governmental controls, political and economic instability, trade restrictions, changes in tariffs and taxes, and longer payment cycles typically associated with international sales. The future performance of the Company will depend, in part, upon its ability to compete successfully in Japan, one of the largest markets for semiconductor fabrication equipment and flat panel display equipment, and a major market for data storage and other industrial equipment utilizing the Company's systems. The Japanese market has historically been difficult for non-Japanese companies to penetrate. Although the Company and a number of its significant non-Japanese customers have begun to establish operations in Japan, there can be no assurance that the Company or its customers will be able to maintain or improve their competitive positions in Japan. For additional information regarding the Company's operations outside the United States during 1994, 1995 and 1996, see Note 12 to the Consolidated Financial Statements.

The Company believes that customer service and technical support are important competitive factors and are essential to building and maintaining close, long-term relationships with its customers. The Company maintains service offices in the United States in Fort Collins, Colorado; Austin, Texas; and Milpitas, California; and outside the United States in Tokyo, Japan; Filderstadt, Germany; and Bicester, United Kingdom.

The Company offers warranty coverage for its systems for periods ranging from 12 to 24 months after shipment against defects in design, materials and workmanship.

## **BACKLOG**

A substantial and increasing portion of the Company's shipments are made on a just-in-time basis, which requires the shipment of systems by the Company within a few days or hours after an order is received. The Company schedules production for just-in-time customers based on forecasts provided by such customers. Due to the short time between the receipt of orders from such just-in-time customers and shipments, the Company operates with a level of backlog which is not at any point in time sufficient to meet the Company's revenue expectations for a particular quarter. In addition, orders from the Company's other customers are subject to cancellation or delay by the customer without penalty. Due to these factors, the Company does not believe that backlog is a meaningful or accurate indicator of its future sales and performance.

## **RESEARCH AND DEVELOPMENT**

The market for power conversion and control systems and related accessories is characterized by rapid technological changes. The Company believes that continued and timely development of new products and enhancements to existing products to support OEM requirements is necessary for the Company to maintain a competitive position in the markets the Company serves. Accordingly, the Company devotes a significant portion of its personnel and financial resources to research and development projects and seeks to maintain close relationships with its customers and other industry leaders to remain responsive to their product requirements.

Research and development expenses were approximately \$13.8 million and \$6.3 million in 1996 and the first six months of 1997, respectively. These amounts represented 14% and 12% of total sales for those periods.

From 1994 to 1996, the Company introduced more than sixty-five new products. The Company believes that continued research and development investment is essential to ongoing development of new products and does not expect any significant decline in spending as a percentage of sales.

## **MANUFACTURING**

The Company's manufacturing facility is located in Fort Collins, Colorado. The Company's manufacturing activities consist of the assembly and testing of components and subassemblies which are then integrated into final products. Once final testing of all electrical and electro-mechanical subassemblies is completed, the final product is tested in a burn-in process to identify product failures, and some products are subjected to a highly accelerated stress screen (HASS) test. The Company purchases a wide range of electronic, mechanical, and electrical components, some of which are designed to the Company's specifications. The Company does outsource some of its subassembly work.

The Company sustained substantial water-related damage to its manufacturing facilities, equipment and inventory in late July 1997, which interrupted production and shipments. The Company was able to resume some production within a few days and returned to full production by mid-September 1997. See "Risk Factors--Risks Associated with Manufacturing Facility."

The Company relies on sole and limited source suppliers for certain parts and subassemblies. Such reliance involves several risks, including a potential inability to obtain an adequate supply of required components, reduced control over pricing and timing of delivery of components and suppliers' potential inability to develop technologically advanced products to support the Company's growth and development of new systems. The Company believes that alternative sources could be obtained and qualified, if necessary, for most sole and limited source parts. However, if the Company were forced to seek alternative sources of supply or to manufacture such components or subassemblies internally, it may be required to redesign its systems, which could prevent the Company from shipping its systems to its customers on a timely basis. This could damage the Company's relationships with current and potential customers. See "Risk Factors--Supply Constraints and Dependence on Sole and Limited Source Suppliers."

## **INTELLECTUAL PROPERTY**

The Company's success depends in large part on the technical innovation of its products. While the Company attempts to protect its intellectual property rights through patents and non-disclosure agreements, it believes that its success will depend to a greater degree upon innovation, technological expertise and its ability to adapt its products to new technology. There can be no assurance that the Company will be able to protect its technology or that competitors will not be able to develop similar technology independently. In addition, the laws of certain foreign countries may not protect the Company's intellectual property to the same extent as do the laws of the United States. The Company currently has 10 patents in the United States and two in Europe. In addition, the Company has a number of patent applications pending in the United States including one patent whose claims have been allowed but is pending issue, and several pending internationally. The Company typically makes both apparatus and method claims in its patent applications. The Company's current patents have expiration dates between 2009 and 2015. No assurance can be given that the Company's patents will be sufficiently broad to protect the Company's technology, that any existing or future patents will not be challenged, invalidated or circumvented, or that the rights granted thereunder will provide meaningful competitive advantages to the Company.

Although the Company is not aware of any infringement by its products of any patents or proprietary rights of others, there can be no assurance that such infringements do not exist or will not occur in the future. Litigation may be necessary in the future to enforce patents issued to the Company, to protect trade secrets or know how owned by the Company, to defend the Company against claimed infringement of the rights of others or to determine the scope and validity of the proprietary rights of others. Any such litigation could result in substantial cost and diversion of effort by the Company, which could have a material adverse effect on the Company's business, financial condition and results of operations. Moreover, adverse determinations in such litigation could result in the Company's loss of proprietary rights, subject the Company to significant liabilities to third parties, require the Company to seek licenses from third parties or prevent the Company from manufacturing or selling its products. See "Risk Factors--Intellectual Property Rights."

## **COMPETITION**

The markets the Company serves are highly competitive and characterized by rapidly evolving technology. Significant competitive factors in the Company's markets include product performance, price, quality and reliability and level of customer service and support. The Company believes that it currently competes effectively with respect to these factors, although there can be no assurance that the Company will be able to compete effectively in the future.

The markets in which the Company competes have seen an increase in global competition, especially from Japanese-based and European-based equipment vendors. The Company has several foreign and domestic competitors for each of the DC, low-frequency and mid-frequency AC, and radio frequency AC lines of products. Some of these competitors are larger and have greater resources than the Company. The Company's ability to continue to compete successfully in these markets will depend upon its ability to introduce product enhancements and new products on a timely basis. The Company's primary competitors are ENI, a subsidiary of Astec (BSR) PLC, RF Power Products, Huttinger, Shindigen, Kyosan, Comdel and Daihen. In addition, the Company from time to time faces competition from smaller companies for specific products. The Company's competitors in each product area are expected to continue to improve the design and performance of their systems and to introduce new systems with competitive performance characteristics. To remain competitive, the Company believes it will be required to maintain a high level of investment in research and development and sales and marketing. No assurance can be given that the Company will continue to be competitive in the future. See "Risk Factors--Competition."

## **EMPLOYEES**

At October 15, 1997, the Company, including Tower, had a total of 968 employees, of whom 757 are full-time continuous employees. None of the Company's employees is represented by a union, and the Company has never experienced a work stoppage. The Company utilizes temporary employees as a means to provide additional staff while reviewing the performance of the temporary employee. The Company considers its employee relations to be good.

## **FACILITIES**

The Company's headquarters are located in Fort Collins, Colorado, in approximately 170,000 square feet of leased space. The Company believes that additional space will be available if necessary for expansion. The Company maintains sales and service offices in the United States in Fort Collins, Colorado; Austin, Texas; Concord, Massachusetts; and Milpitas, California; and outside the United States in Tokyo, Japan; Filderstadt, Germany; and Bicester, United Kingdom. All of the Company's facilities are leased.



## MANAGEMENT

### DIRECTORS AND EXECUTIVE OFFICERS

The directors and executive officers of the Company and their ages as of the date of this Prospectus are as follows:

Name	Age	Position
-----	---	-----
Douglas S. Schatz.....	51	President, Chief Executive Officer and Chairman of the Board
Hollis L. Caswell.....	66	Chief Operating Officer and Director
G. Brent Backman.....	56	Vice President, Special Projects and Director
Eric A. Balzer.....	48	Vice President, Operations
Richard P. Beck.....	64	Vice President, Chief Financial Officer, Assistant Secretary and Director
James F. Gentilcore.....	45	Vice President, Sales and Marketing
Timothy A. Kerr.....	36	Vice President, Engineering
Susan C. Schell.....	48	Vice President, Human Resources and Corporate Quality
Richard A. Scholl.....	58	Vice President and Chief Technology Officer
Elwood Spedden (1)(2).....	60	Director
Arthur A. Noeth (1)(2).....	61	Director

(1) Member of the Audit Committee

(2) Member of the Compensation Committee

DOUGLAS S. SCHATZ is a co-founder of the Company and has been its President and Chief Executive Officer and a director since its incorporation in 1981. Mr. Schatz also co-founded Energy Research Associates, Inc. and served as its Vice President of Engineering from 1977 through 1980. Prior to co-founding Energy Research Associates, Mr. Schatz held various engineering and management positions at Applied Materials.

HOLLIS L. CASWELL joined Advanced Energy in February 1997 as a Director and, in June 1997, became Chief Operating Officer of the Company. From February 1990 to January 1994, Dr. Caswell was Chairman of the Board and Chief Executive Officer of HYPRES, Inc., a manufacturer of superconducting electronics. From 1984 to 1990, Dr. Caswell served as Senior Vice President of Unisys Corporation and President of such company's Computer Systems Group. Dr. Caswell has been a director of Thomas Group, Inc., a publicly-held consulting company, since August 1991.

G. BRENT BACKMAN is a co-founder of the Company and has been a Vice President and a director of the Company since its incorporation in 1981. Mr. Backman became Vice President, Special Projects in 1994. Prior to co-founding Advanced Energy, Mr. Backman was a Business Manager at Ion Tech, Inc. and a Laboratory Administrator at Hughes Aircraft Company.

ERIC A. BALZER joined Advanced Energy in 1990 as Vice President, Operations. Prior to joining the Company, Mr. Balzer was Materials and Manufacturing Manager for the Systems Technology Division of IBM Corporation.

RICHARD P. BECK joined Advanced Energy in 1992 as Vice President and Chief Financial Officer. He became a director of the Company in 1995. From 1987 to 1992, Mr. Beck served as Executive Vice President and Chief Financial Officer of Cimage Corporation, a computer software company. Mr. Beck is also a director of Target Computer, Inc., a privately-held computer rental company.

JAMES F. GENTILCORE joined the Company in March 1996 as Vice President, Sales and Marketing. From April 1990 to March 1996, Mr. Gentilcore was Vice President, Corporate Marketing at MKS Instruments, Inc.

TIMOTHY A. KERR joined the Company in 1987 as an engineer in the DC products group. In 1995, Mr. Kerr became Director of Engineering and became Vice President, Engineering in August 1996. Prior to joining the Company, Mr. Kerr was a member of the technical staff at Hughes Aircraft Company.

SUSAN C. SCHELL joined Advanced Energy in 1984 as Human Resources Manager and became Vice President, Human Resources and Corporate Quality in 1991. Prior to joining the Company, Ms. Schell was a Management Advisory Services Consultant with Cady and Company, P.C.

RICHARD A. SCHOLL joined Advanced Energy in 1988 as Vice President, Engineering. Mr. Scholl became Chief Technology Officer of the Company in 1995. Prior to joining the Company, Mr. Scholl was General Manager, Vacuum Products Division at Varian Associates, Inc.

ELWOOD SPEDDEN joined the Board of Directors of Advanced Energy in September 1995. Mr. Spedden has been a Senior Vice President of Tencor Instruments, a manufacturer of automatic test equipment used in the fabrication of semiconductors, since July 1996. From 1990 through March 1996, Mr. Spedden held various management positions, including President, Chief Executive Officer and Vice-Chairman of the Board of Directors, at Credence Systems Corporation, also a manufacturer of automatic test equipment. Mr. Spedden has also held various marketing and management positions at Teradyne, Inc., an automatic test equipment manufacturer.

ARTHUR NOETH joined the Board of Directors of Advanced Energy in August 1997. Mr. Noeth has been Chief Executive Officer of Implant Center, Inc., an ion implantation services company, since April 1996. Prior to that time, Mr. Noeth was a consultant to several companies in the semiconductor equipment industry, including Implant Center, Inc.

## PRINCIPAL AND SELLING STOCKHOLDERS

The following table sets forth certain information regarding the beneficial ownership of the Company's Common Stock as of October 15, 1997, and as adjusted as of such date, to reflect the sale by the Company and the Selling Stockholders of the shares offered hereby (i) by each person who is known by the Company to own beneficially more than five percent (5%) of the outstanding shares of Common Stock, (ii) by each of the Company's directors, (iii) by each of the executive officers, (iv) by all directors and executive officers as a group, and (v) by the other Selling Stockholders. Except as otherwise indicated, the Company believes that the beneficial owners of the Common Stock listed below, based on information provided by such owners, have sole investment and voting power with respect to the Common Stock shown below as being beneficially owned by them, subject to community property laws where applicable.

Name (1)	Shares Beneficially Owned Prior to Offering (2)(3)(4)		Shares to be Sold (3)(4)	Shares Beneficially Owned After Offering (2)(3)(4)	
	Number	Percent		Number	Percent
Douglas S. Schatz (5).....	13,162,300	61.4	1,022,500	12,139,800	54.1
Hollis L. Caswell.....	52,500	*	27,500	25,000	*
G. Brent Backman (5)(6).....	2,383,000	11.1	146,000	2,237,000	10.0
Eric A. Balzer.....	260,238	1.2	--	260,238	1.2
Richard P. Beck.....	321,469	1.5	150,000	171,469	*
Susan C. Schell.....	208,354	1.0	50,000	158,354	*
Richard A. Scholl (7).....	520,555	2.4	100,000	420,555	1.9
Timothy A. Kerr.....	4,987	*	4,000	987	*
Elwood Spedden.....	5,000	*	--	5,000	*
Arthur A. Noeth.....	2,500	*	--	2,500	*
All directors and executive officers as a group (10 persons) (5)(6)(7).....	16,920,913	78.5	1,500,000	15,420,913	68.4

(1) The following is a list of the positions, offices or other material relationships which the Selling Stockholders have held with the Company in the past three years: Mr. Schatz--co-founder of the Company, President, Chief Executive Officer and director; Mr. Caswell--Chief Operating Officer and director; Mr. Backman--co-founder of the Company, Vice President, Special Projects and director; Mr. Beck--Vice President, Chief Financial Officer and director; Ms. Schell--Vice President, Human Resources and Corporate Quality; Mr. Scholl--Vice President, Engineering, Chief Technology Officer; Mr. Kerr--Vice President, Engineering.

(2) Shares of Common Stock that a person has the right to acquire within 60 days of October 15, 1997 are deemed to be beneficially owned by such persons as of such date. The number of shares of Common Stock that the directors and executive officers of the Company have the right to acquire within 60 days of October 15, 1997 are as follows: Mr. Caswell--50,000; Mr. Beck--36,368; Mr. Scholl--5,083 (held by his wife, Brenda Scholl); Mr. Kerr--687; Mr. Spedden--5,000; Mr. Noeth--2,500; all directors and executive officers as a group--98,648.

(3) Based on 21,447,604 shares of voting Common Stock outstanding as of October 15, 1997 and 22,447,604 shares of voting Common Stock outstanding after the Offering. Shares of Common Stock that a person has the right to acquire within 60 days of October 15, 1997 are deemed outstanding for purposes of computing the percentage ownership of the person holding such options, but are not deemed outstanding for computing the percentage ownership of any other person, except with respect to the percentage ownership of all directors and executive officers as a group.

(4) Assumes no exercise of the Underwriters' over-allotment option. If the over-allotment is exercised in full, Mr. Schatz, Mr. Caswell, Mr. Backman, Mr. Beck, Ms. Schell, Mr. Scholl and Mr. Kerr will sell an additional 153,375, 4,125, 21,900, 22,500, 7,500, 15,000 and 600 shares of Common Stock, respectively.

(5) Messrs. Schatz and Backman, 1625 Sharp Point Drive, Fort Collins, Colorado 80525, are 5% stockholders.

(6) Includes 546,000 shares held by his wife, Karen Backman. Excludes 108,000 shares held in two trusts, each with an independent third-party trustee, for the benefit of Mr. Backman's two sons who are both at the age of majority.

(7) Includes 300 shares held by Mrs. Scholl and 4,687 shares that she has the right to acquire within 60 days of October 15, 1997. Mrs. Scholl is a business unit manager for the Company.

\* Less than one percent.

## DESCRIPTION OF CAPITAL STOCK

### GENERAL

Upon completion of the Offering, the Company will have authorized capital stock of shares consisting of 30,000,000 shares of Common Stock, \$0.001 par value, and 1,000,000 shares of Preferred Stock, \$0.001 par value. As of October 15, 1997, 21,447,604 shares of Common Stock were outstanding, held by 378 holders of record, and no shares of Preferred Stock were outstanding. In addition, 1,582,236 shares, 47,500 shares and 176,736 shares, were reserved for issuance at that date under the Option Plan, Director Plan and Purchase Plan, respectively.

### COMMON STOCK

The holders of Common Stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders, except that upon giving the legally required notice, stockholders may cumulate their votes in the election of directors. Subject to preferences that may be applicable to any outstanding shares of Preferred Stock that may be issued, the holders of Common Stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by the Board of Directors out of funds legally available for the payment of dividends. See "Dividend Policy." In the event of a liquidation, dissolution or winding up of the Company, the holders of Common Stock are entitled to share ratably in all assets remaining after payment of liabilities and liquidation preferences of any outstanding shares of Preferred Stock. Holders of Common Stock have no preemptive rights or rights to convert their Common Stock into any other securities. There are no redemption or sinking fund provisions applicable to the Common Stock. All outstanding shares of Common Stock are fully paid and non-assessable, and the shares of Common Stock to be issued upon completion of this offering will be fully paid and non-assessable.

### PREFERRED STOCK

The Board of Directors has the authority, without action by the stockholders, to designate and issue up to 1,000,000 shares of Preferred Stock in one or more series and to designate the dividend rate, voting rights and other rights, preferences and restrictions of each series any or all of which may be greater than the rights of the Common Stock. It is not possible to state the actual effect of the issuance of any shares of Preferred Stock upon the rights of holders of the Common Stock until the Board of Directors determines the specific rights of the holders of such Preferred Stock. However, the effects might include, among other things, restricting dividends on the Common Stock, diluting the voting power of the Common Stock, impairing the liquidation rights of the Common Stock and delaying or preventing a change in control of the Company without further action by the stockholders. The Company has no present plans to issue any shares of Preferred Stock.

### DELAWARE LAW AND CERTAIN CHARTER PROVISIONS

The Company is a Delaware corporation and subject to Section 203 of the Delaware General Corporation Law (the "Delaware Law"), an anti-takeover law. In general, Section 203 of the Delaware Law prevents an "interested stockholder" (defined generally as a person owning 15% or more of a corporation's outstanding voting stock) from engaging in a "business combination" (as defined) with a Delaware corporation for three years following the date such person became an interested stockholder, subject to certain exceptions such as the approval of the board of directors and of the holders of at least two-thirds of the outstanding shares of voting stock not owned by the interested stockholder. The existence of this provision would be expected to have an anti-takeover effect, including attempts that might result in a premium over the market price for the shares of Common Stock held by stockholders.

The Company's Certificate of Incorporation and By-laws include certain provisions that (i) allow the Company to issue Preferred Stock with rights senior to those of the Common Stock without any further vote or action by the stockholders, (ii) limit the right of the stockholders to call a special meeting of stockholders, and (iii) allow the Company to impose various procedural and other requirements that could make it more difficult for stockholders to effect certain corporate actions. Such provisions could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of the Company. Such provisions could limit the price that certain investors might be willing to pay in the future for shares of the Company's Common Stock. See "Risk Factors--Anti-takeover Provisions."

### TRANSFER AGENT

The Company's transfer agent and registrar for its Common Stock is BankBoston, N.A.

## UNDERWRITING

Subject to the terms and conditions of the Underwriting Agreement, the underwriters named below (the "Underwriters") have agreed to purchase from the Company and the Selling Stockholders the following respective number of shares of Common Stock:

Underwriter	Number of Shares
UBS Securities LLC.....	775,000
Lehman Brothers Inc.....	575,000
PaineWebber Incorporated.....	575,000
BancAmerica Robertson Stephens.....	575,000
Total.....	2,500,000

The Underwriting Agreement provides that the Underwriters' obligations are subject to certain conditions precedent, including the absence of any material adverse change in the Company's business and the receipt of certain certificates, opinions and letters from the Company and its counsel. The nature of the Underwriters' obligation is such that they are committed to purchase all shares of Common Stock offered hereby (other than those covered by the over-allotment option described below) if any of such shares are purchased.

The Underwriters have advised the Company that they propose to offer the shares of Common Stock directly to the public at the offering price set forth on the cover page of this Prospectus and to certain dealers at such price less a commission not exceeding \$0.95 per share. The Underwriters may allow, and such dealers may reallow, a concession not in excess of \$0.10 per share to certain other dealers. After the Offering, the offering price and other selling terms may be changed by the Underwriters.

The Company and the Selling Stockholders have granted to the Underwriters an option, exercisable no later than 30 days after the date of this Prospectus, to purchase up to 375,000 additional shares of Common Stock to cover over-allotments, if any, at the public offering price set forth on the cover page of this Prospectus. To the extent that the Underwriters exercise this option, each of the Underwriters will have a firm commitment to purchase approximately the same percentage thereof which the number of shares of Common Stock to be purchased by it shown in the above table bears to the total number of shares of Common Stock offered hereby. The Company and the Selling Stockholders will each be obligated, pursuant to the option, to sell such shares to the Underwriters to the extent the option is exercised.

The Company and the Selling Stockholders have agreed to indemnify the Underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended (the "Securities Act"), and to contribute to payments the Underwriters may be required to make in respect thereof.

All executive officers and directors of the Company and all Selling Stockholders have entered into lock-up agreements (the "Lock-Up Agreements") pursuant to which they have agreed not to sell, offer or agree to sell, contract to sell, grant any option to purchase, make any short sale or otherwise dispose of any shares of Common Stock, or any securities convertible into or exercisable or exchangeable for Common Stock, for a period of 90 days after the date of this Prospectus without the prior written consent of UBS Securities LLC, except for (i) transfers as a BONA FIDE gift or gifts, provided that the donee or donees thereof agree to be bound by the restrictions set forth in the Lock-Up Agreement and (ii) transfers without value by a shareholder to one or more trusts established for the benefit of the shareholder or members of such shareholder's immediate family. In addition, the Company has agreed that it will not, until 90 days following the date of this Prospectus, without the prior written consent of UBS Securities LLC, issue, sell, offer or agree to sell, grant, distribute or otherwise dispose of, directly or indirectly, any shares of Common Stock, except that the Company may grant additional options and issue stock under the stock option and stock purchase plans in effect on the date of this Prospectus or issue shares of Common Stock upon the exercise of outstanding stock options and warrants.

The Underwriters have advised the Company that, pursuant to Regulation M under the Securities Act, certain persons participating in the Offering may engage in transactions, including stabilizing bids, syndicate covering transactions or the imposition of penalty bids, which may have the effect of stabilizing or maintaining the market price of the Common Stock at a level above that which might otherwise prevail in the open market.

A "stabilizing bid" is a bid for the purchase of Common Stock on behalf of the Underwriters for the purpose of fixing or maintaining the price of the Common Stock. A "syndicate covering transaction" is the bid for or the purchase of the Common Stock on behalf of the Underwriters to reduce a short position incurred by the Underwriters in connection with the Offering. A "penalty bid" is an arrangement permitting UBS Securities LLC, as managing underwriter, to reclaim the selling concession otherwise accruing to a syndicate member in connection with the Offering if the Common Stock originally sold by such syndicate member is purchased in a syndicate covering transaction and has therefore not been effectively placed by such syndicate member. The Underwriters have advised the Company that such transactions may be effected on the Nasdaq National Market or otherwise and, if commenced, may be discontinued at any time.

## **LEGAL MATTERS**

The validity of the shares of Common Stock offered by the Company hereby will be passed upon for the Company by Thelen, Marrin, Johnson & Bridges LLP, San Francisco, California, who have acted as counsel to the Company and the Selling Stockholders in connection with the Offering. Certain legal matters in connection with the Offering will be passed upon for the Underwriters by Wilson Sonsini Goodrich & Rosati, Professional Corporation, Palo Alto, California.

## **EXPERTS**

The consolidated financial statements of the Company as of December 31, 1996, 1995 and 1994, included elsewhere in this Prospectus, have been included in reliance on the report of Arthur Andersen LLP, independent accountants, given on the authority of said firm as experts in accounting and auditing.

## **AVAILABLE INFORMATION**

The Company has filed with the Securities and Exchange Commission, Washington, D.C. 20549, a Registration Statement on Form S-3 under the Securities Act, with respect to the Common Stock offered hereby. This Prospectus does not contain all of the information set forth in the Registration Statement and the exhibits and schedules thereto, to which reference is hereby made. Statements made in this Prospectus as to the contents of any contract, agreement or other document referred to are not necessarily complete. With respect to each such contract, agreement or other document filed as an exhibit to the Registration Statement, reference is made to the exhibit for a more complete description of the matter involved, and each such statement shall be deemed to be qualified in its entirety by such reference.

Advanced Energy is subject to the informational requirements of the Exchange Act and, in accordance therewith, files reports, proxy statements and other information with the Commission. Such reports, proxy statements and other information filed by Advanced Energy may be inspected and copied at the public reference facilities maintained by the Commission at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549, and at the Commission's regional offices located at Seven World Trade Center, Suite 1300, New York, New York 10048, and Citicorp Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661-2511. Copies of such material can be obtained by mail from the Public Reference section of the Commission at Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549, at prescribed rates. In addition, reports, proxy statements and other information that Advanced Energy files with the Commission electronically are contained in the Internet Web site maintained by the Commission. The Commission's Web sit address is <http://www.sec.gov>. The Common Stock is quoted on the Nasdaq National Market. Reports, proxy statements and other information concerning the Company may be inspected at the offices of the National Association of Securities Dealers, Inc. at 1735 K Street, N.W., Washington, D.C. 20006.

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## **REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS**

**To the Stockholders and Board of Directors of**

**Advanced Energy Industries, Inc.:**

We have audited the accompanying consolidated balance sheets of Advanced Energy Industries, Inc. (a Delaware corporation) and subsidiaries as of December 31, 1996 and 1995, and the related consolidated statements of income, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 1996. These consolidated financial statements and the schedule referred to below are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements and schedule based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. 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 Advanced Energy Industries, Inc. and subsidiaries as of December 31, 1996 and 1995, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1996, in conformity with generally accepted accounting principles.

**Arthur Andersen LLP**

Denver, Colorado  
January 31, 1997



**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**CONSOLIDATED BALANCE SHEETS**

(IN THOUSANDS)

	DECEMBER 31,	
	1996	1995
<b>ASSETS</b>		
<b>CURRENT ASSETS:</b>		
Cash and cash equivalents.....	\$ 11,231	\$ 13,332
Accounts receivable--		
Trade (less allowances for doubtful accounts of approximately \$242 and \$210 at December 31, 1996 and 1995, respectively).....	15,287	13,540
Related parties.....	541	979
Other.....	288	653
Inventories.....	13,976	16,104
Other current assets.....	1,013	663
Deferred income tax assets, net current	1,223	1,031
	-----	-----
Total current assets.....	43,559	46,302
	-----	-----
<b>PROPERTY AND EQUIPMENT</b> , at cost, net of accumulated depreciation of \$5,779 and \$3,634 at December 31, 1996 and 1995, respectively.....	9,500	6,639
	-----	-----
<b>OTHER ASSETS:</b>		
Deposits and other.....	1,139	815
Demonstration and customer service equipment, net of accumulated depreciation of \$1,276 and \$902 at December 31, 1996 and 1995, respectively.....	1,833	1,563
	-----	-----
	2,972	2,378
	-----	-----
Total assets.....	\$ 56,031	\$ 55,319
	-----	-----
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES:</b>		
Accounts payable--		
Trade.....	\$ 2,253	\$ 6,665
Accrued payroll and employee benefits.....	2,396	2,763
Other accrued expenses.....	1,156	749
Customer deposits.....	166	113
Accrued income taxes payable.....	1,485	1,336
Capital lease obligations, current portion.....	315	363
Notes payable, current portion.....	609	564
	-----	-----
Total current liabilities.....	8,380	12,553
	-----	-----
<b>LONG-TERM LIABILITIES:</b>		
Capital lease obligations, net of current portion.....	169	494
Notes payable, net of current portion.....	958	1,063
Deferred income taxes.....	28	122
	-----	-----
	1,155	1,679
	-----	-----
Total liabilities.....	9,535	14,232
	-----	-----
<b>COMMITMENTS AND CONTINGENCIES</b> (Note 11)		
<b>STOCKHOLDERS' EQUITY</b> (Note 1):		
Preferred stock, \$0.001 par value, 1,000 shares authorized, none issued and outstanding.....	--	--
Common stock, \$0.001 par value, 30,000 shares authorized; 21,268 and 21,069 shares issued and outstanding, respectively.....	21	21
Additional paid-in capital.....	23,075	22,925
Retained earnings.....	25,065	19,921
Stockholders' notes receivable.....	(1,083)	(1,083)
Deferred compensation.....	(82)	(130)
Cumulative translation adjustment.....	(500)	(567)
	-----	-----
Total stockholders' equity.....	46,496	41,087
	-----	-----
Total liabilities and stockholders' equity.....	\$ 56,031	\$ 55,319

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**THE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS ARE AN INTEGRAL PART  
OF THESE CONSOLIDATED BALANCE SHEETS.**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF INCOME**

(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)

	YEARS ENDED DECEMBER 31,		
	1996	1995	1994
Sales.....	\$ 98,852	\$ 94,708	\$ 51,857
Cost of sales.....	62,038	49,314	26,043
Gross profit.....	36,814	45,394	25,814
Operating expenses:			
Research and development.....	13,760	10,522	5,849
Sales and marketing.....	8,590	6,201	4,658
General and administrative.....	6,253	7,193	5,304
Total operating expenses.....	28,603	23,916	15,811
Income from operations.....	8,211	21,478	10,003
Other income (expense):			
Interest income.....	455	71	86
Interest expense.....	(168)	(612)	(643)
Foreign currency (loss) gain.....	(351)	(7)	389
Other income (expense), net.....	157	155	(132)
	93	(393)	(300)
Income before income taxes.....	8,304	21,085	9,703
Provision for income taxes.....	3,160	7,804	3,740
Net income.....	\$ 5,144	\$ 13,281	\$ 5,963
Net income per share.....	\$ 0.24	\$ 0.69	\$ 0.32
Weighted average common and common equivalent shares outstanding.....	21,666	19,310	18,605

**THE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS ARE AN INTEGRAL PART  
OF THESE CONSOLIDATED BALANCE SHEETS.**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**

(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)

**FOR THE YEARS ENDED DECEMBER 31, 1996, 1995 AND 1994**

	COMMON STOCK		ADDITIONAL	RETAINED	STOCKHOLDERS'	DEFERRED	CUMULATIVE	
	SHARES	AMOUNT	PAID-IN CAPITAL	EARNINGS	NOTES RECEIVABLE	COMPENSATION	TRANSLATION ADJUSTMENT	TOTAL
BALANCES, December 31, 1993.....	17,091	\$17	\$ 119	\$ 805	\$--	\$--	\$ 70	\$ 1,011
Election of C corporation status.....	--	--	58	(58)	--	--	--	--
Warrants issued.....	--	--	1	--	--	--	--	1
Exercise of stock options for cash.....	202	--	167	--	--	--	--	167
Equity adjustment from foreign currency translation.....	--	--	--	--	--	--	124	124
Acquisition of minority interest.....	--	--	22	(70)	--	--	--	(48)
Net income.....	--	--	--	5,963	--	--	--	5,963
	-----	-----	-----	-----	-----	-----	-----	-----
BALANCES, December 31, 1994.....	17,293	17	367	6,640	--	--	194	7,218
Equity adjustment from foreign currency translation.....	--	--	--	--	--	--	(761)	(761)
Exercise of stock options for cash.....	140	1	124	--	--	--	--	125
Exercise of stock options in exchange for stockholders' notes receivable.....	1,236	1	1,082	--	(1,083)	--	--	--
Deferred compensation on stock options issued.....	--	--	142	--	--	(142)	--	--
Amortization of deferred compensation.....	--	--	--	--	--	12	--	12
Sale of common stock through public offering, net of approximately \$2,790 of expenses.....	2,400	2	21,210	--	--	--	--	21,212
Net income.....	--	--	--	13,281	--	--	--	13,281
	-----	-----	-----	-----	-----	-----	-----	-----
BALANCES, December 31, 1995.....	21,069	21	22,925	19,921	(1,083)	(130)	(567)	41,087
Equity adjustment from foreign currency translation.....	--	--	--	--	--	--	67	67
Exercise of stock options for cash.....	199	--	150	--	--	--	--	150
Amortization of deferred compensation.....	--	--	--	--	--	48	--	48
Net income.....	--	--	--	5,144	--	--	--	5,144
	-----	-----	-----	-----	-----	-----	-----	-----
BALANCES, December 31, 1996.....	21,268	\$21	\$23,075	\$25,065	\$ (1,083)	\$ (82)	\$ (500)	\$46,496
	-----	-----	-----	-----	-----	-----	-----	-----

**THE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS ARE AN INTEGRAL PART  
OF THESE CONSOLIDATED BALANCE SHEETS.**

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)

	YEARS ENDED DECEMBER 31,		
	1996	1995	1994
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income.....	\$ 5,144	\$ 13,281	\$ 5,963
Adjustments to reconcile net income to net cash provided by operating activities --			
Depreciation and amortization.....	2,609	1,543	1,052
Provision for deferred income taxes.....	(286)	(252)	(657)
Amortization of deferred compensation.....	48	12	--
Minority interest.....	--	--	(15)
Loss on disposal of property and equipment.....	41	66	113
Changes in operating assets and liabilities --			
Accounts receivable-trade, net.....	(1,747)	(5,477)	(3,291)
Related parties and other receivables.....	803	(889)	147
Inventories.....	2,128	(8,907)	(3,419)
Other current assets.....	(350)	(371)	(149)
Deposits and other.....	(324)	(225)	(316)
Demonstration and customer service equipment.....	(644)	(937)	(154)
Accounts payable-trade.....	(4,412)	3,568	1,210
Accrued payroll and employee benefits.....	(367)	725	937
Customer deposits and other accrued expenses.....	460	149	275
Income taxes payable.....	149	1,388	(52)
Accrued payments to S corporation stockholders for income taxes.....	--	--	(477)
Net cash provided by operating activities.....	3,252	3,674	1,167
CASH FLOWS FROM INVESTING ACTIVITIES:			
Purchase of property and equipment, net.....	(5,137)	(3,824)	(2,763)
Net cash used in investing activities.....	(5,137)	(3,824)	(2,763)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from notes payable.....	1,606	31,179	23,185
Repayment of notes payable and capital lease obligations.....	(2,039)	(34,103)	(21,581)
Repayment of subordinated notes to stockholders.....	--	(4,538)	(262)
Sale of common stock, net of expenses.....	--	21,212	--
Proceeds from exercise of stock options and warrants.....	150	125	168
Acquisition of minority interest.....	--	--	(48)
Net cash (used in) provided by financing activities.....	(283)	13,875	1,462
EFFECT OF CUMULATIVE TRANSLATION ADJUSTMENT.....	67	(761)	124
(DECREASE) INCREASE IN CASH AND CASH EQUIVALENTS.....	(2,101)	12,964	(10)
CASH AND CASH EQUIVALENTS, beginning of period.....	13,332	368	378
CASH AND CASH EQUIVALENTS, end of period.....	\$ 11,231	\$ 13,332	\$ 368
SUPPLEMENTAL DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:			
Deferred compensation on stock options issued.....	\$ --	\$ 142	\$ --
Assets acquired with capital lease.....	\$ --	\$ --	\$ 145
Exercise of stock options in exchange for stockholders' notes receivable.....	\$ --	\$ 1,083	\$ --
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:			
Cash paid for interest.....	\$ 168	\$ 604	\$ 618
Cash paid for income taxes.....	\$ 3,940	\$ 6,668	\$ 4,415

**THE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS ARE AN INTEGRAL PART  
OF THESE CONSOLIDATED STATEMENTS.**



# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### (1) COMPANY OPERATIONS

Advanced Energy Industries, Inc. (the "Company") was incorporated in Colorado in 1981 and reincorporated in Delaware in 1995. The Company is primarily engaged in the development and production of power conversion and control systems which are used by manufacturers of semiconductors and in industrial thin film manufacturing processes. The Company owns 100% of each of the following subsidiaries: Advanced Energy Japan, K.K. ("AE-Japan"), Advanced Energy, GmbH ("AE-Germany") and Advanced Energy U.K. Limited ("AE-UK"). Effective January 1, 1994, the Company converted its tax status from being an S corporation to a C corporation, and acquired the remaining minority interest in each of these subsidiaries. Additionally, the Company formed Advanced Energy Industries, FSC ("AE-FSC") in 1994.

In September 1995, the Company reincorporated in Delaware with an authorized capitalization of 30,000,000 shares of common stock, \$0.001 par value. Also in September 1995, the Company approved a three for one share common stock split. All share and per share data have been retroactively adjusted in the accompanying consolidated financial statements for the effect of the stock split. Additionally, the Company also authorized 1,000,000 shares of \$0.001 par value preferred stock.

The Company continues to be subject to certain risks similar to other companies in its industry. These risks include the volatility of the semiconductor industry, customer concentration within the industry, technological changes, dependence on the Japanese market, foreign currency risk and competition. A significant change in any of these risk factors could have a material impact on the Company's business.

### (2) SIGNIFICANT ACCOUNTING POLICIES

**BASIS OF PRESENTATION** -- The consolidated financial statements include the accounts of the Company and its subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation.

**CASH AND CASH EQUIVALENTS** -- For cash flow purposes, the Company considers all cash and investments with an original maturity of 90 days or less to be cash and cash equivalents.

**INVENTORIES** -- Inventories include costs of materials, direct labor and manufacturing overhead. Inventories are valued at the lower of cost or market, computed on a first-in, first-out basis.

**DEMONSTRATION AND CUSTOMER SERVICE EQUIPMENT** -- Demonstration and customer service equipment are manufactured products utilized for sales demonstration and evaluation purposes. The Company also utilizes this equipment in its customer service function as replacement and loaner equipment to existing customers. All equipment is held for sale.

The Company depreciates the equipment based on its estimated useful life in the sales and customer service functions. The depreciation is computed based upon a 3-year life.

**PROPERTY AND EQUIPMENT** -- Property and equipment is stated at cost. Additions, improvements, and major renewals are capitalized. Maintenance, repairs, and minor renewals are expensed as incurred.

Depreciation is provided using straight-line and accelerated methods over three to ten years for machinery and equipment. Amortization of leasehold improvements and leased equipment is provided using the straight-line method over the life of the lease term or the life of the assets, whichever is shorter.

**CONCENTRATIONS OF CREDIT RISK** -- The Company's revenues generally are concentrated among a small number of customers, the majority of which are in the semiconductor industry. The Company establishes an allowance for doubtful accounts based upon factors surrounding the credit risk of specific customers, historical trends and other information.

## ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(2) SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) WARRANTY POLICY -- The Company estimates the anticipated costs of repairing products under warranty based on the historical average cost of the repairs. The Company offers warranty coverage for its systems for periods ranging from 12 to 24 months after shipment.

CUMULATIVE TRANSLATION ADJUSTMENT -- The functional currency for the Company's foreign operations is the applicable local currency.

The Company records a cumulative translation adjustment from translation of the financial statements of AE-Japan, AE-Germany and AE-UK. This equity account includes the results of translating all balance sheet assets and liabilities at current exchange rates as of the balance sheet date, and the statements of operations at the average exchange rates during the respective year.

The Company recognizes gain or loss on foreign currency transactions which are not considered to be of a long-term investment nature. The Company recognized a (loss) gain on foreign currency transactions of \$(351,000), \$(7,000) and \$389,000 for the years ended December 31, 1996, 1995 and 1994, respectively.

REVENUE RECOGNITION -- The Company recognizes revenue when products are shipped.

INCOME TAXES -- The Company accounts for income taxes in accordance with Statement of Financial Accounting Standards ("SFAS") No. 109, "Accounting for Income Taxes." In accordance with SFAS No. 109, deferred tax assets and liabilities are recognized for temporary differences between the tax basis and financial reporting basis of assets and liabilities, computed at current tax rates.

NET INCOME PER COMMON AND COMMON EQUIVALENT SHARE -- Net income per share is computed based on net income attributable to common stock and the weighted average number of common and common equivalent shares outstanding during each of the periods since the Company became a C corporation.

All share and income per share data have been adjusted for all periods to reflect the three for one split of common shares approved by the Company's stockholders in September 1995 (Note 1).

ESTIMATES AND ASSUMPTIONS -- The preparation of the Company's consolidated financial statements in conformity with generally accepted accounting principles requires the Company's management to make estimates and assumptions that affect the amounts reported and disclosed in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

ACCOUNTING PRONOUNCEMENT -- In March 1995, the Financial Accounting Standards Board ("FASB") issued SFAS No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of." SFAS No. 121 requires that long-lived assets and certain identifiable intangibles to be held and used by an entity be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The adoption of SFAS No. 121 in 1996 did not have a significant impact on the Company's consolidated financial condition and results of operations.

### (3) INITIAL PUBLIC OFFERING

In November 1995, the Company closed on the initial public offering of its common stock. In connection with the offering, 2,400,000 shares of previously unissued common shares were sold at a price of \$10 per share, providing gross proceeds of \$24,000,000, less \$2,790,000 in offering costs.



# **ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

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

### **(4) ACCOUNTS RECEIVABLE, TRADE**

Accounts receivable, trade consisted of the following:

	December 31,	
	1996	1995
	(in thousands)	
Domestic.....	\$ 9,944	\$ 8,825
Foreign.....	5,585	4,925
Allowance for doubtful accounts.....	(242)	(210)
	\$ 15,287	\$ 13,540

### **(5) INVENTORIES**

Inventories consisted of the following:

	December 31,	
	1996	1995
	(in thousands)	
Parts and raw materials.....	\$ 11,149	\$ 11,104
Work in process.....	1,122	1,936
Finished goods.....	1,705	3,064
	\$ 13,976	\$ 16,104

### **(6) PROPERTY AND EQUIPMENT**

Property and equipment consisted of the following:

	December 31,	
	1996	1995
	(in thousands)	
Machinery and equipment.....	\$ 5,708	\$ 3,974
Computers and communication.....	4,793	3,693
Furniture and fixtures.....	1,996	1,211
Vehicles.....	140	154
Leasehold improvements.....	2,642	1,241
	15,279	10,273
Less -- accumulated depreciation.....	(5,779)	(3,634)
	\$ 9,500	\$ 6,639

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(6) PROPERTY AND EQUIPMENT (CONTINUED) Included in the cost of property and equipment above is equipment obtained through capitalized leases. The net book value of capitalized leased equipment included in property and equipment above was as follows at December 31, 1996 and 1995:

	December 31,	
	1996	1995
	(in thousands)	
Machinery and equipment.....	\$ 243	\$ 426
Computers and communication.....	62	245
Furniture and fixtures.....	14	29
	---	---
	\$ 319	\$ 700
	---	---
	---	---

Depreciation of assets acquired under capitalized leases is included in depreciation expense.

### (7) NOTES PAYABLE

	December 31,	
	1996	1995
	(in thousands)	
Term loan of \$1,500,000, commencing December 5, 1996, principal is due monthly in thirty-six equal payments of \$41,667 plus accrued interest at bank's prime rate plus 0.25% (8.5% at December 31, 1996). Collateralized by all corporate fixed assets except those leased. (a)....	\$ 1,458	\$ --
Revolving line of credit of \$10,000,000, maturing November 5, 1997. Interest at bank's prime rate or the LIBOR rate plus 0.25%. Loan covenants provide certain financial restrictions related to working capital, leverage, net worth and profitability. (b).....	--	--
Line of credit to purchase equipment of \$2,000,000. Interest was due monthly at the bank's prime rate plus 0.75% (9.25% at December 31, 1995). The final draw period for this line expired on July 31, 1995.....	--	1,560
Other.....	109	67
	1,567	1,627
Less -- current portion.....	(609)	(564)
	\$ 958	\$ 1,063
	-----	-----

(a) The Company entered into an agreement effective October 31, 1996, providing a \$2.5 million line of credit to purchase equipment. The Company has the option to convert borrowings to a three year term loan bearing interest at the bank's prime rate plus 0.25%. During 1996, the Company borrowed \$1,500,000 under the line of credit and converted this amount to a term loan with a balance of \$1,458,000 as of December 31, 1996.

(b) The Company has the option to convert up to \$3 million of borrowings under its \$10 million line of credit to a three year term loan bearing interest at prime plus 0.5%.

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(7) NOTES PAYABLE (CONTINUED) Annual maturities of notes payable outstanding at December 31, 1996, described above are as follows:

	(in thousands)
Years ended December 31 --	
1997.....	\$ 609
1998.....	500
1999.....	458
	-----
	\$ 1,567
	-----
	-----

### (8) SUBORDINATED NOTES PAYABLE TO STOCKHOLDERS

Effective December 31, 1993, the Company distributed \$4,800,000 of accumulated earnings of the Company to its majority stockholders in the form of notes payable. During 1995, the Company repaid the subordinated notes payable through proceeds received from its initial public offering (Note 3).

### (9) INCOME TAXES

Effective January 1, 1994, the Company terminated its status as an S corporation, electing to be taxed as a C corporation. As of that date, the Company was required to recognize in income from continuing operations the net deferred tax assets and liabilities for temporary differences at the date it became a taxable enterprise. The resulting net deferred tax asset recognized in income from continuing operations as part of the provision for income taxes for 1994 in the accompanying consolidated financial statements at January 1, 1994 was approximately \$446,000.

For the years ended December 31, 1996 and 1995, the provision for income taxes consists of an amount for taxes currently payable and a provision for taxes deferred to future periods.

The provision (benefit) for income taxes for the years ended December 31, 1996, 1995 and 1994, is as follows:

	December 31,		
	1996	1995	1994
	(in thousands)		
Federal.....	\$ 2,744	\$ 5,827	\$ 2,534
State and local.....	568	918	646
Foreign taxes.....	(152)	1,059	560
	-----	-----	-----
	\$ 3,160	\$ 7,804	\$ 3,740
	-----	-----	-----
Current.....	\$ 3,446	\$ 8,056	\$ 4,397
Deferred.....	(286)	(252)	(657)
	-----	-----	-----
	\$ 3,160	\$ 7,804	\$ 3,740
	-----	-----	-----
	-----	-----	-----

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(9) INCOME TAXES (CONTINUED) The following reconciles the Company's effective tax rate to the federal statutory rate for the years ended December 31, 1996, 1995 and 1994:

	December 31,		
	1996	1995	1994
	(in thousands)		
Income tax expense per federal statutory rate.....	\$ 2,823	\$ 7,397	\$ 3,299
State income taxes, net of federal deduction.....	375	596	427
Foreign sales corporation.....	(108)	(208)	(23)
Nondeductible expenses.....	77	49	43
Effect of foreign taxes.....	(168)	316	444
Change in tax status from S to C corporation.....	--	--	(446)
Tax credits.....	(182)	(260)	--
Other.....	343	(86)	(4)
	\$ 3,160	\$ 7,804	\$ 3,740

The Company's deferred income taxes are summarized as follows:

	December 31, 1996	Change	December 31, 1995
	(in thousands)		
Deferred tax assets:			
Employee bonuses.....	\$ --	\$ (218)	\$ 218
Warranty reserve.....	175	98	77
Bad debt reserve.....	75	17	58
Vacation accrual.....	326	(34)	360
Obsolete and excess inventory.....	574	270	304
Other.....	73	59	14
	1,223	192	1,031
Deferred tax liabilities:			
Accumulated depreciation.....	(28)	94	(122)
Net deferred income tax assets.....	\$ 1,195	\$ 286	\$ 909

The domestic versus foreign component of the Company's net income before income taxes at December 31, 1996, 1995 and 1994, was as follows:

	December 31,		
	1996	1995	1994
	(in thousands)		
Domestic.....	\$ 8,255	\$ 18,969	\$ 8,920
Foreign.....	49	2,116	783
	\$ 8,304	\$ 21,085	\$ 9,703

## (10) RETIREMENT PLAN

The Company has a 401(k) Profit Sharing Plan which covers all full-time employees who have completed six months of full-time continuous service and are age eighteen or older. Participants may defer up to 20% of

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(10) RETIREMENT PLAN (CONTINUED) their gross pay up to a maximum limit determined by law (\$9,500 during 1996). Participants are immediately vested in their contributions.

The Company may make discretionary contributions based on corporate financial results for the fiscal year. The Company may also make discretionary matching contributions to employee accounts up to \$100 per employee annually. The Company's total contributions to the plan were approximately \$45,000, \$537,000 and \$325,000 for the years ended December 31, 1996, 1995 and 1994, respectively. Vesting in the profit sharing contribution account (company contribution) is based on years of service, with a participant fully vested after five years of credited service.

## (11) COMMITMENTS AND CONTINGENCIES

### CAPITAL LEASES

The Company finances a substantial portion of its property and equipment (Note 6) under capital lease obligations at interest rates ranging from 7.63% to 8.66%. The future minimum lease payments under capitalized lease obligations as of December 31, 1996, are as follows:

	(in thousands)
1997.....	\$ 344
1998.....	154
1999.....	24
	-----
Total minimum lease payments.....	522
Less -- amount representing interest.....	(38)
Less -- current portion.....	(315)
	-----
	\$ 169
	-----
	-----

### OPERATING LEASES

The Company has various operating leases for automobiles, equipment, and office and production space (Note 13). Lease expense under operating leases was approximately \$1,788,000, \$1,184,000 and \$858,000 for the years ended December 31, 1996, 1995 and 1994, respectively.

The future minimum rental payments required under noncancelable operating leases as of December 31, 1996, are as follows:

	(in thousands)
1997.....	\$ 1,776
1998.....	1,620
1999.....	1,562
2000.....	1,406
2001.....	1,341
Thereafter.....	8,766
	-----
	\$ 16,471
	-----
	-----

### GUARANTEE

In September 1996, the Company extended a guarantee for a \$1,000,000 bank term loan for an additional year, entered into by an entity that serves as a supplier to the Company. An officer of the Company serves as a director of such entity.

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

### (12) FOREIGN OPERATIONS

The Company operates in a single industry segment with operations in the U.S., Japan and Europe. The following is a summary of the Company's foreign operations:

	Years Ended December 31,		
	1996	1995	1994
	(in thousands)		
Sales:			
Originating in Japan to unaffiliated customers.....	\$ 6,467	\$ 11,997	\$ 7,803
Originating in Europe to unaffiliated customers.....	8,023	6,237	3,950
Originating in U.S. and sold to unaffiliated foreign customers.....	9,506	9,018	5,467
Originating in U.S. and sold to domestic customers.....	74,856	67,456	34,637
Transfers between geographic areas.....	10,496	11,524	8,226
Intercompany eliminations.....	(10,496)	(11,524)	(8,226)
	\$ 98,852	\$ 94,708	\$ 51,857
Income (loss) from operations:			
Japan.....	\$ (920)	\$ 1,094	\$ 554
Europe.....	1,056	953	(51)
U.S.....	8,383	19,448	10,075
Intercompany eliminations.....	(308)	(17)	(575)
	\$ 8,211	\$ 21,478	\$ 10,003
Identifiable assets:			
Japan.....	\$ 6,445	\$ 6,342	\$ 4,286
Europe.....	3,788	2,502	1,813
U.S.....	54,736	54,415	22,984
Intercompany eliminations.....	(8,938)	(7,940)	(5,934)
	\$ 56,031	\$ 55,319	\$ 23,149

Intercompany sales among the Company's geographic areas are recorded on the basis of intercompany prices established by the Company.

### (13) RELATED PARTY TRANSACTIONS

During 1994, a limited liability partnership consisting of certain officers of the Company and other individuals entered into an agreement to purchase an office and manufacturing facility. The partnership remodeled the office and manufacturing facility and leased the facility to the Company under an operating lease. During 1994, the Company provided "bridge" financing in the amount of \$3,000,000 to the partnership to purchase and remodel the building. The Company moved into this facility during 1994. The Company recognized \$86,000 of interest income related to this transaction during 1994. The partnership repaid the bridge loan in the third quarter 1994 when it obtained permanent financing for the facility. This lease expires in 2009 with a monthly payment of approximately \$39,000. In September 1995, the Company entered into a new lease agreement with this partnership for a building being constructed adjacent to the Company's executive offices. The lease relating to this facility expires in February 2011 with monthly rent expense of approximately \$46,000.

The Company also leases other office and production space from another limited liability partnership consisting of certain officers of the Company and other individuals. The lease relating to this space expires in 2002 with a monthly payment of approximately \$23,000.

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(13) RELATED PARTY TRANSACTIONS (CONTINUED) Approximately \$1,364,000, \$800,000 and \$600,000 was charged to rent expense attributable to these leases for the years ended December 31, 1996, 1995 and 1994, respectively.

The Company leases, for business purposes, a condominium owned by a partnership of certain stockholders. The Company paid the partnership \$36,000 for each of the years ended December 31, 1996, 1995 and 1994, relating to this lease.

Included in AE-Japan's accounts receivable at December 31, 1996, 1995 and 1994, is approximately \$394,000, \$953,000 and \$500,000, respectively, due from an entity that is controlled by the president of AE-Japan. This entity also accounted for approximately 3%, 3% and 4% of consolidated sales during 1996, 1995 and 1994, respectively.

On June 29, 1995, certain stockholders of the Company exercised options to purchase shares of the Company's common stock for an aggregate exercise price of \$1,083,000. In exchange for the stock the Company received notes receivable in the amount of the exercise price. These notes receivable bear interest at 6.83% which is payable annually and the principal balance is due in June 2000. As of December 31, 1996, the Company has approximately \$110,000 of accrued interest income related to these notes included in receivables from related parties.

### (14) MAJOR CUSTOMERS

The Company's sales to major customers (purchases in excess of 10% of total sales) are to entities which are primarily manufacturers of semiconductor equipment and, for the years ended December 31, 1996, 1995 and 1994 are as follows:

	December 31,		
	1996	1995	1994
Customer A.....	27%	24%	21%
Customer B.....	20%	17%	17%
	---	---	---
	47%	41%	38%
	---	---	---
	---	---	---

### (15) STOCK PLANS

EMPLOYEE STOCK OPTION PLAN -- During 1993, the Company adopted an Employee Stock Option Plan (the "Employee Option Plan") which was amended and restated in January and September 1995. The Employee Option Plan allows issuance of incentive stock options, nonstatutory options, and stock purchase rights. The exercise price of incentive stock options shall not be less than 100% of the stock's fair market value on the date of grant. The exercise price of nonstatutory stock options shall not be less than 50% of the stock's fair market value on the date of grant. Options issued in 1996, 1995 and 1994 were issued at 100% of fair market value, as determined by the Company, with typical vesting of one-third at the end of one year, and quarterly thereafter until fully vested after three years. Under the Employee Option Plan, the Company has the discretion to accelerate the vesting period. The options are exercisable for ten years from the date of grant. The Company has reserved 3,500,000 shares of common stock for the issuance of stock under the Employee Option Plan which terminates in June 2003.

In connection with the grant of certain stock options on June 30, 1995, the Company recorded \$142,000 of deferred compensation for the difference between the deemed fair value for accounting purposes and the option price as determined by the Company at the date of grant. This amount is presented as a reduction of stockholders' equity and will be amortized over the 3 year vesting period of the related stock options.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

(15) STOCK PLANS (CONTINUED) In addition, the Company offered to employees the right to purchase 11,000 warrants for approximately \$0.02 each in fiscal 1994. Each warrant permitted employees to purchase one share of common stock at fair market value, as determined by the Company, at the time the warrant was granted. The warrants were exercised during 1994. There are no warrants outstanding as of December 31, 1996 and 1995.

EMPLOYEE STOCK PURCHASE PLAN -- In September 1995, stockholders approved an Employee Stock Purchase Plan (the "Stock Purchase Plan") covering an aggregate of 200,000 shares of common stock. Employees are eligible to participate in the Stock Purchase Plan if employed by the Company for at least 20 hours per week during at least five months per calendar year. Participating employees may have up to 15% (subject to a 5% limitation set by the Company's board of directors for fiscal 1996) of their earnings or a maximum of \$1,250 per six month period withheld pursuant to the Stock Purchase Plan. Common stock purchased under the Stock Purchase Plan will be equal to 85% of the lower of the fair market value on the commencement date of each offering period or the relevant purchase date. During 1996, employees purchased an aggregate of 11,572 shares under the Stock Purchase Plan and the Company recognized approximately \$11,000 in compensation expense.

OUTSIDE DIRECTOR STOCK OPTION PLAN -- In September 1995, the Company adopted the 1995 Non-Employee Directors Stock Option Plan (the "Directors Plan") covering 50,000 shares of common stock. The Directors Plan provides for automatic grants of nonstatutory stock options to directors of the Company who are not employees of the Company ("Outside Directors"). Pursuant to the Directors Plan, upon becoming a director of the Company, each Outside Director will be granted an option to purchase 7,500 shares of common stock. Such options will be immediately exercisable as to 2,500 shares of common stock, and will vest as to 2,500 shares of common stock on each of the second and third anniversaries of the grant date. On each anniversary of the date on which a person became an Outside Director, an option for an additional 2,500 shares is granted. Such additional options vest on the third anniversary of the date of grant. Options will expire ten years after the grant date, and the exercise price of the options will be equal to the fair market value of the common stock on the grant date. The Directors Plan terminates September 2005.



**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

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

(15) STOCK PLANS (CONTINUED) The following summarizes the activity relating to options and warrants for the years ended December 31, 1996, 1995 and 1994:

	1996		1995		1994	
	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Exercise Price
	-----	-----	-----	-----	-----	-----
	(in thousands, except per share amounts)					
Stock options:						
Incentive stock options --						
Options outstanding at beginning of period.....	729	\$ 2.62	1,904	\$ 0.95	1,778	\$ 0.83
Granted.....	751	5.10	212	6.40	138	2.36
Exercised.....	(199)	8.51	(1,371)	3.53	(3)	2.23
Terminated.....	(440)	6.92	(16)	1.69	(9)	0.99
	-----		-----		-----	
Options outstanding at end of period.....	841	3.02	729	2.62	1,904	0.95
	-----		-----		-----	
Options exercisable at end of period.....	326	1.51	391	0.88	1,616	0.83
	-----		-----		-----	
Weighted-average fair value of options granted during the period.....	\$3.14		\$1.84		N/A	
	-----		-----		-----	
Price range of outstanding options.....	\$0.83-\$11.05		\$0.83-\$11.05		\$0.83-\$2.53	
	-----		-----		-----	
Price range of options terminated...	\$0.83-\$11.05		\$0.83-\$ 3.11		\$0.83-\$2.19	
	-----		-----		-----	
Outside directors stock options --						
Options outstanding at beginning of period.....	15	\$11.05	--	\$--	--	\$--
	-----		-----		-----	
Granted.....	5	6.13	15	11.05	--	--
	-----		-----		-----	
Options outstanding at end of period.....	20	9.82	15	11.05	--	--
	-----		-----		-----	
Options exercisable at end of period.....	5	11.05	5	11.05	--	--
	-----		-----		-----	
Weighted-average fair value of options granted during the period.....	\$4.68		\$3.19		N/A	
	-----		-----		-----	
Price range of outstanding options....	\$6.13-\$11.05		\$11.05		--	
	-----		-----		-----	
Warrants --						
Warrants outstanding at beginning of period.....	--		7	\$ 3.48	200	\$ 0.83
Granted.....	--		--	--	11	2.22
Exercised.....	--		(6)	2.27	(198)	1.82
Terminated.....	--		(1)	3.99	(6)	0.88
	-----		-----		-----	
Warrants outstanding at end of period.....	--		--	--	7	3.48
	-----		-----		-----	
Price range of stock issuable under warrants.....	\$--		\$--		\$0.83-\$2.53	
	-----		-----		-----	
Price range of warrants terminated....	\$--		\$1.41-\$2.53		\$0.83-\$2.19	
	-----		-----		-----	



# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

### (15) STOCK PLANS (CONTINUED)

Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation" ("SFAS No. 123"), defines a fair value based method of accounting for employee stock options or similar equity instruments. However, SFAS No. 123 allows the continued measurement of compensation cost for such plans using the intrinsic value based method prescribed by APB Opinion No. 25, "Accounting for Stock Issued to Employees" ("APB No. 25"), provided that pro forma disclosures are made of net income or loss and net income or loss per share, assuming the fair value based method of SFAS No. 123 had been applied. The Company has elected to account for stock-based compensation plans under APB No. 25. As a result, the Company did not record compensation expense during 1996 or 1995 for any of its stock-based compensation plans since all options were granted with an exercise price at or above the market price of the Company's common stock at the date of grant.

For SFAS No. 123 purposes, the fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted-average assumptions:

	1996	1995
Risk-free interest rates.....	6.57%	6.16%
Expected dividend yield rates.....	0.00%	0.00%
Expected lives.....	4 years	4 years
Expected volatility.....	110.16%	22.57%

The total fair value of options granted was computed to be approximately \$1,317,000 and \$420,000 for the years ended December 31, 1996 and 1995, respectively. These amounts are amortized ratably over the vesting period of the options. Cumulative compensation cost recognized in pro forma net income or loss with respect to options that are forfeited prior to vesting is adjusted as a reduction of pro forma compensation expense in the period of forfeiture. Pro forma stock-based compensation, net of the effect of forfeitures and tax, was approximately \$47,000 and \$19,000 for 1996 and 1995, respectively.

Had compensation cost for these plans been determined consistent with SFAS No 123, the Company's net income would have been reduced to the following pro forma amounts:

	1996	1995
	(in thousands, except per share data)	
Net Income:		
As reported.....	\$ 5,144	\$ 13,281
Pro forma.....	5,097	13,262
Earnings Per Share:		
As reported.....	\$ 0.24	\$ 0.69
Pro forma.....	0.24	0.69

Because the SFAS No. 123 method of accounting has not been applied to options granted prior to January 1, 1995, the resulting pro forma compensation cost may not be representative of that to be expected in future years.

The following table summarizes information about the stock options outstanding at December 31, 1996:

Year Granted	Range of Exercise Prices	Number Outstanding	Options Outstanding		Options Exercisable	
			Weighted-Average Remaining Contractual Life	Weighted-Average Exercise Price	Number Exercisable	Weighted-Average Exercise Price
1993-1994.....	\$0.83 to \$2.53	320,000	6.9 years	\$ 1.30	279,000	\$ 1.13
1995.....	\$2.57 to \$11.05	108,000	8.5 years	\$ 5.03	51,000	\$ 4.54
1996.....	\$3.88 to \$8.75	433,000	9.8 years	\$ 4.11	1,000	\$ 3.88
		861,000	8.5 years	\$ 3.18	331,000	\$ 1.66

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**CONSOLIDATED BALANCE SHEETS**

(IN THOUSANDS)

	JUNE 30, 1997 (UNAUDITED)	DECEMBER 31, 1996
	-----	-----
<b>ASSETS</b>		
Current Assets:		
Cash and cash equivalents.....	\$ 11,183	\$ 11,231
Accounts receivable.....	26,154	16,116
Inventories.....	16,169	13,976
Prepaid expenses and other current assets.....	637	1,013
Deferred income tax benefit.....	1,223	1,223
	-----	-----
Total current assets.....	55,366	43,559
	-----	-----
Property and equipment, net.....	9,028	9,500
Other assets.....	1,657	2,972
	-----	-----
Total assets.....	\$ 66,051	\$ 56,031
	-----	-----
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current Liabilities:		
Accounts payable.....	\$ 6,296	\$ 2,253
Accrued payroll and employee benefits.....	3,687	2,396
Other accrued expenses.....	764	1,156
Customer deposits.....	1,071	166
Accrued income tax payable.....	2,046	1,485
Current portion of long-term debt.....	745	924
	-----	-----
Total current liabilities.....	14,609	8,380
	-----	-----
Long-term debt.....	789	1,127
Deferred income tax liability.....	28	28
	-----	-----
Total liabilities.....	15,426	9,535
	-----	-----
Stockholders' equity.....	50,625	46,496
	-----	-----
Total liabilities and stockholders' equity.....	\$ 66,051	\$ 56,031
	-----	-----

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

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF OPERATIONS**

(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)

	QUARTER ENDED JUNE 30,	
	1997 (UNAUDITED)	1996 (UNAUDITED)
Sales.....	\$ 32,690	\$ 29,831
Cost of sales.....	20,139	17,204
Gross profit.....	12,551	12,627
Operating expenses:		
Research and development.....	3,513	3,645
Sales and marketing.....	2,336	2,248
General and administrative.....	1,702	2,330
Income from operations.....	5,000	4,404
Other income (expense), net.....	286	(66)
Income before income taxes.....	5,286	4,338
Provision for income taxes.....	1,996	1,676
Net income.....	\$ 3,290	\$ 2,662
Net income per share.....	\$ 0.15	\$ 0.12
Weighted average common and common equivalent shares outstanding.....	21,991	21,653
	SIX MONTHS ENDED JUNE 30,	
	1997 (UNAUDITED)	1996 (UNAUDITED)
Sales.....	\$ 53,358	\$ 56,997
Cost of sales.....	33,298	34,239
Gross profit.....	20,060	22,758
Operating expenses:		
Research and development.....	6,334	7,143
Sales and marketing.....	4,135	4,331
General and administrative.....	2,950	4,055
Income from operations.....	6,641	7,229
Other expense, net.....	(101)	(236)
Income before income taxes.....	6,540	6,993
Provision for income taxes.....	2,485	2,658
Net income.....	\$ 4,055	\$ 4,335
Net income per share.....	\$ 0.19	\$ 0.20
Weighted average common and common equivalent shares outstanding.....	21,906	21,657

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

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(IN THOUSANDS)

	SIX MONTHS ENDED JUNE 30,	
	1997 (UNAUDITED)	1996 (UNAUDITED)
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income.....	\$ 4,055	\$ 4,335
Adjustments to reconcile net income to net cash provided by operating activities --		
Depreciation and amortization.....	1,673	1,146
Amortization of deferred compensation.....	24	24
Loss on disposal of property and equipment.....	--	20
Changes in operating assets and liabilities --		
Accounts receivable, trade.....	(8,854)	(3,203)
Related parties and other receivables.....	(1,184)	(209)
Inventories.....	(2,193)	(1,062)
Income taxes.....	561	1,041
Other current assets.....	376	83
Deposits and other.....	634	34
Demonstration and customer service equipment.....	250	(411)
Accounts payable.....	4,043	(2,172)
Accrued payroll and employee benefits.....	1,291	677
Customer deposits and other accrued expenses.....	513	(126)
Net cash provided by operating activities.....	1,189	177
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchase of property and equipment, net.....	(770)	(4,352)
Net cash used in investing activities.....	(770)	(4,352)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Repayment of notes payable and capital lease obligations.....	(517)	(492)
Proceeds from sale of common stock.....	27	118
Net cash used in financing activities.....	(490)	(374)
EFFECT OF CUMULATIVE TRANSLATION ADJUSTMENT.....	23	(19)
DECREASE IN CASH AND CASH EQUIVALENTS.....	(48)	(4,568)
CASH AND CASH EQUIVALENTS, beginning of period.....	11,231	13,332
CASH AND CASH EQUIVALENTS, end of period.....	\$ 11,183	\$ 8,764
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION:		
Cash paid for interest.....	\$ 76	\$ 100
Cash paid for income taxes.....	\$ 905	\$ 1,697

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

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

### (1) BASIS OF PRESENTATION AND MANAGEMENT OPINION

In the opinion of management, the accompanying unaudited consolidated balance sheets and statements of operations and cash flows contain all adjustments, consisting only of normal recurring items, necessary to present fairly the financial position of Advanced Energy Industries, Inc., a Delaware corporation, and its wholly owned subsidiaries (the "Company") at June 30, 1997, and the results of their operations and cash flows for the three and six month periods ended June 30, 1997 and June 30, 1996.

### (2) INITIAL PUBLIC OFFERING

In November 1995, the Company closed on the initial public offering of its common stock. In connection with the offering, 2,400,000 shares of previously unissued common shares were sold at a price of \$10 per share, providing gross proceeds of \$24,000,000, less \$2,790,000 in offering costs.

### (3) ACCOUNTS RECEIVABLE

Accounts receivable consisted of the following:

	JUNE 30, 1997 (UNAUDITED)	DECEMBER 31, 1996
	-----	-----
	(IN THOUSANDS)	
Domestic.....	\$ 14,404	\$ 9,944
Foreign.....	9,979	5,585
Allowance for doubtful accounts.....	(242)	(242)
	-----	-----
Trade accounts receivable.....	\$ 24,141	\$ 15,287
Related parties.....	1,218	541
Other.....	795	288
	-----	-----
Total accounts receivable.....	\$ 26,154	\$ 16,116
	-----	-----

### (4) INVENTORIES

Inventories consisted of the following:

	JUNE 30, 1997 (UNAUDITED)	DECEMBER 31, 1996
	-----	-----
	(IN THOUSANDS)	
Parts and raw materials.....	\$ 11,361	\$ 11,149
Work in process.....	1,859	1,122
Finished goods.....	2,949	1,705
	-----	-----
	\$ 16,169	\$ 13,976
	-----	-----

### (5) NET INCOME PER COMMON SHARE

Net income per share is computed based on results of operations attributable to common stock and weighted average number of common and common equivalent shares outstanding during each of the periods. Earnings per share are calculated by dividing the net earnings by the weighted average of common and common equivalent shares outstanding during each of the periods.

# ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

### (6) STOCKHOLDERS' EQUITY

Stockholders' equity consisted of the following:

	JUNE 30, 1997 (UNAUDITED)	DECEMBER 31, 1996
	-----	-----
	(IN THOUSANDS, EXCEPT PAR VALUE)	
Common stock, \$0.001 par value, 30,000 shares authorized; 21,290 and 21,268 shares issued and outstanding.....	\$ 21	\$ 21
Additional paid-in capital.....	23,102	23,075
Retained earnings.....	29,120	25,065
Stockholders' notes receivable.....	(1,083)	(1,083)
Deferred compensation.....	(58)	(82)
Cumulative translation adjustment.....	(477)	(500)
	-----	-----
Total stockholders' equity.....	\$ 50,625	\$ 46,496
	-----	-----

### (7) SUBSEQUENT EVENTS

The Company sustained substantial water-related damage to its manufacturing facilities and certain equipment and inventory during a severe rainstorm on July 29, 1997, which interrupted production and shipments. The Company was able to resume some production within a few days and returned to full production by mid-September 1997. As a result of the significant efforts of the employees and suppliers, the Company was able to increase production to a level sufficient to achieve the shipments anticipated prior to the rainstorm and reported revenue for the quarter ended September 30, 1997 of \$42.6 million. Insurance may not cover all of the costs incurred by the Company and the Company recorded a one-time charge of \$3.0 million in the third quarter of 1997 for property damage and cleanup costs incurred as a result of the water-related damage. The final costs, which cannot presently be determined, could be larger. The extent of insurance coverage, if any, is unresolved. Any recoveries from insurance will be recorded when received.

In August 1997, the Company acquired Tower Electronics, Inc., a designer and manufacturer of custom, high performance switchmode power supplies. The purchase price consisted of \$16 million paid at closing plus an additional contingent payment based on Tower's 1998 sales, not to exceed \$4.0 million plus 0.5 times the amount, as defined, by which Tower's sales exceed \$20.0 million.



## ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES

### PRO FORMA CONDENSED CONSOLIDATED BALANCE SHEET

The following unaudited Pro Forma Condensed Consolidated Balance Sheet as of June 30, 1997 is based on the unaudited historical financial data of the Company and has been prepared as if the acquisition of Tower had occurred on June 30, 1997. The estimated fair values presented for the assets acquired pursuant to the terms of the acquisition are based upon an independent appraisal. The pro forma information is not necessarily indicative of what the Company's financial position would have been had the acquisition of Tower occurred on June 30, 1997, nor does it purport to project the Company's financial position at any future date.

On August 15, 1997, the Company acquired Tower pursuant to a Share Purchase Agreement dated as of August 11, 1997. Tower is a designer and manufacturer of custom, high performance switchmode power supplies that are used principally in the telecommunications, medical and non-impact printing industries. Tower had revenues of \$13.4 million for its fiscal year ended September 30, 1996. The purchase price consisted of \$14.5 million in cash and a promissory note to the seller in the original principal amount of \$1.5 million, which were delivered by the Company at closing, as well as an earn out provision, pursuant to which the seller will be entitled to additional consideration if Tower's sales achieve certain levels in 1998. The promissory note matures in August 1998 and is non-interest bearing. The acquisition has been accounted for using the purchase method of accounting. The purchase price was allocated among the acquired assets at their fair market value. The Company recorded a one-time charge of \$3.1 million in the third quarter of 1997 for the portion of the purchase price attributable to in-process research and development costs. The Company currently estimates that its depreciation and amortization expense will increase by approximately \$1.3 million annually for the next several years. The following unaudited Pro Forma Condensed Consolidated Balance Sheet gives pro forma effect to the Tower acquisition, the allocation of the purchase price therefor and certain transactions occurring in connection therewith, including the borrowing by the Company of \$12 million under a term loan, as if all of such transactions had occurred on June 30, 1997.

An earnout provision requires the Company to pay the selling stockholder of Tower additional consideration of (1) an amount, up to a maximum of \$4,000,000, equal to 1.33 times the amount by which Tower's 1998 sales, as defined, exceed \$16,000,000, plus (2) an amount equal to 0.5 times the amount by which Tower's 1998 sales, as defined, exceed \$20,000,000. When the earnout contingency is resolved and additional consideration is distributable, the Company will account for the earnout as additional purchase price, allocating such amount to the excess of purchase price over fair value of net assets acquired, or goodwill, to be amortized over the remaining life of goodwill originally established at the date of acquisition.

**ADVANCED ENERGY INDUSTRIES, INC. AND SUBSIDIARIES**

**PRO FORMA CONDENSED CONSOLIDATED BALANCE SHEET (CONTINUED)**

JUNE 30, 1997				
	ADVANCED ENERGY (HISTORICAL)	TOWER (HISTORICAL)	PRO FORMA ADJUSTMENTS	PRO FORMA
ASSETS				
CURRENT ASSETS:				
Cash and cash equivalents.....	\$11,183	\$1,971	\$(2,295) (A)	\$10,859
Accounts receivable, net.....	26,154	1,876	(212) (A)	27,818
Inventories.....	16,169	2,737	--	18,906
Other current assets.....	1,860	58	--	1,918
Total current assets.....	55,366	6,642	(2,507)	59,501
PROPERTY AND EQUIPMENT, net.....	9,028	292	--	9,320
OTHER ASSETS.....	1,657	7	7,497 (B)	9,161
Total Assets.....	\$66,051	\$6,941	\$ 4,990	\$77,982
LIABILITIES AND STOCKHOLDERS' EQUITY				
CURRENT LIABILITIES:				
Accounts payable.....	\$ 6,296	\$1,252	\$--	\$ 7,548
Accrued liabilities and expenses.....	7,568	370	--	7,938
Current portion of long-term debt.....	745	--	3,789 (C)	4,534
Total current liabilities.....	14,609	1,622	3,789	20,020
LONG-TERM DEBT.....	789		9,600 (C)	10,389
DEFERRED INCOME TAXES AND OTHER.....	28	77	(77) (D)	28
Total liabilities.....	15,426	1,699	13,312	30,437
STOCKHOLDERS' EQUITY				
Common stock.....	21	1	(1) (E)	21
Additional paid-in capital.....	23,102	9	(9) (E)	23,102
Retained earnings.....	29,120	5,232	(8,312) (E) (F)	26,040
Other.....	(1,618)	--	--	(1,618)
Total stockholders' equity.....	50,625	5,242	(8,322)	47,545
Total liabilities and stockholders' equity.....	\$66,051	\$6,941	\$ 4,990	\$77,982

(A) Reflects \$2,500,000 cash paid to the selling stockholder of Tower and \$205,000 cash received from the selling stockholder of Tower in connection with certain transactions concurrent with the acquisition, including the collection of certain amounts due from the selling stockholder and the sale of Tower's wholly owned subsidiary, Hertel Aviation.

(B) Adjusted to reflect the excess of purchase price over the fair value of net assets acquired, or goodwill, of \$7,497,000.

(C) Reflects a \$1,500,000 non-interest bearing promissory note to the selling stockholder of Tower less imputed interest of \$111,000 and a \$12,000,000 term loan borrowed by the Company to effect the acquisition.

(D) Adjusted to reflect the disposition of Hertel Aviation's net assets (liability) concurrent with the acquisition transaction.

(E) Adjusted to eliminate the historical stockholder's equity of Tower.

(F) Represents \$3,080,000 of purchased research and development in process which is expensed immediately for book purposes.

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**2,500,000 SHARES**

[LOGO]

**COMMON STOCK**

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**PROSPECTUS**  
OCTOBER 17, 1997

**UBS SECURITIES**

**LEHMAN BROTHERS**

**PAINWEBBER INCORPORATED**

**BANCAMERICA ROBERTSON STEPHENS**

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**End of Filing**

