TERAYON COMMUNICATION SYSTEMS
Form 10-K
March 27, 2003

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SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

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

For the fiscal year ended December 31, 2002

or

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

For the transition period from to

Commission file number 000-24647

Terayon Communication Systems, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**77-0328533**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*

4988 Great America Parkway

Santa Clara, California 95054
(408) 235-5500
(Address, including zip code, and telephone number, including area code, of the registrant s principal executive offices)

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

Title of Each Class	**Name of Each Exchange on Which Registered**
None	None

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

Common Stock, par value $0.001 per share
(Title of Class)

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 þ No o

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. o

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes þ No o

The aggregate market value of the voting stock held by non-affiliates of the registrant, based upon the closing sale price of the common stock on June 30, 2002 as reported on the Nasdaq National Market, was approximately $61,237,967. Shares of common stock held by each officer and director and by each person known to the Company who owns 5% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 18, 2003, registrant had outstanding 73,717,018 shares of common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement to be filed with the Securities and Exchange Commission in April 2003, pursuant to Regulation 14A of the Securities Exchange Act of 1934, in connection with the 2003 Annual Meeting of Stockholders of Terayon Communication Systems, are incorporated by reference into Part II, Item 5 and Part III of this Annual Report.

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SPECIAL NOTE ON FORWARD-LOOKING STATEMENTS

This Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 which are subject to the safe harbor created by those sections. These forward-looking statements include, but are not limited to: statements related to industry trends and future growth in the markets for cable modem systems; our strategies for reducing the cost of our products; our product development efforts; the effect of GAAP accounting pronouncements on our recognition of revenues; our future research and development; the timing of our introduction of new products; the timing and extent of deployment of our products by our customers; and future profitability. We usually use words such as may, will, should, expect, plan, antici believe, estimate, predict, future, intend, or certain or the negative of these terms or similar expressions to identify forward-looking staten Discussions containing such forward-looking statements may be found throughout the document. These forward-looking statements involve certain risks and uncertainties that could cause actual results to differ materially from those in such forward-looking statements. We disclaim any obligation to update these forward-looking statements as a result of subsequent events. The business risks discussed in Item 7 of this Report on Form 10-K, among other things, should be considered in evaluating our prospects and future financial performance.

This Report on Form 10-K includes trademarks and registered trademarks of Terayon. Products or service names of other companies mentioned in this Report on Form 10-K may be trademarks or registered trademarks of their respective owners.

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PART I

Item 1. *Business*

Overview

Terayon was founded in 1993 by Zaki Rakib, our Chief Executive Officer, and Shlomo Rakib, our Chief Technical Officer, to develop, market and sell broadband cable data equipment for cable television operators to provide high-speed Internet access to residential subscribers. Our first product line was the TeraComm® cable data system, which is comprised of our TeraPro® cable modems and TeraLink® Cable Modem Termination Systems (CMTS). The TeraComm cable data system, which we began shipping in 1997, is based on our patented proprietary Synchronous Code Division Multiple Access (S-CDMA) technology.

In the late 1990s, the growing demand for broadband voice, video and data services fueled explosive growth in equipment purchases by cable, telecom and satellite service providers building networks and infrastructure to meet this growing demand. To take advantage of this market opportunity, we decided to expand our product offerings beyond cable data systems to include a complete range of solutions for the delivery of broadband voice, data and video services by cable, telecom and satellite service providers. To offer this broad range of solutions, we acquired companies with products and technologies that allowed us to quickly expand our product portfolio.

We expanded our cable product offerings with the addition of digital video and broadband voice solutions. In 1999, we added the CherryPicker digital video management system with the acquisition of Imedia Corporation (Imedia). We complemented the CherryPicker product line with our purchase of a line of digital video receivers in our acquisition of Digital Transmission Equipment Company (Digitrans) in 2000. We added broadband voice solutions to our cable product portfolio with the 2000 acquisition of Telegate Ltd. (Telegate)and its Multigate cable telephony system. In 2000, we also acquired Internet Telecom Ltd (Internet Telecom), Ultracom Communications Systems Holdings 1995 Ltd. (Ultracom) and TrueChat, Inc. (TrueChat) for their Voice-over-Internet Protocol (VoIP) technology to incorporate into our future VoIP cable telephony products.

We established our telecom business with the acquisition of Radwiz Ltd. (Radwiz) in 1999, which provided us with an Internet-Protocol-in-The-Loop (IPTL) access system that enables international telecom providers to offer integrated high-speed Internet access and VoIP services. With the acquisition of the Access Network Electronics (ANE) division of Tyco Electronics Corporation, a subsidiary of Tyco International Ltd., in 2000 we added ANE s established MiniPlex® system for delivering multiple phone lines over a single telephone wire, and its well-established distribution channels into the U.S. Incumbent Local Exchange Carriers (ILEC). MainSail Networks, Inc. (MainSail) was acquired in 2000 for its next-generation MainSail Multi-service Multi-function Access Platform (MMAP), which enables telecom carriers to deliver a wide range of broadband access services.

We entered the Internet-over-satellite market in 2000 with the acquisition of ComBox Ltd., (ComBox), which had a line of products for delivering high-speed Internet access via satellite.

In October 2001, we took our captive semiconductor capabilities and established Imedia Semiconductor to design, develop, manufacture and sell advanced standards-based broadband silicon and software to cable broadband equipment manufacturers.

Since late 2000, the worldwide telecom and satellite industries have experienced severe downturns that have resulted in significantly reduced purchases of new broadband equipment. Because of this overall drop in demand, we have refocused our efforts on the cable industry traditionally our strongest market and have reduced our investment in our telecom and satellite businesses. We have discontinued our Internet-over-Satellite product line and reduced our research and development activities in addition to our sales and marketing efforts in telecom.

In 2003, the cable industry continues to face many challenges. One of the largest US cable companies is still in bankruptcy while other large cable operators are experiencing significant cash constraints. Conse-

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quently, capital equipment expenditures by cable operators may continue to be restricted for the foreseeable future.

Despite the urgent state of the cable industry in general, there continues to be growing subscriber demand for broadband services, which has been fueled by the proliferation of broadband services delivered by operators. Residential and commercial subscribers are using a variety of data, video and voice applications, including high-speed Internet access, online gaming, file sharing, telecommuting, High Definition TV (HDTV), Video-On-Demand (VOD) and cable telephony services.

As cable operators add new residential and business subscribers for broadband voice, data and video services, they must deploy Customer Premise Equipment (CPE) such as cable modems and embedded Multimedia Terminal Adapters (MTA), and install corresponding central office equipment such as Cable Modem Termination Systems (CMTS) and video head-ends to operate the CPE. The Dell Oro Group, an industry research firm, has released its estimates of the number of worldwide cable modem users in 2002 at approximately 21.7 million, up 51% from 14.4 million in 2001. Dell Oro further projects that the number of cable modem users will continue to grow in 2003, reaching approximately 30 million, an increase of 38% over 2002.

Web site access to company s reports

Our Internet Web site address is *www.terayon.com*. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available free of charge through our Web site as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission. We will also provide those reports in electronic or paper form free of charge upon request. Furthermore, all reports we file with the Commission are available free of charge via EDGAR through the Commission s Web site at *www.sec.gov*. In addition, the public may read and copy materials filed by us at the Commission s public reference room located at 450 Fifth St., N.W., Washington, D.C., 20549.

Business

We are an experienced partner for broadband service providers, but we are primarily focused on cable operators. Our mission is to deliver innovative broadband data, video and voice solutions for the deployment of revenue-generating services today and tomorrow.

We are structured around the following operating segments: Cable Broadband Access Systems (Cable) and Telecom Carrier Systems (Telecom). Currently, 92% of our total revenues are derived from Cable and 8% from Telecom. We believe Cable will continue to generate the vast majority of our revenues in the foreseeable future. See Note 12 in our Notes to Consolidated Financial Statements.

In 2001 and 2002, we implemented significant changes in our company structure and business in response to the downturns in the worldwide telecom, cable and satellite industries that began in late 2000. The worldwide downturn in the telecommunications industry caused us to discontinue investment in certain product lines, reassess the value of acquisitions that occurred during 1999 and 2000, reduce the size of our workforce, consolidate facilities and write-down certain strategic investments in private companies. These activities resulted in combined charges of approximately $596.1 million in 2001 and 2002.

During the first quarter of 2001, sales of our products slowed due to the dramatic downturn in the telecommunications industry. We believed and continue to believe that this downturn will be prolonged and can significantly impact future demand for our products. In response to these market conditions, we reexamined our business and our analysis led us to (1) discontinue our investments in the ComBox and Ultracom product lines, (2) recognize an impairment of goodwill and other intangible assets associated with each of our other acquisitions and (3) focus our efforts on our most promising product lines: our DOCSIS cable modems, DOCSIS CMTSs, CherryPicker and the MainSail MMAP. We also reduced the size of our workforce and consolidated our facilities. As a result, we took a restructuring charge of approximately $587.2 million in the first quarter 2001.

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Subsequent to the first quarter of 2001 and with the continued downturn of the worldwide telecommunications market, we continually reassess the deployment of our resources to focus on our most promising markets and product lines. As a result we have taken the following additional steps: (1) we recognized further impairment of the remaining goodwill and intangibles related to our acquisitions; (2) we recognized an impairment of our two investments in private companies; (3) we have further focused our efforts on developing, marketing and selling our cable products while limiting further investment in the MainSail MMAP; (4) we have executed additional workforce reductions and (5) we have further consolidated our facilities. Between the second quarter of 2001 and second quarter of 2002, these actions resulted in additional charges of approximately $8.9 million, and left us, as of December 31, 2002, with no remaining goodwill and intangible assets related to our acquisitions and no investments in private companies.

We were incorporated in California in 1993, reincorporated in Delaware in 1998 and have been a publicly traded company on the Nasdaq National Market since 1998.

Business Strategy

Our business strategy focuses on the development and deployment of cable broadband access technologies that will improve cable operators return on investment by leveraging their existing infrastructure to deliver new broadband services at less expense. We believe that this strategy will provide the following benefit to our customers: faster recovery of subscriber acquisition costs, a reduction of customer turnover, a competitive edge in winning new customers, increased revenues and reduced operational and capital expenditures. In order to devote more of our resources to the execution of our cable-focused business strategy, we have reduced our investments in telecom and are supporting only existing telecom customers. We are not currently pursuing new customers for telecom-related products or further telecom-related product development.

Initially, our strategy focused on the production of our proprietary S-CDMA products, which we sold to cable operators around the world. However, while we sold our proprietary systems, some operators, especially operators in the United States, elected to purchase only products compliant with the then emerging industry specification, the Data Over Cable Service Interface Specification (DOCSIS), propounded by Cable Television Laboratories, Inc. (CableLabs), a cable industry consortium in the United States. Cable operators elected to purchase only DOCSIS certified or qualified equipment because it permitted them to purchase compatible and interoperable equipment from a variety of vendors, which, in turn, did not leave them dependent on one or two vendors for equipment. As it became apparent that our customer base was transitioning to purchasing only DOCSIS based products, we decided that we would manufacture and sell DOCSIS based products, as well as our own proprietary based products. In December 2001, CableLabs adopted a new version of the DOCSIS specification, DOCSIS 2.0, which included advanced physical layer technology and two modulation techniques, advanced TDMA and S-CDMA. With the adoption of DOCSIS 2.0, we transitioned from being a manufacturer of proprietary products to producing DOCSIS based products.

We currently continue to transition from our proprietary S-CDMA-based products to products based on the DOCSIS. DOCSIS 2.0, the latest version of the DOCSIS specification combines two advanced modulation techniques, S-CDMA and advanced Time Division Multiple Access (A-TDMA). In December 2002, we received DOCSIS 2.0 certification for our TJ 715 cable modem and DOCSIS 2.0 qualification for our Bluewave 3500 CMTS. Currently, we are the only vendor to the cable industry with a DOCSIS 2.0 qualified CMTS and a complete, end-to-end DOCSIS 2.0 cable data system.

The benefit of DOCSIS 2.0 is that it greatly increases the upstream throughput of cable networks, which enables cable operators to better handle the greater upstream traffic from subscribers to the Internet and to create new services for residential and business markets. These services include but are not limited to, video conferencing, telephone service and peer-to-peer computing. Additionally, DOCSIS 2.0 better resists noise interference, which can disrupt broadband service delivery. We believe that this combination of factors will drive demand for DOCSIS 2.0 products.

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We believe the future of broadband communication will be characterized by the convergence of video, voice and data services that are based on Internet Protocol (IP) and delivered primarily by cable operators. We are developing integrated solutions to enable cable operators to provide these converged, IP-based services to their subscribers. The solutions we are developing leverage our expertise in voice, video and data technologies and our experience in designing, developing and manufacturing complex equipment, such as CMTSs and digital video head-end equipment (i.e., CherryPicker).

Cable

Our Cable business includes products for delivering broadband data, video and voice services. Most of our Cable business revenue comes from sales of our products for the delivery of data. In 2002 we began transitioning from the sale of our proprietary TeraComm cable data system to standards-based DOCSIS cable modems, MTAs and CMTSs. Our other Cable products include the CherryPicker digital video management system and the Multigate circuit-switch cable telephony system. We market and sell our Cable products to Multiple System Operators (MSO) in the cable industry worldwide. Our Cable business represented approximately 92% of our total revenue in 2002.

Products

Terayon TJ Line of DOCSIS and Euro-DOCSIS Cable Modems

We offer a line of high-performance cable modems certified to meet the DOCSIS 1.1 and 2.0 and Euro-DOCSIS 1.0 cable modem specifications. These fully certified modems can interoperate with other DOCSIS and Euro-DOCSIS equipment.

Terayon Bluewave 3000 Family of DOCSIS CMTSs

Our Bluewave 3000 family of DOCSIS CMTSs is composed of our DOCSIS 1.1 and 2.0 qualified Bluewave 3500, a scalable, carrier-class solution for cable operators most demanding broadband applications, and our DOCSIS 1.1 qualified and 2.0-based Bluewave 3200, a compact solution ideal for smaller or segmented cable networks. This product family is designed from the outset to support integrated voice, video, and data broadband services.

In 2002 we had limited sales of our BE 2000 family of CMTSs and discontinued this line with the introduction of the Bluewave 3000 CMTS family.

Terayon TeraComm® S-CDMA Cable Data Access System

Our proprietary TeraComm cable data system, which is based on our S-CDMA technology, enables cable operators to offer high-speed Internet access across a broad range of cable network architectures and conditions. This end-to-end system consists of a TeraLink® 1000 Master Controller and TeraLink Gateway located at a cable operator s head-end and TeraPro® cable modems installed at subscribers homes. As we transitioned to our standards-based products, sales of our TeraComm cable data system in 2002 were limited.

Terayon CherryPicker Digital Video Management System

Our CherryPicker digital video management system offers cable, satellite and telecom network operators unprecedented choice, control and flexibility in managing their digital video content. For example, operators can use CherryPicker to create custom channel line-ups by cherry picking from a variety of content sources such as satellite broadcast and local servers to better serve their subscribers. In addition, CherryPicker can support most digital video applications, such as seamlessly inserting digital advertising into digital programming. In 2002, we introduced the DM 6400 network CherryPicker.

Terayon Multigate Cable Telephony System

Our Multigate system enables cable operators to deploy toll-quality voice services over their networks. Based on proven circuit-switch telephony technology, Multigate is unique for utilizing our S-CDMA

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technology. This enables cable operators to deploy Multigate without upgrading their networks as extensively as competing products require. The complete Multigate system is composed of a central unit, installed at the head-end of a cable operator s network, and CPE located in subscribers homes.

Customers

We market and sell our Cable products to MSOs that provide broadband services to both residential and business subscribers. Our target market consists of the largest MSOs in each major geographic area, including North America, Europe and Asia.

Our principal customers include the following:

Adelphia Communications Corporation

Comcast Corporation

Cross Beam Networks Corporation (Cross Beam Networks), a subsidiary of Sumitomo Corporation (Sumitomo)

i-CABLE Communications Limited

Rogers Communications, Inc. (Rogers)

During 2002, one of our principal customers, Rogers, was a related party by virtue of Alek Krstajic, a Rogers employee, also being one of our Board members. Mr. Krstajic resigned from Rogers in January 2003. In May 2003, Rogers will no longer be a related party to us. In addition, one customer accounted for more than 10% of our total revenues for the year ended December 31, 2002, two customers accounted for 10% or more of the total revenues for the year ended December 31, 2001, and three customers accounted for 10% or more of total revenues for the year ended December 31, 2000. No other customer accounted for more than 10% of revenues during these years.

We believe that the loss of any of our principal customers will have a materially adverse effect on our business. Additionally, we also believe that a substantial majority of our revenues will continue to be derived from sales to a relatively small number of customers for the foreseeable future.

Market Competition

The market for cable equipment vendors is extremely competitive and is characterized by rapid technological change, and more recently, market consolidation. In the past, most cable data systems were based on vendors proprietary technology, and as a result, CPE only worked with CMTSs from the same vendor, therefore operators generally had to purchase CMTSs and modems from the same vendor. With the advent of DOCSIS certified and qualified products, customers can purchase interoperable CMTSs and CPE from a variety of equipment manufacturers.

According to the Dell Oro Group, the market leader in CMTSs is Cisco Systems, with greater than 50% market share in 2002, based on transmit ports shipped. Cisco Systems sells DOCSIS based CMTSs, as does ADC, Arris, Juniper Networks, Motorola and Com21. Though we began shipping our standards based DOCSIS solution in October 2001, the majority of our CMTS shipments in 2002 were based on our proprietary S-CMDA technology.

Again, according to the Dell Oro Group, the worldwide market leader in modems is Motorola, with over 30% market share, based on both manufacturers revenue and units shipped. The other two market leaders in modems were Toshiba and Thomson based on both manufacturers revenue and units shipped, according to the Dell Oro Group. The majority of modems sold into the market in 2002 were DOCSIS based. Approximately half of our modem shipments in 2002 were DOCSIS-based.

In the market for video grooming and remultiplexing, we believe we are the market leader with our CherryPicker digital video management system. However, several companies have entered this market, including Cisco, Motorola and privately-held BigBand Networks. Though we do not believe that any of these

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entrants to the market have yet achieved significant market share, we do expect to see our market share drop as customers seek to diversify equipment vendors.

We sell our Multigate product into the market for cable telephony systems. We believe that the market for circuit-switch cable telephony products is transitioning to VoIP products. As a result, we have few customers and limited sales of our Multigate product as we transition to our MTA product.

Telecom

In Telecom, we offer two product lines, the MiniPlex digital subscriber line multiplexer system and the IPTL Symmetric DSL (SDSL) system. The vast majority of Telecom s revenue in 2002 came from the MiniPlex products. Telecom represented approximately 8% of our total revenues in 2002.

Products

Terayon MiniPlex® Digital Subscriber Line Multiplexer System

Our MiniPlex digital subscriber-line multiplexer system enables telecom carriers to offer up to four telephone lines over a single copper pair. Having the ability to offer multiple telephone lines over a single copper pair is extremely important for carriers who are experiencing increased demand for phone lines but have a limited number of copper pairs.

Terayon IPTL Digital Subscriber Line Access Multiplexer System

Our IPTL system is an innovative access system that enables international telecom carriers to provide small and medium-size businesses with integrated voice and high-speed data services. The IPTL system consists of an IAD (Integrated Access Device) located at the subscriber s office and a DSLAM installed at a telecom carrier s central office. The IPTL system uses SDSL, which enables high performance two-way communication.

Customers

We sell our products to telecom carriers including Incumbent Local Exchange Carriers (ILECs) and Competitive Local Exchange Carriers (CLECs). To date, sales of our IPTL systems have been limited and concentrated outside of the United States. None of our telecom customers accounted for more than 10% of our total revenues for the year ended December 31, 2002.

Research and Development

We believe that our future success depends on our ability to enhance our existing products and to develop and introduce new products to meet the evolving needs of cable operators and their customers. In addition, to address competitive and pricing pressures, we believe that we must reduce the cost of manufacturing our products.

We have designed and developed a DOCSIS 2.0 system that includes cable modems and CMTSs, which we commercialized in 2002. Our current research and development efforts include development of multimedia platforms for the convergence of data, voice and video over existing cable infrastructures. Total research and development costs were $58.7 million, $79.9 million, $68.3 million for the years ended December 31, 2002, 2001, and 2000, respectively.

Sales and Marketing

We market and sell our products directly to broadband service providers through our direct sales forces in North America, Europe and Asia. We also market and sell our products through distributors, resellers and system integrators throughout the world.

We support our sales activities through marketing vehicles, such as industry press, trade shows, advertising and the web. Through our marketing efforts, we strive to educate broadband service providers on

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the technological and business benefits of our products, as well as our ability to provide quality support and service. We participate in the major trade shows and industry events for the cable industry in the United States and throughout the world. Industry referrals and reference accounts are significant marketing tools we develop and utilize.

International Sales

We have international sales offices in Belgium, Hong Kong, the United Kingdom, Canada and Israel. In fiscal 2002, 2001, and 2000, approximately 68%, 82% and 75%, respectively of our net revenues were from customers outside of the U.S. Sales to Canada were approximately 13%, 41% and 35% of our net revenues in fiscal 2002, 2001, and 2000, respectively. Sales to Japan were 28%, 13% and 11%, in fiscal 2002, 2001 and 2000, respectively. See Note 12 in our Notes to Consolidated Financial Statements.

Almost all of our international sales are currently invoiced in U.S. dollars. However, we do enter into certain transactions originating in Belgium, United Kingdom, Hong Kong, Canada, and Israel that may be denominated in currencies other than the U.S. dollar. In the near future, we expect that most of our business in Europe will be invoiced in Euros. Invoicing in other currencies will subject us to the risk associated with foreign exchange rate fluctuations. Although we do not currently have any foreign currency hedging arrangement in place, we will be considering the need for hedging or other strategies to minimize these risks.

Our international operations are subject to certain risks common to foreign operations in general, such as governmental regulations and import restrictions. In addition, there are social, political, labor and economic conditions in specific countries or regions as well as difficulties in staffing and managing foreign operations, and potential adverse foreign tax consequences, among other factors that could also have an impact on our business and results of operations outside of the United States.

Customer Service and Technical Support

We believe that our ability to provide consistently high quality service and support will be a key factor in attracting and retaining customers. Our technical services and support organization, with personnel in North America, Europe and Asia, offers support 24 hours a day, seven days per week. Prior to deployment of our products, each customer s needs are assessed and proactive solutions are implemented, including various levels of training, periodic management and coordination meetings and problem escalation procedures. We place a strong emphasis on technical training for our customers. Training is offered at our headquarters in Santa Clara and on our customers premises.

Backlog

Most of our revenues are generated from orders booked and shipped within the current quarter. Assuming product availability, our practice is to ship our products promptly upon the receipt of purchase orders from our customers. Therefore, we believe that backlog information is not material to an understanding of our business.

Manufacturing

Most of our finished goods are produced by subcontract manufacturers. During 2002, we produced modems primarily in Thailand. Currently, our modems are sole sourced from our manufacturer in Thailand. Our data and video head-end equipment and our North American telecom equipment is produced in Fremont, California. Our voice systems and international telecom equipment are produced in Israel.

Our manufacturing operations employ a wide variety of semiconductors, electromechanical components and assemblies and raw materials such as plastic resins and sheet metal. Although we believe the materials and supplies necessary for our manufacturing operations are presently available in the quantities required, we sometimes experience a short supply of certain component parts as a result of strong demand in the industry for those parts. See Note 3 in our Notes to Consolidated Financial Statements.

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Our subcontractors purchase materials, supplies and product subassemblies from a substantial number of vendors. For many of our products, there are existing alternate sources of supply. However, for certain components contained in our products, we rely on sole sources.

As noted above, we sole source our modems from one subcontract manufacturer in Thailand and sole source certain components in our products from sole source vendors. While this has not resulted in material disruptions in the past, should any change in these relationships or disruptions to our vendors operations occur, our business and results of operations could be adversely affected.

Intellectual Property

We rely on a combination of patent, trade secret, copyright and trademark laws and contractual restrictions to establish and protect proprietary rights in our products. Even though we seek to establish and protect proprietary rights in our products, there are risks. Our pending patent applications may not be granted. Even if they are granted, the claims covered by the patent may be reduced from those included in our applications. Any patent might be subject to challenge in court and, whether or not challenged, might not be broad enough to prevent third parties from developing equivalent technologies or products without a license from us.

We have entered into confidentiality and invention assignment agreements with our employees, and we enter into non-disclosure agreements with many of our suppliers, distributors and appropriate customers so as to limit access to and disclosure of our proprietary information. These contractual arrangements, as well as statutory protections, may not prove sufficient to prevent misappropriation of our technology or deter independent third-party development of similar technologies. In addition, the laws of some foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States.

In connection with the development of the DOCSIS 2.0 specification by CableLabs, we entered into an agreement with CableLabs whereby we licensed to CableLabs on a royalty-free basis any of our intellectual property rights to the extent that such rights may be asserted against a party desiring to design, manufacture or sell DOCSIS based products, including DOCSIS 2.0 based products. This license agreement grants to CableLabs the right to sublicense our intellectual property, including our intellectual property rights in our S-CDMA patents, to manufacturers that compete with us in the marketplace for DOCSIS based products.

We have received letters claiming that our technology infringes the intellectual property rights of others. We are in the process of reviewing the allegations made and, after consulting with patent counsel, we believe that the claims alleging infringement are without merit. However, if these allegations are submitted to a court, the court could find that our products infringe these intellectual property rights. If we are found to have infringed these rights, we could be subject to substantial damages and/or an injunction preventing us from conducting our business. In addition, other third parties may assert infringement claims against us in the future. A claim of infringement, whether meritorious or not, could be time-consuming, result in costly litigation, divert our management s resources, cause product shipment delays or require us to enter into royalty or licensing arrangements. These royalty or licensing arrangements may not be available on terms acceptable to us or at all. Litigation also may be necessary to enforce our intellectual property rights.

We pursue the registration of our trademarks in the United States and have applications pending to register several of our trademarks throughout the world. However, the laws of certain foreign countries might not protect our products or intellectual property rights to the same extent as the laws of the United States. Effective trademark, copyright, trade secret and patent protection may not be available in every country in which our products may be manufactured, marketed or sold.

Employees

As of December 31, 2002, we had 487 employees, of which 332 were located in the United States, 102 in Israel and 53 in Canada, Europe, South America and Asia. We had 272 employees in research and development, 95 in marketing, sales and customer support, 51 in operations and 69 in general and

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administrative functions. None of our employees are represented by collective bargaining agreements. We believe that our relations with our employees are good.

DIRECTORS, EXECUTIVE OFFICERS AND KEY EMPLOYEES

Certain information regarding our executive officers as of March 27, 2003, is set forth below.

Name	Age	Position
Zaki Rakib(2)(3)	44	Chief Executive Officer, Secretary and Director
Shlomo Rakib	46	Chairman of the Board, President, Chief Technical Officer and Director
Arthur T. Taylor	46	Chief Financial Officer
Alek Krstajic(2)	39	Director
Christopher J. Schaepe(1)(2)(3)	39	Director
Lewis Solomon(1)(3)	69	Director
David Woodrow(1)(3)	57	Director

(1) Member of Audit Committee

(2) Member of Compensation Committee

(3) Member of the Nominating Committee

The Board of Directors (Board) is divided into three classes, each having a three-year term. Mr. Krstajic and Mr. Solomon are Class I directors, whose terms expire in 2005. Mr. Woodrow and Mr. Shlomo Rakib are Class II directors, whose terms expire in 2003. Mr. Schaepe and Dr. Zaki Rakib are Class III directors, whose terms expire in 2004.

Zaki Rakib co-founded Terayon Communication Systems, Inc. (Company) and has served as Chief Executive Officer, Secretary and as a director of the Board since January 1993. From January 1993 to July 1998, Dr. Rakib also served as our Chief Financial Officer. Prior to co-founding the Company, Dr. Rakib served as Director of Engineering for Cadence Design Systems, an electronic design automation software company, from 1990 to 1994. Prior to joining Cadence, Dr. Rakib was Vice President of Engineering at Helios Software, which was acquired by Cadence in 1990. Dr. Rakib is a director of a privately held company. Dr. Rakib holds B.S., M.S. and Ph.D. degrees in engineering from Ben-Gurion University in Israel. Dr. Rakib is the brother of Shlomo Rakib, our Chairman of the Board, President and Chief Technical Officer and a director on the Board.

Shlomo Rakib co-founded the Company in 1993 and has served as Chairman of the Board and President since January 1993 and as Chief Technical Officer since February 1995. Prior to co-founding the Company, Mr. Rakib served as Chief Engineer at PhaseCom, Inc. a communications products company, from 1981 to 1993, where he pioneered the development of data and telephony applications over cable. Mr. Rakib is the inventor of several patented technologies in the area of data and telephony applications over cable. Mr. Rakib is a director of a privately held company. Mr. Rakib holds a B.S.E.E. degree from Technion University in Israel. Mr. Rakib is the brother of Zaki Rakib, our Chief Executive Officer, Secretary and a director on the Board.

Arthur T. Taylor joined the Company in February 2003 as Senior Vice President and Chief Financial Officer. Prior to joining us, Mr. Taylor served as Vice President, Chief Financial Officer and Secretary of Evolve Software, Inc., an enterprise software company, from July 2002 until February 2003. From March 2001 to July 2002, Mr. Taylor was Vice President and Chief Financial Officer for Docent, Inc., an eLearning enterprise software company. From August 1998 to March 2001, Mr. Taylor was Vice President and Corporate Treasurer for 3Com Corporation, a high technology networking company. From June 1997 to July 1998, Mr. Taylor was Chief Financial Officer, Treasurer, and Vice President, Finance for ReSound Corporation, a hearing health care company. Prior to that Mr. Taylor held several senior financial management positions at Allergan, Inc., an eye and skin care pharmaceutical and medical device company.

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Mr. Taylor received a Bachelor of Science in Business Administration from San Diego State University and an MBA from the University of Southern California. Mr. Taylor is also a Certified Management Accountant.

Alek Krstajic has served as a director of the Company since July 1999. Mr. Krstajic is a consultant to providers of broadband services and broadband equipment manufacturers. Mr. Krstajic held a variety of senior management positions at Rogers Cable, Inc., most recently as Senior Vice President, Sales and Marketing, from 1994 through January of 2003. Mr. Krstajic is a director of Vix Systems, Inc., a privately held company. Mr. Krstajic holds a B.A. degree in economics from the University of Toronto in Canada and attended the executive education program at Wharton School of Business at the University of Pennsylvania.

Christopher J. Schaepe has served as a director of the Company since March 1995. Mr. Schaepe is a General Partner of Lightspeed Venture Partners, a technology-focused venture capital firm specializing in early stage communications and software infrastructure investments. From October 1991 until October 2000, he served in various roles, including General Partner, at Weiss, Peck & Greer Venture Partners, which became Lightspeed Venture Partners in October 2000. From July 1986 to July 1989, Mr. Schaepe served in corporate finance and capital markets roles at Goldman, Sachs & Company after his employment as a software engineer at IBM Corporation. He is a director of several privately held companies. Mr. Schaepe holds B.S. and M.S. degrees in Computer Science from the Massachusetts Institute of Technology and an M.B.A. degree from Stanford Business School.

Lewis Solomon has served as a director of the Company since March 1995. Mr. Solomon has been a principal of G&L Investments, a consulting firm, since 1989 and currently serves as Chief Executive Officer of Broadband Services, Inc. From 1983 to 1988, he served as Executive Vice President at Alan Patricof Associates, a venture capital firm focused on high technology, biotechnology and communications industries. Prior to that, Mr. Solomon served in various capacities with General Instrument Corporation, most recently as Senior Vice President. From April 1986 to January 1997, he served as Chairman of the Board of Cybernetic Services, Inc., a LED systems manufacturer, which commenced a Chapter 7 bankruptcy proceeding in April 1997. Mr. Solomon serves on the boards of Anadigics, Inc., a manufacturer of integrated circuits, Harmonic, Inc., a company that designs, manufacturers and markets digital and fiberoptic systems, and Artesyn Technologies, Inc., a power supply and power converter supply company. Mr. Solomon also serves on the boards of several privately held companies. Mr. Solomon holds a B.S. degree in Physics from St. Joseph s College.

David Woodrow has served as a director on our Board since June 2002. From September 2000 until March 2002, Mr. Woodrow served as the Chief Executive Officer and President of Qwest Digital Media LLC, a production and digital media management company. From 1982 until his retirement in September 2000, Mr. Woodrow held a number of senior management positions, most recently the Executive Vice President, Broadband Services, with Cox Communications, Inc., a major cable operator in the United States. Mr. Woodrow is a director of several privately held companies. Mr. Woodrow holds a B.S. and M.S. degree in mechanical engineering from Purdue University and a M.B.A. from the University of Connecticut.

Item 2. ***Properties***

Our principal executive offices are located in Santa Clara, California where we lease approximately 141,000 square feet used by our Cable and Telecom segments under a lease that expires in October 2009. In the United States, we also have facilities in Mountain View and Costa Mesa, California; Denver, Colorado; and Alpharetta, Georgia used by our Cable segment. We have a facility in Fremont, California used by our Telecom segment.

In addition, we lease properties worldwide. We have a facility in Tel Aviv, Israel consisting of approximately 82,000 square feet used by our Cable and Telecom segments under a lease that expires in October 2005. We have offices in Hong Kong; Brussels, Belgium; Prague, Czech Republic; and Ontario, Canada used by our Cable segment. We believe that our existing facilities are adequate to meet our needs for the immediate future.

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Item 3. ***Legal Proceedings***

Beginning in April 2000, several plaintiffs filed lawsuits against us and certain of our officers and directors in federal court. The plaintiff in the first of these lawsuits purported to represent a class whose members purchased our securities between February 2, 2000 and April 11, 2000. The complaint alleged that the defendants had violated the federal securities laws by issuing materially false and misleading statements and failing to disclose material information regarding our technology. The allegations in the other lawsuits were substantially the same and, on August 24, 2000, all of these lawsuits were consolidated in the United States District Court, Northern District of California. The court hearing the consolidated action has appointed lead plaintiffs and lead plaintiffs counsel pursuant to the Private Securities Litigation Reform Act.

On September 21, 2000, the lead plaintiffs filed a consolidated class action complaint containing factual allegations nearly identical to those in the original lawsuits. The consolidated class action complaint, however, alleged claims on behalf of a class whose members purchased or otherwise acquired our securities between November 15, 1999 and April 11, 2000. On October 30, 2000, defendants moved to dismiss the consolidated class action complaint. On March 14, 2001, after defendants motion had been fully briefed and argued, the court issued an order granting in part defendants motion and giving plaintiffs leave to file an amended complaint. On April 13, 2001, plaintiffs filed their first amended consolidated class action complaint. On June 15, 2001, defendants moved to dismiss this new complaint and oral argument on the motion occurred on December 17, 2001. On March 29, 2002, the court denied the defendants motion to dismiss. The parties are now in the discovery process. In addition, the court has certified the plaintiffs proposed class and scheduled trial to begin on November 4, 2003.

The lawsuit seeks an unspecified amount of damages, in addition to other forms of relief. We consider the lawsuits to be without merit and intend to defend vigorously against these allegations. However, the litigation could prove to be costly and time consuming to defend, and there can be no assurances about the eventual outcome.

On October 16, 2000, a lawsuit was filed against us and the individual defendants (Zaki Rakib, Selim Rakib and Raymond Fritz) in the California Superior Court, San Luis Obispo County. This lawsuit is titled *Bertram v. Terayon Communications Systems, Inc*. (Bertram). The *Bertram* complaint contains factual allegations similar to those alleged in the federal securities class action lawsuit. The complaint asserts causes of action for unlawful business practices, unfair and fraudulent business practices, and false and misleading advertising. Plaintiffs purport to bring the action on behalf of themselves and as representatives of all persons or entities in the State of California and such other persons or entities outside California that have been and are adversely affected by defendants activity, and as the Court shall determine is not inconsistent with the exercise of the Court s jurisdiction. Plaintiffs seek equitable and injunctive relief. Defendants removed the Bertram case to the United States District Court, Central District of California and, on January 19, 2001, filed a motion to dismiss the complaint. A hearing on defendants motion was held March 26, 2001 and the court granted Defendants motion to dismiss the action and denied Plaintiffs motion requesting remand. On April 5, 2001, Defendants moved for an order requiring further proceedings, if any to take place in the Northern District of California. Plaintiffs did not oppose this motion and eventually entered into a stipulation to go forward in the Northern District. On July 9, 2001, a status conference was held in this case before Judge Patel. Plaintiffs did not appear for the conference, and the court requested that defendants submit an order dismissing the Bertram action with prejudice, which the defendants have submitted to the court. On August 7, 2002, the court held another conference at which it entered an order dismissing the *Bertram* case. The court s order permits the individual plaintiffs in the *Bertram* case to pursue any claims that they may have as members of the purported class in the related, consolidated class action discussed above. Plaintiffs have appealed this order, and the Court of Appeals has set a briefing schedule for the appeal.

We believe that the allegations in the *Bertram* case, as with the allegations in the federal securities case, are without merit and intend to contest the matter vigorously.

On May 7, 2002, a shareholder filed a derivative lawsuit purportedly on behalf of us against five of its current directors, two former directors and two former officers. This lawsuit is titled *Campbell vs. Rakib, et al.*, and is pending in the California Superior Court, Santa Clara County. We are a nominal defendant in this

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lawsuit, which alleges claims relating to essentially the same purportedly misleading statements that are at issue in the pending securities class action. In that litigation, we dispute making any misleading statements. The derivative complaint also alleges claims relating to stock sales by certain of the director and officer defendants.

On July 12, 2002, a shareholder filed a derivative lawsuit purportedly on behalf of us against three of our current directors, one former officer and three former investors. This lawsuit is titled *O Brien vs. Rakib, et al.*, and is pending in the California Superior Court, San Francisco County. We are a nominal defendant in this lawsuit, which alleges claims relating to essentially the same purportedly misleading statements that are at issue in the pending securities class action. In that litigation, we dispute making any misleading statements. The derivative complaint also alleges claims relating to stock sales by certain of the director and officer defendants. The plaintiff in the *O Brien* case has dismissed the investor defendants without prejudice.

Since the *Campbell* and *O Brien* cases were filed, the parties have taken steps to have these cases consolidated in the California Superior Court, County of Santa Clara. On October 4, 2002, the California Superior Court, County of San Francisco entered an order providing for the transfer of the *O Brien* case. On October 29, 2002, plaintiff in the *O Brien* case submitted certain materials to the California Superior Court, County of Santa Clara to effectuate that transfer, which is now complete. The *O Brien* case is now consolidated with the *Campbell* case.

We believe that there are many defects in the *Campbell* and *O Brien* derivative complaints.

On January 19, 2003, Omniband Group Limited, a Russian company, (Omniband) filed a request for arbitration with the Zurich Chamber of Commerce, claiming damages in an amount of $2,094,970 allegedly caused by our breach of an agreement to sell to Omniband certain equipment pursuant to an agreement between Omniband and Radwiz Ltd., our subsidiary, dated February 22, 2000. On February 10, 2003, the President of the Zurich Chamber of Commerce appointed the Chairman of a three member panel to preside over the arbitration proceedings. We believe that the allegations are without merit and intend to present a vigorously defense in the arbitration proceedings.

On September 3, 2002, Uniscor Ltd. (an Israeli company under voluntary liquidation) and Flextronics (Israel) Ltd., an Israeli company (Flextronics) filed a claim with the Tel Aviv District Court in Israel against us and Radwiz, our subsidiary, alleging that damages of NIS 25,000,000 (approximately $5 million US dollars) were caused to them by our alleged failure to comply with its contractual obligations to accept and pay for components manufactured by Flextronics in the first quarter of 2001 pursuant to projections it had received from Radwiz. We filed a statement of defense denying the allegations, after which the parties accepted the Court s recommendation to transfer the case to non-binding mediation.

We are currently a party to various other legal proceedings, in addition to those noted above, and may become involved from time to time in other legal proceedings in the future. While we currently believe that the ultimate outcome of these other proceedings, individually and in the aggregate, will not have a material adverse effect on our financial position or overall trends in results of operations, litigation is subject to inherent uncertainties. Were an unfavorable ruling to occur in any of our legal proceedings, there exists the possibility of a material adverse impact on our results of operations for the period in which the ruling occurs. The estimate of the potential impact on our financial position or overall results of operations for any of the above legal proceedings could change in the future.

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

There were no matters submitted to a vote of security holders in the fourth quarter of 2002.

PART II

Item 5. ***Market for the Registrant s Common Equity and Related Stockholder Matters***

Our common stock is traded on the Nasdaq National Market under the symbol TERN . Public trading of our common stock commenced on August 18, 1998. Prior to that, there was no public market for our common stock. The following table sets forth, for the periods indicated, the high and low per share sale prices of our common stock, as reported by the Nasdaq National Market.

	High	Low
2002:		
First Quarter	$ 9.35	$5.48
Second Quarter	$ 8.48	$0.86
Third Quarter	$ 3.62	$1.10
Fourth Quarter	$ 2.97	$1.51
2001:		
First Quarter	$ 9.13	$3.50
Second Quarter	$ 7.60	$2.36
Third Quarter	$ 7.55	$3.98
Fourth Quarter	$14.75	$6.75

As of March 18, 2003, there were approximately 684 holders of record of our common stock, as shown on the records of our transfer agent. The number of record holders does not include shares held in street name through brokers.

We do not pay any cash dividends on our common stock. We currently expect to retain future earnings, if any, for use in the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future.

Certain information related to securities authorized for issuance under our equity compensation plans is incorporated by reference to the information to be included in our Proxy Statement for our 2003 Annual Meeting of Stockholders.

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Item 6. ***Selected Financial Data***

The following tables contain selected financial data as of and for each of the five years ended December 31, 1998, 1999, 2000, 2001 and 2002 and are derived from our financial statements. The selected financial data are qualified by reference to, and should be read in conjunction with, our financial statements and the notes to those financial statements and Management s Discussion and Analysis of Financial Condition and Results of Operations.

	Years Ended December 31,				
	2002	2001	2000	1999	1998
	(in thousands, except per share data)				
Consolidated statement of operations data:					
Revenues	$129,403	$ 279,481	$ 339,549	$ 97,009	$ 31,696
Cost of goods sold	100,949	263,117	289,531	72,044	34,518
Gross profit (loss)	28,454	16,364	50,018	24,965	(2,822)
Operating expenses:					
Research and development	58,696	79,927	68,270	17,579	10,685
Cost of product development assistance agreement(1)			9,563	35,147	
In-process research and development(2)			30,535	14,600	
Sales and marketing	35,704	55,701	45,261	15,727	6,947
General and administrative	14,715	31,309	24,809	7,476	3,223
Goodwill amortization		25,410	59,057	3,524	
Restructuring and asset write-offs(3)	8,922	587,149			
Total operating expenses	118,037	779,496	237,495	94,053	20,855
Loss from operations	(89,583)	(763,132)	(187,477)	(69,088)	(23,677)
Interest (expense) income, net	(3,481)	44	6,710	5,008	449
Gain on early retirement of debt(4)	49,089	185,327			
Income tax (expense) benefit	(238)	13,915			
Net loss	$ (44,213)	$(563,846)	$(180,767)	$(64,080)	$(23,228)
Series F convertible preferred stock dividend					