

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

(Mark One)

Annual report pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934

For the fiscal year ended.....DECEMBER 31, 1999

OR

Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the transition period from.....to.....

Commission File Number 0-19437

CELLULAR TECHNICAL SERVICES COMPANY, INC.

(Exact Name of Registrant as Specified in Its Charter)

DELAWARE
(State or Other Jurisdiction of

11-2962080
(I.R.S. Employer Identification No.)

2401 FOURTH AVENUE, SEATTLE, WASHINGTON 98121
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: (206) 443-6400

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

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

COMMON STOCK, \$.001 PAR VALUE

(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 the filing requirements for the past 90 days. Yes 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 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.

As of March 10, 2000, there were 2,281,969 shares of Common Stock, \$.001 par value outstanding. As of March 10, 2000, the aggregate market value of the Registrant's Common Stock, \$.001 par value, held by non-affiliates was approximately \$31.1 million. The aggregate market value of the Company's stock was calculated using the average of the high (\$15.00) and low (\$12.875) sale price for its Common Stock on March 10, 2000 as reported on The Nasdaq Stock Market (National Market System).

Documents incorporated by reference in Part III: The Company's definitive proxy statement to be filed in connection with the 2000 Annual Meeting of Stockholders.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

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PART I

ITEM 1. BUSINESS

Unless the context otherwise requires, all references to the "Company" in this Annual Report on Form 10-K include Cellular Technical Services Company, Inc. and any entity over which it has or shares operational control.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that reflect the Company's views with respect to future events and financial performance. The Company uses words and phrases such as "anticipate," "expect," "intend," "the Company believes," "future," and similar words and phrases to identify forward-looking statements. Reliance should not be placed on these forward-looking statements. These forward-looking statements are based on current expectations and are subject to risks, uncertainties and assumptions that could cause, or contribute to causing, actual results to differ materially from those expressed or implied in the applicable statements. Readers should pay particular attention to the descriptions of risks and uncertainties described in this report and in the Company's other filings with the Securities and Exchange Commission. All forward-looking statements included in this report are based on information available to the Company on the date of this report. The Company assumes no obligation or duty to update any such forward-looking statements.

GENERAL

The Company develops, markets, distributes and supports a diversified mix of products and services for the telecommunications industry. Over the past 11 years, the Company has developed expertise in real-time wireless call processing and has created technologically advanced solutions for this industry, focusing primarily in the area of wireless communications fraud management. During 1999, the Company implemented a short and long-range strategic plan to diversify its product mix, both within and outside of the telecommunications industry. This diversification strategy is at the foundation of the Company's growth plan for the future.

In the fourth quarter of 1999, as part of its diversification strategy, the Company launched Isis Tele-Communications, Inc., a majority-owned subsidiary, which designs, markets, and distributes both regionally and nationally branded prepaid long-distance phone cards. The Company expects that this new product line will provide growth potential and product line expansion for the year 2000 and beyond. Also in the fourth quarter of 1999, the Company made a strategic investment in KSI, Inc., a provider of development-stage wireless geo-location technology. This technology is expected to provide a platform for hosting a variety of location-sensitive consumer applications for the wireless communications market. The Company expects to leverage its entrance into the geo-location marketplace by developing, marketing, distributing, and supporting a suite of commercial geo-location applications as this technology evolves and is commercially deployed by wireless carriers.

Presently, the Company's major customers are wireless telephone carriers. These carriers operate in a dynamic, rapidly-changing environment and are subject to intense competition, cost sensitivity and other market forces. These and other related factors have influence on the Company's direction for the future. The Company believes that these factors will provide opportunities for new products and services in a wide variety of markets.

PRODUCTS

The Blackbird Platform Products

The Company's Blackbird'r' Platform product line includes a suite of radio frequency ("RF") based platform solutions focusing on wireless fraud prevention. Presently, it involves various forms of "pre-call" verification to ensure that the use of an analog wireless telephone is legitimate before the device is allowed to connect to a

carrier's analog wireless communications network. In this area, the Company is a leading provider of RF-based solutions for the prevention of "cloning fraud." This term is used to describe the illegal activity of using a scanning device to steal the electronic serial number and mobile identification number of a legitimate wireless telephone while in use, then reprogramming the stolen numbers into other phones. These reprogrammed phones, or "clone phones," are then used to make illegal calls on a wireless communications network, without payment for the wireless services rendered. The Company's suite of RF-based platform solutions include the Blackbird'r' Platform, PreTect'TM' cloning-fraud prevention application, No Clone Zone'sm' roaming-fraud prevention service, and related application products and services (collectively, the "Blackbird Platform Products"). The Company's Blackbird Platform Products are currently deployed in approximately 2,000 cell sites in most major metropolitan areas throughout the United States. The Company's customers have reported up to a 98% reduction in cloning fraud activity in areas served by the Blackbird Platform Products since its initial installation, and continue to rely on its cloning prevention capabilities for their existing analog wireless communications networks.

The Blackbird Platform. The Blackbird Platform provides real-time collection, distribution, storage and reporting of pre-call data retrieved from an analog wireless communications network. It is designed to deliver centralized control and efficiencies of operation based on industry standards, open systems and real-time distributed messaging. The Blackbird Platform Products incorporate software and hardware designs that use the UNIX operating system with TCP/IP message transport networking, supporting both client-server and peer-to-peer communication architectures. This operating system environment is widely used and accepted in the telecommunications industry.

The PreTect Application. The PreTect application employs patented RF "fingerprinting" technology to proactively prevent cloning fraud in real-time. It accomplishes this by building RF fingerprints of legitimate subscribers' wireless phones using the pre-call data collected by the Blackbird Platform. An RF fingerprint is the wireless phone's unique electromagnetic signal waveform characteristics contained in each phone, with no two RF fingerprints being exactly the same. The PreTect application compares RF fingerprints of incoming call requests to its database of RF fingerprints for validated legitimate subscriber phones and also examines usage characteristics to assist in verifying authenticity. It then directs automatic call "tear-down" or interdiction of a fraudulent call before connection is completed. The PreTect application provides proactive pre-call fraud prevention rather than post-call fraud detection.

The No Clone Zone Service. The Company has developed a roaming-fraud prevention service, known as the No Clone Zone service, which provides seamless, RF-based roaming fraud prevention. The No Clone Zone service proactively and transparently prevents roaming cloning fraud in markets which utilize the Blackbird Platform and PreTect fraud prevention application. The service leverages the underlying power of existing Blackbird Platform deployments, and the Blackbird Platform's real-time distributed messaging system, to quickly and seamlessly link participating carrier systems nationwide, into a private, high-speed cloning fraud prevention network.

Blackbird Platform Monitoring Option. The Company has developed system monitoring technology for the Blackbird Platform Products which provides real-time capabilities for monitoring overall system health of any network-based distributed applications. The Company's Blackbird Platform Monitoring product provides sophisticated real-time alarming of system performance exceptions which can be directed to a centralized call center. The product is designed to support industry standards with the flexibility of open architecture and platform portability. Additionally, the Company provides a Blackbird Platform Monitoring service, available to all Blackbird Platform customers, which is hosted from the Company's Seattle headquarters call center. This provides a flexible alternative for customers who have limited expertise to perform this critical component of fraud system management to keep the Blackbird Platform Products at optimal performance 24 hours per day, 7 days per week.

Blackbird Backup & Restore Option. The Company has developed the Blackbird Backup & Restore product that optimizes and validates the storage of critical data in the event of system failure so complete reconstruction can be performed easily. This product provides a completely automated operation with customizable scheduling flexibility, requiring no manual intervention by customer personnel.

Blackbird Platform Professional Services. The Company provides system performance analysis, system project planning, configuration, implementation and other professional services in connection with its Blackbird Platform Products. Customers are charged hourly rates for such services or may contract with the Company for fixed fees.

Prepaid Wireline Long-Distance Phone Cards

To stimulate revenue growth for the Company, and in alignment with its product diversification strategy, the Company expanded into the prepaid long-distance service arena in the fourth quarter of 1999. Prepaid long-distance service represents one of the fastest growing sectors of the telecommunications industry, with growth in this market accelerating as a result of the Telecommunications Act of 1996. According to the International Telecard Association, prepaid long-distance calling card revenues in the United States have grown from an estimated \$12.0 million in 1992 to an estimated \$2.1 billion in 1997, and they are projected to be at least \$4.0 billion in 2001. Growth in this market is has been driven by a large population of consumers such as first generation immigrants, students, temporary residents, and lower-income individuals, who in many instances do not have local phone service due to credit or identification problems. The Company expects that growth in this market will both continue in these customer groups and expand to other customer groups as prepaid phone cards become more widely adopted.

Through its new majority-owned subsidiary, Isis Tele-Communications, Inc., the Company markets and distributes branded prepaid long-distance phone cards primarily under the Value MaxxTM and Straight TalkTM brands in denominations generally ranging from \$5 to \$20 per card. Isis specializes in targeted marketing programs with aggressive domestic and international long-distance rates. The Company expects that Isis will distribute cards through regional and national multi-level distribution channels, using direct sales, third-party distributors, vending machines, and telemarketing. End users of these cards can use them by dialing the local or toll-free access number identified on the card, keying in a personal identification number (a "PIN") that is assigned to the card, and then dialing the telephone number that the end user seeks to reach. The third-party long-distance service provider then completes the call, debits the balance on the card following the call, and provides customer assistance as necessary. The Company anticipates that its ability to provide aggressive per-minute rates, broad multi-level distribution coverage, and quality customer service will be the key ingredients for fueling revenue growth and expansion of this product line. Isis has recently opened offices in Los Angeles, Boston, New York, New Jersey, and Chicago.

Future Opportunities For Growth In Emerging Technologies

The Federal Communications Commission ("FCC") has required all wireless carriers to deploy wireless geo-location technology by October 2001 to provide comparable 911 services to wireless telecommunications subscribers. Wireless geo-location technology provides and identifies the specific geographic location (in latitude and longitude measurements) of a wireless telephone, and can eventually be applied to other wireless communications devices. Industry analysts have estimated the market for commercial geo-location applications to be well over \$8.0 billion. During the fourth quarter of 1999, and as part of the Company's long-term diversification strategy, the Company made a strategic investment in KSI, Inc., a provider of development-stage wireless geo-location technology. The Company anticipates developing, marketing, distributing, and supporting a suite of commercial geo-location applications as this technology evolves and is deployed by all wireless carriers to comply with the FCC's requirements.

The Hotwatch Platform

The Company's Hotwatch Platform provides technological solutions primarily in the "service metering" area, which involves various forms of "post-call" verification to ensure that a prepaid wireless subscriber has proper account status to make additional calls. The Company's real-time rating technology is capable of supporting multiple long-distance rating and multiple airtime price plans. As anticipated by the Company, the Company's remaining customers of the Hotwatch Platform phased out their use of the Hotwatch Platform by the fourth

quarter of 1999. However, the Company is reviewing market opportunities to use the patented Hotwatch real-time technology in new value-added applications that could expand its product mix in the prepaid services arena.

THE TELECOMMUNICATIONS INDUSTRY

The Telecommunications Act of 1996 was implemented to stimulate competition in all arenas of the telecommunications industry. The results have provided consumers with a broader spectrum of cost-effective service choices for their telecommunication needs. Correspondingly, the wireless industry has seen a dramatic expansion. The Cellular Telecommunications Industry Association has estimated that the number of wireless telephone subscribers in the United States increased from approximately 340,000 subscribers in 1985 to approximately 75 million subscribers in 1999. Industry analysts believe that the number of wireless telephone subscribers may grow to in excess of 120 million in the United States by the end of 2001. International market analysts have forecast that total worldwide wireless telephone service revenue will grow from \$195 billion in 1998 to \$280 billion by the end of 2000 and \$361 billion by the end of 2002.

Key Issues Resulting from Increased Competition in the Telecommunications Industry

Lower price per minute has driven minutes of usage up. The increased presence of multiple telecommunications carriers in any given market has spawned a number of new single-rate pricing plans, effectively driving the price per minute of wireless telephone usage substantially lower. According to the Yankee Group, wireless rates have dropped an average of 40% from early 1995. As a result, wireless telephone carriers must supplement revenues by implementing new subscriber service offerings to not only grow, but also preserve their existing subscriber base. New add-on consumer services (such as text messaging, stock quote delivery and transportation alerts) is expected to continue to drive the minutes of use up, which should position the wireless communication device as the only communication device an individual will need to own, covering both communication and personal information management needs of the future.

Nearly one-third of all new subscribers leave each year. Customer "churn," which is when a subscriber switches from one wireless carrier to another in a short amount of time, has become a significant problem facing the wireless telephone carriers today. Churn not only results in a loss of subscriber revenue, but also makes it difficult for carriers to recover the significant costs associated with acquiring new subscribers. Presently, churn is running in the range of 25% - 35% per year for most carriers, according to industry sources. This level is expected to remain high as competition to attract new subscribers continues. Aggressive rate plans and bundled service packages, including free roaming and free or low-cost long-distance rates have served to differentiate one wireless carrier from another. However, the Company believes that the availability of consumer applications and services by carriers that integrate personalized information, the internet, and email messaging may prove to be the most effective tool for managing subscriber churn.

Prepaid market has expanded to capture new consumers. Prepaid service represents one of the fastest growing sectors of the telecommunications industry and is providing a new point of differentiation in local markets as telecommunication carriers expand their service offerings. Once driven primarily by a large population of first generation immigrants, students and lower-income individuals, a variety of prepaid services are rapidly expanding toward the mainstream in the United States. This expansion is primarily due to the widespread availability of competitive long-distance rates, the convenience of a set-limit debit card for long-distance calling, and an easy solution for travel and emergency situations.

Competition has raised consumer expectations on service offerings. The intense competition in the telecommunications market is placing new pressures on wireless telephone carriers to differentiate their service offerings. As the wireless communications device becomes capable of receiving a wider variety of communications, i.e., voice messaging, paging, or emails, the Company believes that wireless subscribers will require and expect a robust suite of consumer services that not only replicate what landline service providers offer (such as emergency 911 assistance), but also provide new ways to access personalized information through their wireless phone. Examples include roadside assistance, asset tracking, personalized information or

"concierge" service ("E411" and traffic advisories), and others. The Company believes the results of competition in the telecommunications market, including lower price per minute, higher minutes of usage, and demand for new sources of carrier revenue, will continue to provide diversified market opportunities for the Company's existing products and services, as well as new offerings in the future.

THE COMPANY'S STRATEGY

The Company believes the key issues affecting the telecommunications industry described above support and validate the Company's strategic direction toward diversification.

1. Diversify the Company's product mix within the growing telecommunications market.

The Company believes that the present dynamics of the telecommunications industry will result in a proliferation of new service applications focused on mobile information management. These services may include such things, for example, as prepaid calling services, location-sensitive advertising, stock quote notification and weather advisories. The Company believes that many of the new applications will be enhanced by the addition of geo-location technology. As the Company further expands on its diversification plan, it believes it will be well positioned for offering a variety of new consumer-convenience products and services. The Company expects that these target offerings may help the carriers reduce churn and increase revenues, while enhancing the Company's market position beyond its current products and services, enlarging its customer base across multiple sectors, and providing for both near-term and long-term revenue growth.

2. Leverage existing intellectual property in new ways.

The Company believes it can leverage its core expertise and patented technology in the real-time information management area to develop new products and services. The Company has developed unique expertise in the area of distributed real-time computing over high-speed, interlinked networks on a nationwide scale. This capability allows the Company to acquire data and perform information processing in a highly distributed environment, such as encountered in wireless infrastructures. The Company believes this expertise will be particularly useful in the development of new commercial geo-location applications. The Company has also developed the ability to combine streams of telephone billing information, such as toll charges, discounts, promotions and surcharges to mimic a carrier's billing system on a real-time basis. This happens within minutes after the end of the call, rather than in the typical batch process for monthly customer billing cycles. The Company's focus on diversification supports the continued use of its intellectual property, providing cost-savings and accelerating product development efforts for new telecommunications products and services.

3. Expand product offerings outside of the telecommunications market.

The Company believes it is well positioned to apply its core competencies and technologies toward product opportunities outside of the telecommunications industry, which would reduce its dependence on the telecommunications market. The Company expects to continue pursuing strategic opportunities in this area in the future.

4. Deliver exceptional customer service.

The Company believes the ability to provide knowledgeable, high quality customer service is a critical success factor for servicing the needs of wireless telephone carriers as they implement new commercial applications. The Company currently provides real-time system monitoring 24 hours per day, 7 days per week for its Blackbird Platform Products through its call center located at the Seattle headquarters. Additionally, the Company provides regional technical support personnel in major markets for on-site maintenance service of its systems, ensuring optimal uptime performance. The Seattle call center employs sophisticated commercial call tracking and system alarming software, integrated with the Company's own proprietary Blackbird technology, and is staffed with technicians who are required to meet continuous training objectives. Through its knowledge of unique customer

technical requirements, the Company believes it can expand these same technical support service offerings to support other new commercial applications it develops for the telecommunications marketplace, as well as products and services offered in new markets.

PRODUCT DEVELOPMENT

For the years ended December 31, 1999, 1998 and 1997, the Company incurred gross research and development expenditures of \$1.6 million, \$5.1 million and \$9.8 million, respectively, prior to capitalization of software development costs during each period in the amounts of zero, \$0.6 million and \$1.8 million, respectively. The Company ceased capitalization of software development costs during 1998. The Company's current research and development efforts are focused on enhancing and improving existing products and services, and developing new products and services, including new software applications and technology interfaces. These enhancements and/or new products and services may, when and if developed, enable the Company to expand on its existing products and services to provide a broad variety of functions not presently offered. Costs included in the Company's gross research and development expenditures include costs for research, design, development, tests, and preparation of training and user documentation. The Company anticipates that it will continue to commit significant resources to product development in the future to address market opportunities for new and enhanced products and services. See also "Business Risks -- Dependence on New Product Development and Product Enhancements" below.

SALES, MARKETING AND DISTRIBUTION

The Company primarily markets Blackbird Platform Products directly to wireless telephone carriers operating analog networks in the most heavily populated United States markets. The Company sells and licenses Blackbird Platform Products pursuant to agreements that typically provide for hardware purchases, software licenses, customer support and the provision of related services.

The Company designs and markets its own prepaid phone cards and also resells prepaid phone cards produced by others. The Company expects to market prepaid phone card products primarily through regional and national multi-level distribution channels, using direct sales, third-party distributors, vending machines, and telemarketing. The Company anticipates that these marketing efforts will be pursuant to distribution agreements and other forms of sales and marketing arrangements.

The Company also participates at targeted trade shows, conferences and industry events to augment its marketing efforts. The Company further consults with its current and prospective customers to gather product feedback to assist the Company in determining product direction. Achieving greater market acceptance and penetration of the Company's products and services will require, in addition to enhancing and improving its products and services, increased marketing efforts and the expenditure of funds to increase customer awareness of the Company and to inform potential customers of the benefits of the Company's products and service offerings. See also "Business Risks -- Fluctuations in Quarterly Performance," "Business Risks -- Need for Additional Financing" and "Business Risks Dependence on Distributors" below.

Revenues from Blackbird Platform Products represented 96% of the Company's total revenues in 1999 and 1998, compared to 94% of total revenues in 1997. The Company anticipates that revenues from Blackbird Platform Products will continue to represent a meaningful portion of the Company's total revenue in 2000, but that the Company's dependence on Blackbird Platform Products should decrease during 2000 as revenues from its prepaid phone card products are expected to increase during the year. Revenues from Hotwatch Platform Products were not material in 1999, 1998 or 1997. See also "Business Risks -- Dependence on Limited Product Base; Uncertainty of Widespread Market Demand" below.

CUSTOMER SUPPORT AND SERVICES

The Company provides hardware maintenance, software maintenance, software subscription services (for software upgrades and new releases), the No Clone Zone service and Blackbird Platform Monitoring service to its customers of Blackbird Platform Products. Customer service personnel diagnose and resolve problems, dispatch third-party vendors, provide provisioning and integration services, forward enhancement requests to the Company's product management staff, and coordinate with customers with respect to software upgrades and new releases. From its centralized call center in Seattle, Washington, the Company monitors and maintains a national high-speed network for optimizing uptime and connectivity to the local area networks of its customers. The Company also provides on-site maintenance services for selected customers. Software troubleshooting, maintenance and upgrades are performed either through the Company's private data network or through modem over a standard telephone line. An on-line customer management system tracks problems and resolutions. Customer service is available 24 hours per day, seven days per week. Engineering research and development personnel assist in software support activities to the extent required.

MAJOR CUSTOMERS

The customers of the Company's Blackbird Platform Products are wireless telephone carriers. The Company has entered into agreements with AirTouch Cellular and certain of its affiliates (collectively, "AirTouch"), Bell Atlantic Mobile ("BAM"), Ameritech Mobile Communications, Inc. ("Ameritech"), GTE Wireless Service Corp. ("GTE Wireless") and SNET Mobility ("SNET") to deploy and support Blackbird Platform Products. As a result, the Blackbird Platform Products are currently operational in over forty of the largest markets throughout the United States, including New York, Boston, Hartford/New Haven, Philadelphia, Pittsburgh, Baltimore, Washington D.C., Chicago, Detroit, Milwaukee, St. Louis, Atlanta, Los Angeles, San Francisco, San Diego and Sacramento. Revenues from the Company's agreements with AirTouch, BAM, Ameritech and GTE Wireless each accounted for greater than 10% of the Company's total revenues in 1999, and collectively accounted for greater than 93% of the Company's total revenues in 1999. See "Business Risks -Limited Customer Base; Reliance on Significant Customers" below.

COMPETITION

The market for the Company's products and services is highly competitive and subject to rapid technological change, regulatory developments and emerging industry standards. A number of companies currently offer one or more products or services similar to the products and services offered by the Company. In addition, many carriers and vendors of telecommunications products are or may be capable of developing and offering products and services that are competitive with the Company's current or future offerings. Trends in the telecommunications industry, including greater consolidation and technological developments that make it easier or more cost-effective for carriers to develop or provide certain services themselves, could affect demand for any new products or services offered by the Company, and could make it more difficult for the Company to offer cost-effective alternatives to a carrier's own in-house capabilities.

The Company is aware of various competitors which currently or are expected to compete directly with the Company's Blackbird Platform Products in the cloning fraud prevention arena. One competitor, Corsair Communications, Inc., competes directly with the Company's RF-based cloning fraud prevention products and services. The Company also competes with a number of alternative technologies in this arena, including roamer verification reinstatement systems, profiler systems, personal identification numbers and A-Key authentication systems. Companies marketing such technologies include, among others, Nortel Networks, GTE Telecommunications Services, Inc., Paragon, Inc., Lightbridge, Inc., and Systems/Link Corporation. The A-Key authentication technology is provided by the combination of telephone switch manufacturers (e.g., Lucent Technologies, Inc., Ericsson Radio Systems AB, Motorola, Inc. and Nortel Networks), wireless telephone manufacturers (e.g., Nokia, Motorola, Inc. and Ericsson Radio Systems AB), authentication center providers (e.g., Synacom Technology, Inc.) and/or IS-41C software component and service providers (e.g., Intellinet Technologies and Trillium Digital Systems, Inc.).

The Company believes that A-Key authentication, in particular, poses significant future competition for the Blackbird Platform Products in the cloning fraud prevention arena. A-Key authentication is a form of cryptographic authentication that uses a complex algorithm derived from a mathematical cryptographic process containing a secret key (or number) shared only by the phone and the carrier's network. A-Key authentication is expected to be the form of cryptographic authentication most widely adopted by wireless telephone carriers in the United States. Today, almost all new digital and analog phones for the U.S. market are being manufactured with A-Key authentication capability. A-Key authentication is now in extensive use by wireless telephone carriers operating digital networks and, to a lesser extent, is now in use by certain wireless telephone carriers operating analog networks. However, the Company believes that the use of A-Key authentication is currently limited in analog networks due to the large number of existing analog phones that were not manufactured with A-Key authentication capability.

The Company also is aware of many competitors which currently or are expected to compete directly with the Company's prepaid phone card products. In part, these competitors include both the long-distance telecommunications service providers as well as their service resellers, including service providers and resellers for whom the Company resells prepaid long-distance telephone services through its prepaid phone card products. Many of these competitors, including AT&T Corp., MCI WORLDCOM, Inc. and Sprint Corporation, are substantially larger and have longer operating histories, greater name recognition, larger customer bases, and substantially greater financial, marketing, technical and other resources than the Company.

The Company believes that the principal competitive factors in the markets in which the Company competes include factors such as product effectiveness, quality and ease of use, technical support, customer service, price, the availability of real-time information and the financial stability of the vendor. An additional competitive factor in the cloning fraud prevention arena includes the compatibility with cloning fraud prevention products used by the carrier in other geographic markets and by the carrier's roaming partners. The Company believes that carriers purchasing RF fingerprinting fraud prevention products tend to purchase these products from the same vendor that supplies these products to their roaming partners. Thus, the Company believes it will be more difficult to market its Blackbird Platform Products to a carrier if the carrier's roaming partners are using RF fingerprinting fraud prevention products supplied by a competitor. Additional competitive factors in the prepaid phone card arena include factors such as efficiency and depth of distribution channels, marketing capabilities and name recognition. See generally "Business Risks -- Competition" below for a more detailed description of the risks and uncertainties associated with competition involving the Company and its current and future products and services.

MANUFACTURING AND THIRD-PARTY VENDORS

The Company has been and will continue to be dependent on third-party vendors for the computer equipment, electronic components, manufacturing services, maintenance services and software that is incorporated in its products. While these are generally available from multiple sources, the Company currently obtains or licenses certain equipment, electronic components, manufacturing services, maintenance services and software from a limited number of suppliers. The Company's current software products are specifically designed to adhere to the UNIX operating system standard which can operate on standard computer equipment sold by numerous manufacturers and vendors. The Company currently purchases hardware and maintenance services directly or indirectly from Hewlett-Packard Company, its primary system hardware supplier. The Company also maintains relationships with other hardware vendors. The Company currently purchases hardware components from its vendors at discounts from list prices. These hardware components then become a cost component as the Company's systems are generally priced as bundled turnkey products (system, components, installation and training). The Company also currently maintains various software license arrangements with several suppliers. All of these licenses allow the Company's customers to use the software in perpetuity, with the result that the loss of a particular source would not affect any product already in use.

The Company manufactures, as necessary, its proprietary Blackbird Cell Site System hardware which operates in connection with the hardware components described above. While certain parts and components of this system

are industry standard and generally available from many suppliers, the Company designs and contracts manufacturing for certain proprietary printed circuit boards and other subassemblies. These standard components and custom manufactured subassemblies are then integrated and tested by the Company for delivery to the Company's customers. See also "Business Risks -- Risk of Hardware Manufacturing Activities" below.

In connection with its prepaid phone card products, the Company has been and will continue to be dependent on third-party long-distance telephone service providers and their resellers for a package of accurate, reliable and competitively-priced telecommunications services, access numbers, PIN codes and, in some cases, prepaid phone cards produced by third parties. While these components are generally available from multiple sources, the Company currently acquires them from a relatively limited number of suppliers. See also "Business Risks -- Dependence on Third-Party Vendors" below.

PROPRIETARY RIGHTS

The Company's success will depend, in part, on its ability to protect its technology, processes, trade secrets and other proprietary rights from unauthorized disclosure and use and to operate without infringing the proprietary rights of third parties. The Company's strategy is to protect its technology and other proprietary rights through patents, copyrights, trademarks, nondisclosure agreements, license agreements and other forms of protection. The Company has been active in pursuing patent protection for technology and processes involving its products that it believes to be proprietary and to provide a potential competitive advantage for the Company. To date, the Company owns 14 issued United States patents relating to its products. In addition, the Company has also licensed patents from third parties in an effort to maintain flexibility in the development and use of its technology, including exclusive and non-exclusive rights to use patents in connection with the Blackbird Platform Products. The Company also attempts to protect its proprietary rights through the use of nondisclosure agreements with its employees and consultants, and license agreements with customers, which contain restrictions on disclosure, use and transfer of proprietary information. The Company further employs various physical security measures to protect its software source codes, technology and other proprietary rights. See also "Business Risks -- Uncertainty Regarding Proprietary Rights" below.

EMPLOYEES

As of March 10, 2000, the Company had 48 employees. None of the Company's employees are covered by a collective bargaining agreement. The Company believes that its relations with its employees are good. See also "Business Risks-Dependence on Personnel" below.

BUSINESS RISKS

The Company operates in a dynamic and rapidly changing business environment that involves substantial risk and uncertainty. The following discussion addresses some of the risks and uncertainties that could cause, or contribute to causing, actual results to differ materially from those expressed or implied in this report or any other disclosures or statements, oral or written, made by or on behalf of the Company. Readers should pay particular attention to the descriptions of risks and uncertainties described below and in other sections of this report and the Company's other filings with the Securities and Exchange Commission.

Dependence on Limited Product Base; Uncertainty of Widespread Market Demand. The Company's revenues and profits have been and can be expected to continue to be derived from a limited number of products and services. See "Business -- Major Customers" above. In part, the Company's future operating results will depend on the continued demand for Blackbird Platform Products. Currently, a majority of the carriers in the largest markets in the United States are using cloning fraud prevention products. The Company believes that the demand for cloning fraud prevention products in the United States has begun to decline and will continue to decline in the future. If not offset by other sales opportunities, this trend would have a material adverse effect on sales of Blackbird Platform Products. The Company anticipates that its prepaid phone card products will account for a growing percentage of the Company's revenue in 2000. As a result, the Company's future operating results will

depend on the demand for and market acceptance of prepaid phone card products. These products have contributed to a modest amount of the Company's revenue since the Company's launch of these products in the fourth quarter of 1999. The market adoption of the Company's prepaid phone card products will need to increase substantially in order to achieve the Company's revenue targets for that product line. Although the Company believes that its product and services present the basis for growth for the Company's business, there can be no assurance that its products and services will achieve widespread market penetration or that the Company will derive significant revenues or profits from the sale of such products and services.

Dependence on Analog Networks; Industry and Technological Change. The Company's future success will depend on the continued and expanded use of its existing products and services, its ability to develop new products and services to meet the needs of the Company's target industries, and its ability to adapt existing products and services to keep pace with changes in the Company's target industries. Presently, the Company's Blackbird Platform Products are used exclusively in analog networks, although the Company believes that its Blackbird Platform Products may be adaptable for use in digital networks in the future. The Company believes that a majority of wireless telephone subscribers in the United States use analog networks today, but that the industry is undertaking a shift to digital networks due to certain advantages of digital technology, including expanded capacity, greater privacy and enhanced security. In addition, alternative cloning fraud prevention products are available in both digital and analog networks, such as A-Key authentication. See "Business -- Competition" above. The Company expects that A-Key authentication will be widely deployed in digital networks over time. Accordingly, the Company does not believe that wireless telephone carriers will purchase RF fingerprinting fraud prevention solutions, such as the Blackbird Platform Products, for their digital networks unless and until the encryption technology that forms the basis for A-Key authentication is compromised. The shift from analog networks to digital networks, the expanded use of alternative cloning fraud prevention technologies such as A-Key authentication, and other technological developments in the wireless communications industry, could each reduce or eliminate demand for the Company's Blackbird Platform Products. There can be no assurance that the Company will be successful in modifying or developing its existing or future products in a timely manner, or at all, to respond to changing market, customer or technological requirements. If the Company is unable, due to resource, technological or other constraints, to adequately anticipate or respond to changing market, customer or technological requirements, the Company's business, financial condition and results of operations will be materially adversely affected. Further, there can be no assurance that products or services developed by others will not render the Company's products and services non-competitive or obsolete.

Dependence on New Product Development and Product Enhancements. The Company's future success will depend, in part, on its ability to timely develop, introduce and gain acceptance of new products and services and enhancements to existing products and services to meet the needs of the Company's target industries. The Company is continually seeking to enhance its existing products and to develop new products. However, the Company remains subject to all of the risks inherent in product development, including unanticipated technical or other development problems which could result in material delays in product introduction and acceptance or significantly increased costs. There can be no assurance that the Company will be able to successfully enhance existing products or develop new products, or to timely introduce and gain acceptance of such enhancements and new products in the marketplace.

Ability to Manage Changing Business Conditions. The Company's future operating results will depend, among other things, on its ability to manage changing business conditions. If the Company's management is unable to do so effectively, its business, financial condition and results of operations could be materially adversely affected. The Company's ability to manage changing business conditions depends, in part, on its ability to attract, train and retain a sufficient number of qualified personnel to meet the ongoing needs of the Company. During 1998, the Company implemented a restructuring plan that included, among other initiatives, reducing its workforce by approximately 75% from December 1997 staffing levels. The Company continued to experience a high level of turnover in its workforce during 1999. Failure to properly manage the effects of such activity may limit the Company's ability to attract, train and retain qualified personnel and may increase the Company's recruiting and training costs. If the Company is unable to recruit and retain a sufficient number of qualified

personnel, it could be forced to limit its growth or possibly curtail its operations. There can be no assurance that the Company will be successful in attracting, training and retaining the required number of qualified personnel to support the Company's business in the future. Failure to manage the Company's operations with the reduced staffing levels discussed above may further strain the Company's management, financial and other resources, and could have a material adverse effect on the Company's business, financial condition and results of operations.

Limited Customer Base; Reliance on Significant Customers. The Company's potential customer base is relatively limited due to the significant concentration of ownership and/or operational control of telecommunication markets. Currently, the Company markets its Blackbird Platform Products only to wireless communications carriers that operate analog networks. Historically, a significant portion of the Company's revenues in any given period have been attributable to a relatively small number of customers. This trend is likely to continue for the foreseeable future. Sales to customers aggregating 10% or more, either individually or combined as affiliates due to common ownership, were concentrated as follows: four customers whose purchases represented 46%, 21%, 14% and 12% of 1999 sales, three customers whose purchases represented 41%, 20% and 19% of 1998 sales, and four customers whose purchases represented 31%, 20%, 20% and 19% of 1997 sales. The aggregate sales to these customers represented 93%, 80% and 90% of the Company's total systems and service revenues in 1999, 1998 and 1997, respectively. There can be no assurance that such customers will continue to maintain business relationships with the Company. Accordingly, the loss of one or more major customers could have a material adverse effect on the Company's business, financial condition and results of operations.

Competition. The market for the Company's products and services is highly competitive and subject to rapid technological change, regulatory developments and emerging industry standards. A number of companies currently offer one or more products or services similar to the products and services offered by the Company. In addition, many carriers and vendors of telecommunications products are or may be capable of developing and offering products and services that are competitive with the Company's current products and services or any new products or services that the Company may offer in the future. See "Business -- Competition" above.

The Company believes that, among other competing technologies, A-Key authentication poses significant future competition for the Blackbird Platform Products in the cloning fraud prevention arena. See "Business -- Competition" above. The Company believes the demand for its Blackbird Platform Products would be materially adversely affected if wireless communications carriers implement A-Key authentication applicable to analog phones as their sole or major cloning fraud prevention solution in major markets, if wireless communications carriers adopt a uniform digital standard that reduces the need for digital phones to operate in analog mode while roaming, or if analog phone manufacturers change product designs and/or manufacturing standards in such a way as to impact the performance of the Blackbird Platform Products. See also "Business Risks -- Dependence on Analog Networks; Industry and Technological Changes" above.

The Company also is aware of many competitors which currently or are expected to compete directly with the Company's prepaid phone card products. The market for prepaid phone cards in the United States is increasingly competitive. In part, the Company competes with the long-distance telecommunications service providers as well as their service resellers, including service providers and resellers for whom the Company resells prepaid long-distance telephone services through its prepaid phone card products. Many of these competitors, including AT&T Corp., MCI WORLDCOM, Inc., and Sprint Corporation, are substantially larger and have longer operating histories, greater name recognition, larger customer bases, and substantially greater financial, marketing, technical and other resources than the Company.

In addition, trends in the telecommunications industry, including greater consolidation and technological or other developments that make it simpler or more cost-effective for telecommunications carriers to provide certain services themselves, could affect demand for the Company's products and services and could make it more difficult for the Company to offer a cost-effective alternative to a carrier's own capabilities. Current and potential competitors have established or may in the future establish collaborative relationships among themselves or with third parties, including third parties with whom the Company has a relationship, to increase

the visibility and utility of their products and services. Accordingly, it is possible that new competitors or alliances may emerge and rapidly acquire significant market share. In addition, the Company anticipates continued growth in the telecommunications industry and, consequently, the entrance of new competitors in the future. An increase in competition could result in price reductions and loss of market share and could have a material adverse effect on the Company's business, financial condition and results of operations.

To remain competitive, the Company will need to continue to invest in engineering, research and development, sales and marketing, customer service, manufacturing activities and administrative systems. There can be no assurance that the Company will have sufficient resources to make such investments or that the Company will be able to make the technological advances necessary to remain competitive. Many of the Company's current and potential competitors have significantly greater financial, marketing, technical and other competitive resources, as well as greater name recognition, than the Company. As a result, the Company's competitors may be able to adapt more quickly to new or emerging technologies and changes in customer requirements or may be able to devote greater resources to the promotion and sale of their products and services. There can be no assurance that the Company will be able to compete successfully with its existing competitors or with new competitors.

Uncertainty Regarding Proprietary Rights. The Company's success will depend in part on its ability to protect its technology, processes, trade secrets and other proprietary rights from unauthorized disclosure and use and to operate without infringing the proprietary rights of third parties. The Company's strategy is to protect its technology and other proprietary rights through patents, copyrights, trademarks, nondisclosure agreements, license agreements and other forms of protection. See "Business -- Proprietary Rights" above.

Patents issued and patent applications filed relating to products used in the Company's target industries are numerous, and the patent positions of companies in these industries, including the Company, are generally uncertain and involve complex legal and factual issues. Accordingly, there can be no assurance that any pending or future patent application of the Company or its licensors will result in issuance of a patent or that, when a patent does issue, that the scope of protection of the patent will be sufficiently broad to protect the Company's technology or provide a competitive advantage for the Company. There can be no assurance that any issued patent will not be challenged, invalidated or circumvented. Litigation or regulatory proceedings, which could result in substantial cost and uncertainty to the Company, may be necessary to enforce patent or other proprietary rights of the Company or to determine the scope and validity of a third-party's proprietary rights. There can be no assurance that the Company will succeed or will have the resources necessary to succeed in any such litigation or regulatory proceedings.

Although the Company believes that its technology has been independently developed and that its products do not infringe patents known to be valid or violate other proprietary rights of third parties, it is possible that such infringement of existing or future patents or violation of proprietary rights may occur. There can be no assurance that the Company is aware of all third-party proprietary rights that may materially affect the Company's ability to make, use or sell its current or future products and services. United States patent applications, for example, are confidential while pending at the United States Patent and Trademark Office, and the laws of many foreign countries do not protect proprietary rights to the same extent as the laws of the United States. There can be no assurance that third parties will not assert infringement claims with respect to the Company's current or future products or services, or that any such claims will not result in litigation or regulatory proceedings or require the Company to modify its products or enter into licensing arrangements, regardless of the merits of such claims. See "Business Risks -- Risk of Litigation" below. No assurance can be given that the Company will have the resources necessary to successfully defend against any such infringement claims or that any necessary licenses can be obtained in a timely manner, upon commercially reasonable terms, or at all. Parties making such infringement claims may be able to obtain injunctive or other equitable relief that could effectively limit or prohibit the Company's ability to make, use or sell its current or future products or services. The Company's failure to successfully defend against any such claims or obtain any such license could result in substantial cost and uncertainty to the Company and have a material adverse effect on the Company's business, financial condition or results of operations.

The Company employs various physical security measures to protect its software source codes, technology and other proprietary rights. However, such measures may not afford complete protection and there can be no assurance that others will not independently develop similar source codes, technology or other proprietary rights or obtain access to the Company's software codes, technology, or other proprietary rights. In addition, although the Company has and expects to continue to have internal nondisclosure agreements with its employees and consultants and strategic partners, and license agreements with customers, which contain restrictions on disclosure, use and transfer of proprietary information, there can be no assurance that such arrangements will adequately protect the Company's proprietary rights or that the Company's proprietary rights will not become known to third parties in such a manner that the Company has no practical recourse. The Company's failure to successfully defend against any such claims or obtain any such license could result in substantial cost and uncertainty to the Company and have a material adverse effect on the Company's business, financial condition or results of operations.

Risk of Litigation. The Company is a party to certain legal proceedings as described below:

In January 1998, Communications Information Services, Inc. filed an action against the Company and AirTouch Communications, Inc. for alleged infringement of United States Patent No. 5,329,591 ("the '591 patent") in the United States District Court for the Northern District of Georgia at Atlanta. In January 1999, the Court granted the Company's motion to transfer this lawsuit to the United States District Court for the Western District of Washington. The complaint asserts that the plaintiff is the exclusive licensee of all rights under the '591 patent, alleges that the Company's wireless telephone fraud prevention technology infringes the '591 patent, and seeks damages in unspecified amounts. The Company believes this lawsuit is without merit and is vigorously defending against it. Although no estimate of any outcome of this action can currently be made, an unfavorable resolution of this lawsuit could have a material adverse effect on the Company's business, financial condition and results of operations.

From time to time, the Company is also a party to other legal proceedings in the ordinary course of business and/or which management believes will be resolved without a material adverse effect on the Company's business, financial condition or results of operations.

Need for Additional Financing. The Company's needs for additional financing will depend upon a number of factors, including, but not limited to, the commercial success of the Company's existing products and services, the timing and success of new products and services (if any), the progress of the Company's research and development efforts, the Company's results of operations, the status of competitive products and services, and the timing and success of potential strategic alliances or acquisitions of businesses, technologies or assets. In addition, the Company historically has experienced uneven cash flow and operating results, and, during two of the past three years, significant operating losses. The Company believes the combination of existing cash reserves and projected cash flow from operations will provide sufficient cash to fund its operations for at least the next 12 to 24 months. However, if the Company is unable to maintain profitability or achieves sales growth requiring working capital beyond current amounts, the Company may be required to seek additional financing sooner than currently anticipated or may be required to curtail some of its activities. There can be no assurance that additional financing will be available on acceptable terms, or at all. The Company's failure to obtain such additional financing, if needed, could have a material adverse effect on the Company's business, financial condition and results of operations.

Fluctuations in Quarterly Performance. The Company has experienced fluctuations in its quarterly operating results and anticipates that such fluctuations may continue and/or intensify. The Company's quarterly operating results may vary significantly depending on a number of factors, such as the level and timing of revenues associated with its products and services; the timing of the introduction or acceptance of product enhancements and new products and services offered by the Company and its competitors; the size, product mix and timing of significant orders; long sales cycles; competition and pricing in the markets in which the Company competes; product performance problems; disruption in sources of supply; the timing of payments by customers; changes in regulations affecting the wireless industry; technological changes or developments in the wireless industry;

changes in the Company's operating expenses; uneven revenue streams; the Company's revenue recognition practices and policies; and general economic conditions. There can be no assurance that the Company's results of operations will not vary significantly among quarterly periods or that in future quarterly periods the Company's results of operations will not be below prior results or the expectations of public market analysts and investors.

Volatility of Stock Price. The market for the Company's common stock is highly volatile. The trading price of the Company's common stock has been and could continue to be subject to wide fluctuations in response to quarterly variations in operating and financial results, announcements of technological innovations or new products by the Company or its competitors, changes in prices of the Company's or its competitors' products and services, changes in the Company's revenue and revenue growth rates, changes in the Company's stock market listing status, as well as other events or factors. See "Business Risks -- Fluctuations in Quarterly Performance" above. Statements or changes in opinions, ratings, or earnings estimates made by brokerage firms or industry analysts relating to the markets in which the Company competes have resulted, and could in the future result, in an adverse effect on the market price of the Company's common stock. In addition, the stock market has from time to time experienced extreme price and volume fluctuations which have particularly affected the market price for the securities of many high technology companies and which often have been unrelated to the operating performance of these companies. These broad market fluctuations may adversely affect the market price of the Company's common stock.

History of Net Losses; Accumulated Deficit. As of December 31, 1999, the Company had an accumulated deficit of \$24.3 million, the majority of which has accumulated during the three years ended December 31, 1998. See Part II, Item 7, entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" below for a more detailed description of the Company's accumulated deficit and history of net losses. There can be no assurance that the Company's operations will be profitable on a quarterly or annual basis in the future or that existing revenue and earnings levels can be enhanced or sustained. Past and existing revenue levels should not be considered indicative of future operating results. Operating results for future periods are subject to numerous risks and uncertainties, including those specified elsewhere in this report. If the Company is not successful in addressing such risks and uncertainties, the Company's business, financial condition and results of operations will be materially adversely affected.

Dependence on Personnel. The Company's future success depends in large part on its ability to continue to attract, motivate and retain highly qualified personnel, particularly the members of its senior management and certain other employees who may be difficult to replace. Competition for such personnel is intense and there can be no assurance that the Company will be successful in attracting, motivating and retaining key personnel. The Company also believes stock options are a critical component for motivating and retaining its key personnel. The decline in the Company's stock price during the past three years has made stock options previously granted with higher exercise prices less valuable to the Company's current employees and has consequently made it more difficult for the Company to retain its key personnel. The inability to hire and retain qualified personnel or the loss of the services of key personnel could have a material adverse effect upon the Company's business, financial condition and results of operations. The Company has entered into employment agreements with two of the members of its senior management, both of whom have terms expiring in 2000. There can be no assurance that either of these contracts will be renewed. The Company does not maintain any key-man life insurance policies on any of its employees.

Risk of Hardware Manufacturing Activities. For the most part, the Company's engineering resources historically have been devoted to software design and development. As a result, only a limited number of such resources were initially used in the design and prototype production of the Company's proprietary hardware. The Company continues to utilize third-party vendors for hardware design, engineering, manufacturing and integration of certain proprietary printed circuit boards, radio equipment and other subassemblies which are components of the Company's Blackbird Platform Products. The Company will continue to depend on third-party vendors for manufacturing activities with respect to the design and engineering of hardware, and its future success will depend on maintaining relationships with such third-party vendors, improving its inventory control

systems, maintaining effective quality control and procuring sufficient quantities of component parts. Failure to achieve any of these factors could have a material adverse effect on the Company's business, financial condition and results of operations.

Dependence on Third-Party Vendors. The Company has been and will continue to be dependent on third-party vendors for a variety of components incorporated in its products and services, including such items as quality long-distance service and related telecommunications services, competitive end-user rates and wholesale discounts, accurate and reliable access numbers and PIN codes, prepaid phone cards, computer equipment, network services, component parts, manufacturing services, maintenance services, systems integration and certain software. While available from multiple sources, some of these items are obtained from a single supplier or a limited number of sources. Although the Company believes that there are currently available substitute sources for all of these items, the Company could be required to redesign or modify affected products to accommodate for substitutions. The Company's reliance on third-party suppliers generally, and a sole or a limited number of sources in particular, involves several risks, including a potential inability to obtain an adequate supply of required components and reduced control over quality, pricing and timing of delivery of components. There can be no assurance that the Company will be able to procure necessary components on a satisfactory and timely basis. Any failure or delay in obtaining necessary components or, if necessary, establishing alternative procurement arrangements, could cause delays in product commercialization and could require product redesign or modification. There can be no assurance that the Company could complete any necessary modifications in a timely manner or that modified or redesigned products would maintain current functionality or performance features or could be successfully commercialized. Any inability or delay in establishing necessary procurement arrangements or successfully modifying products could have a material adverse effect on the Company's business, financial condition and results of operations.

Dependence on Distributors. The Company's Blackbird Platform Products are currently marketed primarily through the Company's direct sales efforts. However, its prepaid phone card products are currently marketed through multiple distribution channels. In this regard, the Company is actively pursuing distribution agreements and other forms of sales and marketing arrangements with other companies, and the Company believes that its dependence on distributors and these other sales and marketing relationships will increase in the future, both with respect to its prepaid phone card products and any new products and services that the Company may offer in the future. There can be no assurance that any existing or future distributors or other sales and marketing partners will not become competitors of the Company with respect to its prepaid phone card products or any new products and services, either by developing their own competitive products and services or by distributing the competitive offerings of others. Any failure by the Company's existing and future distributors or other sales and marketing partners to generate significant revenues could have a material adverse effect on the Company's business, financial condition and results of operations.

Risk of Product Defects. It is common for hardware and software as complex and sophisticated as that incorporated in the Company's products and services to experience errors or "bugs" both during development and subsequent to commercial deployment. In particular, the Company has encountered certain software and hardware errors in its Blackbird Platform Products and to date corrected the majority, but not all, of such errors identified to date. There can be no assurance that any errors in the Company's existing or future products will be identified, and if identified, corrected. Any such errors could delay additional installations of products and require modifications in products that have already been installed. Remedying such errors has been and may continue to be costly and time consuming. Delays in remedying any such errors could materially adversely affect the Company's competitive position with respect to existing or new products offered by its competitors. Once the Company's products are installed, they are subject to compliance with certain contractual requirements, which may include acceptance testing to ensure that they are properly installed and performing in accordance with contractual specifications. While the Company has achieved acceptance of a substantial number of products shipped to date, there can be no assurance that current or future installations of the Company's products will satisfy all contractual requirements. In addition, product warranties are generally included as part of the Company's contractual obligations. To the extent that available support or maintenance fees from its products are not adequate to cover the costs of making any necessary modifications or meeting the Company's warranty

obligations, the Company could be required to make significant additional expenditures, which could have a material adverse effect on the Company.

Risk of System Failure. The Company operates and maintains internal computers and telecommunication equipment for, among other things, monitoring and supporting its products and services and operating its No Clone Zone roaming fraud prevention service. The Company's operations are dependent upon its ability to maintain such equipment and systems in effective working order and to protect them against damage from fire, natural disaster, power loss, communications failure, unauthorized entry or other events. Although the Company provides back-up for substantially all of its systems, these measures do not eliminate the risk to the Company's operations from a system failure. In addition to its own systems, the Company relies on certain equipment, systems and services from third parties that are also subject to risks, including risks of system failure. There can be no assurance that the Company's property and business interruption insurance will be adequate to compensate the Company for any losses that may occur in the event of a system failure. Any damage, failure or delay that causes interruptions in the Company's operations could have a material adverse effect on the Company's business, financial condition and results of operations.

Year 2000 Issues. The Company's products and services are dependent upon certain internally-developed and third-party software and hardware. Year 2000 issues may adversely affect such software and hardware and the Company's business. Generally, year 2000 issues are the result of systems that use two digits (rather than four digits) to define the applicable year. Thus, for example, any system that utilizes date-sensitive coding may recognize a date using "00" as the year 1900 rather than the year 2000, which could result in miscalculations or system failures. Year 2000 issues also may arise in other contexts, such as certain leap year calculations and in systems that use certain dates to provide special functionality. As a result, systems may need to be upgraded to comply with such year 2000 issues. Since January 1, 2000, the Company has not become aware of any material malfunctions of the Company's products and services or its internal systems relating to year 2000 issues. However, the Company's evaluation of year 2000 issues is continuing, and there can be no assurance that year 2000 issues will not be discovered which could present a material risk to the function of the Company's products and services or its internal systems. If the Company, its customers, or vendors are unable to adequately resolve such issues in a timely manner, the Company's operations and financial results may be adversely affected. See Part II, Item 7, entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," for a more detailed description of the Company's efforts regarding year 2000 issues.

International Operations. To the extent that the Company pursues potential sales opportunities for its products and services in international markets, the Company is and will remain subject to all the risks inherent in international sales activities, such as lengthy sales cycles, high costs of sales, changes in export, import, tariff and other trade regulations, currency exchange rates, foreign tax laws and other legal, economic and political conditions. There can be no assurance that the occurrence of any of the foregoing will not have a material adverse effect on the Company's business, financial condition and results of operations. Further, the laws of certain foreign countries do not protect the Company's intellectual property to the same extent as the laws of the United States. See "Business Risks -- Uncertainty Regarding Proprietary Rights." In certain international markets, the Company will need to modify its products or develop new or additional products to adapt to the different wireless technologies or network standards utilized by the carriers in such markets. There can be no assurance that the Company's marketing efforts and technological enhancements will result in successful commercialization or market acceptance or penetration in such international markets. If the Company is unable to adequately anticipate and respond to marketing or technological requirements in the international marketplace, the Company's business, financial condition and results of operations could be materially adversely affected.

Government Regulation and Legal Uncertainties. While, for the most part, the Company's operations are not directly regulated, certain of the Company's existing and potential customers, vendors and strategic alliance partners are subject to a variety of United States and foreign governmental laws, regulations and other requirements. The terms of any existing laws, regulations or other requirements, or any changes thereto, may inhibit the growth of the telecommunications industry, limit the number of potential customers for the Company's products and services and/or impede the Company's ability to offer competitive services to the

telecommunications market or otherwise have a material adverse effect on the Company's business, financial condition and results of operations. Recently enacted federal legislation deregulating the telecommunications industry has caused and is expected to continue causing changes in the industry, including entrance of new competitors or industry consolidation, which could in turn subject the Company to increased pricing pressures, decrease the demand for the Company's products and services, increase the Company's cost of doing business or otherwise have a material adverse effect on the Company's business, financial condition and results of operations.

ITEM 2. PROPERTIES

The Company leases approximately 17,500 square feet of general office space in Seattle, Washington, for its corporate offices and approximately 1,200 square feet of space in Seattle, Washington, for computer operations. Both of these spaces are under five-year non-cancelable operating lease arrangements that expire in September and May 2000, respectively. Both leases contain renewal options and provide for the pass-through to the Company of increases in operating and other costs. In March 2000, the Company entered into a lease for approximately 4,000 square feet of space in Seattle, Washington, for assembly, testing and general warehouse purposes. This lease expires on December 14, 2001, subject to certain early termination provisions. In January 2000, the Company began entering into lease arrangements in connection with its prepaid phone card operations, which to date include a 15 month sublease for approximately 1,200 square feet of general office space in Lyndhurst, New Jersey, a one-year lease for approximately 1,200 square feet of general office space in Stoneham, Massachusetts, and a short-term lease for approximately 1,100 square feet of general office space in Chicago, Illinois.

ITEM 3. LEGAL PROCEEDINGS

In January 1998, Communications Information Services, Inc. filed an action against the Company and AirTouch Communications, Inc. for alleged infringement of United States Patent No. 5,329,591 ("the `591 patent") in the United States District Court for the Northern District of Georgia at Atlanta. In January 1999, the Court granted the Company's motion to transfer this lawsuit to the United States District Court for the Western District of Washington. The complaint asserts that the plaintiff is the exclusive licensee of all rights under the `591 patent, alleges that the Company's wireless telephone fraud prevention technology infringes the `591 patent, and seeks damages in unspecified amounts. The Company believes this lawsuit is without merit and is vigorously defending against it.

From time to time, the Company is also a party to other legal proceedings which arise in the ordinary course of business and/or which management believes will be resolved without a material adverse effect on the Company's financial position, liquidity or results of operations.

See "Business Risks -- Risk of Litigation" above for a detailed description of the risks and uncertainties associated with the legal proceedings described in this Item 3.

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

There were no matters submitted to a vote of security holders of the Company, through solicitation of proxies or otherwise, during the fourth quarter of the fiscal year covered by this Annual Report.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

The following table sets forth, for each quarter during fiscal 1998 and 1999 and for the period from January 1, 2000 through March 10, 2000, the reported high and low sales prices of the Company's Common Stock on The Nasdaq Stock Market (National Market System) (Symbol: "CTSC"). Prices and the number of shares of the Company's common stock described in this Item 5 have been adjusted to give effect to the one-for-ten stock combination (reverse stock split) described in this report, which was consummated as of January 5, 1999.

| | Sales Price | |
|---|-------------|-------|
| | High | Low |
| | ----- | --- |
| 1998 | | |
| ---- | | |
| First Quarter | 33.75 | 14.38 |
| Second Quarter | 20.94 | 4.06 |
| Third Quarter | 13.44 | 2.81 |
| Fourth Quarter | 8.75 | 2.81 |
| 1999 | | |
| ---- | | |
| First Quarter | 4.38 | 1.88 |
| Second Quarter | 12.00 | 1.69 |
| Third Quarter | 6.25 | 3.25 |
| Fourth Quarter | 13.50 | 3.19 |
| 2000 | | |
| ---- | | |
| First Quarter through March 10, 2000 | 18.56 | 7.56 |

As of March 10, 2000, the number of holders of record of the Company's Common Stock was 212, and the number of beneficial shareholders was estimated to be in excess of 5,300.

There were no dividends paid or other distributions made by the Company with respect to its Common Stock during 1999 or 1998.

On February 17, 1998, the Company issued 2,000 shares of Common Stock to Circuit Concepts International, LLC as partial consideration for the Company's purchase of certain assets in accordance with the terms of an asset purchase and sale agreement. No sales commissions were paid in connection with this transaction. The securities were issued in reliance on the exemption from registration provided by Section 4(2) of the Securities Act of 1933, as amended.

ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA(1)

| | Year Ended December 31, Statement of Operations Data: | | | | |
|--|--|----------|----------|----------|----------|
| | 1999 | 1998 | 1997 | 1996 | 1995 |
| Revenues | \$10,241 | \$11,955 | \$30,255 | \$20,902 | \$12,109 |
| Gross Research & Development Expenditures(2) | 1,593 | 5,112 | 9,814 | 7,010 | 5,819 |
| Net Income (Loss) | 2,599 | (10,860) | (5,046) | (7,350) | 63 |
| Basic Earnings (Loss) Per Share(3) | 1.14 | (4.76) | (2.22) | (3.34) | 0.03 |
| Diluted Earnings (Loss) Per Share(3) | 1.13 | (4.76) | (2.22) | (3.34) | 0.03 |
| Weighted-Average Shares Outstanding: | | | | | |
| Basic | 2,282 | 2,281 | 2,273 | 2,199 | 2,040 |
| Diluted | 2,292 | 2,281 | 2,273 | 2,199 | 2,277 |
| Cash Dividends Declared | -- | -- | -- | -- | -- |

Balance Sheet Data:

| | December 31, (in 000's) | | | | |
|---|----------------------------|--------|----------|----------|----------|
| | 1999 | 1998 | 1997 | 1996 | 1995 |
| Working Capital | \$ 3,621 | \$ 596 | \$ 6,535 | \$11,409 | \$11,094 |
| Cash | 4,787 | 1,567 | 3,448 | 4,854 | 9,448 |
| Capitalized Software Development Costs, net | 178 | 535 | 3,391 | 3,599 | 3,347 |
| Total Assets | 10,202 | 8,102 | 20,721 | 32,352 | 18,371 |
| Long Term Obligations | 1,000 | -- | -- | -- | -- |
| Total Stockholders' Equity | 5,673 | 3,072 | 13,890 | 18,185 | 16,734 |

(1) Certain reclassifications have been made to the prior year financial statements to conform to current period's presentation.

(2) Gross research and development expenditures presented in this Statement of Operations Data are higher than research and development costs and expenses disclosed in the Statements of Operations for 1998 and earlier due to the inclusion herein of capitalized software development costs and contract design and development services costs which are disclosed elsewhere in the financial statements. The Company did not capitalize any software development costs in 1999. See "Management's Discussion and Analysis of Financial Condition and Results of Operations".

(3) Per common share amounts and weighted average shares outstanding have been retroactively adjusted to give effect to the two-for-one stock split in 1996 and the one-for-ten reverse stock split effective January 5, 1999. In addition, the Company adopted Statement of Financial Accounting Standards ("SFAS") No. 128, "Earnings per Share" in 1997 and restated all prior periods presented as required under the SFAS. In years where the Company incurred a net loss, common equivalent shares were not used in calculating Diluted EPS as the effect would be antidilutive.

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

The following discussion and analysis provides information which management believes is relevant to an assessment and understanding of the Company's results of operations and financial condition. The discussion should be read in conjunction with the financial statements and notes thereto. Unless the context otherwise requires, all references to the "Company" herein include Cellular Technical Services Company, Inc. and any entity over which it has or shares operational control.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that reflect the Company's views with respect to future events and financial performance. The Company uses words and phrases such as "anticipate," "expect," "intend," "the Company believes," "future," and similar words and phrases to identify forward-looking statements. Reliance should not be placed on these forward-looking statements. These forward-looking statements are based on current expectations and are subject to risks, uncertainties and assumptions that could cause, or contribute to causing actual results to differ materially from those expressed or implied in the applicable statements. Readers should pay particular attention to the descriptions of risks and uncertainties described in this report and in the Company's other filings with the Securities and Exchange Commission. All forward-looking statements included in this report are based on information available to the Company on the date of this report. The Company assumes no obligation or duty to update any such forward-looking statements.

OVERVIEW

The Company develops, markets, distributes and supports a diversified mix of products and services for the telecommunications industry. Over the past 11 years, the Company has developed expertise in real-time wireless call processing and has created technologically advanced solutions for this industry, focusing primarily in the area of wireless communications fraud management. During 1999, the Company implemented a short and long-range strategic plan to diversify its product mix, both within and outside of the telecommunications industry. This diversification strategy is at the foundation of the Company's growth plan for the future.

PRODUCTS

The Blackbird Platform Products

The Company's Blackbird'r Platform product line includes a suite of radio frequency ("RF") based platform solutions focusing on wireless fraud prevention. Presently, it involves various forms of "pre-call" verification to ensure that the use of an analog wireless telephone is legitimate before the device is allowed to connect to a carrier's analog wireless communications network. In this area, the Company is a leading provider of RF-based solutions for the prevention of "cloning fraud." This term is used to describe the illegal activity of using a scanning device to steal the electronic serial number and mobile identification number of a legitimate wireless telephone while in use, then reprogramming the stolen numbers into other phones. These reprogrammed phones, or "clone phones," are then used to make illegal calls on a wireless communications network, without payment for the wireless services rendered. The Company's suite of RF-based platform solutions include the Blackbird'r Platform, PreTect'TM' cloning-fraud prevention application, No Clone Zone'sm' roaming-fraud prevention service, and related application products and services (collectively, the "Blackbird Platform Products"). The Company's Blackbird Platform Products are currently deployed in approximately 2,000 cell sites in most major metropolitan areas throughout the United States. The Company's customers have reported up to a 98% reduction in cloning fraud activity in areas served by the Blackbird Platform Products since its initial installation, and continue to rely on its cloning prevention capabilities for their existing analog wireless communications networks.

Prepaid Wireline Long-Distance Phone Cards

To stimulate revenue growth for the Company, and in alignment with its product diversification strategy, the Company expanded into the prepaid long-distance service arena in the fourth quarter of 1999. Through its new majority-owned subsidiary, Isis Tele-Communications, Inc., the Company markets and distributes branded prepaid long-distance phone cards primarily under the Value Maxx™ and Straight Talk™ brands in denominations generally ranging from \$5 to \$20 per card. Isis specializes in targeted marketing programs and features local and toll-free access numbers and aggressive domestic and international long-distance rates. The Company expects that Isis will distribute cards through regional and national multi-level distribution channels, using direct sales, third-party distributors, vending machines, and telemarketing. The Company anticipates that its ability to provide aggressive per-minute rates, broad multi-level distribution coverage, and quality customer service will provide the key ingredients to fueling revenue growth and future product expansion of this product line for the Company. Isis has recently opened offices in Los Angeles, Boston, New York, New Jersey, and Chicago.

Future Opportunities For Growth In Emerging Technologies

During the fourth quarter of 1999, and as part of the Company's long-term diversification strategy, the Company made a strategic investment in KSI, Inc., a provider of development-stage wireless geo-location technology. The Federal Communications Commission ("FCC") has required all wireless carriers to deploy wireless geo-location technology by October 2001 to provide comparable 911 services to wireless telecommunications subscribers. Wireless geo-location technology provides and identifies the specific geographic location (in latitude and longitude measurements) of a wireless telephone, and can eventually be applied to other wireless communications devices. The Company expects to leverage its entrance into the geo-location marketplace by developing, marketing, distributing, and supporting a suite of commercial geo-location applications as the technology evolves and is deployed by all wireless carriers to comply with the FCC's requirements.

The Hotwatch Platform

The Company's Hotwatch Platform provides technological solutions primarily in the "service metering" area, which involves various forms of "post-call" verification to ensure that a prepaid wireless subscriber has proper account status to make additional calls. The Company's real-time rating technology is capable of supporting multiple long-distance rating and multiple airtime price plans. As anticipated by the Company, the Company's remaining customers of the Hotwatch Platform phased out their use of the Hotwatch Platform by the fourth quarter of 1999. However, the Company is reviewing market opportunities to use the patented Hotwatch real-time technology in new value-added applications that could expand its product mix in the prepaid services arena.

REVENUE AND EXPENSE

Revenue

During 1999, the Company generated revenue through two sources: systems revenue and service revenue.

Systems revenue is generated from licensing and sales of the Company's proprietary software and hardware products, the sale of third-party products sold in connection with the Company's proprietary products and, to a lesser extent, fees earned in connection with the installation and deployment of these products. Revenue is recognized when all of the following conditions are met:

- (i) persuasive evidence of an arrangement exists;
- (ii) delivery has occurred, including satisfaction of all contractual obligations, and other elements that are essential to the functionality of the delivered products have been satisfied;

(iii) the amount is fixed or determinable; and

(iv) collectability is probable.

Revenue is deferred if the above conditions are not met, based on vendor specific objective evidence ("VSOE") of the fair value for all elements of the arrangement. VSOE is typically based on the price charged when an element is sold separately, or, in the case of an element not yet sold separately, the price established by authorized management, if it is probable that the price, once established, will not change before market introduction. Elements included in multiple element arrangements could consist of software products, upgrades, enhancements, customer support services, or consulting services.

Service revenue is derived primarily from hardware and software maintenance programs, No Clone Zone roaming fraud prevention service, Blackbird Platform Monitoring service and related professional services provided in support of the Company's currently deployed product base. Service revenue is recognized ratably over the period that the service is provided. Hardware and software maintenance generally begins after system acceptance. Prepaid or allocated maintenance and services are recorded as deferred revenue.

Revenue recognition for the Company's systems varies by customer and by product. Every element of a contract must be identified and valued based upon VSOE, regardless of any stated price in the contract. Revenue from any undelivered elements of a contract is deferred. However, any undelivered element essential to the functionality of the delivered product will cause a 100% deferral of the sale. Amounts billed and received on sales contracts before products are delivered or before revenue is recognized or recognizable are recorded as customer deposits or deferred revenue. The significant factors used in determining revenue recognition generally include physical hardware and software delivery, definitions of system delivery and customer acceptance. For those agreements which provide for payment based upon meeting actual performance criteria, the Company may record a portion of the systems revenue and the majority of the systems costs at shipment or during the early stages of a system deployment. In certain cases no systems revenue may be recorded at time of shipment, while certain operating costs may be recorded during the deployment process. Accordingly, revenue and direct margin recorded by the Company can be expected to be lower in earlier periods of deployment and inconsistent from quarter to quarter, especially during the initial market deployments under new agreements. The resulting deferral of revenue is recognized in subsequent periods upon meeting the performance criteria specified in the applicable agreement. The Company does not operate with a significant revenue backlog.

Costs and Expenses

Costs of systems and services are primarily comprised of the costs of: (i) equipment, which includes both proprietary and third-party hardware and, to a lesser extent, manufacturing overhead and related expenses; (ii) amortization of capitalized software development costs; (iii) system integration and installation; (iv) royalty fees related to the licensing of intellectual property rights from others; (v) customer support; and (vi) activities associated with the evaluation, repair and testing of parts returned from the field in connection with the Company's ongoing hardware maintenance service activities.

Research and development expenditures include the costs for research, design, development, testing, preparation of training and user documentation and fixing and refining features for the software and hardware components included in the Company's current and future products and services.

The Company expects that its costs and expenses in these and other areas will continue to be incurred in the future, due to the ongoing need to: (i) make investments in research and development to enhance existing products and services and to develop new products and services to address emerging market opportunities, such as those in the geo-location and prepaid phone card markets; (ii) enhance its sales and marketing activities; (iii) enhance hardware maintenance processes; (iv) enhance its customer support capabilities; and (v) enhance its general and administrative activities.

Overview

Total revenues decreased 14% to \$10.2 million in 1999 from \$12.0 million in 1998 and the Company generated net income of \$2.6 million, or \$1.14 per basic share in 1999 compared to a net loss of \$10.9 million, or \$4.76 per basic share in 1998. The Company recognized an alternative minimum tax expense of \$31,000 during the 1999 period.

While the Company enjoyed increased service revenue, as described below, the Company attributes the total lower revenue to: (i) a reduction in domestic market opportunities for the Company's cloning fraud prevention technology due to the effectiveness of this and other authentication-based products in combating cloning fraud; (ii) lower market penetration than originally planned of Company's cloning fraud prevention technology; and (iii) the lack of significant additional new sales of the Company's cloning fraud prevention technology in 1999.

The improved net income performance is attributable to: (i) cost reductions that included, among other initiatives, streamlining the Company's operations, reducing its workforce and consolidating its facilities; (ii) increased service revenue originating from an increased installed base of systems; (iii) reduced non-cash charges including inventory reserves, software amortization and fixed asset writeoffs; and (iv) increased interest income due to higher average cash balances on hand during 1999.

Revenue

Systems revenue decreased 63% to \$1.6 million in 1999 from \$4.4 million in 1998 due to the factors discussed above, and represents revenue from customers of the Company's Blackbird Platform Products.

Service revenue increased 14% to \$8.6 million in 1999 from \$7.5 million in 1998. Approximately 96% and 92%, respectively, of the 1999 and 1998 total service revenue was derived from Blackbird Platform Products. The increase in service revenue is largely attributable to a larger installed base of Blackbird Platform Products in the current period as compared to 1998 and additional recurring services performed in the current period as compared to 1998. Service revenues from Hotwatch Platform Products, which were phased out of commercial use in 1999, were not material in the 1999 period.

Cost of Systems and Services

Costs of systems and services, which primarily relate to the Company's Blackbird Platform Products, decreased 74% to \$3.7 million in 1999 from \$14.4 million in 1998. Costs of systems and services, as a percent of total revenue, were 37% and 120% for the 1999 and 1998 periods, respectively. The decrease in amounts and percentages for 1999 relative to 1998 reflects:

- (i) the full-year impact of cost reductions implemented in 1998;
- (ii) reduced inventory reserve additions and capitalized software amortization;
- (iii) increased service revenue in 1999, resulting from an increased leveraging of the Company's fixed customer support operating expenses; and
- (iv) lower costs associated with the decrease in systems revenue in 1999 as discussed above.

Operating Expenses

Sales and marketing expenses decreased 20% to \$0.7 million in 1999 from \$0.9 million in 1998. The decrease in sales and marketing expense is attributable primarily to the full-year impact of reductions in average staffing levels and related expenses resulting from the cost reductions implemented in 1998.

General and administrative expenses decreased 19% to \$2.1 million in 1999 from \$2.6 million in 1998 and primarily reflects the full-year impact of a reduction in staffing levels and related expenses implemented in 1998.

Research and development costs decreased 65% to \$1.6 million in 1999 from \$4.5 million in 1998. The decrease in expenditures in 1999 was primarily attributable to the full-year impact of reduced staffing levels implemented in 1998 and was partially offset by spending on product enhancements and new product research.

Other Income, net

Net other income was \$0.3 million in 1999 compared to a net expense of \$0.5 million in 1998. A net state sales tax refund of \$0.5 million was received in the 1999 period. Net losses on dispositions of fixed assets were \$0.2 million in 1999 and \$0.5 million in 1998.

Interest Income, net

Interest income increased to \$0.3 million in 1999 from \$0.1 million in 1998, resulting from higher average cash balances, interest income earned on customer accounts and interest earned on a state sales tax refund received in the 1999 period.

YEAR ENDED DECEMBER 31, 1998 COMPARED TO YEAR ENDED DECEMBER 31, 1997

Overview

Total revenues decreased 60% to \$12.0 million in 1998 from \$30.3 million in 1997 and the Company generated net losses of \$10.9 million, or \$4.76 per share in 1998 compared to net losses of \$5.0 million, or \$2.22 per share in 1997. The adverse operating results in 1998 and 1997 are primarily attributed to:

- (i) a reduction in domestic market opportunities for the Company's cloning fraud prevention technology, due to the effectiveness of this and other authentication-based products in combating cloning fraud;
- (ii) lower penetration than originally planned of Blackbird Platform Products into existing customers' markets and to new and/or additional markets;
- (iii) the Company's inability to gain additional new domestic and international customers; and
- (iv) an unbalanced cost structure in relation to the 1998 and 1997 revenues, which resulted in the Company implementing a restructuring plan that included, among other initiatives, streamlining the Company's operations and reducing its workforce to approximately one-fourth of January 1, 1998 staffing levels.

Systems Revenues

Systems revenues, which decreased 83% to \$4.4 million in 1998 from \$25.8 million in 1997, represent revenues primarily from Blackbird Platform Products. The Company attributes the decrease in revenues from Blackbird Platform Products to:

- (i) a reduction in domestic market opportunities for the Company's cloning fraud prevention technology, due to the effectiveness of this and other authentication-based products in combating cloning fraud;
- (ii) lower penetration than originally planned of Blackbird Platform Products into existing customers' markets and to new and/or additional markets; and
- (iii) the Company's inability to gain additional new domestic and international customers.

Systems revenues from Hotwatch Platform Products, which were not actively marketed during the 1998 period, decreased 85% to \$0.2 million in 1998 from \$1.3 million in 1997.

Service Revenues

Service revenues increased 68% to \$7.5 million in 1998 from \$4.5 million in 1997 with approximately 92% and 89% of the 1998 and 1997 revenues, respectively, being derived from existing customers utilizing the Blackbird Platform Products. This increase is directly attributable to the increased installed base of systems originating from Blackbird Platform Product deployments in late 1997 and during 1998.

Cost of System and Services

Costs of systems and services, the majority of which relate to the Company's Blackbird Platform Products, decreased 25% to \$14.4 million in 1998 from \$19.2 million in 1997. Costs of systems and services, as a percent of total revenues, were 120% and 63% for the 1998 and 1997 periods, respectively. The increased percentage cost for 1998 relative to 1997 primarily reflects:

- (i) a decrease in systems revenues in 1998, resulting in a decrease in leveraging of its fixed overhead costs relating to manufacturing, installation and systems integration, despite significant cost reductions implemented in 1998 in connection with the Company's restructuring plan;
- (ii) an increase in the amount of inventory reserves to \$4.6 million in 1998 from \$1.8 million in 1997, reflecting provisions for excess inventory quantities resulting from lower future sales projections based on changing market conditions; and
- (iii) a change made effective January 1, 1998 resulting in an increase in and the acceleration of the amortization of capitalized software costs to \$3.4 million in 1998 from \$2.0 million in 1997, reflecting current estimates to recoverability values resulting from lower future sales projections based on changing market conditions.

Conversely, the Company benefited from increased service revenues in 1998, resulting in an increased leveraging of its fixed customer support operating expenses. The Company also benefited from cost reductions implemented in 1998 in connection with the Company's restructuring plan.

Sales and Marketing Expenses

Sales and marketing expenses decreased 77% to \$0.9 million in 1998 from \$3.8 million in 1997 while total revenues decreased 60% as explained above. Sales and marketing expenses, as a percent of revenues, decreased to 7% in 1998 from 12% in 1997. The decrease in sales and marketing expenses resulted primarily from:

- (i) a reduction in staffing levels and related expenses in connection with the Company's restructuring plan;
- (ii) reduction in trade shows and other events in which the Company participated; and
- (iii) lower incentive compensation expense, which varies with revenue.

General and Administrative Expenses

General and administrative expenses decreased 41% to \$2.6 million in 1998 from \$4.5 million in 1997, primarily due to:

- (i) a reduction in staffing levels and related expenses in connection with the Company's restructuring plan;
- (ii) reduction in legal expenses related to settled and pending legal proceedings; and
- (iii) no bad debt expense in 1998 compared to a bad debt expense of \$0.4 million in 1997.

Research and Development Expenditures

Research and development costs decreased 44% to \$4.5 million in 1998 from \$8.1 million in 1997. The decrease in expenditures in 1998 was primarily attributable to reduced staffing levels and reduced hardware research

activities associated with cost reductions implemented in 1998 in connection with the Company's restructuring plan. Software development costs of \$0.6 million were capitalized in 1998, a decrease from the \$1.8 million that were capitalized during 1997, and relate to the development and enhancement of the Blackbird Platform Products. The decrease is attributable to the Company's decision, during the second quarter of 1998, to no longer capitalize software development and enhancement costs as a result of its review of projected product sales from a recoverability perspective. Some expenditures were undertaken for the investigation of additional application products for the Blackbird Platform, such as geo-location technology.

Other Income and Expense, net

In response to the Company's 1998 restructuring plans, the Company sold, wrote off or otherwise disposed of assets, having an original cost of \$3.1 million. The resulting loss, net of \$0.3 million proceeds, totaled \$0.5 million. The loss originated from the sale of excess furniture and miscellaneous equipment, the unamortized balance of leasehold improvements associated with the consolidation of certain facilities at the Company's corporate offices, and the write off and/or disposal of assets no longer used in the Company's business.

Interest Income, Net

Interest income (net of interest expense) decreased 53% to \$0.1 million in 1998 from \$0.2 million in 1997. The decrease was primarily attributable to lower average cash balances invested during 1998 as compared to 1997 and, to a lesser extent, miscellaneous interest charges from suppliers in connection with the payment of supplier liabilities.

LIQUIDITY AND CAPITAL RESOURCES

The Company's capital requirements have consisted primarily of funding hardware and software research and development, property and equipment requirements, working capital and the Company's operating expenses. The Company historically has funded these requirements through issuance of common stock (including proceeds from the exercise of warrants and options) and from operating profits in certain periods. On December 31, 1999, the Company's cash balance was \$4.8 million as compared to \$1.6 million on December 31, 1998. The Company's working capital increased to \$3.6 million at December 31, 1999 from \$0.6 million at December 31, 1998.

Cash Provided by Operating Activities

Cash provided by operating activities amounted to \$4.2 million in 1999, as compared to cash used in operating activities of \$1.4 million in 1998, and cash provided by operating activities of \$1.6 million in 1997. The major factor contributing to the Company's increased cash flow from operating activities in the 1999 period was the \$2.6 million net income recorded in 1999 compared to a \$10.9 million net loss in 1998. Non-cash charges including depreciation, amortization and changes in balance sheet accounts contributed \$1.6 million to the 1999 operating cash flow compared to \$9.5 million in 1998.

Cash Used by Investing Activities

Cash used by investing activities totaled \$1.0, \$0.5 and \$3.8 million in 1999, 1998 and 1997, respectively. In 1999 the Company invested \$1.0 million in a convertible note receivable due from KSI, Inc., a provider of development-stage wireless geo-location technology. The amounts in the 1998 period were primarily for (i) capitalization of software development of the Blackbird Platform Products which ceased during the second quarter of 1998, and (ii) equipment purchases and sales. During 1997, the amounts included \$2.0 million in equipment purchases and \$1.8 million in capitalized software expenses. At December 31, 1999, the Company had no significant commitments for capital expenditures.

Cash Provided By Financing Activities

Cash provided by financing activities resulted from the exercise of stock options totaling \$2,000, \$0 and \$800,000 during 1999, 1998 and 1997, respectively.

Operating Trends

The Company earned \$2.6 million for the year ended 1999, compared to operating losses of \$10.9 million and \$5.0 million for the years ended December 31, 1998 and 1997, respectively. Net non-cash charges included in the operating losses were \$1.7 million, \$9.9 million and \$5.5 million, respectively. As of December 31, 1999, the Company had an accumulated deficit of \$24.3 million, which primarily accumulated during the three years ended December 31, 1998. During 1996 and 1997, the Company deployed its initial cloning fraud prevention Blackbird Platform Products and incurred substantial operating expenses during such deployment. During 1998, in response to unfavorable operating results, the Company implemented its 1998 restructuring plan that included, among other initiatives, streamlining the Company's operations to better balance expenses and revenues, and directing additional development efforts and resources towards new products to generate new sources of revenue. Through the end of 1999 the results of the Company's 1998 plan showed significant improvement in profitability and cash flow. There can be no assurance, however, that the Company's operations will be profitable on a quarterly or annual basis in the future or that existing revenue levels can be enhanced or sustained. Past and existing revenue levels should not be considered indicative of future operating results. While the Company believes that its current cash reserves and projected cash flow from operations provide sufficient cash to fund its operations for at least the next twelve to twenty-four months, unanticipated changes in customer needs and/or other external factors may require additional financing and/or further expense reductions.

YEAR 2000 ISSUES

In prior years, the Company discussed the nature and progress of its plans relating to year 2000 issues. Generally, year 2000 issues are the result of systems that use two digits (rather than four digits) to define the applicable year. Thus, for example, any system that utilizes date-sensitive coding may recognize a date using "00" as the year 1900 rather than the year 2000, which could result in miscalculations or system failures. Year 2000 issues also may arise in other contexts, such as certain leap year calculations and in systems that use certain dates to provide special functionality. As a result, such systems may need to be upgraded to comply with such year 2000 requirements. In late 1999, the Company completed its remediation and testing of systems. As a result of those planning and implementation efforts, the Company experienced no significant disruptions in mission critical information technology and non-information technology systems and believes those systems successfully responded to the year 2000 date change. The Company's costs during 1999 in connection with remediating its systems were considered immaterial. The Company is not aware of any material problems resulting from year 2000 issues, either with its products, its internal systems, or the products and services of third parties. The Company will continue to monitor its mission critical systems and those of its suppliers and vendors throughout the year 2000 to ensure that any latent year 2000 matters that may arise are addressed promptly.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company believes that all risks are immaterial.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial statements and supplementary data required by this item are included in Part IV as indexed at Item 14(a)(1) and (a)(2).

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

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

IDENTIFICATION OF DIRECTORS AND EXECUTIVE OFFICERS

The name, age, position with the Company and other information with respect to each of its directors and executive officers is as set forth below.

| NAME ----- | AGE --- | POSITION WITH COMPANY ----- | YEAR FIRST ELECTED ----- | TERM OF OFFICE ----- |
|---------------------------|------------|---|--------------------------------|----------------------------|
| Stephen Katz | 56 | Chairman of the Board of Directors, Chief Executive Officer and Acting President | 1988 | 2000 |
| Joyce S. Jones | 52 | Chief Operating Officer and Director | 1998 | 2001 |
| Lawrence Schoenberg(1)(2) | 67 | Director | 1996 | 2002 |
| James Porter(1)(2) | 63 | Director | 1997 | 2001 |
| Kyle R. Sugamele | 37 | Vice President, General Counsel and Corporate Secretary | -- | -- |
| Bruce R. York | 45 | Vice President and Chief Financial Officer | -- | -- |

BUSINESS EXPERIENCE

Stephen Katz, Chairman of the Board of Directors, was Acting Chief Executive Officer and Acting President from November 1992 until February 1994, at which time he became Chief Executive Officer. Mr. Katz was re-appointed as Acting President in September 1998. Mr. Katz has been Chairman of the Board and a director of the Company since its inception and a member of the Management Committee of the predecessor partnership during the entire period of its existence. From September 1984 until September 1995, Mr. Katz was Chairman of the Board, Chief Executive Officer and until September 1993, President of Nationwide Cellular Service, Inc., which was the Company's majority stockholder until May 1992 and its largest stockholder, owning 34% of its outstanding shares, until September 1995. At that time such shares were distributed to Nationwide's stockholders, immediately prior to Nationwide's merger with MCI Communications Corp. In May 1996, Mr. Katz was appointed Vice-Chairman of the Board and Chief Executive Officer of Global Payment Technologies, Inc. (formerly Coin Bill Validator, Inc.) whose business is currency validation. In September 1996, Mr. Katz was appointed Chairman of the Board of Global Payment Technologies, Inc.

Joyce S. Jones joined the Company in February 1998 as Vice President of Marketing. In September 1998, Ms. Jones was promoted to Chief Operating Officer and became a Director. Prior to joining the Company, Ms. Jones was founder and President of Creative Business Solutions, a management consulting firm specializing in software startups. From August 1987 to April 1995, Ms. Jones held several positions with Attachmate Corporation, a manufacturer of enterprise data communication software and hardware. From 1993 to 1995, she was Executive Vice President of Worldwide Products in the Office of the President where she was responsible for product strategy, product management, product development and product marketing. From 1991 to 1993, Ms. Jones held the position of Vice President of System Engineering. Other positions with Attachmate Corporation included Product Marketing, Product Management, and Technical Sales Engineer.

(1) Member of the Compensation and Stock Option Committee
(2) Member of the Audit Committee

Lawrence Schoenberg joined the Company as a Director in September 1996. Mr. Schoenberg also serves as Director of Government Technology Services, Inc., Merisel, Inc., and Sunguard Data Services, Inc. Former directorships include Systems Center, Inc. (which was sold to Sterling Software, Inc.), SoftSwitch, Inc. (which was sold to Lotus/IBM Corp.), Forecross Corporation, Image Business Systems, Inc., and Penn America Group, Inc. Mr. Schoenberg founded AGS Computers, Inc. in 1967 and served as Chief Executive Officer until 1991. The company was sold to NYNEX in 1988. The micro-computer segment subsequently became a part of Merisel, Inc.

James Porter joined the Company as a Director in July 1997. Mr. Porter also serves as a Director of Silicon Valley Bank and Chairman of FirstWave Technologies, both publicly-traded companies. He further serves on the Board of Directors of CCI/Triad Systems Corporation and Cordona Industries, the Board of Regents of Pepperdine University, and the Board of Trustees of Abilene Christian University. From February 1997 to June 1999, Mr. Porter served as Chairman of CCI/Triad Systems Corporation. From September 1985 to February 1997, he was President and Chief Executive Officer of Triad Systems Corporation.

Kyle R. Sugamele joined the Company in July 1995 as Vice President and General Counsel, and was named Corporate Secretary in June 1996. Prior to joining the Company, Mr. Sugamele practiced law from March 1991 to July 1995 at the law firm of Mundt, MacGregor, Happel, Falconer, Zulauf & Hall in Seattle. Prior to that time, Mr. Sugamele practiced law at the law firm of Graham & Dunn in Seattle. His practice has involved a wide range of commercial, corporate, banking and general business matters, with particular emphasis in the protection and licensing of intellectual property and trade secrets, commercial finance and business transactions.

Bruce R. York joined the Company in April 1999 as Vice President and Chief Financial Officer. Prior to joining the Company, Mr. York was the Director of Finance of Cell Therapeutics, Inc., a biopharmaceutical company, from February 1998 to February 1999. From May 1987 to January 1998, Mr. York held various positions with Physio Control International Corporation, a manufacturer of external defibrillators. These positions included Director of Business Planning, Director of Finance - Europe, Director of Finance and Corporate Controller, and Manager of Tax and Assets. From September 1978 to April 1987, Mr. York held several positions with Price Waterhouse. Mr. York is a certified public accountant.

The Company's Board of Directors is divided into three classes. The Board is composed of two Class I directors, Ms. Jones and Mr. Porter, one Class II director, Mr. Schoenberg, and one Class III director, Mr. Katz. The terms of the Class I, Class II and Class III directors expire on the dates of the 2001, 2002 and 2000 annual meetings, respectively. At each annual meeting, successors to the class of directors whose term expires at that annual meeting are elected for a three-year term. Officers are elected annually at the discretion of the Board of Directors and serve at the discretion of the Board.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to its 2000 Annual Meeting of Stockholders under the caption "Executive Compensation and Related Information."

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to its 2000 Annual Meeting of Stockholders under the caption "Security Ownership."

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information required by this item is incorporated by reference to the Company's definitive proxy statement relating to its 2000 Annual Meeting of Stockholders under the caption "Certain Relationships and Related Transactions."

PART IV

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

(a) 1. FINANCIAL STATEMENTS:

The following financial statements of Cellular Technical Services Company, Inc. are included as required to be filed by Item 8.

| | |
|---|----|
| Report of Ernst & Young LLP, Independent Auditors | 34 |
| Consolidated Balance Sheets at December 31, 1999 and 1998 | 35 |
| Consolidated Statements of Operations for the years ended December 31, 1999, 1998 and 1997 | 36 |
| Consolidated Statements of Stockholders' Equity for the years ended December 31, 1999, 1998 and 1997..... | 37 |
| Consolidated Statements of Cash Flows for the years ended December 31, 1999, 1998 and 1997 | 38 |
| Notes to Financial Statements | 39 |

2. FINANCIAL STATEMENT SCHEDULES:

| | |
|--|----|
| Schedule II - Valuation and Qualifying Accounts..... | 52 |
|--|----|

All other schedules have been omitted because they are inapplicable, not required, or the information is included in the financial statements or notes thereto.

3. EXHIBITS:

| | |
|-------|---|
| 3.1 | Restated Certificate of Incorporation of the Registrant, as amended (1) |
| 3.2 | Amendment to Restated Certificate of Incorporation of the Registrant (9) |
| 3.3 | By-Laws of the Registrant (1) |
| 3.4 | Amendment I to By-Laws of the Registrant, dated October 28, 1993 (3) |
| 4.1 | Specimen Certificate for Common Stock of Registrant (1) |
| 7.1 | 1991 Qualified Stock Option Plan (as amended as of November 30, 1993) (+)(2) |
| 7.2 | Amendment to 1991 Qualified Stock Option Plan dated July 11, 1996 (+)(9) |
| 7.3 | 1991 Non-Qualified Stock Option Plan (as amended as of November 30, 1993) (+)(2) |
| 7.4 | Amendment to 1991 Non-Qualified Stock Option Plan dated July 11, 1996 (+)(9) |
| 7.5 | 1993 Non-Employee Director Stock Option Plan (+)(3) |
| 7.6 | Amendment to 1993 Non-Employee Director Stock Option Plan dated July 11, 1996 (+)(9) |
| 7.7 | Amendment to 1993 Non-Employee Director Stock Option Plan dated April 22, 1999 (+)(10) |
| 7.8 | 1996 Stock Option Plan (+)(7) |
| 7.9 | Amendment to 1996 Stock Option Plan dated December 14, 1998 (+)(9) |
| 10.1 | Employment Agreement between the Registrant and Joyce Jones dated September 18, 1998 (+)(9) |
| 10.2 | Employment Agreement between the Registrant and Kyle R. Sugamele dated June 29, 1995 (+)(6) |
| 10.3 | First Amendment to Employment Agreement between the Registrant and Kyle R. Sugamele dated August 25, 1998 |
| 10.4 | Agreement of Lease dated May 23, 1994 between the Registrant and Martin Selig Properties (4) |
| 10.4A | Amendment to Lease dated April 7, 1995 between the Registrant and Martin Selig Properties (6) |
| 10.5 | Master Purchase and License Agreement between the Registrant and AirTouch Cellular dated March 6, 1996 |
| 10.6 | Master Purchase and License Agreement between the Registrant and Bell Atlantic NYNEX Mobile dated August |
| 10.7 | Master Purchase and License Agreement between the Registrant and GTE Mobilnet of California Limited |
| 10.8 | Master Purchase and License Agreement between the Registrant and Ameritech Mobile Communications, Inc. dated October 14, 1996(d)(8) |

- 10.9 Patent License Agreement between Registrant and The Boeing Company dated April 29, 1994 (b)(4)
- 10.10 Patent Sublicense Agreement between Registrant and Motron Electronics dated May 24, 1995 (a)(5)
- 10.11 Patent License Agreement between Registrant and AirTouch Cellular, dated December 22, 1995 (c)(6)
- 21.1 Subsidiaries of the Registrant (10)
- 23.1 Consent of Ernst & Young LLP, independent auditors (10)
- 27 Financial Data Schedule (10)

-
- (a) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange
 - (b) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission
 - (c) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission
 - (d) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission
 - (+) Management contract or compensation plan or arrangement required to be noted as provided in Item 14(a)(3).
 - (1) Incorporated by reference to Registration Statement on Form S-1 declared effective on August 6, 1991 (File No.
 - (2) Incorporated by reference to Registration Statement on Form S-8 filed on March 7, 1994 (File No. 33-76128).
 - (3) Incorporated by reference to Annual Report on Form 10-K filed on March 30, 1994 for the year ended December
 - (4) Incorporated by reference to Annual Report on Form 10-K filed on March 28, 1995 for the year ended December
 - (5) Incorporated by reference to Quarterly Report on Form 10-Q filed on August 8, 1995 for the quarter ended June
 - (6) Incorporated by reference to Annual Report on Form 10-K filed on March 27, 1996 for the year ended December
 - (7) Incorporated by reference to Registration Statement on Form S-8 filed on July 12, 1996 (File No. 333-08049).
 - (8) Incorporated by reference to Quarterly Report on Form 10-Q filed on November 14, 1996 for the quarter ended
 - (9) Incorporated by reference to Annual Report on Form 10-K filed on March 30, 1999 for the year ended December
 - (10) Filed herewith.

(b) REPORTS ON FORM 8-K

During the fourth quarter ended December 31, 1999, the Company filed a Current Report on Form 8-K, dated December 7, 1999, under Item 5 of such Report, relating to the Company's investment in, and formation of a strategic alliance with, KSI Inc., a developer of commercial, wireless network-based, location-finding systems. No financial statements were included in such Report.

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

The Board of Directors and Stockholders
Cellular Technical Services Company, Inc.

We have audited the accompanying consolidated balance sheets of Cellular Technical Services Company, Inc. as of December 31, 1999 and 1998, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 1999. Our audits also included the consolidated financial statement schedule listed in the Index at Item 14(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Cellular Technical Services Company, Inc. at December 31, 1999 and 1998, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 1999, in conformity with auditing standards generally accepted in the United States. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

ERNST & YOUNG LLP

Seattle, Washington
February 8, 2000

CELLULAR TECHNICAL SERVICES COMPANY, INC.

CONSOLIDATED BALANCE SHEETS

(in 000's, except per share amounts)

| | DECEMBER 31, | |
|--|--------------|----------|
| | 1999 | 1998 |
| | ----- | ----- |
| ASSETS | | |
| CURRENT ASSETS | | |
| Cash and cash equivalents | \$ 4,787 | \$ 1,567 |
| Accounts receivable, net of allowances of \$5 in 1999 and \$72 in 1998 | 2,647 | 2,860 |
| Inventories | 592 | 1,014 |
| Prepaid expenses and deposits | 124 | 185 |
| | ----- | ----- |
| Total Current Assets | 8,150 | 5,626 |
| PROPERTY AND EQUIPMENT | 874 | 1,941 |
| SOFTWARE DEVELOPMENT COSTS, net of accumulated amortization of \$9,526 in 1999 and \$9,170 in 1998. | 178 | 535 |
| NOTE RECEIVABLE | 1,000 | -- |
| | ----- | ----- |
| TOTAL ASSETS | \$ 10,202 | \$ 8,102 |
| | ===== | ===== |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | |
| CURRENT LIABILITIES | | |
| Accounts payable and accrued liabilities | \$ 917 | \$ 1,358 |
| Payroll-related liabilities | 525 | 470 |
| Taxes (other than payroll and income) | 35 | 128 |
| Customers' deposits | 175 | -- |
| Deferred revenue | 2,877 | 3,074 |
| | ----- | ----- |
| Total Current Liabilities | 4,529 | 5,030 |
| STOCKHOLDERS' EQUITY | | |
| Preferred Stock, \$.01 par value per share, 5,000 shares authorized, none issued and outstanding | | |
| Common Stock, \$.001 par value per share, 30,000 shares authorized, 2,282 shares issued and outstanding in 1999 and 2,281 in 1998 | 23 | 23 |
| Additional paid-in capital | 29,933 | 29,931 |
| Accumulated deficit | (24,283) | (26,882) |
| | ----- | ----- |
| Total Stockholders' Equity | 5,673 | 3,072 |
| | ----- | ----- |
| TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY | \$ 10,202 | \$ 8,102 |
| | ===== | ===== |

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

CELLULAR TECHNICAL SERVICES COMPANY, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in 000's, except per share amounts)

| | YEAR ENDED DECEMBER 31, | | |
|--------------------------------------|-------------------------|-------------|------------|
| | 1999 | 1998 | 1997 |
| REVENUES | | | |
| Systems | \$ 1,642 | \$ 4,415 | \$ 25,768 |
| Services | 8,599 | 7,540 | 4,487 |
| Total Revenues | 10,241 | 11,955 | 30,255 |
| COSTS AND EXPENSES | | | |
| Cost of systems and services | 3,745 | 14,402 | 19,199 |
| Sales and marketing | 685 | 857 | 3,755 |
| General and administrative | 2,137 | 2,625 | 4,481 |
| Research and development | 1,593 | 4,542 | 8,061 |
| Total Costs and Expenses | 8,160 | 22,426 | 35,496 |
| INCOME (LOSS) FROM OPERATIONS | 2,081 | (10,471) | (5,241) |
| OTHER INCOME (EXPENSE), net | 274 | (482) | (2) |
| INTEREST INCOME, net | 275 | 93 | 197 |
| INCOME (LOSS) BEFORE INCOME TAXES | 2,630 | (10,860) | (5,046) |
| PROVISION FOR INCOME TAXES | 31 | -- | -- |
| NET INCOME (LOSS) | \$ 2,599 | \$ (10,860) | \$ (5,046) |
| EARNINGS (LOSS) PER SHARE: | | | |
| Basic | \$ 1.14 | \$ (4.76) | \$ (2.22) |
| Diluted | \$ 1.13 | \$ (4.76) | \$ (2.22) |
| WEIGHTED AVERAGE SHARES OUTSTANDING: | | | |
| Basic | 2,282 | 2,281 | 2,273 |
| Diluted | 2,292 | 2,281 | 2,273 |

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

CELLULAR TECHNICAL SERVICES COMPANY, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in 000's)

| | COMMON STOCK | | ADDITIONAL PAID-IN CAPITAL | ACCUMULATED DEFICIT | TOTAL |
|--------------------------------------|--------------|--------|----------------------------------|------------------------|-----------|
| | SHARES | AMOUNT | | | |
| Balance, January 1, 1997 | 2,263 | \$ 23 | \$ 29,138 | \$ (10,976) | \$ 18,185 |
| Exercise of stock options | 16 | | 751 | | 751 |
| Net loss | | | | (5,046) | (5,046) |
| Balance, December 31, 1997 | 2,279 | 23 | 29,889 | (16,022) | 13,890 |
| Common Stock exchanged for assets | 2 | | 42 | | 42 |
| Net loss | | | | (10,860) | (10,860) |
| Balance, December 31, 1998 | 2,281 | 23 | 29,931 | (26,882) | 3,072 |
| Exercise of stock options | 1 | | 2 | | 2 |
| Net income | | | | 2,599 | 2,599 |
| Balance, December 31, 1999 | 2,282 | \$ 23 | \$ 29,933 | \$ (24,283) | \$ 5,673 |

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

CELLULAR TECHNICAL SERVICES COMPANY, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in 000's)

| | YEAR ENDED DECEMBER 31, | | |
|--|-------------------------|-----------------|-----------------|
| | 1999 | 1998 | 1997 |
| OPERATING ACTIVITIES | | | |
| Net income (loss) | \$ 2,599 | \$ (10,860) | \$ (5,046) |
| Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities: | | | |
| Depreciation and amortization of property and equipment | 848 | 1,454 | 1,219 |
| Loss on disposal of assets | 230 | 482 | 2 |
| Amortization of software development costs | 357 | 3,426 | 1,961 |
| Provision for inventory reserves and other non cash charges | 255 | 4,632 | 1,818 |
| (Reduction in) provision for accounts receivable reserves | -- | (44) | 528 |
| Changes in operating assets and liabilities: | | | |
| Decrease (increase) in accounts receivable | 213 | 374 | 7,898 |
| Decrease (increase) in inventories | 167 | 824 | 29 |
| Decrease (increase) in prepaid expenses and deposits | 61 | 115 | 531 |
| (Decrease) increase in accounts payable and accrued liabilities | (441) | (1,441) | (3,566) |
| (Decrease) increase in payroll-related liabilities | 55 | (322) | 57 |
| (Decrease) increase in taxes (other than payroll and income) | (93) | (421) | (111) |
| Increase (decrease) in customers' deposits | 175 | (15) | (4,611) |
| (Decrease) increase in deferred revenue | (197) | 398 | 895 |
| NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES | 4,229 | (1,398) | 1,604 |
| INVESTING ACTIVITIES | | | |
| Purchase of property and equipment | (25) | (179) | (2,008) |
| Proceeds from sale of assets | 14 | 266 | 0 |
| Capitalization of software development costs | -- | (570) | (1,753) |
| Issuance of Note Receivable | (1,000) | -- | -- |
| NET CASH USED IN INVESTING ACTIVITIES | (1,011) | (483) | (3,761) |
| FINANCING ACTIVITIES | | | |
| Proceeds from exercise of stock options | 2 | -- | 751 |
| NET CASH PROVIDED BY FINANCING ACTIVITIES | 2 | -- | 751 |
| NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS | 3,220 | (1,881) | (1,406) |
| CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR | 1,567 | 3,448 | 4,854 |
| CASH AND CASH EQUIVALENTS AT END OF YEAR | \$ 4,787 | \$ 1,567 | \$ 3,448 |

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

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE A - NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES:

Nature of Operations and Organization

Cellular Technical Services Company, Inc. ("CTS") is primarily engaged in the design, development, marketing, installation and support of integrated information processing and information management systems for the wireless communications industry. CTS was incorporated in Delaware on August 19, 1988. CTS formed a majority-owned subsidiary, Isis Tele-Communications, Inc. ("Isis") on November 16, 1999. Isis is engaged in the wireline phone card industry primarily as a distributor and a reseller. Isis commenced operations in December 1999. Its results were immaterial in 1999. Unless the context otherwise requires, all references to the "Company" herein include Cellular Technical Services Company, Inc. and any entity over which it has or shares operational control.

Principles of Consolidation

The consolidated financial statements include the accounts of the Company and its subsidiary. All intercompany accounts and transactions have been eliminated in consolidation.

Estimates and Assumptions

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

Cash and Cash Equivalents

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents.

Fair Values of Financial Instruments

At December 31, 1999, the Company has the following financial instruments: cash and cash equivalents, accounts receivable, a note receivable, accounts payable and accrued liabilities. The carrying value of cash and cash equivalents, accounts receivable, note receivable, accounts payable and accrued liabilities approximates their fair value based on the liquidity of these financial instruments or based on their short-term nature.

Diversification of Credit Risk

The Company is subject to concentrations of credit risk primarily from cash investments and accounts receivable. Credit risk from cash investments is managed by diversification of cash investments among institutions and by the purchase of investment-grade commercial paper securities. The estimated fair values of the securities approximate cost. Credit risk associated with trade receivables is subject to ongoing credit evaluations. The Company does not typically require collateral for receivables. Reserves for potential losses, if any, are maintained where appropriate.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE A - NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):

Inventories

Inventories, which primarily consist of service parts and accessories (including data processing and telecommunication equipment), are stated at the lower of cost or market value, with cost determined on a first-in, first-out basis. The Company monitors inventory for obsolescence and considers factors such as turnover, technical obsolescence and pricing. Reserves for slow-moving and obsolete inventory are maintained where appropriate. Currently, the majority of the Company's inventory is being used as repair parts for servicing its installed customer base.

Property and Equipment

Property and equipment, including leasehold improvements, are stated at cost, less accumulated depreciation and amortization. Depreciation and amortization commences at the time assets are placed in service and is computed using the straight-line method over the shorter of estimated useful lives of the assets of two to five years or terms of the associated operating leases. The Company capitalizes expenditures that significantly increase the life of the related assets, while maintenance and repairs are charged to operations. Gain or loss is reflected in results of operations upon the retirement or sale of assets.

Software Development Costs

Software development costs consist primarily of internally developed software. Capitalization of software development costs begins upon the establishment of technological feasibility and ceases when products are completed. Amortization begins when products are available for general release. Amortization of capitalized software development costs is the greater of the amount computed using the ratio that current gross revenues for a product bear to the total of current and anticipated future gross revenues for that product, or the straight-line method over the remaining estimated economic life of the product, generally twenty-four months.

Ongoing assessment of the recoverability of these costs considers external factors including, but not limited to anticipated future net product revenues, estimated economic life and changes in software and hardware technology. As part of an ongoing recoverability review to address the capitalization of new software development and enhancement costs and the amortization of existing capitalized costs, the Company ceased capitalizing software development and enhancement costs in 1998. The Company also accelerated the amortization of certain capitalized costs reflecting the Company's estimates of recoverability values resulting from lower sales levels in 1998 and future sales projections, based on changed market conditions.

Long-Lived Assets

Long-lived and intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Impairment is measured by comparing the carrying value of the long-lived assets to the estimated future cash flows expected to result from use of the assets and their ultimate disposition. In circumstances where impairment is determined to exist, the Company will write down the asset to its fair value based on the present value of estimated expected future cash flows.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE A - NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):

Revenue Recognition

Statement of Position 97-2, Software Revenue Recognition (SOP 97-2) was issued in 1997 by the American Institute of Certified Public Accountants (AICPA) and was amended by SOP 98-4. The Company adopted SOP 97-2 effective January 1, 1998. Based upon its interpretation of SOP 97-2 and SOP 98-4, the Company believes its current revenue recognition policies and practices are consistent with these SOPs.

The AICPA recently issued SOP 98-9, which provides certain amendments to SOP 97-2, and which is effective for transactions entered into beginning January 1, 2000. CTS will adopt this pronouncement as of January 1, 2000. The pronouncement is not expected to materially impact the Company's revenue recognition practices.

The Company generates revenues through two sources: (1) systems revenues, consisting primarily of bundled hardware and software products, and (2) services revenues, consisting primarily of hardware and software maintenance and related support services.

Systems revenues are recognized when all of the following conditions are met:

- (i) Persuasive evidence of an arrangement exists.
- (ii) Delivery has occurred. Delivery also includes satisfaction of contract criteria and that there are no additional undelivered elements essential to the functionality of the delivered products. Revenues are deferred for undelivered non-essential elements based on vendor specific objective evidence ("VSOE") of the fair value for all elements of the arrangement.
- (iii) The amount is fixed and determinable.
- (iv) Collectability is probable.

VSOE is typically based on the price charged when an element is sold separately, or, in the case of an element not yet sold separately, the price established by authorized management, if it is probable that the price, once established, will not change before market introduction. Elements included in multiple element arrangements could consist of software products, upgrades, enhancements, customer support services, or consulting services.

Service revenues are recognized ratably over the period that maintenance coverage is provided. Prepaid or allocated maintenance and services are recorded as deferred revenues.

Segment Reporting

In January 1999, the Company adopted SFAS No. 131, Disclosures About Segments of an Enterprise and Related Information. This standard established interim and annual reporting standards for an enterprise's operating segments and related disclosures about its products, services, geographic areas and major customers. The Company's operations consist of two segments, integrated information processing and information management systems for the wireless communications industry, and phone-card distribution.

Financial information from segments below the quantitative thresholds is attributable to one operating segment of the Company. The phone-card distribution business segment does not meet the quantitative thresholds for a reportable segment.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE A - NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):

Income Taxes

The Company follows the deferred method of accounting for income taxes whereby deferred tax assets and liabilities are determined based on differences between financial reporting basis and tax basis of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. The Company provides a valuation allowance for deferred tax assets that cannot be currently recognized due to the cumulative losses incurred by the Company.

Net Earnings or Loss Per Share

Basic earnings or loss per share is computed by dividing net earnings or loss by the weighted average number of common shares outstanding for the period. Diluted earnings or loss per share reflects the potential dilution of securities by including other common stock equivalents (i.e. stock options) in the weighted average number of common shares outstanding for a period, if dilutive.

Other Comprehensive Income

In June 1997, the FASB issued SFAS No. 130, Reporting Comprehensive Income, which establishes standards for reporting and display of comprehensive income and its components in the financial statements. The Company has no items of comprehensive income (loss).

Stock-Based Compensation

The Company evaluates stock-based compensation in accordance with SFAS No. 123, "Accounting for Stock-Based Compensation." As provided for by Statement 123, the Company has chosen to measure stock-based compensation cost under the intrinsic-value method prescribed under Accounting Principles Board Opinion No. 25 and has adopted only the disclosure provisions of Statement 123.

Recent Accounting Pronouncements

In June 1998, the FASB issued SFAS No. 133, Accounting for Derivatives and Hedging Activities, which establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts (collectively referred to as derivatives), and for hedging activities. Because the Company has never used nor currently intends to use derivatives, management does not anticipate the adoption of this new standard will have a significant effect on the Company's financial position, results of operations or liquidity.

In December 1999, the Securities and Exchange Commission issued Staff Accounting Bulletin Number 101 ("SAB 101"). This summarized certain areas of the staff's views in applying generally accepted accounting principles in financial statements. The Company believes that its current revenue recognition principles comply with SAB 101.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE A - NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):

Risks and Uncertainties

Management of the Company believes that the risks and uncertainties discussed below, whether viewed individually or combined, will not result in a significant unfavorable impact to the Company. However, there can be no assurance that any unfavorable outcome of the risks and uncertainties discussed below will not have a material adverse effect on the Company's financial position, results of operations or liquidity.

- a) Limited customer base; Reliance on significant customers: The Company's potential customer base is relatively limited due to the significant concentration of ownership and/or operational control of wireless communication markets. The nature of the Company's business is such that a single customer and its affiliates will account for more than 10% of the Company's product and service revenues during a given fiscal year. Sales to customers aggregating 10% or more, either individually or combined as affiliates due to common ownership, were concentrated as follows: four customers whose purchases represented 46%, 21%, 14% and 12% of 1999 sales, three customers whose purchases represented 41%, 20% and 19% of 1998 sales, and four customers whose purchases represented 31%, 20%, 20% and 19% of 1997 sales. The aggregate sales to these customers represented 93%, 80% and 90% of the Company's total systems and service revenues in 1999, 1998 and 1997, respectively. There can be no assurances that such customers will continue to maintain business relationships with the Company. Accordingly, the loss of one or more major customers could have a material adverse effect on the Company.
- b) Liquidity; Possible need for financing: Historically, the Company has experienced uneven cash flow and operating results, and, during 1997 and 1998, significant operating losses. These losses originated primarily from a combination of lower than expected revenues and an unbalanced cost structure in relation to those revenues. The Company's net operating results were \$2.6 million, (\$10.9) million and (\$5.0) million for the years ended December 31, 1999, 1998 and 1997, respectively. Net non-cash charges included in these three years were \$1.7 million, \$9.9 million and \$5.5 million, respectively. Cash provided by (used in) operating activities was \$4.2 million, (\$1.4) million and \$1.6 million in 1999, 1998 and 1997, respectively. As of December 31, 1999, the Company had an accumulated deficit of \$24.3 million, the majority of which accumulated during 1997 and 1998. As of December 31, 1999, the Company's working capital was \$3.6 million and its cash and cash equivalents balances were \$4.8 million.

During 1996 and 1997 the Company deployed its initial cloning fraud prevention Blackbird Products and incurred substantial operating expenses during such deployment. During 1998, in response to changing market conditions and unfavorable operating results, the Company implemented a restructuring plan that included, among other initiatives, streamlining the Company's operations to better balance expenses and revenues, and directing additional development efforts and resources towards new products that can generate new sources of revenue. Through the end of 1999, the results of the Company's restructuring plan resulted in both positive cash flow and profitability.

Going forward into 2000, the Company has continued to reduce its fixed operating costs and has a consistent base of recurring revenue from its services business. Management believes that under its current business plans, its current cash balances and cash flows expected to be generated from operations are sufficient to fund its operations and capital requirements through the next twelve to twenty-four months. However, the Company's inability to successfully generate sufficient cash flow from operations would have a material adverse impact on the Company's financial position, liquidity or results of operations and may require the Company to reduce its expenditures further or curtail certain operations to enable it to continue its operations for that period.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE A - NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED):

c) Legal proceedings: From time to time, the Company could be subject to involvement with legal actions and claims arising in connection with its business. The following significant legal matter is outstanding as of December 31, 1999:

In January 1998, Communications Information Services, Inc. filed an action against the Company and AirTouch Communications, Inc. for alleged infringement of United States Patent No. 5,329,591 ("the '591 patent") in the United States District Court for the Northern District of Georgia at Atlanta. In January 1999, the Court granted the Company's motion to transfer this lawsuit to the United States District Court for the Western District of Washington. The complaint asserts that the plaintiff is the exclusive licensee of all rights under the '591 patent, alleges that the Company's wireless telephone fraud prevention technology infringes the '591 patent, and seeks damages in unspecified amounts. The Company believes this lawsuit is without merit and is vigorously defending against it. Although no estimate of any outcome of this action can currently be made, an unfavorable resolution of this lawsuit could have a material adverse effect on the Company's financial position, results of operations and liquidity.

The Company is also a party to other legal proceedings which arise in the ordinary course of business and/or which management believes will be resolved without a material adverse effect on the Company's business, financial condition or results of operations.

Reclassifications

Certain reclassifications have been made to the prior year financial statements to conform to the current period's presentation.

NOTE B - INVENTORIES:

The current inventory level primarily reflects parts and accessories used in the Company's service and maintenance business. Inventory consists of the following (in 000's):

| | DECEMBER 31, | |
|-------------------------------|--------------|----------|
| | 1999 | 1998 |
| Service parts and accessories | \$ 1,589 | \$ 3,815 |
| Less reserves | (997) | (2,801) |
| | \$ 592 | \$ 1,014 |

NOTE C - PROPERTY AND EQUIPMENT:

Property and equipment consist of the following (in 000's):

| | DECEMBER 31, | |
|--|--------------|----------|
| | 1999 | 1998 |
| Computer equipment and software | \$ 3,518 | \$ 3,898 |
| Furniture, fixtures and office equipment | 588 | 950 |
| Leasehold improvements | 181 | 181 |
| | 4,287 | 5,029 |
| Less accumulated depreciation and amortization | (3,413) | (3,088) |
| | \$ 874 | \$ 1,941 |

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE D - NOTE RECEIVABLE:

In November 1999, the Company invested in a \$1.0 million 10% convertible note of KSI, Inc. which is due in full in November 2000. The Company intends to hold the note until maturity. The note is convertible into 9% preferred stock. Additionally, the Company received warrants to purchase KSI, Inc. common stock in connection with this investment.

NOTE E - COMMITMENTS AND CONTINGENCIES:

Leases:

The Company leases office space under three non-cancelable operating leases with expiration dates in 2000. The Company also leases equipment and telecommunication lines and services under non-cancelable operating leases expiring through 2001. In addition, the Company leases office space, equipment and telecommunication lines and services under various rental agreements with initial terms ranging from one to twelve months.

The Company is evaluating its future space needs and believes it will be able to obtain renewals of current office leases or new office space under commercially reasonable terms.

Amounts charged to operations under all lease and rental agreements totaled \$0.7 million, \$0.9 million and \$0.8 million in 1999, 1998 and 1997, respectively. Future minimum annual lease payments at December 31, 1999, under those agreements with initial terms greater than one year are as follows (in 000's):

| | | |
|------|----|-------|
| 2000 | \$ | 253 |
| 2001 | | 13 |
| | | ----- |
| | \$ | 266 |
| | | ===== |

Employment Agreements:

At December 31, 1999, the Company has employment agreements with two officers, both of which have terms expiring in 2000.

NOTE F - EMPLOYEE RETIREMENT SAVINGS PLAN:

The Company has adopted an Employee Retirement Savings Plan covering substantially all employees who have been employed for at least one month and meet certain age and eligibility requirements. Each eligible employee may contribute up to 15% of his or her compensation per year, subject to a maximum limit imposed by federal tax law, into various funds. Under current plan provisions, matching contributions are made by the Company equal to two-thirds of the employee's contribution, subject to a maximum of 6% of compensation contribution by the employee. Company contributions charged to costs and expenses totaled \$63,000, \$133,000 and \$176,000 during 1999, 1998 and 1997, respectively.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE G - INCOME TAXES:

At December 31, 1999, the Company had available for federal income tax purposes net operating loss carryforwards of approximately \$50.2 million and research and development tax credits of approximately \$1.2 million which begin to expire in 2003. The federal income tax net operating loss carryforwards exceed the retained deficit, primarily due to the differences between financial reporting and tax treatment of certain amounts on exercise of stock options. A portion of the net operating loss carryforward (approximately \$28 million) is attributed to the stock option deduction, the tax effect of which will be credited to additional paid-in capital when realized. Certain net operating loss carryforwards of the Company are subject to limitations imposed by Section 382 of the Internal Revenue Code because there was an ownership change of greater than 50% in the Company during 1991.

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax liabilities and assets are as follows (in 000's):

| | DECEMBER 31, | | |
|--|--------------|-----------|-----------|
| | 1999 | 1998 | 1997 |
| Deferred tax assets: | | | |
| Net operating loss carryforwards | \$ 17,068 | \$ 17,688 | \$ 15,024 |
| Research and development credits | 1,207 | 1,158 | 996 |
| AMT credits | 27 | 0 | 0 |
| Reserves and allowances on financial statements in excess of tax returns | 1,113 | 977 | 822 |
| Depreciation on tax returns lower than financial statements | 22 | 0 | 0 |
| Capitalized software development costs | 28 | 0 | 0 |
| | ----- | ----- | ----- |
| Total deferred tax assets | 19,465 | 19,823 | 16,842 |
| Deferred tax liabilities: | | | |
| Depreciation on tax returns lower than financial statements | 0 | 90 | 137 |
| Capitalized software development costs | 0 | 125 | 1,072 |
| | ----- | ----- | ----- |
| Total deferred tax liabilities | 0 | 215 | 1,209 |
| | ----- | ----- | ----- |
| Net deferred tax assets | 19,465 | 19,608 | 15,633 |
| Valuation allowance | (19,465) | (19,608) | (15,633) |
| | ===== | ===== | ===== |
| Net | \$ -- | \$ -- | \$ -- |
| | ===== | ===== | ===== |

The Company was placed in a position to owe Alternative Minimum Tax (AMT) for 1999. This has created an AMT credit of approximately \$27,000 to be utilized in future tax periods against any regular federal tax liability.

The Company has provided a valuation allowance of 100% of the net deferred income tax asset related to the operating loss carryforward and temporary differences. The net changes in the valuation allowance for deferred tax assets were approximately (\$0.1) million, \$4.0 million and \$2.1 million and were primarily attributable to the net income in 1999 and the net operating losses incurred by the Company during 1998 and 1997, respectively.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE G - INCOME TAXES (CONTINUED):

The reconciliation of income tax computed at the U.S. federal statutory tax rate to income tax expense is as follows (in 000's):

| | YEAR ENDED DECEMBER 31, | | |
|---|-------------------------|------------|------------|
| | 1999 | 1998 | 1997 |
| Income tax provision (benefit) at statutory rate of 34% | \$ 894 | \$ (3,692) | \$ (1,716) |
| Utilization of net operating loss carryforwards | (894) | 0 | 0 |
| (Income) losses producing no current tax benefit | 0 | 3,692 | 1,716 |
| Alternative minimum tax provision | 31 | 0 | 0 |
| Provision for income taxes, current | \$ 31 | \$ 0 | \$ 0 |

NOTE H - STOCKHOLDERS' EQUITY:

Reverse Stock Split:

On January 5, 1999, the Company implemented a one-for-ten stock combination (reverse stock split) pursuant to the stockholders' approval at the Company's annual meeting of stockholders on December 14, 1998. All outstanding common shares and per share amounts in the accompanying financial statements have been retroactively adjusted to give effect to the one-for-ten stock combination.

Stock Options

Pursuant to the Company's 1991 Qualified Stock Option and 1991 Non-Qualified Stock Option Plans, as amended, the Company was authorized to grant options to: (i) purchase up to 280,000 shares of Common Stock to its officers and key employees, at a price not less than the fair market value per share of Common Stock on the date of grant; and (ii) purchase up to 120,000 shares of Common Stock to its directors, officers, key employees and others who rendered services to the Company at such price as fixed by the Compensation and Stock Option Committee, respectively. Options granted under both the 1991 Qualified Plan and 1991 Non-Qualified Plan generally vest to the respective option holders at the rate of 20% per year commencing on the first anniversary date of the grant. No new grants may be made under the 1991 Plans.

The Company's 1993 Non-Employee Director Stock Option Plan allows the Company to grant options to purchase up to 30,000 shares of Common Stock. Each non-employee director is to be granted options to purchase: (i) 2,000 shares of Common Stock upon initial appointment as a director of the Company; and (ii) an additional 1,200 shares, in recurring annual increments, at a price equal to the fair market value per share of Common Stock on the date of grant. Options under the Non-Employee Director Plan vest to the respective option holder after one year and have a term of ten years.

The Company's 1996 Stock Option Plan authorizes the grant of both incentive ("ISO") and non-qualified stock options up to a maximum of 185,000 shares of the Company's Common Stock to employees (including officers and directors who are employees) of and consultants to the Company. The exercise price, term and vesting provision of each option grant is fixed by the Compensation and Stock Option Committee with the provision that the exercise price of an ISO may not be less than the fair market value of the Company's Common Stock on the date of grant, and the term of an ISO may not exceed ten years.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE H - STOCKHOLDERS' EQUITY (CONTINUED):

Financial Accounting Standards Board Statement No. 123

The Company has chosen to measure stock-based compensation cost under the intrinsic-value method of Accounting Principles Board Opinion No. 25 (APB 25) and related interpretations because, as discussed below, the alternative fair value accounting provided for under Statement 123 requires use of option valuation models that were not developed for use in valuing employee stock options. Under APB 25, if the exercise price of the Company's employee stock options equals the market price of the underlying stock on the date of grant, no compensation expense is recognized.

Pro forma information regarding net income (loss) and earnings (loss) per share is required by Statement 123 and has been determined as if the Company had accounted for its employee stock options under the fair value method of that Statement. In that regard, the fair value for options granted during 1999, 1998 and 1997 was estimated at the date of grant using a Black-Scholes option pricing model with the following weighted-average assumptions for 1999, 1998 and 1997, respectively: risk-free interest rates of 6.4%, 4.7% and 5.7%; dividend yields of 0.0%, 0.0% and 0.0%; volatility factors of the expected market price of the Company's common stock of 1.36, .79 and .66 and a weighted average expected life of the options of 5.0, 4.8 and 5.1 years.

The Black-Scholes option valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions including the expected stock price volatility. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options. The weighted-average fair value of options granted during each of the three years ended December 31, 1999, 1998 and 1997 was \$2.79, \$10.57 and \$52.80, respectively.

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. The Company's pro forma information follows (in 000's, except per share amounts):

| | 1999 | 1998 | 1997 |
|---|----------|-------------|------------|
| | ----- | ----- | ----- |
| Net Income (loss) - as reported | \$ 2,599 | \$ (10,860) | \$ (5,046) |
| Net Income (loss) - pro forma | \$ 2,353 | \$ (11,248) | \$ (6,499) |
| Basic earnings (loss) per share - as reported | \$ 1.14 | \$ (4.76) | \$ (2.22) |
| Basic earnings (loss) per share - pro forma | \$ 1.03 | \$ (4.93) | \$ (2.90) |
| Diluted earnings (loss) per share - as reported | \$ 1.13 | \$ (4.76) | \$ (2.22) |
| Diluted earnings (loss) per share - pro forma | \$ 1.03 | \$ (4.93) | \$ (2.90) |

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE H - STOCKHOLDERS' EQUITY (CONTINUED):

The following table summarizes information concerning outstanding and exercisable stock options as of December 31, 1999 (in 000's except per share amounts):

| Range of Exercise Prices | Options Outstanding | | | Options Exercisable | |
|--------------------------|---------------------|---|---------------------------------|---------------------|---------------------------------|
| | Number Outstanding | Weighted-Average Remaining Contractual Life | Weighted-Average Exercise Price | Number Exercisable | Weighted-Average Exercise Price |
| \$ 1.91 - \$ 3.28 | 62 | 9.41 | \$ 2.97 | -- | \$ -- |
| 3.47 - 10.00 | 53 | 7.64 | 5.36 | 16 | 7.57 |
| 16.72 - 61.25 | 56 | 4.91 | 53.18 | 49 | 56.96 |
| 63.75 - 188.75 | 38 | 5.66 | 96.90 | 33 | 95.90 |
| \$ 1.91 - \$188.75 | 209 | 7.08 | \$ 34.07 | 98 | \$ 61.95 |

Information with respect to the Company's stock options is as follows (in 000's except per share amounts):

| | Shares Under Option | Option Prices | Weighted Ave. Exercise Price |
|---|---------------------|---------------|------------------------------|
| Balance, January 1, 1997 | 232 | \$ 10.00 | \$ 71.90 |
| Granted | 79 | 27.00 | 87.80 |
| Exercised | (16) | 10.00 | 48.10 |
| Canceled | (48) | 16.67 | 74.70 |
| Balance, December 31, 1997 | 247 | 10.00 | 77.96 |
| Granted | 91 | 3.44 | 10.83 |
| Exercised | -- | -- | -- |
| Canceled | (151) | 5.00 | 74.42 |
| Balance, December 31, 1998 | 187 | 3.44 | 48.10 |
| Granted | 83 | 1.91 | 3.13 |
| Exercised | (1) | 5.00 | 5.00 |
| Canceled | (60) | 2.06 | 35.14 |
| Balance, December 31, 1999 | 209 | 1.91 | 34.07 |
| Exercisable at December 31, 1999 | 98 | | |
| Available for grant at December 31, 1999 | 77 | | |
| Common Stock reserved for future issuance | 286 | | |

Shares exercisable at December 31, 1998 and 1997 were 103 and 110, respectively.

CELLULAR TECHNICAL SERVICES COMPANY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE I - EARNINGS PER SHARE

The following represents the calculations for earnings per share (in 000's, except per share amounts):

| | YEAR ENDED DECEMBER 31, | | |
|---|-------------------------|------------|-----------|
| | 1999 | 1998 | 1997 |
| Basic and diluted earnings per share: | | | |
| Net Income (loss) (A) | \$2,599 | \$(10,860) | \$(5,046) |
| | ===== | ===== | ===== |
| Weighted average number of shares outstanding (B) | 2,282 | 2,281 | 2,273 |
| Stock options | 10 | ** | ** |
| | ----- | ----- | ----- |
| Weighted average number of shares outstanding (C) | 2,292 | 2,281 | 2,273 |
| | ===== | ===== | ===== |
| Earnings (loss) per share: | | | |
| Basic (A)/(B) | \$ 1.14 | \$ (4.76) | \$ (2.22) |
| | ===== | ===== | ===== |
| Diluted (A)/(C) | \$ 1.13 | \$ (4.76) | \$ (2.22) |
| | ===== | ===== | ===== |

** Excluded from the computation of diluted earnings per share given the effects were anti-dilutive.

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.

Cellular Technical Services Company, Inc.

By: /s/ Stephen Katz

Stephen Katz, Chairman of the Board
of Directors and Chief Executive Officer

March 29, 2000

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

/s/ Stephen Katz

Stephen Katz, Chairman of the Board of
Directors and Chief Executive Officer
(Principal Executive Officer)
March 29, 2000

/s/ Joyce S. Jones

Joyce S. Jones, Director and
Chief Operating Officer
March 29, 2000

/s/ Bruce R. York

Bruce R. York
Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)
March 29, 2000

/s/ James Porter

James Porter, Director
March 29, 2000

/s/ Lawrence Schoenberg

Lawrence Schoenberg, Director
March 29, 2000

CELLULAR TECHNICAL SERVICES COMPANY, INC.
 SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
 (in 000's)

| | Balance at Beginning of Period ----- | Additions ----- | Deductions ----- | Balance at End of Period ----- |
|--|---|--------------------|---------------------|---|
| INVENTORY RESERVES | | | | |
| Year ended December 31, 1997 | \$ 462 ===== | \$1,818 ===== | \$ 183 ===== | \$2,097 ===== |
| Year ended December 31, 1998 | \$2,097 ===== | \$4,590 ===== | \$3,886 ===== | \$2,801 ===== |
| Year ended December 31, 1999 | \$2,801 ===== | \$ 255 ===== | \$2,059 ===== | \$ 997 ===== |
| SALES AND RECEIVABLE ALLOWANCES | | | | |
| Year ended December 31, 1997 | \$ 101 ===== | \$ 528 ===== | \$ 442 ===== | \$ 187 ===== |
| Year ended December 31, 1998 | \$ 187 ===== | \$ (44) ===== | \$ 71 ===== | \$ 72 ===== |
| Year ended December 31, 1999 | \$ 72 ===== | \$ 0 ===== | \$ 67 ===== | \$ 5 ===== |

STATEMENT OF DIFFERENCES

The trademark symbol shall be expressed as.....'TM'
 The registered trademark symbol shall be expressed as.....'r'
 The service mark symbol shall be expressed as.....'sm'

AMENDMENT TO 1993 NON-EMPLOYEE DIRECTOR STOCK OPTION PLAN

AMENDMENT NO. 2
TO
1993 NON-EMPLOYEE DIRECTOR STOCK OPTION PLAN
OF
CELLULAR TECHNICAL SERVICES COMPANY, INC.
(Effective as of April 22, 1999)

Paragraph 4 of the Plan is hereby amended to read as follows:

"4. OPTION GRANTS

Each individual who first becomes an Outside Director after the effective date of the Plan shall be granted on the date he or she first becomes an Outside Director an option to purchase 5,000 shares of Common Stock. In addition, on January 2 of each year beginning with January 2, 1994, each Outside Director then in office shall be granted an option to purchase an additional 3,000 shares of Common Stock. Furthermore, subject to the express provisions of the Plan, the Board also shall have the authority, in its sole discretion, to determine: the Outside Directors who shall be granted options in addition to the option grants described above; the times when such additional options shall be granted; the number of shares of Common Stock to be subject to each such additional option; whether and under what conditions to accelerate the date of exercise of any such additional option; whether to restrict the sale or other disposition of the shares of Common Stock acquired upon the exercise of such an option and, if so, whether to waive any such restriction; whether to subject the exercise of all or any portion of an option to the fulfillment of contingencies as specified in the contract referred to in Paragraph 13 hereof and to determine whether such contingencies have been met; and, with the consent of the optionee, to cancel or modify an option, provided, that the modified provision is permitted to be included in an option granted under the Plan on the date of the modification."

EXHIBIT 21.1

SUBSIDIARIES OF THE REGISTRANT

| Name of Subsidiary | State of Incorporation | Name Under Which Subsidiary Is Doing Business |
|--------------------------------|------------------------|---|
| ----- | ----- | ----- |
| Isis Tele-Communications, Inc. | Delaware | Isis Tele-Communications, Inc. |

EXHIBIT 23.1

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statements (Form S-8) pertaining to the 1991 Qualified Stock Option Plan, 1991 Nonqualified Stock Option Plan, 1993 Non-Employee Director Stock Option Plan, and 1996 Stock Option Plan of our report dated February 8, 2000 with respect to the financial statements and schedule of Cellular Technical Services Company, Inc. in the Annual Report (Form 10-K) for the year ended December 31, 1999.

/s/ Ernst & Young LLP

Seattle, Washington
March 29, 2000

THE ACCOMPANYING FINANCIAL STATEMENTS AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS

1,000

| | 12-MOS | |
|-------------|--------|-------|
| DEC-31-1999 | | |
| JAN-01-1999 | | |
| DEC-31-1999 | | 4,787 |
| | 0 | |
| | 2,652 | |
| | 5 | |
| | 592 | |
| | 8,150 | |
| | | 4,287 |
| | 3,413 | |
| | 10,202 | |
| 4,529 | | 0 |
| 0 | | 0 |
| | | 23 |
| | 5,650 | |
| 10,202 | | |
| | | 1,642 |
| | 10,241 | |
| | | 3,745 |
| | 8,160 | |
| | 0 | |
| | 0 | |
| | 0 | |
| | 2,630 | |
| | | 31 |
| 2,599 | | 0 |
| | 0 | |
| | | 0 |
| | 2,599 | |
| | 1.14 | |
| | 1.13 | |