

# ADTRAN INC

## FORM 10-K (Annual Report)

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Industry	Communications Equipment
Sector	Technology
Fiscal Year	12/31

# SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 20549

## FORM 10-K

FOR ANNUAL AND TRANSITION REPORTS  
PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)  
OF THE SECURITIES EXCHANGE ACT OF 1934  
For the Fiscal Year Ended December 31, 1998

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d)  
OF THE SECURITIES EXCHANGE ACT OF 1934  
For the Transition Period from \_\_\_ to \_\_\_

*Commission file number 0-24612*

## ADTRAN, Inc.

(Exact name of Registrant as specified in its charter)

Delaware  
(State of incorporation)

63-0918200  
(I.R.S. Employer  
Identification Number)

901 Explorer Boulevard, Huntsville, Alabama 35806-2807  
(Address of principal executive offices, including zip code)

(256) 963-8000  
(Registrant's telephone number, including area code)

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

**Securities registered pursuant to Section 12(g) of the Act: Common Stock,  
\$.01 par value**

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

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

The aggregate market value of the Registrant's outstanding Common Stock held by non-affiliates of the Registrant on March 1, 1999 was \$568,848,869. There were 39,402,679 shares of Common Stock outstanding as of March 1, 1999.

### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Annual Meeting of Stockholders to be held on April 20, 1999 are incorporated herein by reference in Part III.

**ADTRAN, Inc.**  
Annual Report on Form 10-K

For the Fiscal Year Ended December 31, 1998

Table of Contents

Item Number		Page Number
PART I		
1.	Business	3
2.	Properties	13
3.	Legal Proceedings	13
4.	Submission of Matters to a Vote of Security Holders	14
PART II		
5.	Market for the Registrant's Common Equity and Related Stockholder Matters	16
6.	Selected Financial Data	17
7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	18
7a.	Quantitative and Qualitative Disclosures About Market Risk	23
8.	Financial Statements and Supplementary Data	23
9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	37
PART III		
10.	Directors and Executive Officers of the Registrant	37
11.	Executive Compensation	38
12.	Security Ownership of Certain Beneficial Owners and Managemen	38
13.	Certain Relationships and Related Transactions	38
PART IV		
14.	Exhibits, Financial Statement, Financial Statement Schedules, and Reports on Form 8-K	38
SIGNATURES		41
INDEX OF EXHIBITS		44

## PART I

### ITEM 1. BUSINESS

#### OVERVIEW

ADTRAN, Inc. (the "Company") designs, develops, manufactures, markets and services a broad range of high-speed digital transmission products utilized by telephone companies ("Telcos") and corporate end-users to implement advanced digital data services over existing telephone networks. Most of the Company's Telco and customer premises equipment ("CPE") products are connected to the local loop ("Local Loop"). The Local Loop is the large existing infrastructure of the telephone network connecting end-users to a Telco's central office, the facility that provides the local switching and distribution functions ("Central Office"). The balance of the Company's products are used in the Telcos' Central Offices.

The Company's product lines, which are comprised of over 500 principal products, are built around core technologies developed by the Company to address the Local Loop and Central Office digital communications marketplace. These products include a comprehensive line of transmission, repeater, extension and termination products. The Company also offers a broad line of multiplexers providing modular flexibility to the CPE marketplace. Separate T-1 and T-3 product lines are sold to Telcos for use within their Central Offices. The Company has addressed the wireless marketplace with the introduction of a wireless spread spectrum microwave transceiver.

The Company's products address two market segments: (i) Telco products for use in the Local Loop or in a Central Office, and (ii) CPE products for end-users. In 1998, sales of Telco and CPE products accounted for 58.5% and 41.5% respectively, of the Company's sales. The Company's Telco products deliver cost-effective digital services such as 56/64 Kbit/sec Digital Data Service ("DDS"), 128 Kbit/sec Integrated Services Digital Network ("ISDN"), 64 Kbit/sec to 1.544 Mbit/sec Frame Relay service ("Frame Relay") and 1.544 Mbit/sec T-1 (24 Channel) service. In addition, the Company's High bit-rate Digital Subscriber Line ("HDSL") products permit T-1 transmission on up to 12,000 feet of unconditioned copper wireline while reducing the need for costly mid-span repeaters. The Company's CPE products provide end-users access to Telco digital services and often include additional features for specific end-user applications. The Company has introduced and shipped a number of HDSL, ISDN and other products which comply with international standards to increase its penetration of overseas markets. See "Business -Products."

The rapidly expanding requirements for digital transmission in the Local Loop are being driven by Internet access, small office/home office ("SOHO") users, video delivery and on-line data services, among other applications, all of which require and benefit from the speed, reliability and low cost of digital transmission. While the Telcos have, to a large extent, replaced their wireline data transmission network between Central Offices with fiber-optic and digital microwave links which allow for high speed digital transmission, the Local Loop remains predominantly characterized by low speed analog transmission over copper wirelines. As a result, there has been considerable impetus for Telcos to upgrade the Local Loop in the most cost effective manner available. Widespread replacement of the copper wireline Local Loop remains prohibitively expensive, so the Telcos have turned to manufacturers such as the Company for technologies that expand Local Loop capabilities to handle digital transmission without necessitating this costly replacement. Existing digital delivery technologies, including Frame Relay, ISDN and HDSL, are all experiencing rapid compound growth. Numerous higher speed digital technologies are under development, including many versions of Digital Subscriber Line ("DSL") technology, Asynchronous Transfer Mode ("ATM"), wireless transmission, hybrid fiber coax, cable modems and other technologies.

The Company's core technologies expand the digital transmission capabilities of the Local Loop by enabling increased transmission speed and/or increased transmission distance. Ongoing research and product development activities are designed to enhance the distances covered by existing services as well as to develop new higher speed technologies. For example, during the first quarter of 1996, the Company demonstrated to the Telcos its new "Total Reach" delivery technology which increases the distance covered by ISDN services in the Local Loop from 18,000 feet to 30,500 feet. The same technology has been incorporated into 64Kbit/sec digital products for use in Frame Relay and DDS services. In addition, the Company is engaged in research, performance simulation, and design of higher speed digital technologies for the transport of data. Current issues for future higher speed digital technologies, including costs, power consumption and distances reachable, must be resolved for widespread acceptance and deployment of these technologies.

In developing its product families, the Company has continuously improved its design, purchasing and production processes to lower product costs and has consistently offered improved products at lower prices to customers. As a result, management believes that the Company is a leading provider of Local Loop and Central Office digital transmission products to Telcos. See "Company Strategy." The Company's customers include all Regional Bell Operating Companies ("RBOCs"), GTE Corporation, the three largest interexchange carriers, the 1,300 independent telephone companies, Competitive Local Exchange Carriers ("CLEC") as well as a number of worldwide electronics, communications and industrial companies. See "Business-Customers."

The Company was incorporated under the laws of Delaware in November 1985 and commenced operations in January 1986.

#### RECENT DEVELOPMENTS

The Company is continuing a project to expand its facilities in Huntsville, Alabama in phases over the next two years at a cost expected to exceed \$150,000,000, of which almost \$56,585,000 had been incurred at December 31, 1998. Fifty million dollars of this project was approved for participation in an incentive program offered by the Alabama State Industrial Development Authority (the "Authority"). That incentive program enables participating companies such as the Company to generate Alabama corporate income tax credits that can be used to reduce the

amount of Alabama corporate income taxes that would otherwise be payable. There can be no assurance that the State of Alabama will continue to make these corporate income tax credits available in the future, and the Company therefore may not realize the full benefit of these incentives. The Authority has issued \$50,000,000 of its taxable revenue bonds pursuant to such program and loaned the proceeds from the sale of the bonds to the Company. The Company is required to make payments to the Authority in amounts necessary to pay the principal of and interest on the Authority's Taxable Revenue Bond, Series 1995 (ADTRAN, Inc. Project), as amended, currently outstanding in the aggregate principal amount of \$50,000,000. Said bond matures on January 1, 2020, and bears interest at the rate of 45 basis points over the money market rate of First Union National Bank.

## **COMPANY STRATEGY**

The Company's growth strategy includes the following elements:

**FOCUS ON LOCAL LOOP AND CENTRAL OFFICE DIGITAL TRANSMISSION PRODUCTS.** Upon commencing operations in 1986, the Company focused its product strategy upon capturing a significant market share for sales of Local Loop and Central Office digital transmission products to Telcos. This focus was the result of the recognition by the Company's founders of the significant opportunity created by the elimination of American Telephone & Telegraph Co.'s ("AT&T") monopoly position in the manufacture of telecommunications equipment. Having achieved a leading market share of Local Loop and Central Office digital transmission products, the Company intends to consolidate its position through an integrated program of new product development, customer service and product excellence.

**CAPITALIZE ON EXISTING LEADERSHIP POSITION IN THE TELCO MARKET.** As a leader in the Telco market it serves, the Company intends to apply its sales and customer service resources to new market opportunities that arise as expanded services are provided by the Telcos in response to increasing subscriber demand. In this regard, the Company expects that its in-depth understanding of and experience with Local Loop and Central Office technology will provide it a competitive advantage. The Company is committed to replace most of its products with succeeding generations of products with lower costs, additional product features and improved serviceability.

**ADAPT PRODUCT TECHNOLOGY AND SALES FORCE TO CPE MARKET.** Over the past eight years, the Company has adapted product technology developed for Telco Central Offices for use in the Company's CPE product lines. As many of the technologies that are critical to success in the CPE market are identical to those already developed and refined for the Company's Telco products, the Company has realized a competitive advantage through leveraging these product development efforts and expertise in all of its markets. To sell its CPE products to the large number of end-users which comprise the market, the Company has built a dedicated sales force and an extensive nationwide network of re-sellers over the past eight years. The Company intends to continue the expansion of its distribution channels to address the worldwide market for its CPE products.

**EXPAND INTO INTERNATIONAL MARKETS.** While international sales are not currently substantial, international customers have begun to order, and the Company has shipped, international versions of the Company's Telco and CPE products. The Company has formed, and will continue to pursue, international distribution arrangements built upon core products and technology developed by the Company in an effort to further its penetration into international markets. The Company has also focused on developing E-1 technology, the predominant standard for data transmission outside of North America. In the future, the Company plans to add appropriate support capabilities and introduce new versions of its products that incorporate E-1 technology and that otherwise comply with relevant international standards. The Company's development process currently is conducted in accordance with ISO 9001, the international standard for quality management systems for design, manufacturing and service.

**INVEST IN ENGINEERING AND PRODUCT DEVELOPMENT.** The Company expects to continue its relatively high levels of investment in developing innovative new products, and redesigning existing products, in order to reduce product costs and production cycle times, and in so doing will continue its efforts to be a low cost provider in the industry. New products are generally targeted at opportunities that promise rapid growth as product costs are reduced and feature sets are optimized. The Company will also continue to develop and expand its broad product line serving each of the Telco and CPE markets. The Company continuously monitors developing technologies and introduces products as defined standards and markets emerge. This diversification in products and markets will continue to be a key to the Company's business strategy.

**ADAPT TO NEW LOCAL LOOP MEDIA.** New Local Loop connections continue to be implemented primarily with copper wirelines, although the Company anticipates an increased use of fiber-optic, coaxial and wireless communications in new installations over the next decade and more. To the extent such alternative connection methods become economically advantageous, and as such markets develop and grow, the Company will continue to extend its technical and marketing experience to develop products meeting the demands of such markets.

**COMMIT TO CONSTANT IMPROVEMENTS IN QUALITY AND SERVICE.** The Company believes its success to date has been due in large measure to its commitment to constantly improve product quality and customer service. This commitment has been formally recognized in awards received from several of its largest customers. In the future, product quality is expected to contribute significantly to the Company's efforts to reduce production cycle times and product costs.

## **PRODUCTS**

**CORE PRODUCT TECHNOLOGY.** The Company's product lines, comprised of over 500 principal products, are built around core technologies developed by the Company to address the Central Office and Local Loop digital communications marketplaces. Central Office facilities, approximately 30,000 of which are located throughout North America, provide subscribers with access to a discrete portion of the

network's bandwidth on a switched basis ("switched access") or on an exclusive basis ("private line"). Typically, access is available in unit multiples of 56 Kbit/sec (64 Kbit/sec in some locations) increments, although Telco multiplexing equipment can efficiently aggregate these basic increments into high speed channels up to T-1 rates (1.544 Mbit/sec), T-3 (45 Mbit/sec) or faster rates. Individual channels can also be subdivided to speeds as low as 2.4 Kbit/sec.

Each individual Local Loop circuit is served by a circuit assembly (consisting of a channel unit, U-Basic Rate Transmission Extender, or "U-BRITE" or other similar products manufactured by the Company) that plugs into a Central Office channel bank or shelf. The speed and functionality of the circuit is determined by the type of circuit assembly deployed by the Telco. For each such circuit, Central Office facilities generally make available a corresponding physical mounting position in a channel bank or shelf, and plug-in circuit assemblies are installed in accordance with the service ordered by the subscriber. Other special plug-in circuit assemblies, such as those manufactured by the Company, are commonly employed to connect or bridge circuits within the Central Office. Individual communication channels (multiplexer time slots) are interconnected and switched as appropriate within the Central Office, and the resultant communications payload is then directed toward the proper destination. If the communications traffic needs to be delivered to another Central Office, it is directed toward the inter-office network, usually through a long distance carrier such as AT&T, MCI or Sprint. At the far-end connection, the process is reversed. Voice is converted into digital form by circuit assemblies within the RBOC's Central Office and treated like any other digital information until delivered to the far-end serving Central Office where it is returned to analog form in the Local Loop. However, when products such as those sold by the Company are utilized, data communications traffic remains in digital form end to end.

In recent years, the need for higher volume data communications has led to the development of "remote huts." Like the Central Office, remote huts provide subscriber access through plug-in circuit assemblies such as those manufactured by the Company, but they can take advantage of high capacity fiber-optic links or multiple copper links to bring service to the local area economically. Remote huts are then connected by the Local Loop to end-users with products such as those sold by the Company. The Company also manufactures optional mid-span repeaters or loop extension devices that extend the service range of the Local Loop, as well as termination units that may be deployed to monitor and maintain service to the subscriber.

At the customer's premises, terminating equipment receives the transmitted signal from the Central Office and converts it to a form useful to end-user products such as LAN interconnection gear, video conferencing equipment, PBXs, personal computers and related equipment. In general, the Local Loop and related CPE products support bi-directional communications traffic.

Today, the Company's product lines consist of two groups of inter-related products, all evolving from the core product technologies developed for the Local Loop:

- \* Telco Central Office and Local Loop digital transmission products.

- \* CPE products.

**TELCO CENTRAL OFFICE AND LOCAL LOOP DIGITAL TRANSMISSION PRODUCTS.** Several hundred to several thousand circuit assemblies, such as those manufactured by the Company, are required at each Central Office, since each Local Loop may require a unit of this type to provide service to each subscriber. In 1998, the Company delivered more than 894,927 units of this product group, accounting for 74.9% of the Company's total units shipped. Telco products accounted for 58.5% and 64.8% of the Company's sales in 1998 and 1997, respectively. Sales of Telco products to original equipment manufacturers ("OEMs") are included in these percentages. The Company had in prior years reported Telco product sales to OEM customers in an OEM product section of Form 10-K, and were not part of the Telco product percentages. The Company now categorizes certain OEM sales as Telco product sales, as the OEM supply contracts are customer funded modifications of Telco products.

Typical of the different versions of Central Office channel assemblies manufactured by the Company are the various OCU dataports and related products, the fundamental building blocks for delivering DDS and Frame Relay services at 56/64 Kbit/sec rates to subscribers. In response to the Telco's need for a method to monitor transmission conditions and to detect problems for each individual circuit, the Company pioneered development of the Digital Data Station Termination ("DDST") product family. Both the OCU dataports and DDSTs are produced in relatively high volumes directly related to the increased demand for DDS and Frame Relay services.

The Total Reach family of products uses one of ADTRAN's own technological breakthroughs, Simple-Coded Pulse Amplitude Modulation (SC PAM), to extend digital services over one twisted pair of copper wires. Total Reach DDS addresses some of the major challenges associated with traditional DDS service deployment such as multiple copper pair availability in the customer's CSA; extensive engineering for repeaters and apparatus cases required for lengthy installs; bridged tap determination and removal efforts; and powering requirements for customer-located termination devices.

The Company is the industry's primary supplier of U-BRITES, which are required to extend ISDN service from an ISDN capable switch at a hub Central Office to a serving Central Office or to remote Channel Banks. The Company also supplies a substantial portion of the industry's ISDN mid-span repeaters. Other ISDN products include a BRITE Bank to mount multiple U-BRITES, T-BRITES, NT-1 interface units, Total Reach, and outside plant housings for the repeaters.

Late in 1993, the Company commenced deliveries of its HDSL product family. The Company has chosen to develop its own custom integrated circuits so HDSL product performance, availability and cost can be carefully managed. Management believes that demand for this product family will increase steadily as more affordable versions increasingly become available to the Telcos.

Already the industry leader in HDSL, ADTRAN released its new line of HDSL2 products in the first quarter of 1999. The products are designed according to the proposed standard developed by the ANSI T1E1.4 Standards Committee, whose HDSL2 line coding technique originated with ADTRAN's Simple-Coded Pulse Amplitude Modulation (SC PAM) technology. The ADTRAN HDSL2 products feature two-wire T1 transport up to 9,000 feet on 26-gauge wire or 12,000 feet on 24-gauge wire. They are also NEBS compliant with Class A2 span powering. ADTRAN's HDSL2 product line works within industry-standard mechanics, making the products fully compatible with legacy network equipment.

ADTRAN's carrier class, broadband integrated access device, the Total Access 3000, offers comprehensive management, enhances reliability, reduces installation and life-cycle costs, and provides for seamless upgrades to future products and technologies. The Total Access intelligent access system integrates ADTRAN's industry-leading loop technologies into an intelligent platform. The Total Access 3000 supports HDSL, T1/FT1, ISDN, xDSL and optical DS2. A single chassis can simultaneously support DS3 and DSX-1, or SONET and DSX-1 network interfaces. One chassis provides the necessary connections to interface with 140 two-wire loops to customer equipment. The Total Access 3000 platform provides built-in 1:1 HiCap protection for HDSL, T1 and optical DS2. The Total Access 3000 system delivers high-speed digital services at high densities in a compact 6-inch tall by 12-inch deep chassis. The Total Access 3000 system takes a modular approach with flexible network multiplexer modules including the DS-3 mux and the STS-1 mux; with intuitive management modules, including a Standard System Controller Unit (SCU) and a Gateway SCU for TL1/NMA, SNMP and Telnet support; and with versatile loop access modules serving optical and copper local loops.

Today's sophisticated networks require an increasing degree of monitoring and management to ensure the reliability of the network to its users. Industry-standard Transaction Language 1 (TL1) and Simple Network Management Protocol (SNMP) allow common platform management of a variety of networking products. In response, ADTRAN offers a broad line of manageable products designed to satisfy a wide range of management requirements. Many ADTRAN products are available with integral or optional SNMP and TL1/NMA management ports. In addition, several of the ADTRAN products can be managed through a simple terminal interface. ADTRAN management solutions include the company's own ADVISION, an SNMP application graphical user interface that will control all ADTRAN SNMP-managed products. ADVISION allows HP Open View to autodetect, automap and automatically define trap tables for ADTRAN SNMP products.

**CPE PRODUCTS.** The Company's CPE products have evolved from technology developed for its Telco product line. As many of the technologies which are critical to success in the CPE market are identical to those already developed and refined for the Company's Telco products, the Company has realized a competitive advantage through leveraging these product development efforts and expertise in all of its markets. Since initial product deliveries in 1991, CPE product sales have accounted for 41.5% and 35.2% of the Company's sales in 1998 and 1997, respectively. Sales of CPE products to original equipment manufacturers ("OEMs") are included in these percentages. The Company had in prior years reported CPE product sales to OEM customers in an OEM product section of Form 10-K, and were not part of the CPE product percentages. The Company now categorizes certain OEM sales as CPE product sales, as the OEM supply contracts are customer funded modifications of CPE products.

In most cases, a CPE product is purchased and installed by end-user customers in conjunction with a Telco's digital data transmission service. For example, a DSU is normally installed with each DDS loop. The Company's DSU product line was completely upgraded and revamped in 1993 with five new models that can terminate any standard DDS or Switched 56 digital service available in North America. In 1994, the product line was expanded to include lower cost versions as well as a family of shelf mount units. In 1995, products supporting synchronous data compression and versions supporting the simple network management protocol were added to the family. In 1996, the flagship products were once again redesigned to become more modular and flexible. In 1997, the Company introduced its "IQ Series" of DSU's/CSU's with control and monitor features for frame relay circuits. These design changes have substantially reduced the associated manufacturing costs while increasing the utility of the product to the marketplace. Customer acceptance of this product family has significantly increased the Company's DSU market share, and management believes that further gains are possible with the Company's recent enhancements of this product line. In 1998, Adtran entered the T3 market with the introduction of the T3SU 300 and focused on developing a family of integrated access devices.

Over the past three years, Frame Relay Services have met with increasing customer acceptance. As a result, the Company has introduced an expanding family of Frame Relay products. These products are built from the core technologies utilized in the existing DSU and TSU product families and are used to connect end-users to frame relay networks. Other products within this family, known as Frame Relay IQ units, are used to monitor the service level of frame relay circuits thereby ensuring the connections is operating properly and appropriately sized for the application.

The Company believes that its ISDN Service Unit (ISU) with sustained data transmission rates up to 128 Kbit/sec was the first product of its type when introduced in 1993. New versions of the product introduced by the Company have followed, including a model that automatically senses and adapts to virtually any far-end communications device, including modems, 2 wire or 4 wire DSUs, or another ISDN terminal adapter. The ISU product family was later extended to include the ISU 512, a device that allows multiple ISDN lines to be combined for use by high speed video conferencing equipment. Additionally, ADTRAN has solved one of the biggest obstacles in successful installation of new ISDN circuits with the introduction of its "Expert ISDN" technology. Expert ISDN allows CPE devices to automatically determine key parameters, such as Telco switch type and Service Profile Identifiers ("SPIDs"). Previously, these parameters were passed manually from the Telco to the user, who manually entered the information into the CPE device. ADTRAN's latest ISDN terminal adapter, the Express 3000, utilizes this technology. Adtran's ISDN terminal adapters have been recognized by Computer Telephony Magazine as "Products of the Year" and received the "97 Design and Engineering" award at the Winter Consumer Electronics Show (CES).

Late in 1993, initial installations of the Company's T-1 Service Unit ("TSU") were successfully completed. Offering full or fractional T-1 access, the product line is designed for sophisticated users needing higher speed interconnection of LANs, remote offices, video delivery systems, graphic workstations and related equipment. Common plug-in modules are available for several of the Company's models, tailoring

the units for multi-channel data communications. TSU order rates have increased steadily since the 1993 introduction and now comprise a significant portion of CPE sales. The Company's technical expertise was recognized in July of 1997 as ADTRAN's TSU 120 TSU/CSU received a Users Choice Award from Communications News Magazine in the T1/T3 networking category.

Late in 1997, the Company introduced its new Atlas 800 Integrated Access System. ATLAS is a modular, highly scalable platform that provides robust solutions addressing the wide area communication needs of medium to large corporations as well as network access providers. ATLAS is a powerful host-site access platform that provides customers with a total integrated end-to-end solution. ATLAS is useful in networks utilizing traditional leased line services, switched network services, and frame relay services, thereby complementing the many remote site products offered by the Company.

## **INTERNATIONAL MARKETS**

The Company serves its international markets through a combination of direct sales and distribution agreements. The Company has formed, and will continue to pursue, international distribution arrangements built upon core products and technologies developed by the Company in an effort to further its penetration into international markets. In addition, the Company has focused on developing E-1 technology which, though similar to T-1 technology, has a transmission rate of 2.048 Mbit/sec and is the predominant standard for data transmission outside of North America. The Company has tested, received orders for and shipped HDSL products incorporating E-1 technology. The Company anticipates that it will develop additional products incorporating E-1 technology. ISDN development work is underway to incorporate compatibility with European ISDN standards and specific in-country network interface requirements. Although the Company has not yet fully developed its potential in its international markets and related sales have been modest (3.3% of total sales in 1998), the Company believes that international markets present a significant opportunity for growth.

## **RESEARCH AND PRODUCT DEVELOPMENT**

The markets for the Company's products are characterized by rapidly changing technology, evolving industry standards and continuing improvements in telecommunications service offerings of common carriers. If technologies or standards applicable to the Company's products, or common carrier service offerings based on the Company's products, become obsolete or fail to gain widespread commercial acceptance, the Company's business may be adversely affected. Moreover, the introduction of products embodying new technology, the emergence of new industry standards or changes in common carrier service offerings could adversely affect the Company's ability to sell its products. For instance, a large number of the Company's products have, to date, been designed to apply primarily to the delivery of digital communications over copper wireline in the Local Loop. While the Company has competed favorably by developing a high performance line of products, it expects that the increasing deployment of fiber-optic cable, coaxial cable and wireless transmission in the Local Loop (each of which uses a significantly different process of delivery) will require that it develop new products to meet the demands of these markets when such markets are sufficiently established. The Company's sales and profitability in the past have resulted to a significant extent from its ability to anticipate changes in technology, industry standards and common carrier service offerings, and to develop and introduce new and enhanced products. The Company's continued ability to adapt will be a significant factor in maintaining or improving its competitive position and its prospects for growth. Therefore, the Company will continue to make significant investments in product development, although there can be no assurance that the Company will have the resources necessary to continue this strategy successfully or to otherwise respond appropriately to changing technology, industry standards and common carrier service offerings. See "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the Company's 1998 Annual Report to Stockholders.

As of December 31, 1998, the Company's product development programs were carried out by 295 engineers and engineering support personnel, comprising approximately 24% of the Company's employees. To date, all product development expenses have been charged to operations as incurred. From time to time, development programs are conducted by other firms under contract with the Company, and related costs are also charged to operations as incurred. During 1998, 1997 and 1996, product development expenditures totaled \$37,221,780, \$30,055,091 and \$24,647,425, respectively. Because the Company's product development activities are an important part of its strategy and because of rapidly changing technology and evolving industry standards, the Company expects to spend more in product development activities in 1999 than it did in 1998.

The Company's product development personnel are organized into teams, each of which is effectively dedicated to a specific product line or lines. However, because the Company services each of the Telco and CPE markets, and because all of the products in each of the markets share certain similarities, the benefits of the Company's product development efforts generally are not confined to a particular market, but can be leveraged to the Company's advantage in all of its markets. As of December 31, 1998, product development teams were assigned to the following product lines: Loop products, Network products, HDSL products, DSU and Frame Relay products, T-1 multiplexer products, ISDN Telco products, ISDN CPE products, strategic products and extended range products. In addition, engineering services and advanced technology groups provide support for all the product development teams. Each product development team is generally responsible for sustaining technical support of existing products, improving the cost or manufacturing of products, conceiving new products in cooperation with other groups within the Company and adapting standard products or technology under supply contracts to other firms. In particular, each product development team is charged with implementing the Company's engineering strategy of reducing product costs for each succeeding generation of the Company's products in an effort to be a low cost, high quality provider in the industry, without compromising functionality or serviceability. This strategy has involved setting a price point for the next generation of any given product with the aim of meeting that price point through innovative engineering. The key to this strategy is choosing an initial architecture for each product that enables engineering innovations to result in future cost reductions. Successful execution of this strategy also requires that the Company continue to attract and recruit outstanding engineers, and the continued success of the Company's recruiting program at Southeastern universities is critical to this effort.

The product development teams are supported by a research group that provides guidance in applicable digital signal processing technologies, computer simulation and modeling, CAD/CAM tool sets, custom semiconductor design and technological forecasting. As product and market opportunities arise, the organizational structure may be adjusted accordingly. The Company's development process is conducted in accordance with ISO 9001, which is the international standard for quality management systems for design, manufacturing and service.

The Company believes that its success in the past has been dependent upon the ability of its engineering team to establish and maintain a position of product and technological leadership, and its success in the future will be equally dependent upon the evolution of new forms of existing products and the development of new products fulfilling the needs of current and future customers. Therefore, the Company will continue to make significant investments in product development.

## **CUSTOMERS**

The Company's customer base includes each of the RBOCs and most of the major independent domestic Telcos. The major customers of the Company include:

Alltel Corporation	Hong Kong Telecom
Ameritech Corp.	Ingram Micro
Azteca Telecommunications	Interlink
Bell Atlantic Network Services	Metro Marketing
BellSouth Corp.	R-Tec
Bloomberg L.P.	Southwestern Bell Corp
Cincinnati Bell	Sprint Corp.
Cisco Systems, Inc.	Tech Data Corp.
Eltrax	U.S. West, Inc.
GTE Corp.	

Historically, a large percentage of the Company's sales have been to the RBOCs (29% in 1998) and other Telcos (33.9% in 1998). GTE and Sprint accounted for 20.3% and 12.4%, respectively, of the Company's total sales in 1998. No other customer accounted for 10% or more of the Company's sales in 1998.

A supplier such as the Company must first obtain product approvals from an RBOC or other Telco to sell its products to such RBOC or Telco. The Company, therefore, is involved in a constant process of submitting for approval succeeding generations of products as well as products that deploy new technology or respond to a new technology demand from an RBOC or other Telco. While the Company has been successful in the past in obtaining such approvals, there can be no assurance that such approvals or that sales of such products will continue to occur. Further, any attempt by an RBOC or other Telco to seek out additional or alternative suppliers or to undertake, as permitted under applicable regulations, the production of such products internally could have a material adverse effect on the Company's operating results. See "Government Regulation."

## **MARKETING, SALES AND DISTRIBUTION**

As of December 31, 1998, the Company's marketing, sales and distribution programs were conducted by 166 employees. The Company sells its Telco products in the United States and Canada directly to the Telcos through a field sales organization based in 48 locations (some of these locations are home offices) in the United States. The Company sells its Telco products internationally through field sales offices and various distribution arrangements with a geographically dispersed set of distributors. The Company sells its CPE products, both domestically and internationally, through a network of resellers. The Company has formed, and will continue to pursue, international distribution arrangements built upon core products and technology developed by the Company in an effort to further its penetration into international markets. Although the international market channel has not yet been fully developed and related revenue has been modest, the Company believes that international markets present a significant opportunity for growth, and the Company continues to focus effort on positioning itself to take advantage of such opportunity.

Sales to Telcos involve protracted product qualification and standardization processes that can extend for several months or years. Subsequent orders, if any, are generally placed under single or multi-year supply agreements that are generally not subject to minimum volume commitments. Telcos generally prefer having two or more suppliers of most products, so individual orders are generally subject to competition based on some combination of price, delivery and other terms. CPE products are sold under both exclusive and non-exclusive distribution agreements.

The Company's field sales organizations and distributors receive support from headquarters-based marketing, sales and customer support groups. Under certain circumstances, other headquarters personnel may become involved in sales and other activities. The Company believes that its success in the past has been dependent to a significant degree upon the ability of its sales and distribution teams to compete effectively in a highly competitive environment that includes firms with greater financial resources and more experience than the Company. The Company's success in the future will depend in part upon its ability to attract and retain qualified sales and marketing personnel who can compete and succeed in this environment.

## **CUSTOMER SERVICE AND SUPPORT**

The Company maintains 24-hour, 7 day a week telephone support for all of its customers, as customers often demand an immediate response to

problems with installed products or with plans for new installations. The Company provides on-site support in those circumstances in which problems cannot otherwise be resolved. It has generally been the Company's policy to follow through with problem resolutions even after it is established that the Company's products are not the source of the difficulty. The Company provides direct installation and service of its products in North America utilizing its own resources or resources available under a nationwide services contracts with TSS (formerly General Electric) and Data General for installation and service. International Business Machines Corporation ("IBM") purchased General Electric's service division in 1995 and General Electric assigned the Company's service contract to IBM under the terms of their sale agreement. The Company has approved the assignment. The Company also provides training to its customers (on both a paid and complimentary basis) relative to installation, operation and maintenance of the Company's products.

Substantially all of the Company's products carry a full ten year return-to-factory warranty. Warranty returns to date have been relatively insignificant (less than 1%). The Company believes that its low return rate is the direct result of its commitment to a rigorous product quality program that has garnered it special recognition by several key customers. The Company also offers annual maintenance agreements to its customers which provide that, in exchange for an annual fee, the Company will provide on-site service, within a specified time, in response to any reported difficulties in the use or performance of the Company's products.

## **MANUFACTURING**

The principal steps in the manufacturing process are the purchase and management of materials, assembly, testing, final inspection, packing and shipping. The Company purchases parts and components for assembly of its products from a large number of suppliers through a worldwide sourcing program. However, certain key components used in the Company's products are currently available from only one source, and other key components are available from only a limited number of sources. In the past, the Company has experienced delays in the receipt of certain of its key components, which have resulted in delays in related product deliveries. The Company attempts to manage such risks through developing alternative sources, through engineering efforts designed to obviate the necessity of certain components, and by maintaining quality relationships and close personal contact with each of its suppliers. However, there can be no assurance that delays in deliveries of key components (including particularly integrated circuits as discussed in greater detail below) and consequent delays in product deliveries will not occur in the future. The inability to obtain sufficient key components as required, or to develop alternative sources if and as required in the future, could result in delays or reductions in product shipments which, in turn, could have a material adverse effect on the Company's customer relationships and operating results.

The Company relies on subcontractors in the United States, Mexico and Taiwan for assembly of printed circuit board assemblies, sub-assemblies, chassis, enclosures and equipment shelves. The Company subcontracts the assembly of a significant portion of its lower priced products to companies in Mexico. Such assembly typically can be done by subcontractors at a lower cost than if the Company assembled such items internally, which furthers the Company's goal of being a low cost, high quality provider in the industry. Subcontract assembly operations do, however, contribute significantly to production cycle times, but the Company believes it can respond more rapidly to uncertainties in incoming order rates by selecting assembly subcontractors having significant reserve capacity. This reliance on third-party subcontractors for the assembly of its products involves several risks, including the unavailability of or interruptions in access to certain process technologies and reduced control over product quality, delivery schedules, manufacturing yields and costs. These risks may be exacerbated by economic or political uncertainties or by natural disasters in foreign countries in which the Company's subcontractors may be located. The Company currently does not undertake any foreign exchange risks as it conducts all transactions with foreign vendors or customers in U.S. dollars.

The Company is heavily dependent on five subcontractors. To date, the Company believes that it has successfully managed the risks of such dependence on these subcontractors through a variety of efforts, which include seeking and developing alternative subcontractors while maintaining existing relationships. However, there can be no assurance that delays in product deliveries may not occur in the future because of shortages resulting from this limited number of subcontractors or from the financial or other difficulties of such parties. The inability to develop alternative subcontractors if and as required in the future could result in delays or reductions in product shipments which, in turn, could have a material adverse effect on the Company's customer relationships and operating results. While the Company believes that alternative sources of supply or alternative subcontractors could be developed if necessary, material delays or interruption of supply might, nevertheless, arise as a consequence of required retraining and other activities related to establishing and developing a new supply or subcontractor relationship and such material delays may have a material adverse effect on the Company's business and operating results.

Basically, final testing and shipment of products to customers occurs in the Company's Huntsville, Alabama facilities. The Company's facilities are certified pursuant to ISO 9001 and certain other telephone company standards, including those relating to emission of electromagnetic energy and safety specifications.

## **BACKLOG AND INVENTORY**

A substantial portion of the Company's shipments in any fiscal period relate to orders received in that period and firm purchase orders released in that fiscal period by customers under agreements containing non-binding purchase commitments. Further, a significant percentage of orders require delivery within 48 hours. These factors result in very little order backlog. The Company believes that because a substantial portion of customer orders are filled within the fiscal quarter of receipt, the Company's backlog is not a meaningful indicator of actual sales for any succeeding period. To meet this demand, the Company maintains a substantial finished goods inventory.

The Company's practice of maintaining sufficient inventory levels to assure prompt delivery of the Company's products increases the amount of inventory which may become obsolete. The obsolescence of such inventory may have an adverse effect on the Company's business and operating results.

## **COMPETITION**

The markets for the Company's products are intensely competitive. With the development of the worldwide communications market and the growing demand for related equipment, additional manufacturers have entered the markets in recent years to offer products in competition with the Company. Additionally, certain companies have, in recent years, developed the ability to deliver fiber-optic cable, coaxial cable and wireless transmission to certain office centers and other end-users. Competition would further increase if new companies enter the market or existing competitors expand their product lines. For instance, legislation has been enacted that lifts the restrictions that previously prevented the RBOCs from manufacturing telecommunications equipment. The RBOCs, which in the aggregate are the Company's largest customers, may increasingly become competitors of the Company in the markets served by the Company. See "Government Regulation" below.

The Company competes for customers on the basis of performance in relation to price, product features, adherence to standards, quality, reliability, development capabilities, availability and support. Some of the Company's competitors and potential competitors have greater financial, technological, manufacturing, marketing, and personnel resources than the Company.

With respect to Telco sales, product quality and availability and an established reputation for customer service are important competitive factors that can affect the Company's ability to have its products accepted and approved by the individual Telcos. The Company's Telco competitors include large established firms such as ADC Telecommunications, Inc., Lucent Technologies, Inc., PairGain Technologies, Inc., Pulse Communications, Inc. (a subsidiary of Hubbell Incorporated), Tellabs, Inc. and Teltrend, Inc., as well as smaller, specialized firms.

With the introduction of its CPE product lines, the Company entered a market segment with entrenched competitors. Among the significant competitors for standard rate DSU market share are Paradyne Corporation and Racal-Datacom, Incorporated. Market segment leaders for TSU products include ADC KENTROX, a subsidiary of ADC Telecommunications, Inc., Paradyne Corp., Digital Link Corporation and Visual Networks, Inc. The Company's multiplexer product line's key competitors include Newbridge Networks Corporation, Pulse Communications, Inc., Carrier Access Corporation and Premisys Communications, Inc. An increase in competition could reduce the Company's gross profit margins, may require increased spending by the Company on product development and sales and marketing, and may otherwise adversely affect the Company's business.

## **GOVERNMENT REGULATION**

The telecommunications industry is subject to regulation in the United States and other countries. Federal and state regulatory agencies, including the Federal Communications Commission (the "FCC") and the various state public utility commissions and public service commissions, regulate most of the Company's domestic Telco customers. While such regulation does not typically affect the Company directly, the effects of such regulation on the Company's customers may, in turn, adversely impact the Company's business and operating results. For instance, the sale of the Company's products may be affected by the imposition upon certain of the Company's customers of common carrier tariffs and the taxation of telecommunications services. In addition, regulatory policies affecting the availability of common carrier services (such as high-speed digital transmission lines) and other terms on which common carriers conduct their business may impede the Company's penetration of certain markets. These policies are under continuous review and are subject to change. Governmental authorities also have promulgated regulations which, among other things, set installation and equipment standards for private telecommunications systems and require that all newly installed hardware be registered and meet certain governmental standards.

Other governmental authorities, such as federal and state courts and the United States Department of Justice, have been in the past, and will likely continue in the future to be, a major force in shaping the manner in which the telecommunications business is conducted and telecommunication services are provided. For instance, the United States telecommunications industry was also significantly impacted by the landmark Modification of Final Judgment (the "MFJ"), which governed the structure of the 1984 divestiture by AT&T of its local operating telephone company subsidiaries (the Divestiture). The Divestiture increased competition in the U.S. telecommunications industry by (i) eliminating the monopoly power that AT&T had enjoyed for years in most U.S. local and long distance telephone service and equipment markets, and (ii) prohibiting the RBOCs that emerged from the Divestiture from engaging in certain lines of business, including the provision of long distance services and the manufacture of telecommunications equipment. The terms of the Divestiture provide, however, for the removal of the line of business prohibitions if the rationale therefor becomes outmoded by technical developments or changes in competitive conditions.

The Telecommunications Act of 1996 covers a broad range of topics that will dramatically affect the telecommunications industry. RBOCs now will be allowed to manufacture equipment three years after they are eligible to enter the long distance business. The RBOCs, which are among the Company's largest customers, may increasingly become competitors of the Company in the markets it serves. The Telecommunications Act of 1996 also provides for RBOCs to enter long distance markets under certain conditions and long distance carriers may now provide local service.

The Company's business and operating results may also be adversely affected by the imposition of certain tariffs, duties and other import restrictions on components which the Company obtains from non-domestic suppliers, or by the imposition of export restrictions on products which the Company sells internationally.

## **PROPRIETARY RIGHTS**

The name "ADTRAN" and the Company's corporate logo are registered trademarks of the Company. A number of the Company's product identifiers and names are also registered. The Company also claims rights to a number of unregistered trademarks. The Company has obtained

patents on thirteen inventions relating to its products and has several patent applications pending. The Company will seek additional patents from time to time related to its research and development activities. The Company protects its trademarks, patents, inventions, trade secrets, and other proprietary rights by contract, trademark, copyright and patent registration, and internal security. Management believes, however, that the Company's competitive success will not depend on the ownership of intellectual property rights, but primarily on the innovative skills, technical competence and marketing abilities of the Company's personnel. The telecommunications industry, nevertheless, is characterized by the existence of an ever increasing number of patents and frequent litigation based on allegations of patent infringement. From time to time, third parties may assert exclusive patent, copyright and other intellectual property rights to technologies that are important to the Company. While there are no outstanding infringement lawsuits pending by or against the Company, there can be no assurance that third parties will not assert litigation claims against the Company in the future, that assertions by such parties will not result in costly litigation, or that the Company would prevail in any such litigation or be able to license any valid and infringed patents from third parties on commercially reasonable terms. Any infringement claim or other litigation against or by the Company could have a material adverse effect on the Company's business and operating results.

## **EMPLOYEES**

As of December 31, 1998 the Company had 1,222 full-time employees in the United States, three in Canada and one in Hong Kong. Of the Company's total employees, 340 were in sales, marketing, distribution and service, 295 were in research and development, 443 were in manufacturing, and 148 were in administration. None of the Company's employees is represented by a collective bargaining agreement nor has the Company ever experienced any work stoppage. Management believes the Company's relationship with its employees is good.

## **ITEM 2. PROPERTIES**

The Company's headquarters and principal administrative, engineering and manufacturing facilities are located in an office building containing 440,000 square feet located on approximately 22 acres of land in Huntsville, Alabama. The Company also leases 65,480 additional square feet to accommodate manufacturing and engineering activities. Construction is underway to expand its facilities in Huntsville by approximately 600,000 square feet (to accommodate a projected total of 3,000 employees) over the next two years at a cost expected to exceed \$150,000,000, of which \$56,585,000 had been incurred at December 31, 1998. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Liquidity and Capital Resources" in the Company's 1998 Annual Report to Stockholders and Note 6 of Notes to Financial Statements.

The Company also maintains 48 sales and service facilities, 45 located within the United States, two in Canada and one in Hong Kong, in the following locations: Huntsville, AL, Irvine, CA, San Francisco, CA, Denver, CO, Hartford, CT, Atlanta, GA, Chicago, IL, Batavia, IL, Darien, IL, Orland Park, IL, Leawood, KS, Trenton, NJ, New York, NY, Cleveland, OH, Philadelphia, PA, Irving, TX, Washington, DC and Ontario and Quebec, Canada. In addition to the leases in Huntsville, AL, the facilities in Leawood, KS, Irvine, CA, Denver, CO, Atlanta, GA, Irving, TX, Altamonte Springs, FL, Herndon, VA, Crystal Lake, IL, Bainbridge Island, WA, and Philadelphia, PA are leased under leases which expire at various times between 1999 and 2005. See Note 8 of Notes to Financial Statements.

## **ITEM 3. LEGAL PROCEEDINGS**

The Company has been involved from time to time in litigation in the normal course of its business. The Company is not aware of any pending or threatened litigation matters that could have a material adverse effect on the Company.

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

No matter was submitted by the Company to vote of security holders during the fiscal quarter ended December 31, 1998.

#### ITEM 4(A). EXECUTIVE OFFICERS OF THE REGISTRANT

Set forth below, in accordance with General Instruction G(3) of Form 10-K and Instruction 3 of Item 401(b) of Regulation S-K, is certain information regarding the executive officers of the Company. Unless otherwise indicated, the information set forth is as of December 31, 1998.

Mark C. Smith - Age 58 - Mr. Smith is one of the co-founders of the Company.

1995 to present	Chairman of the Board and Chief Executive Officer
1986 - 1995	Chairman of the Board, Chief Executive Officer and President

Lonnie S. McMillian - Age 70 Mr. McMillian is one of the co-founders of the Company

1996 to present Senior Vice President, Secretary and Director 1986 - 1996 Vice President - Engineering, Secretary, Treasurer and Director

Howard A. Thrailkill - Age 60

1995 to present President, Chief Operating Officer and Director November 1995 Executive Vice President, Chief Operating Officer and Director 1992 - 1995 Executive Vice President, Chief Operating Officer

John R. Cooper - Age 51

1996 to present Vice President - Finance and Chief Financial

	Officer
1995 - 1996	President, Sauty Group
1991 - 1995	Partner, Coopers & Lybrand L.L.P.

Danny J. Windham - Age 39

1995 to present	Vice President - CPE Marketing
1994 - 1995	Director of Marketing
1989 - 1994	Manager of Product Management

Thomas R. Stanton - Age 34

1995 to present	Vice President - Telco Marketing
1995	VP - Marketing & Engineering, Transcrypt International
1994 - 1995	Sr. Director, Marketing, E.F. Johnson Company

#### 1993 1994 Director, Marketing, E.F. Johnson Company

Peter O. Brackett - Age 57

1996 to present	Vice President - Technology
1992 - 1996	Research Manager, Advanced Data Networking, Bellsouth

M. Melvin Bruce - Age 58

1996 to present	Vice President - Engineering
1989 - 1996	Vice President, Research and Design, TCI

Robert A. Fredrickson - Age 48

1996 to present	Vice President - Telco Sales
1996	Vice President, Broadband Business Development, DSC Communications Corp.
1991-1996	Senior Director, Access Products, DSC Communications Corp.

Steven L. Harvey - Age 38

1996 to present Vice President - CPE Sales

1995 - 1996	Executive Vice President, Data Processing Sciences
1991 - 1995	Vice President, Data Processing Sciences

1996 to present Vice President - Quality 1993 - 1996 Quality & Technical Resources Manager, Exide Electronics Corp.

Jude T. Panetta - Age 39

1994 to present Vice President - Manufacturing 1989 - 1994 Director of Manufacturing, Exide Electronics

There are no family relationships among the directors or executive officers.

All officers are elected annually by and serve at the pleasure of the Board of Directors of the Company.

## PART II

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

The Company's Common Stock has been traded on the Nasdaq National Market (Nasdaq) under the symbol "ADTN" since the Company's initial public offering of Common Stock in August 1994. Prior to the initial public offering, there was no established trading market for the Company's Common Stock. As of January 31, 1999, the Company had 647 shareholders of record and approximately 13,500 beneficial owners of shares held in street name. The following table shows the high and low sale prices per share for the Common Stock as reported by Nasdaq for the periods indicated:

1998 Quarters	High	Low
First	\$34-3/4	\$24
Second	\$29-3/4	\$19-5/8
Third	\$29-1/8	\$20-1/2
Fourth	\$28-7/8	\$15-5/8
1997 Quarters	High	Low
First	\$53-1/4	\$22-1/2
Second	\$35-5/8	\$20-7/8
Third	\$44	\$23
Fourth	\$45-1/2	\$26

The Company has operated with a policy of retaining earnings, presently intends to retain all future earnings for use in the development of its business and does not anticipate paying any cash dividends in the foreseeable future.

## ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data concerning the Company for and as of the end of each of the years in the five year period ended December 31, 1998, are derived from the financial statements of the Company, which have been audited by PricewaterhouseCoopers LLP, independent accountants. The selected financial data are qualified in their entirety by the more detailed information and financial statements, including the notes thereto. The financial statements of the Company as of December 31, 1998 and 1997 and for each of the years in the three year period ended December 31, 1998, and the report of PricewaterhouseCoopers LLP thereon, are included elsewhere in this report.

Year Ended December 31, (in thousands, except per share data)	1998	1997	1996	1995	1994
INCOME STATEMENT DATA:					
Sales					
Telco	\$167,500	\$171,838	\$171,902	\$121,311	\$87,888
CPE	119,059	93,497	78,219	60,167	35,552
Total sales	286,559	265,335	250,121	181,478	123,440
Cost of Sales	130,010	130,254	129,953	93,007	63,187
Gross profit	156,549	135,081	120,168	88,471	60,253
Selling, general and administrative expenses	62,061	44,973	34,308	27,260	17,347
Research and development expenses	37,222	30,055	24,648	19,131	13,774
Operating income	57,266	60,053	61,212	42,080	29,132
Interest income	5,824	4,175	2,543	3,205	440
Interest expense	(2,287)	(1,839)	(895)	(1,105)	(448)
Other income (expense)	(188)	438	642	111	(25)
Income before income taxes	60,615	62,827	63,502	44,291	29,099
Provision for income taxes (1)	20,306	22,618	23,682	14,833	10,490
Net income	40,309	40,209	39,820	29,458	18,609
Earnings per common share assuming dilution (2)	1.03	1.02	1.01	.75	.51
Earnings per common share-basic (2)	1.03	1.03	1.03	.80	.56
Weighted average shares outstanding assuming dilution (2)	39,164	39,565	39,549	39,249	36,199
At December 31, (in thousands, except per share data)					
BALANCE SHEET DATA					
Working Capital	\$150,535	\$149,184	\$140,510	\$122,466	\$66,368
Total assets	301,711	282,401	210,207	165,767	94,347
Total debt	50,000	50,000	20,000	20,000	0
Stockholders' equity	231,389	212,037	172,879	130,743	85,233

(1) Effective July 1, 1994, the Company converted from an S corporation to a C corporation for income tax purposes. As an S corporation, the Company was not subject to income taxes but paid quarterly cash distributions to fund the income tax liabilities passed through to the stockholders. As a C corporation, the Company is subject to income taxes at corporate tax rates. The provision for income taxes for 1994 includes a pro forma amount of \$4,202 for the period from January 1, 1994 to July 1, 1994.

(2) Assumes exercise of dilutive stock options calculated under the treasury stock method. See Note 1, 9 and 13 of Notes to Financial Statements.

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

### OVERVIEW

The Company designs, develops, manufactures, markets and services a broad range of high-speed digital transmission products utilized by Telcos and corporate end-users to implement advanced digital data services over existing telephone networks. The Company currently sells its products to Telcos (including all of the RBOCs) and private end-users in the CPE market.

The Company's sales have increased in each year due primarily to increases in the number of units sold to both new and existing customers. These annual sales increases reflect the Company's strategy of increasing unit volume and market share through the introduction of succeeding generations of products having lower selling prices and increased functionality as compared both to the prior generation of a product and to the products of competitors. An important part of the Company's strategy is to engineer the reduction of the product cost of each succeeding product generation and then to lower the product's price based on the cost savings achieved. As a part of this strategy, the Company seeks in most instances to be a low-cost, high-quality provider of products in its markets. The Company's success to-date is attributable in large measure to its ability to initially design its products with a view to their subsequent re-design, allowing efficient enhancements of the product in each succeeding product generation. This strategy has enabled the Company to sell succeeding generations of products to existing customers as well as to increase its market share by selling these enhanced products to new customers.

While the Company has experienced increased sales in each year, the Company's operating results have fluctuated on a quarterly basis in the past, and operating results may vary significantly in future periods due to a number of factors. The Company operates with very little order backlog. A substantial majority of its sales in each quarter results from orders booked in that quarter and firm purchase orders released in that quarter by customers under agreements containing non-binding purchase commitments. Furthermore, most Telcos typically require prompt delivery of products. This results in a limited backlog of orders for these products and requires the Company to maintain sufficient inventory levels to satisfy anticipated customer demand. If near term demand for the Company's products declines or if significant potential sales in any quarter do not occur as anticipated, the Company's financial results will be adversely affected. Operating expenses are relatively fixed in the short term; therefore, a shortfall in quarterly revenues could impact the Company's financial results significantly in a given quarter. Further, maintaining sufficient inventory levels to assure prompt delivery of the Company's products increases the amount of inventory which may become obsolete and increases the risk that the obsolescence of such inventory may have an adverse effect on the Company's business and operating results. The Company's operating results may also fluctuate as a result of a number of other factors, including increased competition, customer order patterns, changes in product mix, product warranty returns and announcements of new products by the Company or its competitors. Accordingly, the Company's historical financial performance is not necessarily a meaningful indicator of future results, and, in general, management expects that the Company's financial results may vary from period to period. See Note 14 of Notes to Financial Statements.

The Company intends to retain all earnings for use in the development of its business and does not anticipate paying any cash dividends in the foreseeable future.

This 1998 Annual Report contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, which represent the Company's expectations or beliefs, including, but not limited to, statements concerning (i) the business and financial outlook of the Company, (ii) the Company's business, financial condition or results of operations and (iii) the Company's business strategy. When used in this 1998 Annual Report, the words "believe," "anticipate," "think," "intend," "will be," and similar expressions identify forward-looking statements. Such statements are subject to certain risks and uncertainties which could cause actual results to differ materially from those projected. Readers are cautioned not to place undue reliance on these forward-looking statements which speak only as of the date hereof. Readers are also urged to carefully review and consider the various disclosures, including, but not limited to, the disclosures described under the captions "Management's Discussion and Analysis of Financial Condition and Results of Operation," "1998 Compared to 1997," "Liquidity and Capital Resources," and "Year 2000 Readiness Disclosure," and those discussed in the Company's filings with the Securities and Exchange Commission, as well as the general economic conditions and industry trends which could cause actual results or outcomes to differ materially from those expressed in any forward-looking statement of the Company. Results of Operations

The following table presents selected financial information derived from the Company's statements of income expressed as a percentage of sales for the years indicated.

Years Ended December 31, Percentage of Sales	1998	1997	1996
Sales:			
Telco	58.5%	64.8%	68.7%
CPE	41.5	35.2	31.3
-----			
Total sales	100.0	100.0	100.0
Cost of sales	45.4	49.1	51.9
-----			
Gross profit	54.6	50.9	48.1
Selling, general and administrative expenses	21.7	17.0	13.7
Research and development expense	13.0	11.3	9.9
-----			

Operating income	19.9	22.6	24.5
Interest income	2.0	1.6	1.0
Interest expense	(0.8)	(0.7)	(0.4)
Other income (expense)	0.1	0.2	0.3
-----			
Income before provision for income taxes	21.2	23.7	25.4
Provision for income taxes	7.1	8.5	9.5
-----			
Net income	14.1%	15.2%	15.9%

## 1998 COMPARED TO 1997

### Sales

The Company's sales increased 8% from \$265,334,768 in 1997 to \$286,558,950 in 1998. The increased sales resulted from increased sales volume to existing customers and from increased market penetration. Sales to Telcos decreased slightly from \$171,837,883 in 1997 to \$167,499,919 in 1998. Telco sales as a percentage of total sales decreased from 64.8% in 1997 to 58.5% in 1998. Sales of CPE products increased 27.3% from \$93,496,885 in 1997 to \$119,059,030 in 1998. As a percentage of total sales, CPE sales increased from 35.2% in 1997 to 41.5% in 1998. The increase in sales of CPE products is attributable to increased demand for T1 Service Unit (TSU) products and Digital Data Service (DDS) products.

### Cost of Sales

Cost of sales decreased slightly from \$130,253,531 in 1997 to \$130,009,879 in 1998, primarily as a result of the reduction in component cost. As a percentage of sales, cost of sales decreased from 49.1% in 1997 to 45.4% in 1998. This decrease was due primarily to the reduction in component cost and product design enhancements. Telco cost of sales decreased from \$87,269,866 in 1997 to \$75,925,769 in 1998. Telco cost of sales as a percentage of Telco sales decreased from 50.8% in 1997 to 45.3% in 1998. CPE cost of sales increased from \$42,983,665 in 1997 to \$54,084,110 in 1998. As a percentage of CPE sales, CPE cost of sales decreased from 46.0% in 1997 to 45.4% in 1998. An important part of the Company's strategy is to reduce the product cost of each succeeding product generation and then to lower the product's price based on the cost savings achieved. This strategy sometimes results in variations in the Company's gross profit margin due to timing differences between the lowering of product selling prices and the full recognition of cost reductions. In view of the rapid pace of new product introductions by the Company, this strategy may result in variations in gross profit margins that, for any particular financial period, can be difficult to predict.

**Selling, General and Administrative Expenses** Selling, general and administrative expenses increased 38.0% from \$44,973,175 in 1997 to \$62,060,907 in 1998. The increase was due to additional sales and support expenditures necessary as a result of the Company's expanded sales base and increased dollar amounts of these expenses associated with the ongoing introduction and marketing of enhanced products, increased distribution activities associated with the CPE market, and general expansion into international markets. As a percentage of sales, selling, general and administrative expenses increased from 17.0% in 1997 to 21.7% in 1998.

### Research and Development Expenses

Research and development expenses increased 23.8% from \$30,055,091 in 1997 to \$37,221,780 in 1998. This increase was due to increased engineering costs associated with new product introductions and feature enhancement activities. As a percentage of sales, research and development expenses increased from 11.3% in 1997 to 13.0% in 1998. The Company continually evaluates new product opportunities and engages in intensive research and product development efforts. To date, the Company has expensed all product research and development costs as incurred. Additionally, the Company frequently invests heavily in up-front market development efforts prior to the actual commencement of sales of a major new product. As a result, the Company may incur significant research and development expenses and selling, general and administrative expenses prior to the receipt of revenues from a major new product group. The Company is presently incurring both research and development expenses and selling, general and administrative expenses in connection with its new products and its expansion into international markets.

### Interest Expense

Interest expense increased 24.4% from \$1,838,814 in 1997 to \$2,286,821 in 1998. The Company currently pays interest on \$50,000,000 of revenue bond proceeds of which \$20,000,000 was loaned to the Company in January 1995, and \$30,000,000 was loaned to the Company in April 1997. The proceeds were used to expand the Company's facilities in Huntsville, Alabama. The increase in interest expense in 1998 was due primarily to a full year's interest being incurred in 1998 on the additional \$30,000,000 borrowed in April 1997 versus only a partial year in 1997. See also "Liquidity and Capital Resources."

### Net Income

As a result of the above factors, net income increased slightly from \$40,209,272 in 1997 to \$40,309,650 in 1998. As a percentage of sales, net income decreased from 15.2% in 1997 to 14.1% in 1998.

## 1997 COMPARED TO 1996

### Sales

The Company's sales increased 6.1% from \$250,120,836 in 1996 to \$265,334,768 in 1997. The increased sales resulted from increased sales volume to existing customers and from increased market penetration. Sales to Telcos remained basically unchanged from \$171,901,851 in 1996 to \$171,837,883 in 1997. Telco sales as a percentage of total sales decreased from 68.7% in 1996 to 64.8% in 1997. Sales of CPE products increased 19.5% from \$78,218,985 in 1996 to \$93,496,885 in 1997. The increase in sales of CPE products is attributable to increased demand

for T1 Service Unit (TSU) products and Integrated Services Digital Network (ISDN) products.

#### Cost of Sales

Cost of sales increased 0.2% from \$129,953,371 in 1996 to \$130,253,531 in 1997, primarily as a result of the increase in sales. As a percentage of sales, cost of sales decreased from 51.9% in 1996 to 49.1% in 1997. This decrease was primarily attributable to manufacturing efficiencies and product design enhancements. Telco cost of sales decreased from \$89,277,966 in 1996 to \$87,269,866 in 1997. As a percentage of Telco sales, Telco cost of sales decreased from 51.9% in 1996 to 50.8% in 1997. CPE cost of sales increased from \$40,675,405 in 1996 to \$42,983,665 in 1997. As a percentage of CPE sales, CPE cost of sales decreased from 52.0% in 1996 to 46.0% in 1997. An important part of the Company's strategy is to reduce the product cost of each succeeding product generation and then to lower the product's price based on the cost savings achieved. This sometimes results in variations in the Company's gross profit margin due to timing differences between the lowering of product selling prices and the full recognition of cost reductions. In view of the rapid pace of new product introductions by the Company, this strategy may result in variations in gross profit margins that, for any particular financial period, can be difficult to predict.

**Selling, General and Administrative Expenses** Selling, general and administrative expenses increased 31.1% from \$34,308,436 in 1996 to \$44,973,175 in 1997 due to additional sales and support expenditures necessary as a result of the Company's expanded sales base and increased dollar amounts of these expenses associated with the ongoing introduction and marketing of enhanced products, increased distribution activities associated with the CPE market, and general expansion into international markets. As a percentage of sales, selling, general and administrative expenses increased from 13.7% in 1996 to 17.0% in 1997.

#### Research and Development Expenses

Research and development expenses increased 21.9% from \$24,647,425 in 1996 to \$30,055,091 in 1997. This increase was due to increased engineering costs associated with new product introductions and feature enhancement activities. As a percentage of sales, research and development expenses increased from 9.9% in 1996 to 11.3% in 1997. The Company continually evaluates new product opportunities and engages in intensive research and product development efforts. To date, the Company has expensed all product research and development costs as incurred. Additionally, the Company also frequently invests heavily in up-front market development efforts prior to the actual commencement of sales of a major new product. As a result, the Company may incur significant research and development expenses and selling, general and administrative expenses prior to the receipt of revenues from a major new product group. The Company is presently incurring both research and development expenses and selling, general and administrative expenses in connection with its new products and its expansion into international markets.

#### Interest Expense

Interest expense increased 105.5% from \$894,657 in 1996 to \$1,838,814 in 1997. This increase was due to increased borrowings during 1997. The Company currently pays interest on \$50,000,000 of revenue bond proceeds of which \$20,000,000 was loaned to the Company in January 1995, and \$30,000,000 was loaned to the Company in April 1997. The proceeds were used to expand the Company's facilities in Huntsville, Alabama. See also "Liquidity and Capital Resources."

#### Net Income

As a result of the above factors, net income increased 1.0% from \$39,819,904 in 1996 to \$40,209,272 in 1997. As a percentage of sales, net income decreased from 15.9% in 1996 to 15.2% in 1997.

### **LIQUIDITY AND CAPITAL RESOURCES**

The Company is continuing a project to expand its facilities in Huntsville, Alabama in phases over the next two years at a cost expected to exceed \$150,000,000, of which \$56,585,000 had been incurred at December 31, 1998. Fifty million dollars of this project was approved for participation in an incentive program offered by the Alabama State Industrial Development Authority (the "Authority"). That incentive program enables participating companies such as the Company to generate Alabama corporate income tax credits that can be used to reduce the amount of Alabama corporate income taxes that would otherwise be payable. There can be no assurance that the State of Alabama will continue to make these corporate income tax credits available in the future, and the Company therefore may not realize the full benefit of these incentives. Through December 31, 1998, the Authority had issued taxable revenue bond in the principal amount of \$50,000,000 pursuant to such program and loaned the proceeds from the sale of the bond to the Company. The Company is required to make payments to the Authority in amounts necessary to pay the principal of and interest on the Authority's Taxable Revenue Bond, Series 1995 (ADTRAN, Inc. Project), as amended, currently outstanding in the aggregate principal amount of \$50,000,000. Said bond matures on January 1, 2020, and bears interest at the rate of 45 basis points over the money market rate of First Union National Bank.

The Company's working capital position improved from \$149,183,578 as of December 31, 1997 to \$150,534,759 as of December 31, 1998. This improvement in the Company's working capital position was due primarily to steady earnings. The Company has used, and expects to continue to use the cash generated from operations for working capital and other general corporate purposes, including (i) product development activities to enhance its existing products and develop new products and (ii) expansion of sales and marketing activities. Inventory increased 66.9% for the fiscal year ended December 31, 1998. This increase occurred during the last six months of the period due to new business relating to Total Reach technology and new HDSL orders anticipated from a contract awarded to the Company in October 1998. Sales were weaker than anticipated in the fourth quarter of 1998 and did not allow the Company to move the amount of inventory that was planned.

On March 31, 1997, the Board of Directors authorized the Company to re-purchase up to 1,000,000 shares of the Company's outstanding common stock. In October 1998, the Board approved the re-purchase of an additional 2,000,000 shares. As of December 31, 1998, the

Company had re-purchased 1,100,081 shares of its common stock at a total cost of \$23,216,047.

Capital expenditures totaling \$23,095,854, \$18,220,850 and \$29,661,438 in 1998, 1997 and 1996, respectively, were used to expand the Company's headquarters and to purchase equipment.

At December 31, 1998, the Company's cash on hand of \$10,009,320, short-term investments of \$40,795,068 and \$10,000,000 available under a bank line of credit placed the Company's potential cash availability at \$60,804,388. The Company's \$10,000,000 bank line of credit bears interest at the rate of 87.5 basis points over the 30 day London inter-bank offered rate and expires on May 1, 1999. The Company anticipates renewing the \$10,000,000 bank line of credit upon its expiration. The Company intends to finance its operations in the future with cash flow from operations, amounts available under the bank line of credit, borrowed revenue bond proceeds and possible additional public financings. These available sources of funds are expected to be adequate to meet the Company's operating and capital needs for the foreseeable future.

## **YEAR 2000 READINESS DISCLOSURE**

The Company conducted a year 2000 program to assess and mitigate the impact of the year 2000 issue. The Company believes that all critical information technology and non-information technology hardware and software systems are year 2000 compliant, including, but not limited to, business systems, network infrastructure, manufacturing equipment, engineering tools, customer products and plant facilities.

The Company has completed the inventory and assessment phases of its year 2000 program. The Company's operations are not dependent upon older legacy source code or mainframe computers as is often the case with systems with significant year 2000 issues. Therefore, there is little or no date-related code remediation or conversion necessary to maintain normal business activities. The primary remaining effort in the year 2000 program is to review and validate the conclusions reached by the Company's year 2000 assessment. The Company does not believe that costs associated with bringing the Company's computer systems into full compliance with the year 2000 issue will result in a material expense to the Company.

In July of 1998, the Company completed the implementation of new business software and hardware which has been determined to be year 2000 compliant. The Company is currently upgrading some secondary systems which have been identified with minor year 2000 issues. Likewise, testing and year 2000 simulations will be performed on all Company systems to verify date processing capabilities. Expected completion of year 2000 simulations and testing is March 1999.

The Company has also contacted and assessed its suppliers and subcontractors regarding the year 2000 issue and concluded that those suppliers and subcontractors, which have a material relationship with the Company, are not expected to cause significant business interruptions to occur as a result of the year 2000 issue. The Company's assessment of suppliers has identified those most critical to the Company's operations and a contingency plan has been drafted to handle issues in the future. The Company's primary external subcontractors are conducting their own independent internal year 2000 programs and are being assisted by the Company with their year 2000 preparations where appropriate.

The Company believes that its products are year 2000 compliant. Company engineers have confirmed product design specifications and have verified product date processing functionality. Customers are provided individual responses to product inquiries and the Company has posted detailed year 2000 information on its web site. The Company does not believe that it will have any material exposure to contingencies related to the year 2000 issue for products it has sold.

Based on information presently available, the Company does not anticipate any material impact on its financial condition or results of operations from the effect of the year 2000 issue on its internal systems or on those systems of its major suppliers and customers. However, there can be no guarantee that the systems of other companies on which the Company relies will be timely converted, or that a failure to convert by another company would not have a material adverse impact on the Company. Furthermore, despite the Company's assessments, there can be no guarantee that there will not be a year 2000 problem arising from the Company's own system that may have a material adverse impact on the Company.

As of December 31, 1998, the Company had spent approximately \$100,000 for year 2000 compliance. The Company expects to spend approximately \$60,000 in 1999. The Company does not separately track these internal costs incurred for the Y2K project. These costs, however, consist principally of the related payroll costs of its information systems group.

## ITEM 7A. QUANTITATIVE DISCLOSURES ABOUT MARKET RISK

The Company has not conducted transactions, established commitments or entered into relationships requiring disclosures beyond those provided elsewhere in this Form 10-k.

## ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The following financial statements are contained in this report.

	Page
Report of Independent Certified Public Accountants	24
Financial Statements for Years Ended December 31, 1998, 1997 and 1996	
Balance Sheets	25
Statements of Income	26
Statements of Changes in Stockholders' Equity	27
Statements of Cash Flows	28
Report of Independent Certified Public Accountants on Supplementary Information	42
Schedule II - Valuation and Qualifying Accounts	43

## REPORT OF INDEPENDENT ACCOUNTANTS

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

In our opinion, the accompanying balance sheets and the related statements of income, changes in stockholders' equity and cash flows present fairly, in all material respects, the financial position of ADTRAN, Inc. (the Company) at December 31, 1998 and 1997, and the results of its operations and cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

*/s/PricewaterhouseCoopers LLP  
Birmingham, Alabama  
January 14, 1999*

BALANCE SHEETS  
December 31, 1998 and 1997

	1998	1997
ASSETS		
Current Assets:		
Cash and cash equivalents	\$10,009,320	\$45,340,961
Short-term investments	40,795,068	37,833,240
Accounts receivable, less allowance for doubtful accounts of \$958,805 and \$893,389 in 1998 and 1997, respectively	46,588,319	40,906,887
Other receivables	697,074	343,463
Inventory	65,700,576	39,369,103
Prepaid expenses	1,354,366	1,148,288
Deferred income taxes	2,416,685	2,458,136
	-----	-----
Total current assets	167,561,408	167,400,078
Property, plant and equipment, net	78,894,317	64,801,132
Other assets	220,000	200,000
Long-term investments	55,035,000	50,000,000
	-----	-----
Total assets	\$301,710,725	\$282,401,210
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 10,980,097	\$ 9,121,270
Accrued salaries	1,828,462	1,927,364
Accrued income taxes	1,060,795	4,579,345
Accrued taxes other than income taxes	252,548	180,611
Warranty liability	1,519,945	1,435,259
Compensated absences	1,384,802	972,651
	-----	-----
Total current liabilities	17,026,649	18,216,500
Bonds payable	50,000,000	50,000,000
Deferred income taxes	3,295,140	2,147,635
	-----	-----
Total liabilities	70,321,789	70,364,135
Stockholders' equity:		
Common stock, par value \$.01 per share; 200,000,000 shares authorized; 39,423,479 shares issued in 1998 and 39,381,264 in 1997	394,235	393,813
Additional paid-in capital	90,640,451	90,582,615
Retained earnings	163,570,297	123,260,647
	-----	-----
	254,604,983	214,237,075
Less treasury stock at cost: 1,100,081 and 100,000 shares in 1998 and 1997, respectively	(23,216,047)	(2,200,000)
	-----	-----
Total stockholders' equity	231,388,936	212,037,075
	-----	-----
Total liabilities and stockholders' equity	\$301,710,725	\$282,401,210

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

STATEMENTS OF INCOME  
for the years ended December 31, 1998, 1997 and 1996

	1998	1997	1996
Sales	\$286,558,950	\$265,334,768	\$250,120,836
Cost of sales	130,009,879	130,253,531	129,953,371
	-----		
Gross profit	156,549,071	135,081,237	120,167,465
Selling, general and administrative expenses	62,060,907	44,973,175	34,308,436
Research and development expenses	37,221,780	30,055,091	24,647,425
	-----		
Income from operations	57,266,384	60,052,971	61,211,604
Other income (expenses):			
Interest income	5,824,223	4,175,032	2,542,417
Interest expense	(2,286,821)	(1,838,814)	(894,657)
Other	(188,530)	437,639	642,432
	-----		
	3,348,872	2,773,857	2,290,192
Income before income taxes	60,615,256	62,826,828	63,501,796
Provision for income taxes	20,305,606	22,617,556	23,681,892
	-----		
Net income	\$40,309,650	\$40,209,272	\$39,819,904
Weighted average shares outstanding assuming dilution (1)	39,163,763	39,565,497	39,548,654
Earnings per common share - assuming dilution (1)	\$1.03	\$1.02	\$1.01
Earnings per common share - basic	\$1.03	\$1.03	\$1.03

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

(1) Assumes exercise of dilutive stock options calculated under the treasury stock method.

STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY  
for the years ended December 31, 1998, 1997 and 1996

	Common Stock		Additional Paid-In Capital	Retained Earnings	Treasury Stock	Total Stockholders' Equity
	Number of shares	Par Value (\$ .01 Per Share)				
Balance, December 31, 1995	37,462,275	\$374,623	\$89,404,177	\$40,964,511	\$0	\$130,743,311
Stock options exercised: Various prices per share	1,307,239	13,072	768,686			781,758
Income tax benefit from exercise of non-qualified stock options				1,533,926		1,533,926
Net income				39,819,904		39,819,904
-----						
Balance, December 31, 1996	38,769,514	387,695	90,172,863	82,318,341	0	172,878,899
Stock options exercised: Various prices per share	611,750	6,118	409,752			415,870
Purchase of treasury stock: 100,000 shares					(2,200,000)	(2,200,000)
Income tax benefit from exercise of non-qualified stock options				733,034		733,034
Net income				40,209,272		40,209,272
-----						
Balance, December 31, 1997	39,381,264	393,813	90,582,615	123,260,647	(2,200,000)	212,037,075
Stock options exercised: Various prices per share	42,215	422	57,836			58,258
Purchase of treasury stock: 1,000,081 shares					(21,016,047)	(21,016,047)
Net income				40,309,650		40,309,650
-----						
Balance, December 31, 1998	39,423,479	\$394,235	\$90,640,451	\$163,570,297	(\$23,216,047)	\$231,388,936

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

STATEMENTS OF CASH FLOWS  
for the years ended December 31, 1998, 1997 and 1996

	1998	1997	1996
Cash flows from operating activities:			
Net income	\$40,309,650	\$40,209,272	\$39,819,904
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	9,002,669	7,342,518	4,890,303
Provision for warranty claims	1,506,432	1,435,259	2,110,614
Gain (loss) on sale of property, plant, and equipment		(9,884)	40,572
Gain (loss) on sale of short-term investments classified as available-for-sale	24,367	(6,063)	405,789
Deferred income taxes	1,188,956	(313,867)	104,561
Change in operating assets:			
Accounts receivable	(5,681,432)	(7,081,327)	(4,590,757)
Inventory	(26,331,473)	1,423,543	4,204,549
Other assets	(579,689)	932,165	(1,083,019)
Change in operating liabilities:			
Accounts payable	1,858,827	(228,996)	(390,321)
Other liabilities	(4,555,110)	1,284,106	(50,491)
Net cash provided by operating activities	16,743,197	44,986,726	45,461,704
Cash flows from investing activities:			
Expenditures for property, plant and equipment	(23,095,854)	(18,220,850)	(29,661,438)
Proceeds from the disposition of property, plant, and equipment and equipment		58,297	4,602
Purchase of long-term investments	(5,035,000)	(50,000,000)	
Purchase of short-term investments classified as available-for-sale	(2,986,195)	(5,271,247)	(8,309,030)
Net cash used in investing activities	(31,117,049)	(73,433,800)	(37,965,866)
Cash flows from financing activities:			
Redemption of bonds payable		(20,000,000)	
Proceeds from bond issuance		50,000,000	
Proceeds from issuance of common stock	58,258	415,870	781,758
Income tax benefit from exercise of non-qualified stock options		733,034	1,533,926
Purchase of treasury stock	(21,016,047)	(2,200,000)	
Net cash (used in)provided by financing activities	(20,957,789)	28,948,904	2,315,684
Net(decrease)increase in cash and cash equivalents	(35,331,641)	501,830	9,811,522
Cash and cash equivalents, beginning of year	45,340,961	44,839,131	35,027,609
Cash and cash equivalents, end of year	\$10,009,320	\$45,340,961	\$44,839,131
Supplemental disclosure of cash flow information:			
Cash paid during the year for interest, net of capitalized interest of \$35,172, \$204,153 and \$393,096 in 1998, 1997 and 1996, respectively	\$2,276,495	\$1,844,741	\$909,368
Cash paid during the year for income taxes	\$23,964,517	\$20,042,644	\$22,151,925

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

## NOTES TO FINANCIAL STATEMENTS

### Note 1 - Summary of Significant Accounting Policies

ADTRAN, Inc. (the "Company") designs, develops, manufactures, markets, and services a broad range of high-speed digital transmission products utilized by telephone companies ("Telcos") and corporate end-users to implement advanced digital data services over existing telephone networks. The Company also customizes many of its products for private label distribution and for original equipment manufacturers to incorporate into their own products. Most of the Company's Telco and customer premises equipment (CPE) products are connected to the local loop, which is the large existing infrastructure of the telephone network, predominantly consisting of copper wireline, which connects end-users to a Telco's Central Office. The Central Office is the Telco facility that provides local switching and distribution functions. The balance of the Company's products are used in the Telcos' Central Offices.

#### Cash and Cash Equivalents:

Cash and cash equivalents represent demand deposits, money market accounts, and short-term investments classified as held-to-maturity (see Note 2) with original maturities of three months or less.

#### Financial Instruments:

The carrying amount reported in the balance sheets for cash and cash equivalents, accounts receivable, and accounts payable approximates fair value because of the immediate or short-term maturity of these financial instruments. The carrying amount reported for the bonds payable approximates fair value because the underlying instruments are at variable rates that re-price frequently.

Short-term investments represent re-marketed preferred stocks and municipal bonds classified as available-for-sale securities. Re-marketed preferred stocks are designed to be marketed as money market instruments. These instruments' interest rates reset on a short-term basis to maintain the price of the instruments at par. These instruments may be redeemed on the date the interest rate resets. The fair value of short-term investments is estimated based on quoted market prices (see Note 2). Realized gains or losses are computed under the specific identification method.

#### Inventory:

Inventory is carried at the lower of cost or market, with cost being determined using the first-in, first-out method.

#### Property, Plant, and Equipment:

Property, plant, and equipment, which is stated at cost, is depreciated using methods which approximate straight-line depreciation over the estimated useful lives of the assets. Expenditures for repairs and maintenance are charged to expense as incurred; betterments which materially prolong the lives of the assets are capitalized. The cost of assets retired or otherwise disposed of and the related accumulated depreciation are removed from the accounts and the gain or loss on such disposition is included in income.

#### Long-Lived Assets:

The Company recognizes impairment losses on long-lived assets used in operations when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying values. There were no such losses recognized during 1998, 1997, and 1996.

#### Research and Development Costs:

Research and development costs are expensed as incurred.

#### Use of Estimates:

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

#### Income Taxes:

The Company utilizes the asset and liability method of accounting for income taxes which requires the establishment of deferred tax liabilities and assets, as measured by enacted tax rates, for all temporary differences caused when the tax bases of assets and liabilities differ from those reported in the financial statements.

#### Earnings Per Share:

Earnings per common share and earnings per common share - assuming dilution are based on the weighted average number of common and, when dilutive, common equivalent shares outstanding during the year (see Note 13).

#### Recently Issued Accounting Standards:

In 1998, the Company adopted Statement of Financial Accounting Standards (SFAS) No. 131, Disclosures about Segments of an Enterprise and Related Information, that requires the use of the management approach in identifying operating segments of the Company. Under the management approach, operating segments of an enterprise are identified in a manner consistent with how the Company makes operating decisions and assesses performance. SFAS No. 131 also requires disclosures about products and services, geographic areas, and major

customers. The adoption of SFAS No. 131 did not affect results of operations or financial position but did affect the disclosure of segment information (see Note 11).

In June 1997, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards SFAS No. 130, Reporting Comprehensive Income, which requires the reporting and display of comprehensive income and its components in an entity's financial statements. The Company adopted SFAS 130 during 1998 and, for the three years ending December 31, 1998, 1997 and 1996, there were no differences between net income and comprehensive income.

In June 1998, the FASB issued SFAS No. 133, Accounting for Derivative Instruments and Hedging Activities. SFAS No. 133 requires all derivatives to be measured at fair value and recognized as either assets or liabilities on the balance sheet. Changes in such fair value are required to be recognized immediately in net income (loss) to the extent the derivatives are not effective as hedges. SFAS No. 133 is effective for fiscal years beginning after June 15, 1999 and is effective for interim periods in the initial year of adoption. The Company does not currently hold any derivative financial instruments.

## Note 2 - Investments

At December 31, 1998 and 1997, the Company held the following securities as available-for-sale or held-to-maturity recorded at amortized cost which approximates fair value:

1998	
Short-term investments, available-for-sale:	
Municipal bonds:	\$34,553,013
Re-marketed preferred stocks:	
GE Capital preferred asset corporation A series A	5,000,000
Other:	
Commercial paper, US Government securities and preferred stock	1,242,055
	-----
Total short-term investments 1998	\$40,795,068
Long-term investments:	
Restricted money market funds (see Note 6)	\$50,000,000
Other equity investments	5,035,000
	-----
Total long-term investments 1998	\$55,035,000
1997	
Short-term investments, available-for-sale:	
Municipal bonds	\$10,333,240
Re-marketed preferred stocks:	
GE Capital preferred asset corporation A series A	5,000,000
Muniyield Fund Auction market preferred series A	5,000,000
VKM Investment Grade Municipal Trust preferred	5,000,000
Nuveen Premium Income Fund preferred series M	2,500,000
Duff & Phelps RP series C	5,000,000
Van Kampen Merritt Municipal Income	5,000,000
	-----
Total short-term investments 1997	\$37,833,240
Long-term investments:	
Restricted money market funds (see Note 6)	\$50,000,000
	-----
Total long-term investments 1997	\$50,000,000

### Note 3 - Inventory

At December 31, 1998 and 1997 inventory consisted of the following:

	1998	1997
Raw materials	\$39,787,631	\$24,199,720
Work in process	7,935,771	2,565,179
Finished goods	17,977,174	12,604,204
	-----	-----
	\$65,700,576	\$39,369,103

### Note 4 - Property, Plant, and Equipment

Property, plant, and equipment was comprised of the following at December 31, 1998 and 1997:

	1998	1997
Land	\$ 4,263,104	\$ 4,263,104
Building	28,684,088	28,673,642
Construction in progress	12,119,342	3,081,702
Land improvements	9,499,352	7,963,770
Office machinery and equipment	22,683,087	17,184,334
Engineering machinery and equipment	31,548,285	24,534,852
	-----	-----
	108,797,258	85,701,404
Less accumulated depreciation	(29,902,941)	(20,900,272)
	-----	-----
	\$78,894,317	\$64,801,132

### Note 5 - Line of Credit

The Company has a \$10,000,000 line of credit at a bank, which bears interest at the rate of 87.5 basis points over the 30 day London inter-bank offered rate. At December 31, 1998 and 1997, the Company had no borrowings outstanding under this line. The line of credit expires on May 1, 1999.

### Note 6 - Alabama State Industrial Development Authority Financing

In conjunction with an expansion of its Huntsville, Alabama facility, the Company was approved for participation in an incentive program offered by the State of Alabama Industrial Development Authority (the "Authority"). Pursuant to such program, on January 13, 1995, the Authority issued \$20,000,000 of its taxable revenue bonds pursuant to such program and loaned the proceeds from the sale of the bonds to the Company. The bonds were originally purchased by AmSouth Bank of Alabama, Birmingham, Alabama (the "Bank"). First Union National Bank of Tennessee, Nashville, Tennessee (the "Bondholder") purchased the original bond from the Bank and made further advances to the Authority bringing the total amount outstanding to \$50,000,000. An Amended and Restated Taxable Revenue Bond (ADTRAN, Inc. Project), Series 1995, was issued and the original financing agreement was amended. The Amended and Restated Bond bears interest, payable monthly, at the rate of 45 basis points over the money market rate of the Bondholder and will mature on January 1, 2020. The Company is required to make payments to the Authority in amounts necessary to pay the principal of and interest on the Amended and Restated Bond. Included in long-term investments are \$50,000,000 which is restricted for payment of the principal amount of this bond. Construction on the project began in March 1995 and certain phases were completed by December 31, 1998.

## Note 7 - Income Taxes

A summary of the components of the provision (benefit) for income taxes as of December 31 is as follows:

	1998	1997	1996
Current:			
Federal	\$17,551,986	\$21,251,520	\$21,329,522
State	1,564,664	1,679,903	2,247,809
Total Current	19,116,650	22,931,423	23,577,331
Deferred tax provision (benefit)	1,188,956	(313,867)	104,561
Total provision for income taxes	\$20,305,606	\$22,617,556	\$23,681,892

The provision for income taxes differs from the amounts computed by applying the federal statutory rate due to the following:

	1998	1997	1996
Tax provision computed at the federal statutory rate (35% in 1998, 1997 and 1996)	\$21,215,340	\$21,989,390	\$22,225,629
State income tax provision, net of federal benefit	1,017,032	1,091,936	1,461,076
Federal research credits	(1,650,877)	(1,248,925)	(151,500)
Permanent differences and other	(275,889)	785,155	146,687
	\$20,305,606	\$22,617,556	\$23,681,892

Temporary differences which create deferred tax assets and liabilities at December 31, 1998 and 1997 are detailed below.

	1998		1997	
	Current	Non-current	Current	Non-current
Property, plant and equipment		(\$3,295,140)		(\$2,147,635)
Accounts receivable	\$422,758		\$ 381,022	
Inventory	844,519		1,130,083	
Accruals	1,149,408		947,031	
Deferred tax asset (liability)	\$2,416,685	(\$3,295,140)	\$2,458,136	(\$2,147,635)

No valuation allowance is deemed necessary by management as the realization of recorded deferred tax assets is considered more likely than not.

## Note 8 - Operating Leases

The Company leases office space and equipment under operating leases. As of December 31, 1998, future minimum rental payments under the non-cancellable operating leases are approximately as follows:

1999	\$ 962,000
2000	525,000
2001	228,000
2002	215,000
2003	108,000
	-----
	\$2,038,000

Rental expense was approximately \$908,000, \$657,000 and \$851,000, in 1998, 1997 and 1996, respectively.

## Note 9 - Employee Incentive Stock Option Plan and Directors' Stock Option Plan

The Board of Directors of the Company adopted the 1996 Employees Incentive Stock Option Plan (the "1996 Plan") effective February 14, 1996, under which 2,488,100 shares of common stock were reserved for issuance to certain employees and officers through incentive stock options and non-qualified stock options. In addition, the Company currently has options outstanding under its 1986 Employee Incentive Stock Option Plan (the "1986 Plan"), which plan expired on February 14, 1996. Options granted under the 1996 Plan or the 1986 Plan become exercisable after one year of continued employment after the date of grant or pursuant to a five year vesting schedule beginning on the first anniversary of the grant date. Expiration dates of options outstanding under the 1996 Plan and the 1986 Plan at December 31, 1998 range from 1999 to 2008.

The Board of Directors of the Company adopted a Directors' Stock Option Plan effective October 31, 1995 under which 70,000 shares of common stock have been reserved. The Plan is a formula plan to provide options to non-employee directors of the Company. At December 31, 1998, 42,000 options had been granted under the plan. Expiration dates of options outstanding under the Director's Stock Option Plan at December 31, 1998 range from 2005 to 2008.

Pertinent information regarding the Plans is as follows:

	Number of Options	Range of Exercise Prices	Weighted Average Exercise Price	Vesting Provisions
Options outstanding, December 31, 1995	2,170,395	\$.06 - \$46.25	\$1.83	100% /year
Options granted	342,000	\$39.75 - \$65.75	\$63.99	20% /year
Options granted	7,950	\$30.50 - \$65.75	\$44.43	100% /year
Options cancelled	(9,050)	\$3.33 - \$65.75	\$61.78	various
Options exercised	(1,307,239)	\$.06 - \$31.75	\$0.60	100% /year
-----				
Options outstanding, December 31, 1996	1,204,056	\$.11 - \$65.75	\$20.38	various
Options granted	697,750	\$22.00 - \$42.38	\$25.62	various
Options granted	3,000	\$42.72 - \$42.72	\$42.72	various
Options granted	21,700	\$25.37 - \$45.78	\$32.26	various
Options cancelled	(38,300)	\$22.00 - \$65.75	\$50.89	various
Options exercised	(611,750)	\$.11 - \$31.75	\$.68	various
-----				
Options outstanding, December 31, 1997	1,276,456	\$.17 - \$65.75	\$32.24	various
Options granted	1,018,225	\$18.31 - \$26.25	\$21.46	various
Options granted	10,250	\$30.50 - \$31.00	\$30.69	various
Options cancelled	(45,370)	\$21.31 - \$65.75	\$35.61	various
Options exercised	(42,215)	\$.17 - \$3.33	\$1.38	various
-----				
Options outstanding, December 31, 1998	2,217,346	\$.50 - \$65.75	\$27.78	various

The following table summarizes information about stock options outstanding at December 31, 1998:

Range of Exercise Prices	Number Outstanding 12/31/98	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number Exercisable 12/31/98	Weighted Average Exercise Price
\$.50 - \$3.33	137,541	3.47	\$2.24	137,541	\$2.24
\$12.53 - \$21.31	959,625	9.17	\$21.22	8,000	\$12.53
\$22.00 - \$28.50	723,580	8.57	\$25.29	141,724	\$25.47

\$30.38 - \$46.25	115,100	7.83	\$36.81	80,290	\$36.64
\$56.25 - \$65.75	281,500	7.57	\$65.34	116,800	\$65.11
-----			-----		
2,217,346			484,355		

The options above were issued at exercise prices which approximate fair market value at the date of grant. At December 31, 1998, 528,695 options were available for grant under the plans. The Company applies APB Opinion 25 and related Interpretations in accounting for its stock plans. Accordingly, no compensation cost has been recognized related to stock options. Had compensation cost for the Company's stock-based compensation plans been determined based on the fair value at the grant dates for awards under those plans consistent with the method prescribed in SFAS No. 123, the Company's net income and earnings per share would have been reduced to the pro forma amounts indicated below:

	1998	1997	1996
Net income - as reported	\$40,309,650	\$40,209,272	\$39,819,904
Net income - pro forma	35,417,764	37,634,225	38,018,766
Earnings per share - as reported			
assuming dilution	\$1.03	\$1.02	\$1.01
Earnings per share - pro forma			
assuming dilution	\$.90	\$.96	\$.96

The pro forma amounts reflected above are not representative of the effects on reported net income in future years because, in general, the options granted typically do not vest for several years and additional awards are made each year. The fair value of each option grant is estimated on the grant date using the Black-Scholes option-pricing model with the following weighted-average assumptions:

	1998	1997	1996
Dividend yield	0%	0%	0%
Expected life (years)	5	5	5
Expected volatility	59.1%	49.1%	48.7%
Risk-free interest rate	4.67%	6.06%	7.09%

#### Note 10 - Employee Benefit Plan

In March 1990, the Company adopted an incentive savings plan (the "Savings Plan") for all of its employees. The Savings Plan provides certain employment benefits to all eligible employees and qualifies as a deferred arrangement under Section 401(k) of the Internal Revenue Code of 1986, as amended. The Company matches one-half of a participant's contribution, limited to 5% of a participant's income. An employee's interest in the Company's contributions becomes 100% vested at the date participation in the Savings Plan commenced. Charges to operations for the plan amounted to approximately \$928,000, \$717,000, \$547,000, in 1998, 1997 and 1996, respectively.

#### Note 11 - Segment Information and Major Customers

The Company operates two reportable segments - (1) Telco and (2) CPE. The accounting policies of the segments are the same as those described in the "Summary of Significant Accounting Policies" (see Note 1) to the extent that such policies affect the reported segment information. The Company evaluates the performance of its segments based on gross profit; therefore, selling, general and administrative costs, as well as research and development, interest income/expense, and provision for taxes, is reported on an entity wide basis only. There are no intersegment revenues.

The table below presents information about the reported sales and gross profit of the Company for each of the years in the three year period ended December 31, 1998. Asset information by reportable segment is not reported, since the Company does not produce such information internally.

	1998		1997		1996	
	Sales	Gross Profit	Sales	Gross Profit	Sales	Gross Profit
(in thousands)						
Telco	\$167,500	\$91,574	\$171,838	\$ 84,568	\$171,902	\$ 82,624
CPE	119,059	64,975	93,497	50,513	78,219	37,544
	-----		-----		-----	
Total	\$286,559	\$156,549	\$265,335	\$135,081	\$250,121	\$120,168

The following is sales information by geographic area for the years ended December 31:

Sales (in thousands)	1998	1997	1996
United States	\$277,062	\$242,230	\$231,703
Foreign	9,497	23,105	18,418
	-----		-----
	\$286,559	\$265,335	\$250,121

Sales of the Company's transmission and test equipment to the Regional Bell Operating Companies (RBOCs) amounted to approximately 29%, 33% and 36% of total sales during the years ended December 31, 1998, 1997 and 1996, respectively. At December 31, 1998, 1997 and 1996 respectively, 21%, 26% and 23% of the accounts receivable balance consisted of amounts due from RBOCs.

**Note 12 - Contingencies**

The Company has certain contingent liabilities resulting from litigation arising in the normal course of business. Although the outcome of any litigation can never be certain, it is the Company's opinion that the outcome of such contingencies will not materially affect its business, operations, financial condition or cash flows.

## Note 13 - Earnings Per Share

A summary of the calculation of basic and diluted earnings per share for the years ended December 31, 1998, 1997 and 1996 is as follows:

	FOR THE YEAR ENDED 1998		Per-Share Amount
	Income (Numerator)	Shares (Denominator)	
BASIC EPS			
Income available to common stockholders	\$40,309,650	38,981,558	\$1.03
EFFECT OF DILUTIVE SECURITIES			
Stock Options	0	182,205	
DILUTED EPS			
Income available to common stockholders + assumed conversions	\$40,309,650	39,163,763	\$1.03

	FOR THE YEAR ENDED 1997		Per-Share Amount
	Income (Numerator)	Shares (Denominator)	
BASIC EPS			
Income available to common stockholders	\$40,209,272	39,201,871	\$1.03
EFFECT OF DILUTIVE SECURITIES			
Stock Options	0	363,626	
DILUTED EPS			
Income available to common stockholders + assumed conversions	40,209,272	39,565,497	\$1.02

	FOR THE YEAR ENDED 1996		Per-Share Amount
	Income (Numerator)	Shares (Denominator)	
BASIC EPS			
Income available to common stockholders	\$39,819,904	38,603,289	\$1.03
EFFECT OF DILUTIVE SECURITIES			
Stock Options	0	945,365	
DILUTED EPS			
Income available to common stockholders + assumed conversions	\$39,819,904	39,548,654	\$1.01

The following options were outstanding during the respective year, but were not included in the computation of that year's diluted EPS because the options' exercise price was greater than the average market price of the common shares in the respective year.

Options Granted	1998		Options Granted	1997		Options Granted	1996	
	Exercise Price	Expiration		Exercise Price	Expiration		Exercise Price	Expiration
58,450	\$31.75-\$46.25	2005	3,500	\$46.25	2005	6,000	\$46.25	2005
284,450	\$56.25-\$65.75	2006	294,400	\$56.25-\$65.75	2006	8,500	\$56.25-\$59.50	2005
20,450	\$39.63-\$46.25	2006	17,700	\$37.63-\$42.38	2007	309,000	\$63.75-\$65.75	2005
2,500	\$30.50-\$30.75	2006						
23,700	\$35.63-\$42.72	2007						
8,200	\$27.50-\$28.50	2007						
28,500	\$26.25-\$30.38	2008						

## Note 14 - Summarized Quarterly Financial Data (Unaudited)

The following table presents unaudited quarterly operating results for each of the Company's last eight fiscal quarters. This information has been prepared by the Company on a basis consistent with the Company's audited financial statements and includes all adjustments, consisting only of normal recurring adjustments, that the Company considers necessary for a fair presentation of the data.

(In thousands, except for per share amounts)

March 31, 1998	THREE MONTHS ENDED			December 31, 1998
	June 30, 1998	September 30, 1998	December 31, 1998	

Net sales	\$65,327	\$71,155	\$77,044	\$73,033
Gross profit	35,919	38,950	42,310	39,370
Income from operations	14,283	14,441	16,377	12,165
Net income	9,893	10,145	11,441	8,831
Earnings per common share - assuming dilution	\$.25	\$.26	\$.29	\$.23
Earnings per common share - basic	\$.25	\$.26	\$.29	\$.23

(In thousands, except for per share amounts)	THREE MONTHS ENDED			
	March 31, 1997	June 30, 1997	September 30, 1997	December 31, 1997
Net sales	\$61,231	\$59,125	\$70,579	\$74,400
Gross profit	31,791	28,632	36,092	38,566
Income from operations	14,258	10,291	16,778	18,726
Net income	9,522	6,980	11,141	12,566
Earnings per common share - assuming dilution	\$.24	\$.18	\$.28	\$.32
Earnings per common share - basic	\$.25	\$.18	\$.28	\$.32

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

No independent certified public accountant of the Company has resigned, indicated any intent to resign or been dismissed as the independent certified public accountant of the Company during the three fiscal years ended December 31, 1998 or subsequent thereto.

### **PART III**

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

Information relating to nominees for director of the Company is set forth under the caption "Election of Directors-Information Regarding Nominees for Director" in the Proxy Statement for the Annual Meeting of Stockholders to be held on April 20, 1999. Such information is incorporated herein by reference. The definitive Proxy Statement will be filed with the Securities and Exchange Commission within 120 days after the Company's fiscal year end. Information relating to the executive officers of the Company, pursuant to Instruction 3 of Item 401(b) of Regulation S-K and General Instruction G(3) of Form 10-K, is set forth at Part I, Item 4(A) of this report under the caption "Executive Officers of the Registrant." Such information is incorporated herein by reference.

## **ITEM 11. EXECUTIVE COMPENSATION**

Information relating to executive compensation is set forth under the caption "Executive Compensation" in the Proxy Statement referred to in Item 10 above. Such information is incorporated herein by reference.

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

Information relating to ownership of Common Stock of the Company by certain persons is set forth under the caption "Share Ownership of Principal Stockholders and Management" in the Proxy Statement referred to in Item 10 above. Such information is incorporated herein by reference.

## **ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

Information relating to existing or proposed relationships or transactions between the Company and any affiliate of the Company is set forth under the caption "Compensation Committee Interlocks and Insider Participation" in the Proxy Statement referred to in Item 10 above. Such information is incorporated herein by reference.

## PART IV

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

(a) Documents Filed as Part of This Report.

1. Financial Statements

The financial statements of the Company and the related report of independent auditors thereon are set forth under Part II, Item 8 of this report.

Balance Sheets as of December 31, 1998 and 1997

Statements of Income for the years ended December 31, 1998, 1997 and 1996

Statements of Changes in Stockholders' Equity for the years ended December 31, 1998, 1997 and 1996.

Statements of Cash Flows for the years ended December 31, 1998, 1997 and 1996.

Notes to Financial Statements

2. Financial Statement Schedules

Schedule II - Valuation and Qualifying Accounts

3. Exhibits

The following exhibits are filed with or incorporated by reference in this

report. Where such filing is made by incorporation by reference to a previously filed registration statement or report, such registration statement or report is identified in parentheses. The Company will furnish any exhibit upon request to:

ADTRAN, Inc., Attn: Investor Relations, P. O. Box 140000, 901 Explorer Boulevard, Huntsville, Alabama 35814. There is a charge of \$.50 per page to cover expenses for copying and mailing.

Exhibit  
Number Description

3.1 Certificate of Incorporation, as amended (Exhibit 3.1 to the Company's Registration Statement on Form S-1, No.33-81062 (the "Form S-1 Registration Statement")).

3.2 Bylaws, as amended (Exhibit 3.2 to the Form S-1 Registration Statement).

10.1 Documents relative to the \$50,000,000 Taxable Revenue Bond, Series 1995 (ADTRAN, Inc. Project) issued by the Alabama State Industrial Development Authority, consisting of the following (Exhibit 10.3 to the Company's Annual Report on Form 10-K for the year ended December 31, 1994 (the "1994 Form 10-K")):

(a) Financing Agreement dated January 1, 1995, among the State Industrial Development Authority, a public corporation organized under the laws of the State of Alabama (the "Issuer"), the Company and AmSouth Bank of Alabama, a state banking corporation under the laws of the State of Alabama;

(b) Loan Agreement dated January 1, 1995 (the "Loan Agreement"), between the Issuer and the Company;

(c) Resolution of the Issuer authorizing the issuance of the \$50,000,000 Taxable Revenue Bond, Series 1995 (ADTRAN, Inc. Project);

(d) Specimen Taxable Revenue Bond, Series 1995 (ADTRAN, Inc. Project);

(e) Resolution of the Company authorizing the Financing Agreement, the Loan Agreement and the Note;

(f) Specimen Note from the Company to AmSouth Bank of Alabama, dated January 13, 1995;

(g) Pledge Agreement dated January 13, 1995 between AmSouth Bank of Alabama and the Company;

(h) Eighth Amended and Restated Closing Agreement between the Company and AmSouth Bank of Alabama dated March 24, 1997 and

effective January 13, 1995; and

(i) Preliminary Agreement dated November 16, 1994 between the Issuer and the Company.

10.2 Master Note for Business and Commercial Loans, dated June 1, 1996 and in the original principal amount of \$10,000,000 by and between the Company and AmSouth Bank of Alabama.

10.3 Tax Indemnification Agreement dated July 1, 1994 by and among the Company and the stockholders of the Company prior to the Company's initial public offering of Common Stock (Exhibit 10.5 to the 1994 Form 10-K).

10.4 Management Contracts and Compensation Plans:

(a) 1996 Employees Stock Incentive Plan (Exhibit 10.4 to 1995 Form 10-K).

(b) 1995 Directors Stock Incentive Plan (Exhibit 10.4 to 1995 Form 10-K).

**\*23 Consent of PricewaterhouseCoopers LLP**

**\*24 Powers of Attorney**

**\*27 Financial Data Schedule**

(b) Reports on Form 8-K. None

\*Filed herewith

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on March 30, 1999.

### ADTRAN, Inc. (Registrant)

By: /s/ John R. Cooper  
JOHN R. COOPER  
Vice President - Finance and  
Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on March 30, 1999.

<i>Signature</i>	<i>Title</i>
<i>/s/ Mark C. Smith Mark C. Smith</i>	<i>Chairman of the Board, Chief Executive Officer and Director</i>
<i>Howard A Thrailkill* Howard A. Thrailkill</i>	<i>President, Chief Operating Officer and Director</i>
<i>Lonnie S. McMillian* Lonnie S. McMillian</i>	<i>Sr. Vice President, Secretary, and Director</i>
<i>William L. Marks* William L. Marks</i>	<i>Director</i>
<i>Roy J. Nichols* Roy J. Nichols</i>	<i>Director</i>
<i>James L. North* James L. North</i>	<i>Director</i>
<i>/s/ John R. Cooper John R. Cooper</i>	<i>Vice President-Finance and Chief Financial Officer</i>
<i>*By: /s/ Mark C. Smith Mark C Smith as Attorney in Fact</i>	

## Report of Independent Accountants

**To the Board of Directors  
ADTRAN, Inc.**

Our audits of the financial statements of ADTRAN, Inc. referred to in our report dated January 14, 1999 appearing on page 24 of this Form 10-K also included an audit of the financial statement schedule listed in Item 14 of this Form 10-K. In our opinion, this financial statement schedule presents fairly, in all material respects, the information set forth therein when read in conjunction with the related financial statements.

*/s/ PricewaterhouseCoopers LLP  
Birmingham, Alabama  
January 14, 1999*

SCHEDULE II  
VALUATION AND QUALIFYING ACCOUNTS

	Balance at Beginning of Period	Additions	Deductions	Balance at end of Period
Year ended December 31, 1998				
Allowance for Doubtful Accounts	\$893,389	\$275,025	\$209,609	\$958,805
Inventory Reserve	\$2,249,063	\$1,277,237	\$2,377,569	\$1,148,731
Warranty Liability	\$1,435,259	\$1,600,824	\$1,516,138	\$1,519,945
Year ended December 31, 1997				
Allowance for Doubtful Accounts	\$872,724	\$254,366	\$233,701	\$893,389
Inventory Reserve	\$883,032	\$1,366,031		\$2,249,063
Warranty Liability	\$1,026,156	\$409,103		\$1,435,259
Year ended December 31, 1996				
Allowance for Doubtful Accounts	\$544,526	\$430,789	\$102,591	\$ 872,724
Inventory Reserve	\$660,151	\$222,881		\$ 883,032
Warranty Liability	\$523,027	\$503,129		\$1,026,156

**ADTRAN, INC.**

**INDEX OF EXHIBITS**

Exhibit  
Number Description

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(b) Loan Agreement dated January 1, 1995 (the "Loan Agreement"), between the Issuer and the Company;

(c) Resolution of the Issuer authorizing the issuance of the \$50,000,000 Taxable Revenue Bond, Series 1995 (ADTRAN, Inc. Project);

(d) Specimen Taxable Revenue Bond, Series 1995 (ADTRAN, Inc. Project);

(e) Resolution of the Company authorizing the Financing Agreement, the Loan Agreement and the Note;

(f) Specimen Note from the Company to AmSouth Bank of Alabama, dated January 13, 1995;

(g) Pledge Agreement dated January 13, 1995 between AmSouth Bank of Alabama and the Company;

(h) Eighth Amended and Restated Closing Agreement between the Company and AmSouth Bank of Alabama dated March 24, 1997 and effective January 13, 1995; and

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(b) 1995 Directors Stock Incentive Plan (Exhibit 10.4 to 1995 Form 10-K).

**\*23 Consent of PricewaterhouseCoopers LLP**

**\*24 Powers of Attorney**

**\*27 Financial Data Schedule**

\*Filed herewith

## CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to the incorporation by reference in the registration statements of ADTRAN, Inc. on Forms S-8 (file No. 33-83982, 333-30375 and 333-29899) of our reports dated January 14, 1999, on our audits of the financial statements and financial statement schedule of ADTRAN, Inc. as of December 31, 1998 and 1997, and for the years ended December 31, 1998, 1997, and 1996, which reports are incorporated by reference in the Annual Report on Form 10-K.

*/s/PricewaterhouseCoopers LLP  
Birmingham, Alabama*

*March 30, 1999*

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the undersigned constitutes and appoints Mark C. Smith, Howard A. Thrailkill and John R. Cooper, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution, for him and in his name, place and stead, in any and all capacities, to sign the Annual Report on Form 10-K of ADTRAN, Inc. for the fiscal year ended December 31, 1998, and any and all amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

This 19th day of January, 1999.

*/s/ Lonnie S. McMillian*  
*Lonnie S. McMillian*

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the undersigned constitutes and appoints Mark C. Smith, Howard A. Thrailkill and John R. Cooper, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution, for him and in his name, place and stead, in any and all capacities, to sign the Annual Report on Form 10-K of ADTRAN, Inc. for the fiscal year ended December 31, 1998, and any and all amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

**This 19th day of January, 1999.**

*/s/ Roy J. Nichols*  
*Roy J. Nichols*

## POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the undersigned constitutes and appoints Mark C. Smith, Howard A. Thrailkill and John R. Cooper, and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution, for him and in his name, place and stead, in any and all capacities, to sign the Annual Report on Form 10-K of ADTRAN, Inc. for the fiscal year ended December 31, 1998, and any and all amendments thereto, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

**This 19th day of January, 1999.**

*/s/ William L. Marks*  
*William L. Marks*

## POWER OF ATTORNEY

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**This 19th day of January, 1999.**

*/s/ Mark C. Smith*  
*Mark C. Smith*

## POWER OF ATTORNEY

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**This 19th day of January, 1999.**

*/s/ Howard A. Thrailkill*  
*Howard A. Thrailkill*

## POWER OF ATTORNEY

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**This 19th day of January, 1999.**

*/s/ John R. Cooper*  
*John R. Cooper*

## POWER OF ATTORNEY

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This 19th day of January, 1999.

*/s/ James L. North*  
*James L. North*

## ARTICLE 5

THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE CONDENSED STATEMENT OF INCOME FOR THE TWELVE MONTHS ENDED DECEMBER 31, 1998 AND THE CONDENSED BALANCE SHEET AS OF DECEMBER 31, 1998 AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS. (Replace this text with the legend)

CIK: 0000926282

NAME: ADTRAN, Inc.

MULTIPLIER: 1

CURRENCY: US Dollar

PERIOD TYPE	12 mos
FISCAL YEAR END	DEC 31 1998
PERIOD START	JAN 01 1998
PERIOD END	DEC 31 1998
EXCHANGE RATE	1
CASH	\$10,009,320
SECURITIES	40,795,068
RECEIVABLES	47,547,124
ALLOWANCES	958,805
INVENTORY	65,700,576
CURRENT ASSETS	167,561,408
PP&E	108,797,258
DEPRECIATION	29,902,941
TOTAL ASSETS	301,710,725
CURRENT LIABILITIES	17,026,649
BONDS	50,000,000
PREFERRED MANDATORY	0
PREFERRED	0
COMMON	394,235
OTHER SE	231,388,936
TOTAL LIABILITY AND EQUITY	301,710,725
SALES	286,558,950
TOTAL REVENUES	286,558,950
CGS	130,009,879
TOTAL COSTS	130,009,879
OTHER EXPENSES	62,060,907
LOSS PROVISION	0
INTEREST EXPENSE	2,286,821
INCOME PRETAX	60,615,256
INCOME TAX	20,305,606
INCOME CONTINUING	40,309,650
DISCONTINUED	0
EXTRAORDINARY	0
CHANGES	0
NET INCOME	40,309,650
EPS PRIMARY	1.03
EPS DILUTED	1.03

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