



SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

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FORM S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933  
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CELLULAR TECHNICAL SERVICES COMPANY, INC.  
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)  
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DELAWARE  
(STATE OR OTHER JURISDICTION OF  
INCORPORATION OR ORGANIZATION)

4812  
(PRIMARY STANDARD INDUSTRIAL  
CLASSIFICATION CODE NUMBER)  
2401 FOURTH AVENUE, SEATTLE, WASHINGTON 98121  
(206) 443-6400

11-2962080  
(I.R.S. EMPLOYER  
IDENTIFICATION NO.)

(ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING  
AREA CODE, OF REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES)

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STEPHEN KATZ, CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER  
CELLULAR TECHNICAL SERVICES COMPANY, INC.  
2401 FOURTH AVENUE, SEATTLE, WASHINGTON 98121  
(206) 443-6400  
(NAME, ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING  
AREA CODE, OF AGENT FOR SERVICE)  
-----

COPIES OF COMMUNICATIONS TO:

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NEW YORK, NEW YORK 10017  
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APPROXIMATE DATE OF PROPOSED SALE TO THE PUBLIC: As soon as practicable  
after this registration statement becomes effective.

If any of the securities being registered on this form are to be offered on  
a delayed or continuous basis pursuant to Rule 415 under the Securities Act of  
1933, as amended (the 'Securities Act'), check the following box. [ ]

If this Form is filed to register additional securities for an offering  
pursuant to Rule 462(b) under the Securities Act, please check the following box  
and list the Securities Act registration statement number of the earlier  
effective registration statement for the same offering. [ ]

If this Form is a post-effective amendment filed pursuant to Rule 462(c)  
under the Securities Act, check the following box and list the Securities Act  
registration statement number of the earlier effective registration statement  
for the same offering. [ ]

If delivery of the prospectus is expected to be made pursuant to Rule 434,  
please check the following box. [ ]  
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CALCULATION OF REGISTRATION FEE

| TITLE OF EACH CLASS OF<br>SECURITIES TO BE REGISTERED      | AMOUNT TO BE<br>REGISTERED          | PROPOSED<br>MAXIMUM<br>OFFERING PRICE<br>PER SHARE(1) | PROPOSED<br>MAXIMUM<br>AGGREGATE<br>OFFERING PRICE(1) |
|--|-------------------------------------|---|---|
| Shares of Common Stock, par value \$.001 per share(3)..... | 1,984,900 Shares                    | \$18.00   | \$35,728,200  |
| TITLE OF EACH CLASS OF<br>SECURITIES TO BE REGISTERED      | AMOUNT OF<br>REGISTRATION<br>FEE(2) |   |   |
| Shares of Common Stock, par value \$.001 per share(3)..... | \$12,320.07                         |   |   |

(1) Estimated solely for purposes of calculating the registration fee.

(2) Calculated pursuant to Rule 457(a) of the Securities Act.

(3) Includes up to 258,900 shares of Common Stock subject to the over-allotment option granted to the Underwriters by the Company and certain of the Selling Shareholders of the Company. See 'Underwriting.'

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THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933 OR UNTIL THIS REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

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CELLULAR TECHNICAL SERVICES COMPANY, INC.  
 CROSS REFERENCE SHEET  
 PURSUANT TO ITEM 501(b) OF REGULATION S-K  
 REFERENCING ITEMS IN PART I OF FORM S-1 TO THE PROSPECTUS

ITEM NUMBER AND CAPTION

PROSPECTUS CAPTION OF PAGE

| ITEM NUMBER AND CAPTION  | PROSPECTUS CAPTION OF PAGE  |
|--|---|
| 1. Forepart of the registration Statement and Outside Front Cover Page of Prospectus.....    | Facing Page of Registration Statement; Outside Front Cover Page of Prospectus   |
| 2. Inside Front and Outside Back Cover Pages of Prospectus.....                              | Inside Front Cover Page of Prospectus; Outside Back Cover Page of Prospectus  |
| 3. Summary Information, Risk Factors and Ratio of Earnings to Fixed Charges.....             | Prospectus Summary; Risk Factors  |
| 4. Use of Proceeds.....  | Prospectus Summary; Use of Proceeds   |
| 5. Determination of Offering Price.....  | Outside Front Cover Page of Prospectus; Risk Factors; Underwriting  |
| 6. Dilution.....   | Prospectus Summary; Risk Factors; Dilution  |
| 7. Selling Security Holders.....   | Principal and Selling Shareholders  |
| 8. Plan of Distribution.....   | Outside Front Cover Page of Prospectus; Underwriting  |
| 9. Description of Securities to be Registered.....   | Outside Front Cover Page of Prospectus; Prospectus Summary; Description of Capital Stock  |
| 10. Interests of Named Experts and Counsel.....  | Legal Matters; Experts  |
| 11. Information with respect to the Registrant.....  | Outside Front Cover Page of Prospectus; Inside Front Cover Page of Prospectus; Prospectus Summary; Risk Factors; Use of Proceeds; Dividend Policy; Capitalization; Selected Financial Data; Management's Discussion and Analysis of Financial Condition and Results of Operations; Business; Management; Principal Shareholder; Description of Capital Stock; Shares Eligible for Future Sale; Financial Statements |
| 12. Disclosure of Commission Position on Indemnification for Securities Act Liabilities..... | Part II   |



1,726,000 SHARES  
 CELLULAR TECHNICAL SERVICES COMPANY, INC.  
 COMMON STOCK

Of the 1,726,000 shares of common stock (the 'Common Stock') offered hereby, 1,500,000 shares are being sold by Cellular Technical Services Company, Inc., a Delaware corporation (the 'Company'), and 226,000 shares are being sold by the Selling Shareholders. The Company will not receive any of the proceeds from the sale of the shares being sold by the Selling Shareholders. See 'Principal and Selling Shareholders.'

The Common Stock is included in The Nasdaq Stock Market's National Market (the 'Nasdaq National Market') under the symbol 'CTSC.' On July 1, 1996, the last reported sales price for the Common Stock on the Nasdaq National Market was \$18.25 per share. See 'Price Range of Common Stock.'

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 SEE 'RISK FACTORS' BEGINNING ON PAGE 8 FOR A DISCUSSION OF CERTAIN MATERIAL FACTORS THAT SHOULD BE CONSIDERED IN CONNECTION WITH AN INVESTMENT IN THE COMMON STOCK OFFERED HEREBY.  
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THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

|                | PRICE TO<br>PUBLIC | UNDERWRITING<br>DISCOUNTS AND<br>COMMISSIONS(1) | PROCEEDS TO<br>COMPANY(2) | PROCEEDS TO<br>SELLING<br>SHAREHOLDERS |
|----------------|--------------------|---|---------------------------|--|
| Per Share..... | \$                 | \$  | \$                        | \$                                     |
| Total (3)..... | \$                 | \$  | \$                        | \$                                     |

- (1) The Company has agreed to indemnify the several Underwriters against certain liabilities, including liabilities under the Securities Act of 1933, as amended (the 'Securities Act'). See 'Underwriting.' The Company has agreed to reimburse the Selling Shareholders for a portion of the commission to be paid to the Underwriters in connection with shares sold by the Selling Shareholders hereunder.
- (2) Before deducting expenses payable by the Company estimated to be \$300,000.
- (3) The Company and certain of the Selling Shareholders of the Company have granted the several Underwriters a 45-day over-allotment option to purchase, in the aggregate, up to 258,900 additional shares of Common Stock on the same terms and conditions as set forth above. If all such additional shares are purchased by the Underwriters, the total Price to Public will be \$ \_\_\_\_\_, the total Underwriting Discounts and Commissions will be \$ \_\_\_\_\_, and the total Proceeds to Company will be \$ \_\_\_\_\_.

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 The shares of Common Stock offered hereby are offered by the Underwriters, subject to prior sale, when, as and if delivered to and accepted by the Underwriters, and subject to the right of the Underwriters to reject any order in whole or in part and certain other conditions. It is expected that delivery of certificates for the shares of Common Stock will be made at the offices of Bear, Stearns Securities Corp., 1 Metrotech Center North, Brooklyn, New York 11201 as agent for the Representative, on or about \_\_\_\_\_, 1996.

GERARD KLAUER MATTISON & CO., LLC

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 THE DATE OF THIS PROSPECTUS IS \_\_\_\_\_, 1996

INFORMATION CONTAINED HEREIN IS SUBJECT TO COMPLETION OR AMENDMENT. A REGISTRATION STATEMENT RELATING TO THESE SECURITIES HAS BEEN FILED WITH THE SECURITIES AND EXCHANGE COMMISSION. THESE SECURITIES MAY NOT BE SOLD NOR MAY OFFERS TO BUY BE ACCEPTED PRIOR TO THE TIME THE REGISTRATION STATEMENT BECOMES EFFECTIVE. THIS PROSPECTUS SHALL NOT CONSTITUTE AN OFFER TO SELL OR THE SOLICITATION OF AN OFFER TO BUY NOR SHALL THERE BE ANY SALE OF THESE SECURITIES IN ANY STATE IN WHICH SUCH OFFER, SOLICITATION OR SALE WOULD BE UNLAWFUL PRIOR TO REGISTRATION OR QUALIFICATION UNDER THE SECURITIES LAWS OF ANY SUCH STATE.



[Photo to follow]

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE COMMON STOCK OFFERED HEREBY AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.

IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS AND SELLING GROUP MEMBERS (IF ANY) OR THEIR RESPECTIVE AFFILIATES MAY ENGAGE IN PASSIVE MARKET MAKING TRANSACTIONS IN THE COMMON STOCK ON THE NASDAQ NATIONAL MARKET IN ACCORDANCE WITH RULE 10B-6A UNDER THE SECURITIES EXCHANGE ACT OF 1934. SEE 'UNDERWRITING.'



## PROSPECTUS SUMMARY

The following summary is qualified in its entirety by, and should be read in conjunction with, the more detailed information and financial statements (including the notes thereto) appearing elsewhere in this Prospectus. Unless otherwise indicated, all information in this Prospectus assumes no exercise of the Underwriter's over-allotment option and has been adjusted to give retroactive effect to a 2 for 1 split of the Company's common stock effected in June, 1996 in the form of a 100% stock dividend. Investors should carefully consider the information set forth under the caption 'Risk Factors.' The 'Company' refers to Cellular Technical Services Company, Inc.

### THE COMPANY

The mission of Cellular Technical Services Company, Inc. (the 'Company') is to be the premier developer and provider of real-time information processing and information management systems for the wireless communications industry in the United States and international markets. The Company designs and engineers software and hardware products for sale to the wireless communications industry to provide user/device authentication (for 'cloning' fraud prevention) and to provide service metering (for credit management and prepaid billing). Although the Company's products and services currently are used exclusively by cellular telephone system operators, commonly known as carriers, the Company believes they may be generally adaptable to other wireless communications systems.

User/device authentication primarily involves various forms of 'pre-call' verification to ensure that the use of a wireless communications device (e.g., a cellular telephone) is legitimate before the device is allowed to connect to a wireless network. The Company's Blackbird'r' Platform ('Blackbird Platform') provides the underlying technology for pre-call application products. The first application product on the Blackbird Platform, PreTect'tm' ('PreTect'), is designed to proactively prevent cloning fraud. The Cellular Telecommunications Industry Association has estimated that in 1995 cloning fraud has resulted in costs and lost revenues to the cellular industry of an amount in excess of \$650 million. The Company believes that in 1996 cloning fraud will result in an increased amount of such costs and lost revenues. Cloning fraud is the term used by the cellular industry to describe the illegal activity of using a cellular telephone whose electronic serial number and telephone number have been altered to match those of a legitimate subscriber's telephone. See 'Business -- The Blackbird Platform.'

Service metering primarily involves the collection of various forms of 'post-call' information (within minutes after the end of the call) to ensure that a wireless communications carrier's subscriber has proper account status to make additional calls. The Company's Hotwatch'r' Platform ('Hotwatch Platform') provides the underlying technology for post-call application products and services for credit management and prepaid billing ('Hotwatch Products'). See 'Business -- The Hotwatch Platform.'

The Blackbird and Hotwatch Platforms, each based on open systems architecture, are designed to allow a broad range of interconnection and data-sharing possibilities between various geographic markets and different wireless communications carriers.

The Company's primary activities are currently focused on the further development, marketing and deployment of the Blackbird Platform and the PreTect fraud prevention application product and services (the 'Blackbird Products'). PreTect, which is transparent to the subscriber, uses patented signal processing, commonly referred to as radio frequency ('RF') 'fingerprinting' technology to accurately distinguish between legitimate subscribers and counterfeit users before the call is connected. PreTect captures information from the cellular telephone call at the cell site, before it enters the carrier's system, and compares it to valid fingerprints and data. If a proper match is not made, PreTect can then automatically prevent connection of the call. The Company also provides a seamless Real-Time Roaming Fraud Prevention ServiceSM ('Real-Time Roaming Fraud Prevention Service') between markets which use the Blackbird Platform and PreTect. During 1996, the Company entered into agreements with AirTouch Cellular ('AirTouch') and Bell Atlantic NYNEX Mobile ('BANM') for the provision of the Blackbird Products for use in over 1,000 cell sites, subject to the Blackbird Products' compliance with contractual requirements. The Company believes that as of the end of 1995 there were



approximately 23,000 domestic and 10,000 international cell sites to which the Company's Blackbird Products are adaptable. The Company also believes there are approximately 14,000 additional international cell sites to which the Company's Blackbird Products may be adaptable.

During the last ten years, wireless communications service has been one of the fastest growing segments of the telecommunications industry. The Cellular Telecommunications Industry Association has estimated that the number of cellular subscribers in the United States increased from approximately 340,000 subscribers in December 1985 to approximately 34 million subscribers in December 1995. The Company believes the worldwide wireless communications market may exceed 100 million subscribers by the end of 1996. The Company expects significant growth in wireless communications in the United States to continue in the future, as a result of the increased demand for cellular service and the emergence of personal communications services ('PCS') as a new form of wireless communications service, and that significant growth will also occur in international markets. The Company believes that the number of cellular and PCS subscribers may grow to 80 million in the United States and more than 300 million worldwide in the year 2001. The Company believes that the demand for its products and services may increase as the Company adapts its products and creates new products to service an expanded wireless communications industry.

The Company was incorporated in Delaware in August 1988 under the name NCS Ventures Corp. ('Ventures') as a majority-owned subsidiary of Nationwide Cellular Service Inc. ('Nationwide'), a publicly traded company. In September 1988, Ventures formed, as equal partners with NYNEX Mobile Billing Services, Inc. ('NYNEX'), a partnership, Cellular Technical Services Company ('Partnership'). In May 1991, Ventures changed its name to Cellular Technical Services Company, Inc. In August 1991 the Company exercised an option to purchase the interest in the Partnership owned by NYNEX and consummated the initial public offering of its securities. In 1995, concurrent with the merger of Nationwide into MCI Communications Corp., Nationwide distributed to its stockholders all of its shares of the Company's Common Stock.

The Company's principal offices are located at 2401 Fourth Avenue, Seattle, Washington, 98121 and its telephone number is (206) 443-6400.

#### BUSINESS STRATEGY

##### DEVELOPMENT OF BLACKBIRD

The Company's immediate strategy is to achieve commercial acceptance and significant market penetration of the Blackbird Platform. To accomplish this, the Company plans to expand its domestic and international sales and marketing efforts. After it has achieved an installed base of the Blackbird Platform, the Company believes that it will be able to leverage its relationships with carriers and its position at the carriers' cell sites to offer additional products and services. The Company plans to expand its research and development efforts to enhance its existing products and services and to develop new value-added products for the Blackbird Platform which can be sold in connection with PreTect or on a stand-alone basis.

##### LEVERAGE CORE COMPETENCIES

Through the development and deployment of the Blackbird and Hotwatch Platforms, the Company has developed several core competencies. The Company believes that these core competencies may facilitate its development of products and services which complement its platforms and add value to its current and potential customer base.

Ability to interface with carriers' cell sites and switches. The Company's proprietary software and hardware products collect and utilize information resident at the carrier's cell site and/or switch. This expertise may facilitate the development of future products and services in both an analog and digital environment.



Real-time database expertise. The Company has developed the ability to optimize database performance, which enables systems to reach transaction decisions in very short time frames. For example, PreTect can determine whether or not to connect a call within five seconds of call origination.

Real-time rating expertise. The Company has developed the ability to combine streams of telephone billing information, such as toll charges, discounts and promotions, surcharges, etc. to mimic a carrier's billing system on a real-time basis, within minutes after the end of the call, rather than in a batch process for monthly customer billing. This currently allows the Company to determine account authorization for future telephone calls. The Company believes this expertise may be applicable to other systems that involve real-time charges.

Transaction Control Protocol ('TCP')/Internet Protocol ('IP') expertise. The Company believes it can apply the experience it has gained in its existing TCP/IP networks and add its other core competencies, such as real-time rating and real-time database expertise to other TCP/IP networking infrastructures.

Ability to interface with billing systems. The Company has developed the ability to interface with the systems infrastructures of major billing service companies in the wireless communications industry. As these companies expand their customer base beyond telephone carriers, the Company believes it can apply its knowledge to provide its value-added service metering technologies to this expanded customer base.



THE OFFERING

|  |   |
|--|---|
| Common Stock Offered by the Company(1).....                    | 1,500,000 shares  |
| Common Stock Offered by the Selling<br>Shareholders(1)(2)..... | 226,000 shares  |
| Common Stock Outstanding prior to the<br>Offering.....         | 21,706,468 shares   |
| Common Stock Outstanding after the<br>Offering(1)(3).....      | 23,432,468 shares   |
| Use of Proceeds.....   | To finance (i) research and development to enhance the<br>Company's existing technologies and develop new technologies;<br>(ii) expansion of sales and marketing activities including the<br>establishment of international marketing, sales and<br>distribution operations; (iii) expansion of customer support<br>capabilities; (iv) enhancement and expansion of the Company's<br>manufacturing activities; (v) provision of lease financing to<br>certain of the Company's customers; (vi) possible acquisitions<br>of complementary technologies and businesses; and (vii)<br>expansion of working capital and general corporate purposes.<br>See 'Use of Proceeds.' |
| Nasdaq National Market Symbol.....                             | 'CTSC'  |

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- (1) Does not include shares of Common Stock issuable upon the exercise of the over-allotment option.
- (2) Such shares will be issued to the Selling Shareholders upon their exercise of stock options.
- (3) Based on the number of shares of Common Stock outstanding at March 31, 1996. Includes 226,000 shares of Common Stock issuable upon the exercise of options by the Selling Shareholders. Excludes 2,713,040 shares of Common Stock issuable upon the exercise of other stock options outstanding at March 31, 1996, of which 237,280 shares of Common Stock were issued upon the exercise of stock options since March 31, 1996 through the date of this Prospectus. Also excludes 160,000 shares of Common Stock issuable upon the exercise of options granted since March 31, 1996.



SUMMARY FINANCIAL DATA

|   | YEAR ENDED DECEMBER 31, |              |              | THREE MONTHS ENDED<br>MARCH 31, |               |
|---|-------------------------|--------------|--------------|---------------------------------|---------------|
|   | 1993                    | 1994         | 1995         | 1995                            | 1996          |
| (IN DOLLARS EXCEPT WEIGHTED SHARES OUTSTANDING) |                         |              |              |                                 |               |
| Statement of Operations Data:                   |                         |              |              |                                 |               |
| REVENUES  |                         |              |              |                                 |               |
| License and service fees.....                   | \$ 3,875,353            | \$ 8,691,036 | \$10,944,788 | \$ 2,736,768                    | \$ 645,622    |
| Equipment sales.....                            | 1,215,738               | 1,040,863    | 1,164,536    | 612,812                         | 89,164        |
| Interest income.....                            | 176,594                 | 280,181      | 475,512      | 118,984                         | 107,493       |
| Total revenues.....                             | 5,267,685               | 10,012,080   | 12,584,836   | 3,468,564                       | 842,279       |
| COSTS AND EXPENSES                              |                         |              |              |                                 |               |
| Cost of license and service fees.....           | 1,574,521               | 2,619,435    | 3,330,801    | 922,539                         | 785,200       |
| Cost of equipment sales.....                    | 1,329,276               | 1,112,254    | 1,485,952    | 611,731                         | 278,405       |
| Sales and marketing.....                        | 738,068                 | 789,578      | 2,141,853    | 507,607                         | 822,873       |
| General and administrative.....                 | 1,563,794               | 2,269,170    | 2,115,991    | 601,783                         | 510,611       |
| Research and development.....                   | 1,268,361               | 1,661,772    | 3,445,052    | 576,777                         | 945,749       |
| Total costs and expenses.....                   | 6,474,020               | 8,452,209    | 12,519,649   | 3,220,437                       | 3,342,838     |
| INCOME (LOSS) BEFORE INCOME TAXES.....          | (1,206,335)             | 1,559,871    | 65,187       | 248,127                         | (2,500,559)   |
| PROVISION FOR INCOME TAXES.....                 | 0                       | 10,000       | 2,000        | 5,000                           | 0             |
| NET INCOME (LOSS).....                          | \$(1,206,335)           | \$ 1,549,871 | \$ 63,187    | \$ 243,127                      | \$(2,500,559) |
| NET INCOME (LOSS) PER SHARE.....                | \$(0.07)                | \$0.08       | \$0.00       | \$0.01                          | \$(0.12)      |
| WEIGHTED AVERAGE SHARES OUTSTANDING.....        | 17,363,680              | 20,297,326   | 22,026,150   | 22,158,686                      | 21,608,900    |

|                                 | MARCH 31, 1996 |                |
|---------------------------------|----------------|----------------|
|                                 | ACTUAL         | AS ADJUSTED(1) |
| Balance Sheet Data:             |                |                |
| Total assets.....               | \$16,031,129   | \$ 42,232,129  |
| Working capital.....            | 8,839,554      | 35,040,554     |
| Total Stockholders' equity..... | 14,597,368     | 40,798,368     |

(1) Adjusted to reflect (i) the sale by the Company of the shares of Common Stock offered hereby (based upon an assumed offering price of \$18.00 per share) and the application of the net proceeds therefrom and (ii) the Company's receipt of the proceeds from the exercise by the Selling Shareholders of options to acquire 226,000 shares of Common Stock. See 'Capitalization.'



## RISK FACTORS

An investment in the shares of Common Stock offered hereby involves a high degree of risk. Prospective investors should carefully consider the following risk factors, in addition to the other information set forth in this Prospectus, in connection with an investment in the shares of Common Stock offered hereby.

Dependence on Cellular Market; Rapid Industry Change and Technological Obsolescence. The Company's future success will depend on the continued and expanded use of its existing products and services, and its ability to develop new products and services or adapt existing products and services to keep pace with changes in the wireless communications industry. The Company historically has provided its products and services exclusively to cellular carriers. In addition, the Company's user/device authentication products currently are designed to provide security exclusively for analog cellular telephones. The Company believes that over 95% of cellular telephone service currently is provided in the analog mode, but that the industry is undertaking a shift to digital mode in the major markets due to certain advantages of the digital mode, including expanded capacity, greater privacy and enhanced security. Technological changes or developments in the cellular industry, such as encryption technology for enhanced privacy, 'Authentication' ('A-Key') technology for enhanced security against cloning fraud, improved switching technologies, or further industry consolidation, could reduce or eliminate demand for the Company's user/device authentication products. A rapid shift away from the use of analog cellular telephones in favor of digital cellular telephones utilizing A-Key or to other wireless services, such as PCS, could affect demand for the Company's user/device authentication products and could require the Company to develop modified or alternative user/device authentication products addressing the particular needs of providers of such new services. There can be no assurance that the Company will be successful in modifying or developing its existing or future user/device authentication products in a timely manner, or at all. 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. See 'Business -- Operation of Wireless Communications Systems and -- Competition.'

Limited Product Line; Uncertainty of Market Acceptance. The Company's revenues have been and can be expected to continue to be derived from a limited number of products and services. The Company recently expanded its product line with the introduction of the Blackbird Products. Although the Company believes that the Blackbird Products present significant growth opportunities for its business, there can be no assurance that the Company will derive significant revenues from the commercialization of such technology or any other products. By virtue of the recent signing of certain contracts and letters of intent, the Company commenced the commercial installation of the Blackbird Products in several major cellular markets during the second quarter of 1996 and expects the Blackbird Products to be commercially operational in the second half of 1996. Achieving market acceptance and penetration of the Blackbird Products and the Company's other products and services will require, in addition to enhancing and improving those products and services, increased marketing efforts to effectively compete and increase customer awareness of the Company's products and services. There can be no assurance, however, that the Company's expanded marketing and sales efforts and increased expenditures will result in successful commercialization and increased market penetration of the Company's products and services. See 'Use of Proceeds' and 'Business -- Marketing.'

Technological Factors; Uncertainty of Product Development; Unproven Technology. The Company's products are currently being utilized by a limited number of customers and there can be no assurance that they will prove to be sufficiently reliable in widespread commercial use. It is common for hardware and software as complex and sophisticated as that incorporated in the Company's products to experience errors or 'bugs' both during development and subsequent to commercial introduction. In particular, the Company has identified certain software and hardware errors in its Blackbird Products and to date corrected some, but not all, of such errors. 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 commercial introduction of new 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 technologies and products offered by its competitors. In particular, delays in remedying existing or future errors in the Company's Blackbird Products could materially adversely affect the Company's ability to achieve significant market penetration prior to the possible widespread use of A-Key. In addition, software and hardware warranties are generally included as part of the Company's obligations under its agreements with its customers. To date, the costs to the Company of meeting the Company's warranty obligations relating to its Hotwatch Products have not been substantial. Warranty obligations related to the Blackbird Products will begin upon customer acceptance of such products. However, to the extent that the software and hardware 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. The Company is continually seeking to enhance and improve its existing products and services and to develop new products and services, including other application products utilizing the Blackbird and Hotwatch Platforms. Accordingly, the Company remains subject to all of the risks inherent in new product development, including unanticipated technical or other development problems which could result in material delays in product commercialization or significantly increased costs. There can be no assurance that the Company will be able to successfully enhance or improve existing products or develop new products. See 'Business -- Research and Development.'

**Risk of New Hardware Manufacturing Activities.** For the most part, the Company's engineering resources are devoted to software design and development. As a result, only a limited number of such resources are used in the design and prototype production of the Company's proprietary hardware. Consequently, the Company utilizes subcontractors 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 Products. The Company's future success will depend on enhancing and expanding its manufacturing activities with respect to the design and engineering of hardware, improving its inventory control systems, maintaining effective quality control, procuring component parts and maintaining subcontractor relationships. Failure to achieve any of these factors could have a material adverse effect on the Company's business, financial condition and results of operations.

**Ability to Manage Growth.** The Company has expanded its operations rapidly, which has created significant demands on the Company's administrative, operational, development and financial personnel and other resources. Additional expansion by the Company may further strain the Company's management, financial and other resources. There can be no assurance that the Company's systems, procedures, controls and existing space will be adequate to support expansion of the Company's operations. The Company's future operating results will depend, among other things, on its ability to manage changing business conditions and to continue to improve its operational and financial control and reporting systems. If the Company's management is unable to manage growth effectively, its business, financial condition and results of operations could be materially adversely affected. See 'Business -- Employees' and 'Management.' The Company's ability to manage growth depends in part upon the Company's ability to attract, train and retain a sufficient number of qualified personnel or independent contractors commensurate with the expanding needs of the Company. An increase in the turnover rate among the Company's employees would increase the Company's recruiting and training costs, and if the Company were unable to recruit and retain a sufficient number of employees or independent contractors, 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 employees or independent contractors to support the Company's business in the future. See 'Business -- Employees.'

**Dependence on Key Personnel.** The Company's future success depends in large part on the continued services of its key management, sales, engineering, research and development and operational personnel and on its ability to continue to attract, motivate and retain highly qualified employees and independent contractors in those areas. 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 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, among others, its President and Chief Financial Officer which both expire in December 1996. There can be no assurance that any of these contracts will be renewed. The Company does not maintain any key-man life insurance policies on any of its employees. See 'Business -- Employees' and 'Management.'

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. Currently, the Company markets its services and products only to cellular carriers, of which there are 27 in the United States and approximately 150 in international markets. There can be no assurance that any customers, current or future, will maintain business relationships with the Company. See ' -- International Operations.' Revenues attributable to a relatively small number of customers have historically represented and are likely for the foreseeable future to continue to represent a significant percentage, in any given period, of its total revenues. Sales to customers aggregating 10% or more, either individually or combined as affiliates due to common ownership, were concentrated as follows: four customers with sales of 39%, 17%, 16% and 11% during the quarterly period ended March 31, 1996, three customers with sales of 59%, 15% and 12% in 1995, three customers with sales of 54%, 22% and 11% in 1994 and two customers with sales of 56% and 24% in 1993. The aggregate sales to these customers (only one of which has accounted for more than 10% during all periods presented) represented 83%, 86%, 87% and 80% of the Company's total product and service revenues during the three months ended March 31, 1996, and the three years ended December 31, 1995, respectively. There can be no assurance that such customers will continue to maintain business relationships with the Company. The Company has recently signed contracts with new customers which, if successfully implemented and performed, would generate significant revenue. However, 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 change. A number of companies currently offer one or more similar products and services offered by the Company. In addition, many wireless communications carriers are providing or can provide, in-house, certain of the Hotwatch Products that the Company offers. Trends in the wireless communications industry, including greater consolidation and technological or other developments that make it simpler or more cost-effective for wireless communications 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 wireless communications 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 wireless communications 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.

The Company believes that the principal competitive factors facing the Company in the wireless communications industry include the ability to identify and respond to customer needs, the quality and breadth of products and services, technical expertise and price. To remain competitive, the Company will need to continue to invest in 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. The Company's principal competitors in the service metering field include IBM, I-NET, Inc., GTE Telecommunications Services, Inc., Boston Communications Group, EDS Personal Communications Corporation, Cincinnati Bell Information Systems, Inc., Lightbridge, Inc., Subscriber Computing, Inc., CSC Intellicom, and Systems/Link Corporation. The Company's principal competitors in the user/device authentication field include Corsair Communications, Inc., Coral Systems, Inc. (in connection with a joint venture with Applied Signal Technology), Authentix Network, Inc., and GTE Telecommunications Services, Inc. Two of these competitors, Corsair Communications, Inc. and Coral Systems, Inc. compete directly with the Company's RF-based fingerprinting fraud protection products. The Company believes that Corsair Communications, Inc. has agreements pursuant to which Corsair Communications, Inc. has installed or will install its RF-based fingerprinting fraud protection product in four major markets. The Company has no knowledge of any such agreements or installations by Coral Systems, Inc. In addition, there are numerous companies, including wireless communications carriers, hardware and software development companies and others, which have or may develop the expertise which would encourage them to attempt to develop and market products (such as A-Key) which could render the Company's products obsolete or less marketable. See 'Business -- Competition.'

History of Net Losses; Accumulated Deficit. Although the Company had net income of \$63,187 for the year ended December 31, 1995 and net income of \$1,549,871 for the year ended December 31, 1994, the Company sustained a net loss in each of the preceding years, had a net loss of \$2,500,559 for the quarter ended March 31, 1996, and, at March 31, 1996, had an accumulated deficit of \$6,126,823. Further, the Company expects to record a loss in the range of \$1,250,000 to \$1,750,000 for the quarter ending June 30, 1996. In addition, in the event that the Company is not successful in generating sufficient future product revenues, the carrying value of capitalized software development costs, inventories and other assets could be significantly impaired. There can be no assurance that the Company's operations will be profitable in the future. See 'Management's Discussion and Analysis of Financial Condition and Results of Operations.'

International Operations. The Company is in the early stages of marketing its products and services in international markets. In pursuing such opportunities, the Company is and will remain subject to all the risks inherent in international transactions, such as 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 changes in 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 ' -- Proprietary Rights' and 'Business -- 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 operation could be materially adversely affected. See 'Business.'

Potential Fluctuations in Quarterly Performance. The Company has experienced fluctuations in its quarterly operating results and anticipates that such fluctuations will continue and could intensify. The Company's quarterly operating results may vary significantly depending on a number of factors, including the timing of the introduction or acceptance of new products and services offered by the Company, changes in the mix of products and services provided by the Company, long sales cycles, changes in regulations affecting the wireless industry, changes in the Company's operating expenses, uneven revenue streams, and general economic conditions. Revenue recognition for the Company's products is based upon various performance criteria and varies from customer to customer and product to product. Hardware and software delivery and customer acceptance in accordance with contractual definitions are generally the significant factors used in determining revenue recognition. There can be no assurance that the Company's levels of profitability 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. In such event, the price of the Company's Common Stock could be materially adversely affected. See 'Business -- Revenue Generation.'

Dependence on Third-Party Vendors. The Company has been and will continue to be dependent on third-party vendors for computer equipment, network services, component parts, manufacturing, systems integration and certain software all of which are incorporated in its products and services. While available from multiple sources, the Company currently obtains or licenses certain equipment and software from a limited number of sources. Although the Company believes that there are currently available substitute sources for all such equipment and software, the Company could be required to redesign affected products to accommodate substitutes therefor. In an attempt to ensure satisfactory sources of supply, the Company currently maintains supply and software license arrangements with various suppliers. There can be no assurance, however, that the Company will be able to procure necessary equipment and software on a satisfactory and timely basis. For example, from time to time the electronic computer component parts industry has experienced parts allocation restrictions. Any failure or delay in obtaining necessary equipment, component parts or software, 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. See 'Business -- Suppliers.'

Possible Need for Additional Financing. In the event of unanticipated technical or other problems, or if the proceeds of this offering otherwise prove to be insufficient to fund operations, the Company may be required to seek additional financing sooner than currently anticipated or may be required to curtail its activities. There can be no assurance that additional financing will be available on acceptable terms, or at all. See 'Use of Proceeds' and 'Management's Discussion and Analysis of Financial Condition and Results of Operations.'

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 Hotwatch Products and Blackbird Products that it believes to be proprietary and that offer a potential competitive advantage for the Company's products and services. To date, the Company has been granted patents on certain features of the Hotwatch Products and has patents pending for certain features of the Hotwatch Products and Blackbird 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 Products. There can be no assurance, however, that any pending or future patent application of the Company or its licensors will result in issuance of a patent, that the scope of protection of any patent of the Company or its licensors will be held valid if subsequently challenged, or that third parties will not claim rights in or ownership of the products and other proprietary rights held by the Company or its licensors. In addition, the laws of certain foreign countries do not protect the Company's intellectual property rights to the same extent as the laws of the United States.

Litigation or regulatory proceedings, which could result in substantial cost and uncertainty to the Company, may also 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. 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 third parties will not assert infringement claims in the future with respect to the



Company's current or future products 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. No assurance can be given that any necessary licenses can be obtained in a timely manner, upon commercially reasonable terms, or at all, and no assurance can be given that third parties will not assert infringement claims with respect to any current licensing arrangements. The Company's failure to successfully enforce its proprietary rights or defend against infringement claims brought by third parties could have a material adverse effect upon the Company. In addition, there can be no assurance that the Company will have the resources necessary to successfully defend an infringement claim brought by a third party.

In addition to the foregoing methods of protection, 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. Furthermore, although the Company has and expects to continue to have internal nondisclosure agreements with its employees and consultants, 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. See 'Business -- Proprietary Rights.'

Risk of System Failure or Inadequacy. The Company operates and maintains internal computers and telecommunication equipment for, among other things, monitoring and supporting its products and services, and operating its Real-Time 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, telecommunications failure or similar events. Although the Company provides back-up for substantially all of its systems, these measures will 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. See ' -- Dependence on Third Party Vendors.'

Radio Frequency Emission Concerns; Medical Device Interference. Media reports have suggested that certain RF emissions from portable cellular telephones might be linked to various health concerns, including cancer. Concerns over RF emissions may have the effect of discouraging the use of cellular and other wireless communications services, such as PCS, which could have an adverse effect upon the Company's business. The Federal Communications Commission ('FCC') has a rulemaking proceeding pending to update the guidelines and methods it uses for evaluating RF emissions from radio equipment, including cellular telephones, and the 1996 Telecommunications Act requires the FCC to complete this rulemaking by August 1996. Although PCS handsets operate at lower power than cellular handsets and are therefore likely to comply with proposed new standards, the same concerns about RF emissions could be present with PCS handsets.

Certain interest groups have requested that the FCC investigate claims that certain wireless technology poses health concerns and causes interference with hearing aids, pacemakers and other medical devices. In addition, the Personal Communications Industry Association announced in July 1995 that it was undertaking an industry-wide study to gather information on possible PCS interference with medical devices for all PCS protocols. There can be no assurance that the findings of such studies will not have a material adverse effect on the Company's business, financial condition and results of operations or that such findings will not lead to government regulation that will have a material adverse effect on the Company's business, financial condition and results of operations.

Government Regulation and Legal Uncertainties. While, for the most part, the Company's operations are not directly regulated, the wireless carriers that constitute the Company's customers are



heavily regulated at both the federal and state levels. Such regulation may inhibit the growth of the wireless telecommunications industry, limit the number of potential customers for the Company's services and impede the Company's ability to offer competitive services to the wireless communications market or otherwise have a material adverse effect on the Company's business, financial condition and results of operations. At the same time, recently enacted federal legislation deregulating the telecommunications industry may cause 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 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.

No Dividends. To date, the Company has not paid any dividends on the Common Stock and does not expect to declare or pay any dividends on such Common Stock in the foreseeable future. See 'Dividend Policy.'

Dilution. This offering involves an immediate dilution of \$16.41 per share between the pro forma as adjusted net tangible book value per share after the offering and the assumed public offering price of \$18.00 per share. See 'Dilution.'

Outstanding Options. As of March 31, 1996, there were outstanding stock options to purchase an aggregate of 2,713,040 shares of Common Stock at a weighted average exercise price of \$5.95 per share (after giving effect to the exercise by the Selling Shareholders of options to acquire 226,000 shares of Common Stock). To the extent that these outstanding stock options are exercised, dilution to the Company's stockholders may occur if the market price or book value of the Common Stock of the Company at the time of exercise is greater than the exercise price of the options. Moreover, the terms upon which the Company will be able to obtain additional equity capital may be adversely affected since the holders of such outstanding securities can be expected to exercise them at a time when the Company would, in all likelihood, be able to obtain any needed capital on terms more favorable to the Company than those provided in the outstanding options. See 'Management -- Stock Option Plans.'

Shares Eligible for Future Sale. Upon completion of this offering, the Company will have outstanding 23,669,748 shares of Common Stock (including 237,280 shares issued for option exercises, from April 1, 1996 to the date of this Prospectus), of which the 1,726,000 shares sold in this offering (1,984,900 shares if the Underwriters' over-allotment option is exercised in full) and the 4,600,000 shares sold in the Company's initial public offering in August 1991 and all other shares will be freely tradeable without restriction or further registration under the Securities Act, except for those shares held by 'affiliates' (as defined in the Securities Act) of the Company. There are no restricted shares currently outstanding. Affiliates are able to sell shares pursuant to Rule 144 ('Rule 144') under the Securities Act, subject to compliance with certain requirements set forth in Rule 144. In addition, 5,400,000 shares of Common Stock are authorized under the Company's 1991 Qualified Stock Option Plan, 1991 Non-Qualified Stock Option Plan, as amended, 1993 Non-Employee Directors Stock Option Plan and 1996 Stock Option Plan. Of these shares, 2,176,160 shares are issuable upon the exercise of outstanding stock options granted by the Company, of which options to purchase 513,100 shares are currently exercisable (assuming the exercise by certain Selling Stockholders of options to purchase 76,000 shares of Common Stock). Registration statements on Form S-8 have been filed with the Securities and Exchange Commission (the 'Commission') registering all of the shares of Common Stock that may be issued under these plans, other than the 1996 Stock Option Plan, and registering 600,000 shares of Common Stock issued to Robert Dahut which were not issued in connection with any stock option plan of the Company. Of these shares, 390,000 are issuable upon exercise of certain options to purchase shares of Common Stock (which are in addition to the 150,000 shares being sold by Mr. Dahut in connection with this Prospectus and which include 30,000 options currently exercisable by Mr. Dahut. The Company and each of its executive officers and directors have agreed with the Underwriters, subject to limited exceptions, not to offer, sell, pledge, contract to sell, grant any other option to purchase or otherwise dispose of any shares of Common Stock or any securities convertible into or exchangeable or exercisable for, or warrants, rights or options to acquire shares of Common Stock, for a period of 180 days from the date of this Prospectus without the prior written consent of the Representative. The Company estimates that 540,434 shares of outstanding Common Stock and 838,820 shares of Common



Stock that are issuable upon the exercise of outstanding options will be subject to such agreements. No new options will be granted under either the Company's 1991 Non-Qualified Stock Option Plan, or under the Company's 1991 Qualified Stock Option Plan. Sales of substantial amounts of shares of Common Stock in the public market, or the availability of such shares for future sale, could adversely affect the market price of the Common Stock and could impair the Company's future ability to raise additional capital through an offering of its equity securities. See 'Shares Eligible for Future Sale' and 'Underwriting.'

Possible Volatility of Stock Price. The market price of the Common Stock could be subject to significant fluctuations in response to variations in financial results or announcements of material events by the Company or its competitors. Regulatory changes or changes in the general condition of the economy or the financial markets could also adversely affect the market price of the Common Stock. See 'Price Range of Common Stock.'

Anti-Takeover Provisions. The Certificate of Incorporation and By-laws of the Company contain various provisions which may have the effect of discouraging, delaying or preventing future changes of control or takeover attempts, which the Company's stockholders may deem to be in their best interests, and perpetuating the Company's existing management. Among other things, such provisions: (i) provide the Board of Directors with broad discretion to issue serial preferred stock; (ii) provide for three-year terms for the directors of the Company and the election of such directors on a staggered basis; (iii) prohibit repurchases by the Company from a stockholder owning 5% or more of the Company's voting securities (other than those stockholders meeting such description as of May 30, 1991) who have held their securities for less than two years, unless approved by a majority of the disinterested stockholders; and (iv) require the approval of two-thirds of all shares eligible to vote for any proposed amendment to the Certificate of Incorporation or By-laws that seeks to modify or remove the foregoing provisions. In addition, in certain circumstances, Delaware law requires the approval of two-thirds of all shares eligible to vote for certain business combinations involving a stockholder owning 15% or more of the Company's voting securities (other than stockholders currently meeting such description), excluding the voting power held by such stockholder. The existence of all of the above provisions may have the effect of discouraging, delaying or preventing a future change of control or takeover attempt of the Company, which could have an adverse effect on the market price of the Common Stock. See 'Description of Capital Stock -- Anti-Takeover Provisions.'



USE OF PROCEEDS

The net proceeds to be received by the Company from the sale of 1,500,000 shares offered hereby by the Company (after deducting underwriting discounts and commissions and estimated expenses payable by the Company), are estimated to be approximately \$25,080,000 (or approximately \$28,887,000 if the Underwriter's over-allotment option is exercised in full pro rata between the Company and the Selling Shareholders).

The Company intends to use the net proceeds of the offering to finance (i) research and development to enhance the Company's existing technologies and develop new technologies; (ii) expansion of sales and marketing activities including the establishment of international marketing, sales and distribution operations; (iii) expansion of customer support capabilities; (iv) enhancement and expansion of the Company's manufacturing activities; (v) provision of lease financing to certain of the Company's customers; (vi) possible acquisitions of complementary technologies and businesses; and (vii) expansion of working capital and general corporate purposes. While from time to time the Company evaluates potential acquisitions of businesses, products or technologies, and anticipates continuing to make such evaluations, the Company has no present understandings, commitments or agreements with respect to any acquisition of other technologies or businesses. Pending such uses of funds, the proceeds will be invested in short-term, investment grade, interest-bearing securities. Since a significant portion of the net proceeds will be used for general corporate purposes, the Board of Directors and management of the Company will have significant flexibility in applying the net proceeds of this offering.

The Company will not receive any proceeds from the sale of Common Stock by the Selling Stockholders.

DILUTION

At March 31, 1996, the Company had a net tangible book value of approximately \$.51 per share of Common Stock based on 21,706,468 shares of Common Stock outstanding. Net tangible book value per share of Common Stock represents the total amount of tangible assets of the Company less the total amount of its liabilities, divided by the number of Common Shares outstanding. Tangible assets are defined as the assets of the Company excluding intangible assets (consisting of capitalized software development costs). Dilution per share represents the difference between the price per share of Common Stock to be paid by investors in the offering and the pro forma net tangible book value per share of Common Stock immediately after the offering. After giving effect to (i) the sale of 1,500,000 shares of Common Stock offered by the Company hereby and the application of the net proceeds therefrom, which are estimated to be in the aggregate approximately \$25,080,000 (after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company) and (ii) the exercise of options by the Selling Shareholders to purchase 226,000 shares of Common Stock and the application of the proceeds in the amount of \$1,121,000 from the exercise of such stock options, the net tangible book value of the Company at March 31, 1996 would have been \$37,297,763 or \$1.59 per share. This represents an immediate increase in the net tangible book value of \$1.03 per share to existing shareholders and an immediate dilution of \$16.41 per share to new investors. The following table illustrates this per share dilution at March 31, 1996:

|  |        |         |
|--|--------|---------|
| Assumed public offering price(1).....  |        | \$18.00 |
|  |        | -----   |
| Net tangible book value per share of Common Stock at March 31, 1996.....     | \$ .51 |         |
|  | -----  |         |
| Increase per share of Common Stock attributable to new investors.....        | 1.08   |         |
|  | -----  |         |
| Pro forma net tangible book value per share after the offering(2)(3)(4)..... |        | 1.59    |
|  |        | -----   |
| Dilution per share of Common Stock to new investors(3).....                  |        | \$16.41 |
|  |        | -----   |
|  |        | -----   |

(1) Before deducting underwriting discounts and commissions and offering expenses payable by the Company.

(footnotes continued on next page)



(footnotes continued from previous page)

- (2) Based on the number of shares of Common Stock outstanding at March 31, 1996 giving effect to the issuance of 226,000 shares of Common Stock upon the exercise of options by the Selling Shareholders. Excludes 2,713,040 shares of Common Stock issuable upon the exercise of other stock options outstanding at March 31, 1996, of which 237,280 shares of Common Stock were issued upon the exercise of stock options since March 31, 1996 through the date of this Prospectus. Also excludes 160,000 shares of Common Stock issuable upon exercise of options granted since March 31, 1996. See 'Risk Factors -- Dilution,' 'Management's Discussion and Analysis of Financial Condition and Results of Operations -- Liquidity and Capital Resources,' 'Management -- Stock Option Plans,' and 'Underwriting.'
- (3) Assuming all outstanding options were exercised, the net tangible book value at March 31, 1996 would have been \$55,073,763 or \$2.11 per share of Common Stock and the dilution per share of Common Stock to new investors would be \$15.89 per share of Common Stock.
- (4) After deducting underwriting discounts and commissions of approximately \$1,620,000 and offering expenses of approximately \$300,000 payable by the Company.

PRICE RANGE OF COMMON STOCK

The Company's Common Stock has been included in the Nasdaq National Market since February 3, 1994 and prior thereto on the Nasdaq Small-Cap Market under the symbol 'CTSC' The following table sets forth for the periods indicated the high and low sales prices for the Common Stock as reported by the Nasdaq National Market and has been adjusted to give retroactive effect to a 2 for 1 split of the Company's Common Stock effected in February 1994 and a 2 for 1 split effected in June 1996:

|                     | HIGH<br>----- | LOW<br>----- |
|---------------------|---------------|--------------|
| Fiscal 1994         |               |              |
| First Quarter.....  | \$12.38       | \$ 6.06      |
| Second Quarter..... | 9.25          | 4.13         |
| Third Quarter.....  | 7.25          | 5.00         |
| Fourth Quarter..... | 8.38          | 5.50         |
| Fiscal 1995         |               |              |
| First Quarter.....  | 9.25          | 6.50         |
| Second Quarter..... | 15.38         | 7.75         |
| Third Quarter.....  | 15.50         | 9.63         |
| Fourth Quarter..... | 12.25         | 7.50         |
| Fiscal 1996         |               |              |
| First Quarter.....  | 15.25         | 10.56        |
| Second Quarter..... | 20.13         | 13.50        |

On July 1, 1996, the last reported sales price of the Common Stock on the Nasdaq National Market was \$18.25 per share. As of June 14, 1996, there were 177 holders of record and the Company believes its Common Stock is beneficially owned by in excess of 5,000 holders.

DIVIDEND POLICY

The Company has not declared or paid dividends on the Common Stock since its inception and does not intend to declare or pay any dividends to its shareholders in the foreseeable future.

The Company currently intends to reinvest earnings, if any, in the development and expansion of its business. The declaration of dividends in the future will be at the election of the Board of Directors and will depend upon the earnings, capital requirements and financial position of the Company, general economic conditions and other relevant factors.



CAPITALIZATION

The following table sets forth the capitalization of the Company at March 31, 1996, and its capitalization at March 31, 1996, as adjusted to give effect to (i) the sale of 1,500,000 shares of Common Stock offered by the Company hereby and the application of the net proceeds therefrom, which are estimated to be in the aggregate approximately \$25,080,000 (after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company) and (ii) the exercise of options by the Selling Shareholders to purchase 226,000 shares of Common Stock and the application of the proceeds in the amount of \$1,121,000 from the exercise of such stock options. See 'Use of Proceeds,' 'Management's Discussion and Analysis of Financial Condition and Results of Operations' and the Financial Statements and Notes thereto included elsewhere in this Prospectus.

|  | MARCH 31, 1996 |                |
|--|----------------|----------------|
|  | ACTUAL         | AS ADJUSTED(2) |
|  | (IN THOUSANDS) |                |
| Stockholder's equity:  |                |                |
| Preferred stock -- \$.01 par value, authorized -- 5,000,000 shares, none issued...   | \$ 0           | \$ 0           |
| Common Stock -- \$.001 par value, authorized -- 30,000,000 shares, issued and outstanding -- 21,706,468 shares; as adjusted -- 23,432,468 shares(1)..... | 22             | 23             |
| Additional paid-in capital.....  | 20,702         | 46,902         |
| Retained deficit.....  | (6,127)        | (6,127)        |
| Total Stockholders' equity.....  | 14,597         | 40,798         |
| Total capitalization.....  | \$14,597       | \$ 40,798      |

(1) Based on the number of shares of Common Stock outstanding at March 31, 1996. Includes 226,000 shares of Common Stock issuable upon the exercise of options by the Selling Shareholders. Excludes 2,713,040 shares of Common Stock issuable upon the exercise of other stock options outstanding at March 31, 1996, of which 237,280 shares of Common Stock were issued upon the exercise of stock options since March 31, 1996 through the date of this Prospectus. Also excludes 160,000 shares of Common Stock issuable upon exercise of options granted since March 31, 1996. See 'Principal Shareholders.'

(2) Based upon an assumed offering price of \$18.00 per share of Common Stock.



SELECTED FINANCIAL DATA

The following selected financial data for the five years ended December 31, 1995, are derived from the financial statements of the Company, which have been audited by Ernst & Young LLP, independent auditors. The financial statements of the Company for the three years ended December 31, 1995 are included elsewhere herein. The financial data for the three month periods ended March 31, 1995 and 1996 are derived from unaudited financial statements, included elsewhere herein. The unaudited financial statements include all adjustments, consisting of normal recurring accruals, which the Company considers necessary for a fair presentation of the financial position and the operating results for these periods. Operating results for the three months ended March 31, 1996 are not necessarily indicative of the results that may be expected for the entire year ending December 31, 1996. The data should be read in conjunction with the financial statements, related notes, and other financial information included herein.

|   | YEAR ENDED DECEMBER 31, |                 |                 |                 |                 | THREE MONTHS ENDED<br>MARCH 31, |                 |
|---|-------------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------|-----------------|
|   | 1991(3)                 | 1992            | 1993            | 1994            | 1995            | 1995                            | 1996            |
| (IN DOLLARS EXCEPT WEIGHTED SHARES OUTSTANDING)                     |                         |                 |                 |                 |                 |                                 |                 |
| <b>Statement of Operations</b>                                      |                         |                 |                 |                 |                 |                                 |                 |
| <b>Data:</b>  |                         |                 |                 |                 |                 |                                 |                 |
| Revenues.....   | \$2,417,536             | \$4,978,050     | \$5,267,685     | \$10,012,080    | \$12,584,836    | \$ 3,468,564                    | \$ 842,279      |
| Gross Research & Development Expenditures(1).....                   | 1,407,000               | 2,183,000       | 2,019,000       | 4,021,000       | 5,724,000       | 1,215,000                       | 1,397,000       |
| Net Income (Loss).....  | (986,876)               | (1,542,424)     | (1,206,335)     | 1,549,871       | 63,187          | 243,127                         | (2,500,559)     |
| Net Income (Loss) Per Share(2).....                                 | (0.13)                  | (0.10)          | (0.07)          | 0.08            | 0.00            | 0.01                            | (0.12)          |
| Cash Dividends Declared... Weighted Average Shares Outstanding..... | 0<br>7,322,192          | 0<br>15,687,280 | 0<br>17,363,680 | 0<br>20,297,326 | 0<br>22,026,150 | 0<br>22,158,686                 | 0<br>21,608,900 |

|   | DECEMBER 31, |             |             |              |              | MARCH 31, 1996 |                |
|---|--------------|-------------|-------------|--------------|--------------|----------------|----------------|
|   | 1991         | 1992        | 1993        | 1994         | 1995         | ACTUAL         | AS ADJUSTED(4) |
| <b>Balance Sheet Data:</b>                  |              |             |             |              |              |                |                |
| Working Capital.....                        | \$3,865,235  | \$7,182,375 | \$6,577,988 | \$ 9,783,021 | \$11,093,831 | \$ 8,839,554   | \$35,040,554   |
| Cash.....                                   | 3,626,211    | 6,445,271   | 5,157,541   | 9,041,985    | 9,448,255    | 5,720,399      | 31,921,399     |
| Capitalized Software Development Costs..... | 945,322      | 1,238,035   | 1,431,370   | 2,605,835    | 3,346,748    | 3,500,605      | 3,500,605      |
| Total Assets.....                           | 6,648,443    | 10,056,343  | 9,863,431   | 15,476,720   | 18,370,645   | 16,031,129     | 42,232,129     |
| Long Term Obligations.....                  | 0            | 0           | 0           | 0            | 0            | 0              | 0              |
| Total Stockholders' Equity.....             | 5,641,293    | 9,456,920   | 9,052,301   | 13,725,771   | 16,733,211   | 14,597,368     | 40,798,368     |

(1) Gross research and development expenditures presented in the Statement of Operations Data are higher than research and development costs and expenses disclosed in the Statements of Operations for the respective periods due to the inclusion of capitalized software development costs and design and development services costs which are disclosed elsewhere in the financial statements. See Management's Discussion and Analysis of Financial Condition and Results of Operations.

(2) Per common share amounts and weighted average shares outstanding have been retroactively adjusted to give effect to the two for one stock split in February 1994 and the two for one stock split in June 1996. See Notes I and J of Notes to Financial Statements.

(3) The Company was incorporated in Delaware in August 1988 under the name Ventures as a majority-owned subsidiary of Nationwide. In September 1988, Ventures formed the Partnership as equal partners with NYNEX. In May 1991, Ventures changed its name to Cellular Technical Services Company, Inc. In August 1991 the Company exercised an option to purchase the interest in the Partnership owned by NYNEX and consummated the initial public offering of its securities. The Statement of Operations Data for the year ended December 31, 1991 combines the results of operations of the Partnership with those of the Company in order to provide a more meaningful comparison between the periods presented. The net loss for the period has been reduced by \$254,000, representing the partner's interest in the net loss for the period commencing January 1, 1991 and ending August 12, 1991.

(4) Adjusted to reflect (i) the sale by the Company of the shares of Common Stock offered hereby (based on an assumed offering price of \$18.00 per share) and the application of the net proceeds therefrom and (ii) the Company's receipt of the proceeds from the exercise by the Selling Shareholders of options to acquire 226,000 shares of Common Stock. See 'Capitalization.'





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

OVERVIEW

The Company's revenues to date have been primarily derived from the Company's Hotwatch Products and phone rental products (the latter of which are no longer being marketed by the Company). To address the wireless communications industry's increasing need for a product to more effectively combat cloning fraud, which has become a major industry problem, the Company has developed the Blackbird Products. The Company engineered the Blackbird Platform with an open architecture design to allow the Company and others to develop application products which could run on or exchange information with the Blackbird Platform.

In 1995, the Company began conducting trials for the purpose of testing and evaluating its Blackbird Products. These trials recently resulted in the signing of contracts with AirTouch and BANM, for installation of the Blackbird Products in over 1,000 cell sites, subject to the Blackbird Products compliance with contractual performance requirements.

The Company sustained a loss of \$2,550,559 during the three months ended March 31, 1996, and expects to record a loss in the range of \$1,250,000 to \$1,750,000 for the quarter ending June 30, 1996. Although the Company anticipates that it will begin to recognize revenues from AirTouch and BANM for the Blackbird Products during the second half of 1996, it cannot predict the actual timing or amount of such revenues. Moreover, the Company expects increases in its costs and expenses during such period and in the future due to increased research and development, sales and marketing activities and expansion of customer support capabilities.

As the Company expands its domestic and international marketing efforts, and as the wireless communications industry expands beyond cellular telephony to include other wireless communication services, the Company believes that it will be able to diversify its revenue and customer base. The Company's success in exploiting these expanded markets and in achieving profitability will depend, among other things, on its ability to make its existing and future technology commercially acceptable, deal successfully with rapid changes in the wireless communications industry (including the anticipated growth of digital services) and enhance and expand its manufacturing activities. See 'Risk Factors' and 'Business.'

The following discussion and analysis should be read in conjunction with the Company's financial statements and notes thereto and other financial information included elsewhere in this Prospectus.

The following table presents the Company's Statement of Operations for the three years ended December 31, 1993, 1994 and 1995, and for the quarters ended March 31, 1995 and 1996.

|  | YEAR ENDED DECEMBER 31, |              |              | THREE MONTHS ENDED<br>MARCH 31, |               |
|--|-------------------------|--------------|--------------|---------------------------------|---------------|
|  | 1993                    | 1994         | 1995         | 1995                            | 1996          |
| REVENUES                                 |                         |              |              |                                 |               |
| License and service fees.....            | \$ 3,875,353            | \$ 8,691,036 | \$10,944,788 | \$ 2,736,768                    | \$ 645,622    |
| Equipment sales.....                     | 1,215,738               | 1,040,863    | 1,164,536    | 612,812                         | 89,164        |
| Interest income.....                     | 176,594                 | 280,181      | 475,512      | 118,984                         | 107,493       |
| Total revenues.....                      | 5,267,685               | 10,012,080   | 12,584,836   | 3,468,564                       | 842,279       |
| COSTS AND EXPENSES                       |                         |              |              |                                 |               |
| Cost of license and service fees.....    | 1,574,521               | 2,619,435    | 3,330,801    | 922,539                         | 785,200       |
| Cost of equipment sales.....             | 1,329,276               | 1,112,254    | 1,485,952    | 611,731                         | 278,405       |
| Sales and marketing.....                 | 738,068                 | 789,578      | 2,141,853    | 507,607                         | 822,873       |
| General and administrative.....          | 1,563,794               | 2,269,170    | 2,115,991    | 601,783                         | 510,611       |
| Research and development.....            | 1,268,361               | 1,661,772    | 3,445,052    | 576,777                         | 945,749       |
| Total costs and expenses.....            | 6,474,020               | 8,452,209    | 12,519,649   | 3,220,437                       | 3,342,838     |
| INCOME (LOSS) BEFORE INCOME TAXES.....   | (1,206,335)             | 1,559,871    | 65,187       | 248,127                         | (2,500,559)   |
| PROVISION FOR INCOME TAXES.....          | 0                       | 10,000       | 2,000        | 5,000                           | 0             |
| NET INCOME (LOSS).....                   | \$(1,206,335)           | \$ 1,549,871 | \$ 63,187    | \$ 243,127                      | \$(2,500,559) |
| NET INCOME (LOSS) PER SHARE.....         | \$(0.07)                | \$0.08       | \$0.00       | \$0.01                          | \$(0.12)      |
| WEIGHTED AVERAGE SHARES OUTSTANDING..... | 17,363,680              | 20,297,326   | 22,026,150   | 22,158,686                      | 21,608,900    |



THREE MONTHS ENDED MARCH 31, 1996 COMPARED TO THREE MONTHS ENDED MARCH 31, 1995

Total revenues decreased 76% to \$842,279 for the three months ended March 31, 1996, from \$3,468,564 for the three months ended March 31, 1995, and the Company had a net loss of \$2,500,559, or \$.12 per share, compared to net income of \$243,127, or \$.01 per share, for the three months ended March 31, 1995. This decline in operating results was primarily attributable to: (i) long sales cycles, (ii) uneven contract revenue streams from the Hotwatch Platform and related application products ('Hotwatch Products'), and (iii) increased efforts and expenditures in both sales and marketing and research and development of the Blackbird Products.

License and service fees were derived from the Company's Hotwatch Products and phone rental products. Such revenues decreased 76% to \$645,622 for the three months ended March 31, 1996, from \$2,736,768 for the three months ended March 31, 1995.

License and service fees for the Company's Hotwatch Products were derived principally from agreements with four customers. These agreements are the AWS Axys agreements and the AWS Hotwatch Products agreement (collectively, the 'AWS Agreements') between the Company and AT&T Wireless Services, Inc. ('AWS'), a license agreement ('LIN/ACC Agreement') between the Company and collectively LIN Broadcasting Company ('LIN') and American Cellular Communications ('ACC'), subsidiaries of AWS and BellSouth Cellular, respectively, and license agreements with 360[d]Communications Company (formerly Sprint Cellular Company) ('360[d] CC') and Ameritech Mobile Communications, Inc. ('Ameritech'). License and service fees from the Company's Hotwatch Products decreased 80% to \$508,000 for the three months ended March 31, 1996, from \$2,511,000 for the three months ended March 31, 1995. Such revenues under the AWS Agreements totaled \$90,000 and \$1,820,000 for the three months ended March 31, 1996, and March 31, 1995, respectively. This decrease was due primarily to completion of various phases of these contracts during the three months ended March 31, 1995 that included large non-recurring license, service and implementation fees. License and service fees under the LIN/ACC Agreement continued their expected decline as they decreased 24% to \$292,000 for the three months ended March 31, 1996, from \$385,000 for the three months ended March 31, 1995. Recurring license and service fees from this agreement are expected to be minimal once products under the AWS Agreements are deployed and as AWS installs its internally-developed fraud management system in some or all of the LIN/ACC markets covered under the agreement. Other Hotwatch license and service revenues decreased 59% to \$126,000 from \$306,000 principally as a result of non-recurring license fees during the three months ended March 31, 1995, associated with the installation of software called for in the Company's 1994 license agreement with 360[d] CC.

License and service fees from the Company's phone rental products decreased 38% to \$147,000 for the three months ended March 31, 1996, from \$237,000 for the three months ended March 31, 1995. Marketing and further deployment of these products ceased in early 1995 as a result of the Company's decision to exit the phone rental market. This decision was prompted by the Company's evaluation of the long term prospects of this market as anticipated growth had been lower than previously expected. Revenues during the remainder of 1996 are expected to be minimal and reflect the wind down of the phone rental operations.

Equipment sales, which primarily consist of the sale of computer systems (which are generally non-recurring) and various peripheral and hardware components, decreased 85% to \$89,164 for the three months ended March 31, 1996, from \$612,812 for the three months ended March 31, 1995. Revenues for the three months ended March 31, 1995, were derived primarily from equipment sales associated with the AWS, 360[d] CC and Ameritech agreements.

Interest income decreased 10% to \$107,493 for the three months ended March 31, 1996 from \$118,984. The decrease was attributable to lower average cash balances invested at lower average interest rates for the three months ended March 31, 1996 as compared to the three months ended March 31, 1995.

Cost of license and service fees includes (i) the customer service and engineering support costs that are directly associated with supporting software license and service fee revenues, (ii) the amortization of software development costs, and (iii) the costs associated with the design and development of custom



programming and related services. Cost of license and service fees decreased 15% to \$785,200 for the three months ended March 31, 1996, from \$922,539 for the three months ended March 31, 1995. The decrease was principally attributable to \$250,000 of non-recurring design and development costs associated with service revenues under the AWS agreements recorded during the three months ended March 31, 1995, which decrease was partially offset by (a) a 16% increase to \$279,972 for the three months ended March 31, 1996, from \$241,775 for the three months ended March 31, 1995, in amortization of software development costs primarily attributable to the 1995 release of the first phase of the Blackbird Products for which no license revenues were received, and (b) a 34% increase to \$390,000 for the three months ended March 31, 1996, from \$291,000 for the three months ended March 31, 1995, for personnel and overhead related costs incurred in supporting anticipated growth in new customers and products during the three months ended March 31, 1996.

Cost of equipment sales decreased 54% to \$278,405 for the three months ended March 31, 1996, from \$611,731 for the three months ended March 31, 1995. Cost of equipment sales, which includes purchased hardware, allocated installation costs, and, more recently, manufacturing overhead costs, has historically exceeded the related revenues from equipment sales. Amounts recorded for the three months ended March 31, 1995, included the costs of purchased hardware associated with the AWS, 360[d] CC and Ameritech equipment sales. The costs to sales ratio increased to 312% for the three months ended March 31, 1996 from 100% for the three months ended March 31, 1995. The negative margins were primarily attributable to fixed engineering, installation overhead, and manufacturing overhead costs that were not recovered from equipment sales, and, for the three months ended March 31, 1996, included overhead-related costs associated with the Blackbird Products which are being deployed under both sales contracts and trial agreements for testing and evaluation in several markets and for which no revenues were recorded.

Sales and marketing expenses increased 62% to \$822,873 for the three months ended March 31, 1996 from \$507,607 for the three months ended March 31, 1995 as a result of increased personnel and related costs incurred in connection with the Company's increased efforts to generate demand for the Company's products. The Company's first quarter activities generally included its largest expenditures for trade shows and related events.

General and administrative expenses decreased 15% to \$510,611 for the three months ended March 31, 1996, from \$601,783 for the three months ended March 31, 1995. This decrease was primarily the result of reduced management fees paid to Nationwide under the four-year management services agreement between the Company and Nationwide that expired in August 1995.

Research and development costs increased 64% to \$945,749 for the three months ended March 31, 1996 from \$576,777 for the three months ended March 31, 1995 primarily due to the continued and expanded investment in the Blackbird Products. Software development costs of \$433,829 and \$413,857 were capitalized during the three months ended March 31, 1996 and the three months ended March 31, 1995, respectively, and related primarily to the development of the Blackbird Products. In addition, expenditures of \$224,000 related primarily to billable design and development services under the AWS Agreements were expensed as costs of services for the three months ended March 31, 1995. Such expenses for the three months ended March 31, 1996, were minimal. Including capitalized software development and contract design and development costs, the Company incurred gross research and development expenditures of \$1,397,000 for the three months ended March 31, 1996, which represented a 15% increase over the three months ended March 31, 1995. This increase is primarily the result of additional expenditures for personnel related costs for development of the Blackbird Products, and for legal fees expended to protect the Company's intellectual property.

#### YEAR ENDED DECEMBER 31, 1995 COMPARED TO YEAR ENDED DECEMBER 31, 1994

Total revenues increased 26% to \$12,584,836 in 1995 from \$10,012,080 in 1994 and the Company had net income of \$63,187 compared to \$1,549,871 in 1994. The decrease in net income for 1995 was primarily due to acceleration of efforts and expenses associated with both research and development, and marketing and sales of the Blackbird Products.



License and service fees were derived primarily from the Company's Hotwatch and phone rental products. In addition, the Company derived limited service fee revenues from a trial related to its Blackbird Products. Such license and service fees increased 26% to \$10,944,788 in 1995 from \$8,691,036 in 1994. License and service revenues for the Hotwatch Products are principally derived from agreements with the four customers described above.

License and service fees from the Hotwatch Products increased 20% to \$9,490,000 in 1995 from \$7,920,000 in 1994. License and service fees under the AWS Agreements totaled \$6,666,000 in 1995 and \$5,066,000 in 1994. License and service fees under the LIN/ACC Agreement continued their expected decline as they decreased 24% to \$1,473,000 in 1995 from \$1,947,000 in 1994. Other Hotwatch license and service fees increased 49% to \$1,351,000 from \$907,000 in 1994 principally as a result of 1995 license and service fees associated with the Company's agreements with 360[d] CC.

License and service fees from the Company's phone rental products increased 11% to \$1,017,000 in 1995 from \$917,000 in 1994. The increased revenues in 1995 resulted principally from fees received for a source code license and for early termination of the Company's agreement with its largest phone rental product customer.

Equipment sales, which primarily consist of the sale of computer systems (which are generally non-recurring) and various peripheral and hardware components, increased 12% to \$1,164,536 from \$1,040,863 in 1994. Revenues during 1995 were primarily derived from equipment sales associated with the AWS, 360[d] CC and Ameritech agreements.

Interest income increased 70% to \$475,512 in 1995 from \$280,181 in 1994, and is attributable to higher average cash balances invested at higher average interest rates during 1995 as compared to 1994.

Cost of license and service fees included (i) the customer service and engineering support costs that are directly associated with supporting software license and service fee revenues, (ii) the amortization of software development costs, and (iii) the costs associated with the design and development of custom programming and related services. Cost of license and service fees increased 27% to \$3,330,801 in 1995 from \$2,619,435 in 1994. The increase was principally attributable to (i) a 79% increase to \$984,977 in 1995 from \$550,257 in 1994 in amortization of software development costs substantially attributable to the release of the first phase of the Blackbird Products in 1995 for which there were no license revenues received, and (ii) a 25% increase to \$1,793,000 in 1995 from \$1,434,000 in 1994 for personnel and overhead related costs incurred in supporting new customers and installed products. A 13% decrease to \$553,000 from \$635,000 of design and development costs related primarily to the AWS Axys service revenues partially offset these increases.

Cost of equipment sales increased 34% to \$1,485,952 in 1995 from \$1,112,254 in 1994. Cost of equipment sales, which includes purchased hardware and allocated engineering and installation costs, has historically exceeded the related revenues from equipment sales. The cost to sales ratio increased to 128% in 1995 from 107% in 1994. The negative margins were primarily attributable to fixed engineering and installation overhead costs that were not recovered from equipment sales, and, in 1995, include costs associated with installing hardware components of the Blackbird Products which had been deployed for testing and evaluation in several markets and for which no revenues were recorded.

Sales and marketing expenses increased 171% to \$2,141,853 in 1995 from \$789,578 in 1994 as a result of increased personnel and related costs incurred in connection with the Company's expansion efforts to generate demand for the Company's products and, to a lesser extent, sales incentive compensation attributable to certain contracts.

General and administrative expenses decreased 7% to \$2,115,991 in 1995 from \$2,269,170 in 1994. This decrease was primarily the result of 1994 expenditures associated with hiring and relocation of the Company's President, 1994 management incentive bonuses that were non-recurring during 1995, and reduced management fees paid to Nationwide under the four-year management services agreement between the Company and Nationwide that expired in August 1995.

Research and development costs increased 107% to \$3,445,052 in 1995 from \$1,661,772 in 1994. Software development costs of \$1,725,890 and \$1,724,722 were capitalized during 1995 and 1994, respectively, and related primarily to the development of the Blackbird Products in both years and to development in 1994 of the Accountlink<sup>tm</sup> product ('Accountlink') which provides a pre-paid based



solution for real-time credit limit monitoring. In addition, costs of \$553,000 and \$635,000 related primarily to design and development services under the AWS Agreements were expensed in 1995 and 1994, respectively, as costs of services. Including the \$1,725,890 of capitalized software development costs and the \$553,000 of contract design and development services costs, the Company incurred gross research and development expenditures of \$5,724,000 in 1995 which represents a 42% increase over 1994. This increase was primarily the result of additional expenditures for personnel related costs, outside consulting services and prototype hardware expenditures for development of the Blackbird Products.

The \$2,000 provision for income taxes in 1995 reflected partial utilization of the Company's net operating loss carry forward while providing for the Company's estimate of alternative minimum taxes.

#### YEAR ENDED DECEMBER 31, 1994 COMPARED TO YEAR ENDED DECEMBER 31, 1993

Total revenues increased 90% to \$10,012,080 in 1994 from \$5,267,685 in 1993 and the Company had net income of \$1,549,871, compared to a net loss of \$1,206,335 in 1993. The signing of the AWS Agreements, and the 360[d] CC and Ameritech agreements during 1994 contributed greatly to the improved financial performance.

License and service fees were derived primarily from the Hotwatch Products. Such license and service fees increased 152% to \$7,920,000 in 1994 from \$3,142,000 in 1993. License and service fees under the AWS Agreements totaled \$5,066,000 in 1994. License and service fees under the LIN/ACC Agreement decreased 31% to \$1,947,000 in 1994 from \$2,842,000 in 1993 as a result of the renegotiation of the contract in 1993 and 1994 and cancellation of licenses in the LIN New York market effective July 31, 1994. Other Hotwatch license and service fees increased to \$907,000 from \$300,000 in 1993 principally as a result of 1994 license and service fees associated with the Ameritech and 360[d] CC contracts.

License and service fees from the Company's phone rental products increased 21% to \$917,000 in 1994 from \$758,000 in 1993 primarily due to the continued deployment of the Company's in-car rental products to the rental car agency market.

Equipment sales decreased 14% to \$1,040,863 in 1994 from \$1,215,738 in 1993. The decrease was primarily due to reduced shipments of the Company's in-car credit card phone modules that were deployed in the rental car agency market.

Interest income increased 59% to \$280,181 in 1994 from \$176,594 in 1993, and was attributable to higher average cash balances invested at higher average interest rates during 1994 as compared to 1993.

Cost of license and service fees increased 66% to \$2,619,435 in 1994 from \$1,574,521 in 1993. The increase was principally attributed to; (i) a 41% increase to \$1,434,000 in 1994 from \$1,018,000 in 1993 for personnel and overhead related costs incurred in supporting new customers and products and (ii) \$635,000 of 1994 design and development costs associated with the AWS Axys service revenues.

Cost of equipment sales decreased 16% to \$1,112,254 in 1994 from \$1,329,276 in 1993 commensurate with the equipment sales decline. The cost-to-sales ratio decreased to 107% in 1994 from 109% in 1993. The improvement was attributable to improved pricing practices and balancing of the Company's engineering and installation resources.

Sales and marketing expenses increased 7% to \$789,578 in 1994 from \$738,068 in 1993. The increase was attributed to variable expenses related to the increased sales in 1994 and to the Company's expansion efforts to generate and meet market demand for the purchase and licensing of the Company's products.

General and administrative expenses increased 45% to \$2,269,170 in 1994 from \$1,563,794 in 1993. This increase was primarily the result of costs associated with the hiring, relocation and compensation of the Company's new President, management incentive bonuses and to a lesser degree, legal and accounting costs associated with purchase and license agreements with several cellular carriers.

Research and development costs increased 31% to \$1,661,772 in 1994 from \$1,268,361 in 1993. Software development costs of \$1,724,722 and \$750,277 were capitalized during 1994 and 1993, respectively, and relate primarily to the development of the Blackbird Platform, PreTect and



Accountlink products in 1994 and the enhancement of its Hotwatch and phone rental products in 1993. In addition, costs of \$635,000 related to design and development services under the AWS Billing Agreements were expensed in 1994 as costs of services. Including the \$1,724,722 of capitalized software development costs and the \$635,000 of contract services costs, the Company incurred gross research and development expenditures of \$4,021,000 in 1994 which represents a 99% increase over 1993. This increase is principally attributable to additional expenditures for personnel related costs and outside consulting services for development of the Blackbird and Accountlink products and the recurring costs associated with the AWS Axys project.

The \$10,000 provision for income taxes in 1994 reflected partial utilization of the Company's net operating loss carryforward while providing for the Company's estimate of alternative minimum taxes.

#### LIQUIDITY AND CAPITAL RESOURCES

The Company's capital requirements have consisted primarily of financing software development, property and equipment requirements, working capital and funding the Company's operating losses. The Company has historically funded these capital requirements through the issuance of Common Stock (including proceeds from the exercise of warrants and options) and from operating profits generated in certain periods. On March 31, 1996, the Company's cash balance was \$5,720,399 as compared to \$9,448,255 on December 31, 1995, and \$9,041,985 at December 31, 1994. The Company's working capital decreased to \$8,839,554 at March 31, 1996, from \$11,093,831 at December 31, 1995, which represented an increase from \$9,783,021 at December 31, 1994.

Cash used by operating activities amounted to \$3,513,515 for the three months ended March 31, 1996, as compared to \$1,010,710 during the same period in 1995. This increased utilization of cash reflects the loss for the three months ended March 31, 1996, as compared to a profit in the corresponding 1995 period, with the 1996 results being partially offset by increased depreciation and amortization and the changes in the balances of operating assets and liabilities. Cash provided by operating activities amounted to \$753,379 and \$3,213,257 in 1995 and 1994, respectively, as compared to cash used by operating activities in the amount of \$866,674 during 1993. The improved cash flow during the 1995 and 1994 periods was primarily attributable to having achieved profitability, as compared to a net loss during 1993, the positive impact of depreciation and amortization, and to changes in the balances of operating assets and liabilities. The Company continues to increase its proprietary Blackbird hardware inventory to meet anticipated sales demand for Blackbird Products during 1996. Additional inventory at March 31, 1996, in an amount exceeding \$2,000,000, was on order and was expected to be funded by customer payments under existing and future contracts, cash generated from operating activities and/or from cash balances. At March 31, 1996, approximately \$600,000 in deposits was prepaid to vendors by the Company for these inventory orders. The Company does not currently expect its operating activities to provide consistent positive cash flow on a quarter-to-quarter basis as long sales cycles and staggered sales contract payments cause uneven cash flow streams.

Cash utilized by investing activities totaled \$579,057 and \$1,011,061 during the three months ended March 31, 1996, and March 31, 1995, respectively. Investing activities utilized \$3,291,362, \$2,452,412 and \$1,189,772 during the years ended December 31, 1995, 1994 and 1993, respectively. The Company's capital requirements during such periods were (i) software development, particularly with respect to the Blackbird Products and (ii) property and equipment, primarily for furniture, leaseholds, and equipment associated with expanding the Company's business. These expenditure levels are expected to continue in 1996 at or above the levels of 1995. At March 31, 1996, the Company had no significant commitments for capital expenditures. The Company, as part of its growth strategy, would consider the cost/benefit of purchasing software technology in the event that an attractive opportunity arises.

During the three months ended March 31, 1996 and 1995, cash provided by financing activities was generated from the exercise of stock options issued to the Company's directors, officers and employees. Proceeds from these activities totaled \$364,716 and \$268,399 for the three months ended March 31, 1996 and 1995, respectively. Cash provided by financing activities was generated from the exercise of stock options by Nationwide in 1995 and by the Company's directors, officers and employees in the three years ended December 31, 1995, and during 1994 and 1993, from the exercise of Common Stock



Warrants issued in connection with the Company's initial public offering in 1991. Proceeds from these activities totaled \$2,944,253, \$3,123,599 and \$768,716 during 1995, 1994 and 1993, respectively.

Prior to September 14, 1995, Nationwide owned 6,680,000 shares of the Company's Common Stock and was the holder of an option to purchase an additional 1,280,000 shares. On September 14, 1995, in connection with its merger with MCI Communications Corp., Nationwide exercised its option and distributed the combined total of 7,960,000 shares to its stockholders. As a result of the exercise of the option, the Company received \$1,600,000 and issued 1,280,000 shares of Common Stock. The majority of the cash provided by financing activities in 1994 resulted from the exercise in March 1994 of 287,437 Class A Warrants from which the Company received \$2,122,611, net of expenses, in exchange for 1,149,748 shares of Common Stock. All of the Company's warrants had been exercised or had expired by the end of 1994.

The Company expects to continue to incur substantial expenses in support of research and development activities, growth of its sales and marketing organization, support for new products and the anticipated expanded customer base, enhancing the hardware design and manufacturing processes and administrative activities. Although the Company believes that the proceeds from this offering together with existing cash will be sufficient to fund its operations for at least the next 12 months, there can be no assurance that the Company will not require additional financing within such period. The Company's capital requirements may vary materially from those planned because of results of research and development, changes in focus and direction of the Company's research and development programs, competitive and technological advances, changes in the Company's marketing and distribution strategy, and other factors. There can be no assurance that additional financing, if required, will be available on satisfactory terms, if at all.

#### SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

A number of statements contained in this Prospectus are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that involve risks and uncertainties that could cause actual results to differ materially from those expressed or implied in the applicable statements. These risks and uncertainties include but are not limited to: the Company's dependence on the cellular communications market; its vulnerability to rapid industry change and technological obsolescence; the limited nature of its product life, and the uncertainty of market acceptance of its products; the unproven status of its products in widespread commercial use, including the risks that its current and future products may contain errors that would be difficult and costly to detect and correct and that technological difficulties may in general hinder or prevent commercialization of its present and future products; potential manufacturing difficulties; potential difficulties in managing growth; dependence on key personnel; the Company's limited customer base and reliance on a relatively small number of customers; the possible impact of competitive products and pricing; the uncertain level of actual purchases of its products by current and prospective customers under existing and future agreements; uncertainties in the Company's ability to implement these agreements sufficiently to permit it to recognize revenue under its accounting policies (including its ability to meet product performance criteria contained in such contracts); uncertainties with respect to the Company's business strategy; general economic conditions; and other risks described in this Prospectus. See 'Risk Factors.'



## BUSINESS

The Company's mission is to be the premier developer and provider of real-time information processing and information management systems for the wireless communications industry in the United States and in international markets. The Company designs and engineers software and hardware products for sale to wireless communications industry to provide user/device authentication (for cloning fraud prevention) and to provide service metering (for credit management and prepaid billing). Although the Company's products and services currently are used exclusively by cellular carriers, the Company believes they may be generally adaptable to other wireless communications systems.

User/device authentication primarily involves various forms of 'pre-call' verification to ensure that the use of a wireless communications device (e.g., a cellular telephone) is legitimate before the device is allowed to connect to a wireless network. The Company's Blackbird Platform provides the underlying technology for pre-call application products. The first application product on the Blackbird Platform, PreTect, is designed to proactively prevent cloning fraud. The Cellular Telecommunications Industry Association has estimated that in 1995 cloning fraud has resulted in costs and lost revenues to the cellular industry of an amount in excess of \$650 million. The Company believes that in 1996 cloning fraud will result in an increased amount of such costs and lost revenues.

Service metering primarily involves the collection of various forms of 'post-call' information (within minutes after the end of the call) to ensure that a wireless communications carriers' subscriber has proper account status to make additional calls. The Company's Hotwatch Platform provides the underlying technology for Hotwatch Products. See ' -- The Hotwatch Platform.'

The Blackbird and Hotwatch Platforms, each based on open systems architecture, are designed to allow a broad range of interconnection and data-sharing possibilities between various geographic markets and different wireless communications carriers.

The Company's primary activities are currently focused on the further development, marketing and deployment of the Blackbird Platform and the PreTect fraud prevention application product and services. PreTect, which is transparent to the subscriber, uses patented signal processing commonly referred to as RF 'fingerprinting' technology to accurately distinguish between legitimate subscribers and counterfeit users before the call is connected. PreTect captures information from the cellular telephone call at the cell site, before it enters the carrier's system, and compares it to valid fingerprints and data. If a proper match is not made, PreTect can then automatically prevent connection of the call. The Company also provides a seamless Real-Time Roaming Protection Service between markets which use the Blackbird Platform and PreTect. During 1996, the Company entered into agreements with AirTouch and BANM for the provision of the Blackbird Products for use in over 1,000 cell sites subject to the products' compliance with certain requirements. The Company believes that as of the end of 1995 there were approximately 23,000 domestic and 10,000 international cell sites to which the Company's Blackbird Products are adaptable. The Company also believes that there are approximately 14,000 additional international cell sites to which the Company's Blackbird Products may be adaptable.

During the last ten years, wireless communications service has been one of the fastest growing segments of the telecommunications industry. The Cellular Telecommunications Industry Association has estimated that the number of cellular subscribers in the United States increased from approximately 340,000 subscribers in December 1985 to approximately 34 million subscribers in December 1995. The Company believes the worldwide wireless communications market may exceed 100 million subscribers in 1996. The Company expects significant growth in wireless communications in the United States to continue as a result of the increased demand for cellular service and the emergence of PCS as a new form of wireless communications service and that significant growth will also occur in international markets. The Company believes that significant growth will also occur in international markets. In addition, the Company believes that the number of Cellular and PCS subscribers may grow to 80 million in the United States and more than 300 million worldwide in the year 2001. The Company believes that the demand for its products and services may increase as the Company adapts its products and creates new products to service an expanded wireless communications industry.



## BUSINESS STRATEGY

### DEPLOYMENT OF BLACKBIRD

The Company's immediate strategy is to achieve commercial acceptance and significant market penetration of the Blackbird Platform. To accomplish this, the Company plans to expand its domestic and international sales and marketing efforts. After it has achieved an installed base of the Blackbird Platform, the Company believes that it will be able to leverage its relationships with carriers and its position at the carriers' cell sites to offer additional products and services. The Company plans to expand its research and development efforts to enhance its existing products and services and to develop new value-added products for the Blackbird Platform which can be sold in connection with PreTect or on a stand-alone basis.

### LEVERAGE CORE COMPETENCIES

Through the development and deployment of the Blackbird and Hotwatch Platforms, the Company has developed several core competencies. The Company believes that these core competencies may facilitate its development of products and services which complement its platforms and add value to its current and potential customer base.

Ability to interface with carriers' cell sites and switches. The Company's proprietary software and hardware products collect and utilize information resident at the carrier's cell site and/or switch. This expertise may facilitate the development of future products and services in both an analog and digital environment.

Real-time database expertise. The Company has developed the ability to optimize database performance which enables systems to reach transaction decisions in very short time frames. For example, PreTect can determine whether or not to connect a call within five seconds of call origination.

Real-time rating expertise. The Company has developed the ability to combine streams of telephone billing information, such as toll charges, discounts and promotions, surcharges, etc. to mimic a carrier's billing system on a real-time basis, within minutes after the end of the call, rather than in a batch process for monthly customer billing. This currently allows the Company to determine account authorization for future telephone calls. The Company believes this expertise may be applicable to other systems that involve real-time charges.

Transaction Control Protocol ('TCP')/Internet Protocol ('IP') expertise. The Company believes it can apply the experience it has gained in its existing TCP/IP networks and add its other core competencies, such as real-time rating and real-time database expertise to other TCP/IP networking infrastructures.

Ability to interface with billing systems. The Company has developed the ability to interface with the systems infrastructures of major billing service companies in the wireless communications industry. As these companies expand their customer base beyond telephone carriers the Company believes it can apply its knowledge to provide its value-added service metering technologies to this expanded customer base.

### GENERAL

The FCC regulates the wireless communications industry in the United States and is responsible for granting the licenses required to operate wireless communications systems. The FCC has divided the United States into a number of service (license) areas. Wireless communications services, each of which utilizes a different portion of the radio spectrum, are expected to be dominated by cellular services and PCS and, to a lesser extent, enhanced specialized mobile radio ('ESMR'). The introduction of PCS and digital ESMR is expected to add new service providers in each market and provide added competition, increased features and a greater number of choices for wireless communications subscribers.

Currently, cellular service dominates wireless communication services. At year end 1995 there were approximately 34 million cellular subscribers in the United States. The Company believes that over 95%



of service currently is provided in an analog mode but that the industry is undertaking a shift to digital mode in the major markets due to certain systems advantages in the digital mode, including expanded capacity and greater privacy. Cellular subscribers are serviced by two carriers in each market (commonly referred to as 'A Band' and 'B Band' carriers). The markets are defined as Metropolitan Service Areas ('MSAs'), of which there are 306, and Rural Service Areas ('RSAs'), of which there are 428. As a result of the current duopoly structure, there are 612 MSAs and 856 RSAs. These cellular systems serve to interconnect a cellular subscriber with standard land-line telephone service and other cellular subscribers. Service is available on a nationwide basis and the major providers, through adherence to industry standards, offer interoperability to markets that they do not own. The 10 largest cellular carriers own or operate 180 of the largest 200 MSA markets.

PCS systems are digital-based wireless communications systems which will initially compete directly with existing cellular telephone, paging and specialized mobile radio services. The Company believes that PCS providers will be the first direct wireless competitors to cellular providers and the first to offer mass market all-digital mobile networks. In addition, PCS providers may be the first to offer mass market wireless local loop applications, in competition with wired local communications services.

To date, the FCC has completed three auctions of PCS licenses to the public (Channel block A, B and C). Service resulting from these licenses will provide the primary competition to cellular service. The service areas for PCS vary from those of cellular. The PCS licenses are based on Major Trading Areas ('MTAs'), of which there are 51, and Basic Trading Areas ('BTAs'), of which there are 493. BTAs are a subset of MTAs and are wholly contained within the MTA boundaries. As with cellular, ownership of the PCS licenses is concentrated. Sprint Telecommunications Venture, AT&T Wireless and PCS PrimeCo (ultimately owned by AirTouch Communications, Inc., Bell Atlantic Corporation, NYNEX Corporation, and US West, Inc.) account for 71 of the 102 Channel block A & B licenses.

ESMR service is dominated by one carrier, Nextel Corporation, which the Company believes will be focusing its attention on commercial, rather than consumer, uses of wireless solutions.

#### OPERATION OF WIRELESS COMMUNICATIONS SYSTEMS

Wireless communications system service areas, whether cellular or PCS, are divided into multiple cells. Due to the frequencies in which they operate, cellular cells generally cover a wider transmission radius than PCS cells. In both cellular and PCS systems, each cell contains a transmitter, a receiver and signaling equipment located at a cell site which is connected by microwave or landline telephone lines to a Mobile Switching Center ('MSC'), that controls the operation of the cellular communications system for the entire service area. The MSC controls the transfer of calls from cell to cell as a subscriber's telephone travels, coordinates calls to and from telephones, allocates calls among the cells within the system and connects calls to the local landline telephone system or to a long distance telephone carrier. Wireless communications carriers establish interconnection agreements with local exchange carriers and interexchange carriers, thereby integrating their system with the existing landline communications system.

Because the signal strength of a transmission between a handset and a cell site declines as the telephone moves away from the cell site, the MSC and the cell site monitor the signal strength of calls in progress. When the signal strength of a call declines to a predetermined level, the MSC may 'hand off' the call to another cell site where the signal strength is stronger. If a telephone leaves the service area of a cellular or PCS system, the call is disconnected unless there is a technical connection with the adjacent system.

A major component of any wireless system is the switching equipment, commonly known as a 'Switch', located in the carrier's MSC. The Switch, which is owned and/or operated by the carrier, manages the provision of service, the interconnection of subscribers' telephones with the public telephone network, and the hand-off from cell site to cell site within a system. The Switch maintains a database of the carrier's subscriber information, such as phone and electronic serial numbers, and call option features. The Switch tracks the progress of calls made to or from such subscribers and records call detail for billing purposes.



Analog cellular handsets are functionally compatible with cellular systems in the United States, Canada and certain other international markets. As a result, analog cellular handsets may be used wherever a subscriber is located, as long as a cellular system is operational in the area. Cellular system operators normally agree to provide service to subscribers from other cellular markets commonly known as roamers who are temporarily located in or traveling through their service areas. Agreements among system operators provide that the carrier that normally provides services to the roaming subscriber pays the serving carrier at rates prescribed by the serving carrier.

While analog and digital cellular systems and PCS digital systems utilize similar conceptual technologies and hardware, they operate on different frequencies and use different technical and network standards. As a result, it initially will not be possible for users of one type of digital system to roam seamlessly across the United States as an analog cellular subscriber does today.

PCS systems are expected to operate under one of three principal digital signal transmission technologies, or standards, that have been proposed by various vendors for use in PCS systems: Global System for Mobile ('GSM'), Code Division Multiple Access ('CDMA') or Time Division Multiple Access ('TDMA'). Digital cellular and PCS systems are expected to operate under either the TDMA or CDMA standards. GSM and TDMA are both 'time division-based' standards that are not currently compatible with each other and are incompatible with CDMA. Therefore, for example, a subscriber of a system that utilizes GSM technology will be unable to use a GSM handset when traveling in an area not served by GSM-based operators, unless the subscriber carries a dual-mode handset that permits the subscriber to default to the analog cellular system in that area. Such dual-mode handsets are not yet widely commercially available and may be larger and more expensive than single-mode handsets. The Company believes that cellular carriers will maintain an underlying analog network after they convert their systems to a digital mode thereby allowing, for an unknown period of time, a continued use of analog cellular telephones.

GSM is the most prevalent digital wireless technology in the world, with approximately 120 systems operating in 92 countries serving over 13 million subscribers. GSM-based systems also offer features and services not currently offered by cellular systems.

The TDMA-based PCS standard is a higher frequency version of the time division-based digital cellular standard currently in limited use by cellular operators in the United States.

The CDMA standard is expected to be the most widely adopted PCS technology in the United States. CDMA-based systems are expected to require more cell sites and offer greater capacity, call quality and hand-off advantages than cellular systems. CDMA-based PCS systems are expected initially to offer the same features and services offered by CDMA-based cellular systems.

## SYSTEM DESIGN AND ARCHITECTURE

### SYSTEM SOFTWARE

The Company's products incorporate a modular software design and utilize the UNIX operating system, which provides customers with significant flexibility in their choice of computer equipment. The widely-used UNIX operating system is especially suited to multi-user environments and has essentially become the standard in a number of important data processing environments, especially telecommunications. In addition, the Company utilizes database and advanced language technology which allows for flexibility in platform and database portability, particularly as the underlying computer infrastructure continues to evolve.

### SYSTEM HARDWARE

The Company's products incorporate industry standard hardware, utilizing the UNIX operating system, for the central system and application processing functions for both the Hotwatch and Blackbird Platforms. The Interactive Voice Response hardware incorporated in certain Hotwatch products contains industry standard components, which the Company integrates at its Seattle facilities. While the cell site processors deployed with the Blackbird Platform contain industry standard computer components, the Company designs and contracts manufacturing for certain proprietary printed circuit boards and other subassemblies. The standard components and custom manufactured subassemblies are then integrated by the Company and its subcontractors for delivery to the Company's customers.



## THE BLACKBIRD PLATFORM

The Blackbird Platform was designed as a strong underlying infrastructure from which to launch PreTect, as well as future applications and services under development. The Blackbird Platform provides technological solutions utilizing various forms of 'pre-call' verification data. PreTect utilizes RF signature analysis to detect and automatically interdict unauthorized devices before they are able to make a call on the wireless network. This product captures a cellular telephone's unique electronic signal characteristics (the RF fingerprint) and verifies this information against subscriber information stored in its database. The Company is in the early stages of commercial deployment of the Blackbird Platform.

## PRETECT

The Blackbird Platform, combined with PreTect, is designed to proactively prevent 'cloning' fraud both within a carrier's home market and in a roaming situation when used in both the roaming and home markets. The Cellular Telecommunications Industry Association has estimated that in 1995 cloning fraud has resulted in costs and lost revenues to the cellular industry of an amount in excess of \$650 million. The Company believes that in 1996 cloning fraud will result in an increased amount of such costs and lost revenues. PreTect utilizes the information captured by the Blackbird Platform, in parallel with a call being connected to the carrier's switch, to determine if a call originates from a legitimate subscriber's telephone or from a telephone whose number identification has been cloned. If PreTect determines that a call is not legitimate, the system is capable of terminating the call before connection is completed. PreTect enables proactive pre-call fraud prevention rather than post-call fraud detection. The Company believes that such pre-call fraud prevention is a major technological step forward for the industry. In 1995, the Blackbird Products were tested in four domestic markets and one international market. In March 1996, the Company consummated its first commercial sales agreement with AirTouch and an interim system deployment agreement with BANM. Enhancement of the Blackbird Products is expected to continue during 1996 and beyond. Additionally, the Company is actively developing other applications utilizing the pre-call data that is collected by the Blackbird Platform.

## REAL-TIME ROAMING FRAUD PREVENTION SERVICE

The Company offers existing customers of the Blackbird Platform and PreTect its Real-Time Roaming Fraud Prevention Service. The underlying technology of the Blackbird Platform is utilized to effectively prevent roaming-based cloning fraud in real-time between markets using both the Blackbird Platform and PreTect. The Company believes this is the industry's first commercially available real-time RF based roaming fraud prevention solution.

## THE HOTWATCH PLATFORM

The Hotwatch Platform provides technological solutions primarily in the 'service metering' area, which involves various forms of 'post-call' verification to ensure that a wireless communications subscriber has proper account status to make additional calls. The applications that the Company currently offers in this area are Accountlink, which provides a prepaid-based solution for real-time credit limit monitoring, and Accountvue<sup>tm</sup> ('Accountvue'), which provides a solution for real-time usage metering. These real-time 'post-call' products support call data acquisition and rating features for the purpose of 'service metering.' Real-time 'rating' means the ability to calculate, on a real-time basis, local and long distance toll charges and cellular air time charges for each call made on a cellular telephone system. The Company's real-time rating supports multiple long distance rating and multiple airtime price plans. The Company believes that real-time data acquisition and rating on a call by call basis will enable carriers and resellers to improve cash flow, more effectively manage their credit, collection, and billing functions, and increase their subscriber base by allowing them to provide service to certain subscribers who might otherwise be deemed unacceptable credit risks.

The Hotwatch Platform runs on a multi-tasking computer system, which, when connected to the Company's proprietary switch interfaces, collects all subscriber (or call) data for each call made or received from the switch within minutes of its recordation. As soon as the call data is acquired, the Hotwatch Platform rates the airtime and toll component of the call and distributes such real-time information for use to the Hotwatch Products. In addition, such information is also stored for data



retrieval purposes and can be used to distribute information to cellular carrier or third party applications.

In connection with the Hotwatch Platform, the Company has developed real-time interfaces for most major cellular switches, including those manufactured by Lucent Technologies, Inc. (formerly a division of AT&T), Ericsson Radio Systems, Inc., Motorola, Inc., and Northern Telecom, Inc. The Company's software applications employ a distributed, high-speed, intelligent networking approach which serves to enable interconnection, on a nationwide basis, of all Hotwatch Platforms, thereby making possible the direct system-to-system communication utilized by several of the Company's current software application products.

#### MAJOR CUSTOMER AGREEMENTS

##### AIRTOUCH CELLULAR AGREEMENT

In March 1996, the Company signed an agreement with AirTouch under which the Company will be the exclusive provider of cellular fraud prevention systems using RF technology to AirTouch and its affiliates. AirTouch's cellular licenses include both 'A Band' and 'B Band' markets. The Company and AirTouch have begun installation of the Company's Blackbird Products in AirTouch's Atlanta (A Band) and Los Angeles (B Band) markets. In addition, AirTouch's New Par and Bay Area Cellular Telephone Company affiliates have agreed to deploy the Blackbird Products in certain of their markets, including their Detroit and San Francisco A Band markets, respectively. The exclusive five year contract, which calls for the purchase of the Company's products in at least 1,000 cell sites, schedules minimum deployment in the majority of the cell sites during 1996 and 1997, subject to the Blackbird Products' compliance with contractual requirements. Concurrently, contracts were signed for support and maintenance services and the Real-Time Roaming Fraud Prevention Service.

##### BANM AGREEMENT

In March 1996, the Company signed an interim agreement with BANM, which holds cellular licenses for both 'A Band' and 'B Band' markets. Under the interim agreement, the Company and BANM are currently deploying the Blackbird Products in BANM's New York (B Band) market. Concurrently, both parties are negotiating a definitive license agreement which will ultimately determine the size and scope of what the Company believes will be a greater deployment providing for installation of the Company's products in a large number of BANM's cell sites, and also including provisions for the Company's support and maintenance services and the Real-Time Roaming Fraud Prevention Service.

##### GTE MOBILNET LETTER OF INTENT

In June 1996, the Company signed a Letter of Intent with GTE Mobilnet of California, L.P. ('GTE') to deploy at least 150 units of the Blackbird Platform and PreTect in GTE's San Francisco market. The Company and GTE are currently negotiating a definitive agreement and expect deployment of such units to begin in the second half of 1996.

##### AWS AXYS AGREEMENTS

In August 1994, the Company entered into two agreements with AWS (formerly McCaw Cellular Communications, Inc. ('McCaw')) (the 'Axys Agreements') for the design and support of the AWS real-time information management system Axys Version 3.0 ('Axys 3.0'). The Axys Agreements consist of a software license ('SWL') and a five year technical services agreement ('TSA'). The SWL provided AWS with a nonexclusive worldwide perpetual license for the Company's real-time post-call data collection platform, and the rating, credit monitoring and credit card billing application functions of that platform. The Company's fraud prevention products were not included in the SWL. Under the terms of the TSA, the Company receives hourly compensation for the development, deployment and servicing of the Axys 3.0 products. The two parties also signed an agreement for the license and marketing of derivatives of Axys 3.0 products (the 'MA') granting the Company marketing and other rights for certain software applications derived from Axys 3.0. The MA and the SWL provide for additional potential revenue for the Company based upon sales of Axys 3.0 and related software products made by either the Company or AWS to third parties as well as to additional future AWS markets.



Initially, the Company estimated that revenues from the Axys Agreements could exceed \$20 million, most of which was expected to be realized through 1996, assuming AWS deployed Axys in three major installations of its current markets and certain affiliated markets under the SWL and utilized the maximum number of hours under the TSA. Through March 31, 1996, the Company has recognized cumulative revenues totaling approximately \$9.5 million from the SWL and TSA agreements of which approximately \$4.9 million were recorded in 1995. Revenues from the SWL and TSA began in the third quarter of 1994 and are expected to continue through at least 1996 and possibly through 1999. Following the AWS acquisition of McCaw in 1995, AWS changed the scope of its development and deployment of Axys products, including the reduction of its reliance on outside vendors and contractors. As a result, the Company is not currently providing services under the TSA.

The Company believes there could be additional potential revenue from the sale of Axys 3.0 products by the Company and/or AWS under the SWL and/or MA to future domestic and international markets including acquired affiliates of AWS or other third parties who implement the Axys system. The Company believes that such revenues, if realized, would most likely occur in the latter half of the contract terms through 1999. Total expected revenues under the SWL, TSA, and MA agreements cannot be determined at this time but the Company expects such revenues to be less than originally anticipated.

#### AWS HOTWATCH PRODUCTS AGREEMENT

In November 1994, the Company signed a contract with AWS to license its Accountlink and Accountvue application products under the Hotwatch Platform and to provide support services for those products during the interim period while Axys 3.0 is being fully developed and deployed. Approximately \$2 million in revenues was recorded in 1995 under the AWS Hotwatch Products Agreement. As a result of a change in its business strategy, AWS ceased using the Hotwatch Products in June 1996.

#### 360[D] CC AGREEMENTS

In November 1994, the Company signed a contract with 360[d] CC to deploy Hotwatch Products, throughout 360[d] CC's U.S. markets. This contract followed an agreement signed in late 1993 to install the Company's products in 360[d] CC's Las Vegas market. These contracts include software licenses, hardware sales and support services covering a system-wide roll-out that was completed during 1995. Recurring support services continue on an annual renewal basis. Revenues from these contracts in 1995 totaled approximately \$1.8 million.

#### AMERITECH AGREEMENT

In November 1994 the Company signed a contract with Ameritech for the Company's Hotwatch Platform and its Accountvue application product. This contract included software licenses, hardware sales and support services and resulted in modest recurring revenue during 1995 and is also expected to result in modest recurring support services revenue during 1996.

#### LIN/ACC AGREEMENTS

The LIN/ACC Agreement originally called for the installation of the Hotwatch Products in four major markets owned or operated by LIN or LIN/ACC Los Angeles, New York, Dallas and Houston. The original term of the LIN/ACC Agreement expired in July, 1993, was renewed for one year and subsequently renegotiated to continue on a month-to-month basis. During 1994, the LIN New York market completed the replacement of the Company's Hotwatch Products with its own internally developed products. During 1995, the Company licensed its Accountvue product to the Houston market for a one-time license fee plus recurring support service fees which license is renewable on an annual basis. The remaining markets covered under the agreement -- Los Angeles and Dallas -- have continued to use certain of the Company's Hotwatch Products on a month-to-month basis. The Dallas market is expected to cease use of the Company's Hotwatch Products during the third quarter of 1996, when AWS's Axys product is expected to be installed. The Company anticipates that revenues under the LIN/ACC agreement will continue on a month-to-month basis for the Los Angeles market. Revenues from the LIN/ACC markets totaled approximately \$1.5 million during 1995.



## REVENUE GENERATION

### OVERVIEW AND SYSTEM REVENUES

The Company's revenues historically have been derived primarily from initial license fees, fixed or variable monthly software license fees and, to a lesser extent, non-recurring computer equipment sales for its Hotwatch Platform and related products. For the Blackbird Platform and related products, initial revenues are anticipated to be categorized as: system revenues, which will primarily include software and hardware products; and service revenues, which will primarily include roaming fraud prevention services, maintenance, software subscription services, and system monitoring services.

Revenue recognition for the Company's systems is based upon various performance criteria and varies from customer to customer and product to product. Physical hardware and software delivery and definitions of system delivery and customer acceptance are generally the significant factors used in determining revenue recognition. Maintenance and service revenues are recognized ratably over the period of coverage and/or as services are performed.

Computer equipment sales for the Hotwatch Products, which traditionally have been of a non-recurring nature, are normally made in connection with the initial licensing of the Company's software products, or the upgrading of previously installed systems. The Company consistently has incurred negative margins from computer equipment sales due to fixed engineering and installation overhead costs that have not been recovered from equipment sales and installation revenues. The Company does not anticipate that computer equipment sales will generate significant profits from Hotwatch Products equipment sales, if any, in future periods after applying the burden of engineering and installation costs. Customers may also purchase their own computer equipment from third parties. The Company is now having proprietary hardware manufactured for use in the Blackbird Platform and application products. Contracts for sales of the Blackbird Platform and its first application product, PreTect, were initially entered into in 1996 with hardware and software bundled as a part of a complete system.

During the three years ended December 31, 1995 and the three months ended March 31, 1996, five customers or their affiliates accounted for substantially all of the Company's revenues. Such customers are ACC, LIN, AWS, Sprint and Shared Technologies Cellular, Inc. (which acquired PTC Cellular, Inc., the Company's largest customer for its former rental phone products). The LIN/ACC and AWS agreements are with entities that share common ownership in some of the markets in which the Company's products have been deployed. Each of these customers accounted for 10% or more of the Company's revenues during the quarter ended March 31, 1996, or one or more of the three years ended December 31, 1995. The high percentage of revenues derived from a limited number of customers is principally attributable to the Company's relatively small number of customers during these periods and the fact that certain of these customers made significant non-recurring purchases of computer equipment. The Company's targeted customer base is limited due to the concentrated nature of ownership and/or operational control of the most populated wireless communications markets in the United States and limited to a lesser extent in the international markets. The Company expects that certain of its cellular carrier customers operating in multiple cellular markets will continue to account for a relatively high percentage of the Company's total revenues. Revenues originating from the recent contract signings for the Company's Blackbird Products are expected to decrease the Company's reliance on the AWS and LIN/ACC Agreements.

### RECURRING HARDWARE AND SOFTWARE SUPPORT SERVICES

Hardware maintenance, software maintenance, software subscription services (new releases), and system monitoring are the primary recurring services provided by the Company to its customers. Support personnel diagnose and resolve problems, dispatch third party hardware vendors, forward enhancement requests to the Company's research and development staff, and coordinate with customers on upgrades. Software troubleshooting, maintenance, and upgrades are conducted either via the Company's public data network or via modem over a standard telephone line. An on-line customer management system tracks problems and resolutions. Support is available 24 hours per day, seven days per week. Research and development personnel assist in software support activities to the extent required.



## INSTALLATION

Currently, the Company arranges to receive certain third-party vendor system equipment at its facilities where it integrates its proprietary software with such equipment and performs preliminary testing prior to shipment to the customer. Typically, the Company, its third-party vendors, and/or the customer jointly perform installation services, with each bearing responsibility for different aspects of installation. The installation process, which commences upon delivery of the computer equipment at the customer's site, generally is completed within 60 to 90 days following execution of a customer's purchase order. The costs of installation may be separately charged or added into system pricing.

## TRAINING AND DOCUMENTATION.

The Company's personnel provide system training on-site or at the Company's facilities in Seattle. The training program consists primarily of presentation materials, hands-on exercises, and group demonstrations. All of these training costs are factored into system pricing. Refresher training subsequent to completion of the installation training is provided at hourly rates. User manuals relating to the Company's application software and other materials and documentation produced by the Company are provided to training participants and supervisory personnel. Computer equipment documentation is provided by the computer equipment vendor.

## CUSTOM PROGRAMMING

The Company provides custom software development work upon customer request. Customers are charged hourly rates for such services or may contract with the Company for fixed fees where appropriate.

## PROFESSIONAL SUPPORT SERVICES

The Company provides system project planning and implementation services in connection with sales of its systems and products. Customers are charged hourly rates for such services or may contract with the Company for fixed fees where appropriate.

## MARKETING

To date, the Company has primarily focused its marketing efforts on cellular carriers operating in the 50 most heavily populated MSAs. Accordingly, although the Company has, in the past, had limited marketing capabilities and resources, the Company expanded these efforts in 1995 and will continue to expand these efforts to further penetrate significant wireless communications markets, both domestic and international. The Company has in the past marketed its products directly to cellular carriers through proposals and presentations. In 1995, the Company began marketing more aggressively at selected trade shows, conferences and industry events. In addition, it began to selectively advertise and use direct marketing. The Company also meets regularly with wireless industry consultants to obtain leads and referrals. Achieving wide-spread market acceptance and penetration of the Company's products will require, in addition to enhancing and improving such products, increased marketing efforts and the expenditure of significant funds to increase customer awareness of the Company and to inform potential customers of the benefits of the Company's products. At June 28, 1996, the Company employed 20 sales, sales support, marketing and product management personnel. In 1996 and beyond, the Company intends to expand its product management functions and personnel for both the current product lines and future product definitions.

## 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 Hotwatch Products and Blackbird Products that it believes to be proprietary and that offer a potential competitive advantage for the Company's products and services. To date, the Company has been granted patents on certain features of the Hotwatch Products



and has patents pending for certain features of the Hotwatch Products and Blackbird 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 Products. There can be no assurance, however, that any pending or future patent application of the Company or its licensors will result in issuance of a patent, that the scope of protection of any patent of the Company or its licensors will be held valid if subsequently challenged, or that third parties will not claim rights in or ownership of the products and other proprietary rights held by the Company or its licensors. In addition, the laws of certain foreign countries do not protect the Company's intellectual property rights to the same extent as the laws of the United States.

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 third parties will not assert infringement claims in the future with respect to the Company's current or future products 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. No assurance can be given that any necessary licenses can be obtained in a timely manner, upon commercially reasonable terms, or at all, and no assurance can be given that third parties will not assert infringement claims with respect to any current licensing arrangements.

In addition to the foregoing methods of protection, 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. Furthermore, although the Company has and expects to continue to have internal nondisclosure agreements with its employees and consultants, 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. See 'Risk Factors -- Proprietary Rights.'

#### RESEARCH AND DEVELOPMENT

For the three months ended March 31, 1996 and for the years ended December 31, 1995, 1994 and 1993, the Company incurred gross research and development expenditures of \$1,397,000, \$5,724,000, \$4,021,000 and \$2,019,000, respectively, prior to capitalization of software development costs during each period in the amounts of \$434,000, \$1,726,000, \$1,725,000 and \$750,000, respectively. The Company's research and development efforts are focused on new hardware and software products, enhancing and improving existing hardware and software products, including developing new software applications and additional computer equipment interfaces, principally associated with the Hotwatch and Blackbird platforms. These enhancements and/or new products may, when and if developed, enable the Company to expand the use of its existing products and perform a broad variety of services and functions not presently being offered by the Company. Costs included in the Company's gross research and development expenditures include costs for research, design, development, tests, preparation of training and user documentation, and fixing and refining new and existing features (i.e., software maintenance) for inclusion in its product line. At June 28, 1996, the Company employed 48 full-time research and development personnel and had contracted with a number of consultants engaged in research and development activities. The Company anticipates that development expenditures will continue to increase in 1996 and beyond in response to increased market demand for new and enhanced products as technology in the telecommunications industry moves forward at a rapid pace.

#### COMPETITION

The market for the Company's products and services is characterized by intense competition among numerous nationally recognized companies. The Company believes, based upon its discussions with major cellular carriers, as well as upon its general knowledge of the industry, that it: (i) has developed



innovative software technology which enables it to be one of the few vendors that have successfully commercially deployed billing and data processing software products in large markets incorporating post-call real-time rating, analysis and networking technology, (ii) is one of the few vendors prepared to deploy pre-call real-time collection, analysis and distribution systems to major cellular carriers; and (iii) is the only vendor prepared to deploy a pre-call real-time roaming fraud prevention service. However, there can be no assurance that other companies do not have or are not currently developing functionally equivalent or superior products, or that functionally equivalent or superior products will not become available in the near future.

The Company is aware of competitors which have indicated that they have developed, marketed and installed commercially available products with respect to post-call real-time software technology. These companies include, among others, IBM, I-NET, Inc., GTE Telecommunications, Services, Inc., Boston Communications Group, EDS Personal Communications Corporation, Cincinnati Bell Information Systems, Inc., Lightbridge, Inc., Subscriber Computing, Inc., CSC Intellicom, and Systems/Link Corporation as well as cellular carriers operating in the most populated cellular markets. In addition, there are numerous companies, including wireless communications carriers, hardware and software development companies and others, which have or may develop the expertise which would encourage them to attempt to develop and market products (such as A-Key) which could render the Company's products obsolete or less marketable.

The Company is aware of at least four competitors, including Corsair Communications, Inc., Coral Systems, Inc. (in connection with a joint venture with Applied Signal Technology), Authentix Network, Inc. and GTE Telecommunications Services, Inc. that compete directly with the Company in the user/device authentication area. Two of these competitors, Corsair Communications, Inc. and Coral Systems, Inc. compete directly with the Company's RF-based fingerprinting fraud protection products. The Company believes that Corsair Communications, Inc. has agreements pursuant to which Corsair Communications, Inc. has installed or will install its RF-based fingerprinting fraud protection product in four major markets. The Company has no knowledge of any such agreements or installations by Coral Systems, Inc.

The Company believes that the principal competitive factors affecting a prospective customer's choice of software systems are the number and nature of functions available on the system, price, performance, ease of use, reliability, technical support, customer service, the availability of real-time information and the financial stability of the vendor. The ability of the Company to compete successfully will depend in large measure on its ability to maintain a technically competent research and development staff and to adapt to technological changes and advances in the industry, including ensuring continuing compatibility with evolving generations of computer equipment.

#### SUPPLIERS

The Company has been and will continue to be dependent on third-party vendors for the computer equipment and certain software that is incorporated in its products. While these are available from multiple sources, the Company currently obtains or licenses certain equipment and software, including proprietary database software incorporated in a number of the Company's products, from a limited number of sources of supply. The Company's software programs were specifically designed to adhere to the UNIX operating systems standard which can operate on standard computer equipment sold by numerous manufacturers and vendors. The Company currently purchases hardware from Hewlett-Packard ('HP'), its primary system hardware supplier, under a Value Added Business Program ('VAB'). As an HP Value Added Reseller ('VAR') within the VAB program, the Company qualifies for a number of services under HP's marketing, support and financial programs. 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 to use the software in perpetuity, with the result that the loss of a particular source would not affect any product already in use.



With the introduction of the Blackbird Platform and related application products, the Company has manufactured to its proprietary specifications a cell site processor which operates in connection with the system hardware described above. While the parts and components of this processor are industry standard and available from many suppliers, the design of the custom manufactured subassemblies is performed by both the Company's personnel and third-party design firms. The Company generally does not subject itself to single source suppliers.

#### EMPLOYEES

As of June 28, 1996, the Company had 114 full-time employees. Of such employees, 16 are in corporate and administrative positions, 14 are in sales and related support functions, 6 are in marketing and product management functions, 17 provide customer support, 13 are in manufacturing and system installation functions, and 48 are engaged in research and development. From time to time, the Company contracts with consultants and other independent contractors on its development projects. None of the Company's employees are covered by a collective bargaining agreement. The Company believes that its relations with its employees are good.

#### FACILITIES

The Company has committed to leasing approximately 46,000 square feet of general office space at 2401 Fourth Avenue, Seattle, Washington for its corporate offices under a five year non-cancelable operating lease that expires in September 2000. Presently, the Company occupies approximately 29,000 square feet of space at an annual base rent of \$381,000. The terms of the lease provide that the Company take possession of and begin paying for the remaining committed space at various time periods extending through September 1997, at which time the annual base rent will be \$658,000. The Company also leases approximately 1,200 square feet of space at 2001 Sixth Avenue, Seattle, Washington, which it uses for computer operations, at a current base annual rent of \$21,800, pursuant to a lease that is to expire in 2000. Both of these leases contain five year renewal options and provide for the pass-through to the Company of increases in operating and other costs. Although the space is adequate for its current activities, the Company believes that additional space, if needed, will be readily available.

#### LEGAL PROCEEDINGS

The Company has received a request for indemnification from a former customer who utilized the Company's discontinued phone rental products, pursuant to a contract between the Company and the former customer which includes a limited warranty against infringement. The Company has demanded arbitration to resolve whether it has any obligation under the contract to indemnify the former customer against a claim of patent infringement brought against the former customer by a third party. The Company has conducted a review of the underlying matter and, based upon the information currently available to the Company, but subject to the inherent uncertainties involved in legal proceedings, the Company believes that the outcome of the claim will not be material to the Company.

There are no other material, pending legal proceedings to which the Company is a party or of which any of its property is subject which, if adversely decided, would have a material adverse effect on the Company's business, financial condition and results of operations.



MANAGEMENT

DIRECTORS AND EXECUTIVE OFFICERS OF THE COMPANY

The directors and executive officers of the Company, their ages and present positions with the Company are as follows:

| NAME                      | AGE | POSITION WITH COMPANY  |
|---------------------------|-----|--|
| Stephen Katz.....         | 52  | Chairman of the Board of Directors and Chief Executive Officer |
| Robert P. Dahut.....      | 58  | President, Chief Operating Officer and Director                |
| Michael E. McConnell..... | 46  | Vice President and Chief Financial Officer                     |
| Kyle R. Sugamele....      | 34  | Vice President, General Counsel and Corporate Secretary        |
| David N. Hoogerwerf.....  | 49  | Vice President, Engineering                                    |
| Heidi P. Adkisson...      | 38  | Vice President, Operations                                     |
| Douglas F. Anderson.....  | 43  | Vice President, Sales  |
| Jay Goldberg.....         | 55  | Director   |

Stephen Katz, Chairman of the Board of Directors and Chief Executive Officer, had been Acting Chief Executive Officer and Acting President from November 1992 until February 1994. 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. ('Nationwide') 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. ('MCI'). In May 1996, Mr. Katz was appointed Vice-Chairman of the Board and Chief Executive Officer of Coin Bill Validator, Inc. whose business is currency and coin authentication.

Robert P. Dahut has been President and Chief Operating Officer and a director of the Company since February 1994. For more than five years prior thereto, Mr. Dahut held senior management positions with various subsidiaries of Bell Atlantic as follows: from February 1993 to February 1994 he was Vice President of Operations and Engineering of C&P Telephone, from November 1990 to February 1993 he was Vice President of Marketing and Sales of C&P Telephone, from August 1988 to November 1990 he was Chief Executive Officer of Bell Atlantic Mobile Systems, and from June 1986 to August 1988 he was Vice President Sales & Marketing of Bell Atlantic Directory Publishing. Prior thereto he held progressively responsible positions in Operations, Engineering, Planning, Human Resources and Budgets for C&P Telephone and AT&T.

Michael E. McConnell has been Vice President and Chief Financial Officer of the Company since January 1992. Prior to joining the Company, from April 1991 to December 1991, Mr. McConnell engaged in personal investment activities. From 1986 to March 1991, Mr. McConnell was the Chief Financial Officer of Delphi Information Systems, Inc., a public company engaged in the development of software systems for the insurance field. Mr. McConnell is a certified public accountant.

Kyle R. Sugamele joined the Company in July 1995 as Vice President and General Counsel. In October 1995, Mr. Sugamele was appointed Assistant Secretary, and in June 1996, Mr. Sugamele was appointed Corporate Secretary. From April 1991 to July 1995, Mr. Sugamele was associated with the law firm of Mundt, MacGregor, Happel, Falconer, Zulauf & Hall in Seattle. From August 1987 to March 1991, Mr. Sugamele was associated with 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 on the protection and licensing of intellectual property and trade secrets, commercial finance and business transactions.

David N. Hoogerwerf joined the Company in December 1991 as Director of Software Engineering and was named Vice President, Engineering in January 1994. Prior to joining the Company, from March 1978 to December 1991, Mr. Hoogerwerf held various management positions with GTE including



General Manager and Director, Engineering and Development for GTE Telecom, Inc. Mr. Hoogerwerf is a registered professional electrical engineer.

Heidi P. Adkisson has been with the Company since its inception and was named Vice President, Operations in September 1994. From May 1991 to September 1994 Ms. Adkisson was Director of Support Services. Ms. Adkisson joined the Company as Manager of Training and Documentation in September 1988.

Douglas F. Anderson has been with the Company since July 1, 1994 and was named Vice President, Sales and Marketing on August 1, 1994. From 1991 to July 1994, Mr. Anderson had been Director of North American Operations of Saros Corporation, a company engaged in the business of developing systems software. For five years prior thereto Mr. Anderson had been Director of North American Sales for Lotus Development Corporation.

Jay Goldberg has served as a director of the Company since August 1991. Mr. Goldberg had been Chairman of the Board since November 1990 and President and Chief Executive Officer from August 1990 until January 1994, of Image Business Systems Corporation, a company previously engaged in image processing, inactive since August 1994. In June 1989, Mr. Goldberg formed Zeitech, Inc., a computer software firm of which he served as Chairman of the Board until that company was sold to Career Horizons in January 1996. Currently, Mr. Goldberg serves as a consultant to Zeitech, Inc. From May 1986 until February 1990, Mr. Goldberg was Chief Executive Officer of Money Management Systems, Inc., a company also engaged in the computer software business, which was sold to SunGuard Data Systems, Inc. in 1989.

The Company currently intends to expand the Board of Directors to include up to three new directors within approximately 90 days of the date of this Prospectus, although it has not yet identified individuals to fill these positions.

The Company's officers are elected annually and serve at the discretion of the Board of Directors for one year subject to any rights provided by employment agreements including those described below under 'Executive Compensation -- Employment Agreements.'

#### COMMITTEES OF THE BOARD OF DIRECTORS

The Compensation and Stock Option Committee, composed of Mr. Goldberg, has authority over officer compensation and the administration of the Company's stock option plans. The Audit Committee, composed of Mr. Goldberg, has various functions including oversight and review of accounting matters. Both the Compensation and Stock Option Committee and the Audit Committee were composed of Mr. Goldberg and Lawrence Howard until Mr. Howard's resignation in June 1996. The Company expects that at least one additional new director will be added to each of such committees upon the appointment of new directors to the Board of Directors. See 'Directors and Executive Officers of the Company.'

#### DIRECTORS' COMPENSATION

Each director who is not an officer or employee of the Company receives \$1,000 per Board meeting attended and \$500 per Committee meeting attended and is reimbursed for his out-of-pocket expenses incurred in connection with attendance at meetings or other Company business.

In December 1993 the Board of Directors adopted the 1993 Non-Employee Director Stock Option Plan ('Director Plan') pursuant to which each person who is not a salaried employee of the Company who first becomes a director after December 29, 1993 shall be granted on the date he first becomes a director an option to purchase 20,000 shares of Common Stock and on January 2 of each year beginning with January 2, 1994, each person who is not a salaried employee of the Company and is then a director shall be granted an option to purchase an additional 12,000 shares of Common Stock. The exercise price of each share of Common Stock under any option granted under the Director Plan shall be equal to the fair market value of a share of Common Stock on the date the option is granted.



EXECUTIVE COMPENSATION

The following table sets forth information concerning annual and long-term compensation, paid or accrued, for the Chief Executive Officer and the four other most highly compensated executive officers of the Company (the 'Named Executive Officers') for services in all capacities to the Company during the last three fiscal years.

SUMMARY COMPENSATION TABLE(1)

| NAME AND PRINCIPAL POSITION   | YEAR | SALARY     | BONUS   | OTHER ANNUAL<br>COMPENSATION(2) | LONG-TERM<br>COMPENSATION<br>AWARDS |                              |
|---|------|------------|---------|---------------------------------|-------------------------------------|------------------------------|
|   |      |            |         |                                 | SECURITIES<br>UNDERLYING<br>OPTIONS | ALL OTHER<br>COMPENSATION(3) |
| Stephen Katz .....  | 1995 | \$ 0       | \$ 0    | \$ 0                            | 0                                   | \$ 0                         |
| Chairman of the Board of<br>Directors and Chief<br>Executive Officer(4) | 1994 | 0          | 100,000 | 0                               | 212,000                             | 0                            |
|   | 1993 | 0          | 0       | 0                               | 400,000                             | 0                            |
| Robert P. Dahut .....   | 1995 | 150,000    | 0       | 0                               | 0                                   | 16,392                       |
| President and Chief<br>Operating Officer                                | 1994 | 132,403(5) | 110,000 | 76,267                          | 600,000                             | 13,343                       |
| Michael E. McConnell .....  | 1995 | 115,500    | 0       | 0                               | 3,820                               | 6,160                        |
| Vice President and Chief<br>Financial Officer                           | 1994 | 110,000    | 55,000  | 0                               | 40,000                              | 4,094                        |
|   | 1993 | 100,000    | 0       | 0                               | 170,000                             | 1,333                        |
| Douglas F. Anderson .....   | 1995 | 115,000    | 0       | 0                               | 3,820                               | 1,150                        |
| Vice President, Sales   | 1994 | 52,340(6)  | 56,338  | 0                               | 70,000                              | 0                            |
| David N. Hoogerwerf .....   | 1995 | 105,000    | 0       | 0                               | 3,820                               | 0                            |
| Vice President, Engineering   | 1994 | 100,000    | 30,000  | 0                               | 40,000                              | 0                            |
|   | 1993 | 83,333     | 0       | 0                               | 110,000                             | 0                            |

(1) None of the Named Executive Officers received any Restricted Stock Awards or LTIP Payouts in 1993, 1994 or 1995. Does not include grants made or other compensation paid in 1996.

(2) On January 31, 1994, Mr. Dahut joined the Company as President and Chief Operating Officer. In connection with his employment, the Company made payments to Mr. Dahut or on his behalf related to his relocation, which were deemed to be compensation in the amount of \$44,959 and for the payment of related taxes in the amount of \$31,308. In addition, the Company made payments to Mr. Dahut or on his behalf related to his relocation which were not deemed to be compensation in the amount of \$20,123. Other than Mr. Dahut, none of the Named Executive Officers received perquisites or other personal benefits in excess of the lesser of \$50,000 or 10% of the total of his salary and bonus for 1993, 1994 or 1995 as reported in the above table.

(3) Represents contributions by the Company to the Named Executive Officers' accounts under a 401(k) plan and includes for Mr. Dahut life insurance premiums paid by the Company on his behalf in the amount of \$2,075 in 1995 and \$1,556 in 1994 and automobile allowances given him in the amount of \$8,157 in 1995 and \$6,454 in 1994.

(4) Stephen Katz, Chairman of the Board and a Director of the Company since its inception, served as Acting Chief Executive Officer and President of the Company from November 21, 1992 until February 2, 1994 and as Chief Executive Officer from February 3, 1994 to date. Nationwide received \$25,000 per month under a four year Management Services Agreement which expired in August 1995 under which Mr. Katz and other Nationwide personnel provided management, financial and administrative services to the Company. See 'Executive Compensation -- Certain Transactions.' Amounts paid to Nationwide under said Agreement were \$178,000 in 1995 and \$300,000 in each of 1994 and 1993.

(5) Represents compensation paid to Mr. Dahut from January 31, 1994 when he became an officer of the Company.

(footnotes continued on next page)



(footnotes continued from previous page)

(6) Represents compensation paid to Mr. Anderson from July 1, 1994 when he became employed by the Company. Such compensation includes salary of \$52,340 and performance incentives of \$56,338 which, effective December 31, 1994, were discontinued.

#### STOCK OPTION PLANS

##### 1991 QUALIFIED STOCK OPTION PLAN AND 1991 NON-QUALIFIED STOCK OPTION PLAN

The Company has adopted a 1991 Qualified Stock Option Plan ('1991 Qualified Plan') and a 1991 Non-Qualified Stock Option Plan ('1991 Non-Qualified Plan') (collectively the 'Stock Option Plans' or the 'Plans'). Pursuant to the 1991 Qualified Plan, as amended in 1993, the Company was authorized to grant options to purchase shares of Common Stock to its officers and key employees, at a price which may not be less than the fair market value per share of Common Stock on the date of the granting of the option. Pursuant to the 1991 Non-Qualified Plan, the Company was authorized to grant options to purchase shares of Common Stock to its directors, officers, key employees and others who render services to the Company at a price which may not be less than 85% of the fair market value per share of Common Stock on the date of the granting of the option. All options under the 1991 Qualified Plan are in the form of incentive stock options and options under the 1991 Non-Qualified Plan are options which do not qualify for treatment as incentive stock options.

The Stock Option Plans are administered by the Stock Option Committee of the Board of Directors (the 'Committee') which will satisfy requirements for an exemption from the short swing profits rule of Section 16(b) under the Securities Exchange Act of 1934, as amended (the 'Exchange Act').

Options granted under the Plans are nontransferable by the optionee during his lifetime, and will expire if not exercised within ten years from the date of the grant and terminate upon an optionee's termination of employment or service with the Company or a subsidiary, except that, under certain circumstances, options are exercisable for a period of 90 days after retirement or termination of employment and for a period of one year after death or disability for options granted under the Stock Option Plans. Incentive stock options are also subject to the following limitations: (i) the aggregate fair market value (determined at the time an option is granted) of stock with respect to which incentive stock options are exercisable for the first time by an optionee during any calendar year (under all such plans of the Company, or its subsidiaries) shall not exceed \$100,000 and (ii) if the individual to whom the incentive stock options were granted is considered as owning stock possessing more than 10% of the total combined voting power of all classes of stock of the Company, then (A) the option price at the time of grant may not be less than 110% of the fair market value per share for such Common Stock and (B) the option period must be no more than five years from the date of grant.

Unless otherwise determined by the Committee administering the Stock Option Plans or by other provisions of such Plans, options will be exercisable at a rate of 20% per year and vest fully after five years.

Without giving effect to the exercise of options by the Selling Shareholders to purchase 226,000 shares of Common Stock, as of the date of this Prospectus, options to purchase an aggregate of 2,044,160 shares of Common Stock at a weighted average exercise price of \$6.04 per share were outstanding including options to purchase 690,000, 201,820, 59,820, and 181,820 shares held by Messrs. Katz, McConnell, Anderson and Hoogerwerf respectively. All executive officers and directors as a group (nine persons) hold options to purchase 1,291,300 shares at exercise prices ranging from \$1.00 to \$10.94 per share. As of the date of this Prospectus, 1,074,000 options have been exercised under the Stock Option Plans since the inception of such Plans.

There are no shares presently available for grant of non-qualified stock options under the Company's 1991 Non-Qualified Stock Option Plan. In addition, pursuant to action taken by the Company's Board and approved by a majority of the Company's Shareholders, no new options will be granted under either the Company's 1991 Non-Qualified Plan or under the 1991 Qualified Plan.



The Company has adopted the 1993 Non-Employee Director Stock Option Plan (the 'Director Plan'). The purpose of the Director Plan is to provide an additional incentive to attract and retain as directors qualified and competent persons whose judgment is vital to the success of the Company. The Company may grant to non-employee directors and directors who are non-salaried employees of the Company ('Outside Directors') options to purchase up to 300,000 shares of the Company's Common Stock under the Director Plan at a price equal to the fair market value of a share of Common Stock on the date an option is granted. Payment of the option price shall be made in cash. In the event any option granted under the Director Plan shall expire, be canceled or terminate for any reason without having been exercised in full or shall cease for any reason to be exercisable in whole or in part, the unpurchased shares subject thereto shall again be available for grant thereunder. The options granted under the Director Plan will not qualify for treatment as incentive stock options.

The Director Plan is administered by the Board of Directors. Subject to the express provisions of the Director Plan, the Board shall grant options under the Director Plan; correct any defect and, in general, make determinations necessary or advisable for Director Plan administration. Under the terms of the Director Plan, each individual who became or becomes an Outside Director after December 29, 1993, the effective date of the Director Plan, has been or will be granted, as the case may be, on the date he first becomes an Outside Director, an option to purchase 20,000 shares of Common Stock. In addition, on January 2 of each year beginning with January 2, 1994, each Outside Director then in office has been or will be granted, as the case may be, an option to purchase 12,000 shares of Common Stock. No option granted under the Director Plan shall be exercisable for a period of one year after the date of the grant, at which time the option shall become exercisable as to the full number of shares subject to the option. Notwithstanding the foregoing, an option may become immediately exercisable upon (i) the death or disability of the holder or (ii) upon a change in control of the Company which occurs while a holder is an Outside Director. No option may be exercised under the Director Plan after the expiration of ten years from the date of grant and no option may be granted under the Director Plan after December 29, 2003.

In the event that an Outside Director to whom an option has been granted under the Director Plan (i) shall cease to serve on the Board for any reason (including as a result of not being reelected to the Board) other than by reason of his disability, retirement after age 65 or death, such option may be exercised, to the extent that the Outside Director was entitled to do so at the time of his cessation of service, at any time within three months after such cessation of service but not thereafter, and in no event after the date on which the option would otherwise expire; provided, however, that if his service on the Board shall have been terminated for cause, his options shall terminate immediately; (ii) shall cease to serve on the Board by reason of his disability, the option may be exercised at any time within three years after such cessation of service on the Board but not thereafter, and in no event after the date on which the option would otherwise expire; (iii) shall cease to serve on the Board as a result of his retirement after attaining age 65, the option may be exercised to the extent that the Outside Director was entitled to do so at the time of his cessation of service, at any time within three years after such cessation of service but not thereafter, and in no event after the date on which the option would otherwise expire; (iv) shall die (x) while he is serving on the Board, (y) within three years after cessation of service on the Board by reason of disability or retirement after age 65 or (z) within three months after cessation of service on the Board for any other reason except cause, such option may be exercised in whole or in part by his personal representative or other person entitled by law to his rights under such option to the same extent as it could have been exercised by the decedent had he lived, at any time within one year after the date of his death, but in no event after the date on which the option would otherwise expire.

As of the date of this Prospectus, options to purchase 48,000 shares of Common Stock at a weighted average exercise price of \$7.84 per share were outstanding including options to purchase 36,000 shares granted to Mr. Goldberg, at a weighted average exercise price of \$8.42 per share, and 12,000 shares granted to Mr. Katz, at a weighted average exercise price of \$6.13 per share, when he was a non-employee director. As of the date of this Prospectus, 60,000 options have been exercised since the inception of the Director Plan.



## 1996 STOCK OPTION PLAN

The Company has adopted the 1996 Stock Option Plan (the '1996 Plan') which is designed to provide an incentive to employees of the Company and to offer an additional inducement in obtaining the services of such persons. The 1996 Plan covers both incentive stock options and non-qualified stock options. Pursuant to action taken by the Company's Board and approved by a majority of the Company's Shareholders, no new options will be granted under either the Company's 1991 Non-Qualified Plan or under the 1991 Qualified Plan.

The 1996 Plan authorizes the grant of options to purchase a maximum of 1,100,000 shares of the Company's Common Stock (subject to adjustment as described below) to employees (including officers and directors who are employees) of and consultants to the Company. Upon expiration, cancellation or termination of unexercised options, the shares of the Company's Common Stock subject to such options will again be available for the grant of options under the 1996 Plan. Options to purchase 160,000 shares of Common Stock were granted in June 1996 under the 1996 Plan at an exercise price of \$17.875 per share of which 50,000 options were granted to Mr. Anderson, 30,000 options were granted to Mr. McConnell, 20,000 options were granted to Mr. Hoogerwerf, 25,000 options were granted to Mr. Sugamele and 20,000 options were granted to Ms. Adkisson. Approximately 120 employees of the Company are currently eligible to receive grants of options under the 1996 Plan.

Options granted under the Plan may either be incentive stock options ('ISOs'), within the meaning of Section 422 of the Internal Revenue Code of 1986, as amended (the 'Code'), or non-qualified stock options which do not qualify as ISOs ('NQSOs').

The 1996 Plan is administered by the Committee which will satisfy the requirements for an exemption from the short swing profits rule of Section 16(b) under the Exchange Act for grants and exercises of options. It is intended that each member of the Committee will be an 'outside director' within the meaning of Section 162(m) of the Internal Revenue Code of 1986, as amended.

Among other things, the Committee is empowered to determine, within the express limits contained in the Plan: the employees and consultants to be granted options, the times when options shall be granted, whether an option is to be an ISO or a NQSO, the number of shares of Common Stock to be subject to each option, the exercise price of each option, the term of each option, the date each option shall become exercisable as well as any terms, conditions or installments relating to the exercisability of each option, whether and under what conditions to accelerate the date of exercise of any option or installment, the form of payment of the exercise price, the amount, if any, required to be withheld with respect to an option, and with the consent of the optionee, to modify an option. The Committee is also authorized to prescribe, amend and rescind rules and regulations relating to the Plan and to make all other determinations necessary or advisable for administering the Plan and to construe the Plan.

Options granted under the 1996 Plan will be subject to, among other things, the following terms and conditions: (a) the exercise price of each option will be determined by the Committee; provided, however, 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 (110% of such fair market value if the optionee owns (or is deemed to own) more than 10% of the voting power of the Company); (b) options may be granted for terms determined by the Committee; provided, however, that the term of an ISO may not exceed 10 years (5 years if the optionee owns (or is deemed to own) more than 10% of the voting power of the Company); (c) the maximum number of shares of the Company's Common Stock for which options may be granted to an employee in any calendar year is 400,000; (d) the aggregate fair market value of shares with respect to which ISOs may be granted to an employee which are exercisable for the first time during any calendar year may not exceed \$100,000; (e) the exercise price of each option is payable in full upon exercise or, if the applicable stock option contract ('Contract') entered into by the Company with an optionee permits, in installments (payment of the exercise price of an option may be made in cash, certified check, or, if the applicable Contract permits, in shares of the Company's Common Stock or any combination thereof); (f) options may not be transferred other than by will or by the laws of descent and distribution, and may be exercised during the optionee's lifetime only by the optionee or his or her legal representatives; (g) except as may otherwise be provided in the applicable Contract, if the optionee's relationship with the Company as an employee or consultant is terminated for any reason



(other than the death or disability of the optionee), the option may be exercised, to the extent exercisable at the time of termination of such relationship, within three months thereafter but in no event after the expiration of the term of the option (however, if the relationship was terminated either for cause (as defined in the 1996 Plan) or without the consent of the Company, the option will terminate immediately); in the case of the death of an optionee while an employee or consultant (or, generally, within three months after termination of such relationship, or within one year after termination of such relationship by reason of disability), except as otherwise provided in the Contract, his or her legal representative or beneficiary may exercise the option, to the extent exercisable on the date of death, within one year after such date, but in no event after the expiration of the term of the option; except as otherwise provided in the Contract, an optionee whose relationship with the Company was terminated by reason of his or her disability may exercise the option, to the extent exercisable at the time of such termination, within one year thereafter, but not after the expiration of the term of the option (options are not affected by a change in the status of an optionee so long as he or she continues to be an employee of, or a consultant to, the Company); and (h) the Company may withhold cash and/or shares of the Company's Common Stock having an aggregate value equal to the amount which the Company determines is necessary to meet its obligations to withhold any federal, state and/or local taxes or other amounts incurred by reason of the grant or exercise of an option, its disposition or the disposition of shares acquired upon the exercise of the option (alternatively, the Company may require the optionee to pay the Company such amount, in cash, promptly upon demand).

Appropriate adjustments will be made in the number and kind of shares available under the 1996 Plan, in the number and kind of shares subject to each outstanding option and the exercise prices of such options, as well as the limitation on the number of shares that may be granted to any employee in any calendar year, in the event of any change in the Company's Common Stock by reason of any stock dividend, split-up, spin off, combination, reclassification, recapitalization, merger, in which the Company is not the surviving corporation, exchange of shares or the like. In the event of (a) the liquidation or dissolution of the Company, or (b) a merger in which the Company is not the surviving corporation or a consolidation, any outstanding options shall terminate upon the earliest of any such event, unless other provision is made therefor on the transaction. The Company shall give each optionee at least 20 days prior notice of any such transaction, advising the optionee of the impact of the transaction on his option.

No option may be granted under the 1996 Plan after April 23, 2006. The Board of Directors may at any time terminate or amend the Plan; provided, however, that, without the approval of the Company's stockholders, no amendment may be made which would (a) except as a result of the anti-dilution adjustments described above, increase the maximum number of shares available for the grant of options or increase the maximum number of options that may be granted to an employee in any calendar year, (b) prior to August 15, 1996, materially increase the benefits accruing to participants under the 1996 Plan, or (c) change the eligibility requirements for persons who may receive options. No termination or amendment may adversely affect the rights of an optionee with respect to an outstanding option without the optionee's consent.

#### STOCK OPTIONS

The following table sets forth information as to all grants of stock options to the Named Executive Officers during 1995.



OPTION GRANTS IN 1995(1)

| NAME                      | INDIVIDUAL GRANTS  |   |                   |                    | POTENTIAL REALIZABLE  |
|---------------------------|--|---|-------------------|--------------------|---|
|                           | NUMBER OF<br>SECURITIES<br>UNDERLYING<br>OPTIONS<br>GRANTED(2) | % OF TOTAL<br>OPTIONS<br>GRANTED TO<br>EMPLOYEES<br>IN 1995 | EXERCISE<br>PRICE | EXPIRATION<br>DATE | VALUE AT ASSUMED<br>ANNUAL RATES OF<br>STOCK PRICE<br>APPRECIATION FOR<br>OPTION TERM(3)<br>AT 5% |
| Stephen Katz.....         | 0  | 0   | \$ 0              | --                 | \$ 0  |
| Robert P. Dahut.....      | 0  | 0   | 0                 | --                 | 0   |
| Michael E. McConnell..... | 3,820  | .97   | 10.94             | 12/22/05           | 26,276  |
| Douglas F. Anderson.....  | 3,820  | .97   | 10.94             | 12/22/05           | 26,276  |
| David N. Hoogerwerf.....  | 3,820  | .97   | 10.94             | 12/22/05           | 26,276  |

| NAME                      | AT 10% |
|---------------------------|--------|
| Stephen Katz.....         | \$ 0   |
| Robert P. Dahut.....      | 0      |
| Michael E. McConnell..... | 66,588 |
| Douglas F. Anderson.....  | 66,588 |
| David N. Hoogerwerf.....  | 66,588 |

(1) No stock appreciation rights ('SARs') were granted to any of the Named Executive Officers during 1995.

(2) The options become exercisable in cumulative annual installments of 20% per year on each of the first five anniversaries of the grant date. The options are exercisable over a ten year period.

(3) The dollar amounts set forth under these columns are the result of calculations at the 5% and 10% rates established by the SEC and are not intended to forecast future appreciation of the Company's stock price. The Company did not use an alternative formula for a grant date valuation as it is unaware of any formula which would determine with reasonable accuracy a present value based upon future unknown factors. In order to realize the potential values set forth under the columns headed 'At 5%' and 'At 10%', the price per share of the Company's Common Stock at the end of the ten-year option term would be \$35.63 and \$56.74, respectively.

The following table sets forth information with respect to the exercise of stock options during 1995 by the Named Executive Officers and unexercised options held by them on December 31, 1995.

AGGREGATED OPTION EXERCISES IN 1995  
AND DECEMBER 31, 1995 OPTION VALUES(1)

| NAME                      | SHARES<br>ACQUIRED<br>ON EXERCISE | VALUE<br>REALIZED | NUMBER OF SECURITIES<br>UNDERLYING UNEXERCISED<br>OPTIONS AT<br>DECEMBER 31, 1995<br>EXERCISABLE/UNEXERCISABLE | VALUE OF UNEXERCISED<br>IN-THE-MONEY OPTIONS AT<br>DECEMBER 31, 1995<br>EXERCISABLE/UNEXERCISABLE(2) |
|---------------------------|-----------------------------------|-------------------|--|--|
| Stephen Katz.....         | 0                                 | \$ 0              | 432,000/400,000  | \$ 3,426,000/\$2,020,000   |
| Robert P. Dahut.....      | 60,000                            | 446,250           | 60,000/480,000   | 330,000/ 2,640,000   |
| Michael E. McConnell..... | 48,000                            | 265,500           | 76,000/185,820   | 637,125/ 1,504,813   |
| Douglas F. Anderson.....  | 0                                 | 0                 | 14,000/ 59,820   | 73,750/ 297,626  |
| David N. Hoogerwerf.....  | 26,000                            | 307,062           | 66,000/115,820   | 536,937/ 826,188   |

(1) There were no SAR exercises during 1995 and no SARs were outstanding at December 31, 1995.

(2) The closing price for the Company's Common Stock as reported on the NASDAQ National Market on December 31, 1995 was \$11.63 per share. Value is calculated by multiplying (a) the difference between \$11.63 and the option exercise price by (b) the number of shares of Common Stock underlying the option.

EMPLOYMENT AGREEMENTS

Effective January 31, 1994, the Company entered into an employment agreement with Robert P. Dahut to serve as President and Chief Operating Officer of the Company. The agreement expires on December 31, 1996. Mr. Dahut's annual base salary is \$150,000 and he is eligible to receive, at the discretion of the Company, an annual bonus in an aggregate amount of up to \$150,000 for each calendar



year of employment based upon the Company meeting performance criteria established from time to time by the Company. Under the terms of the agreement, Mr. Dahut is entitled to the use of an automobile to be provided by the Company, a \$500,000 term life insurance policy and an accidental death and travel insurance policy.

In the event of the termination of Mr. Dahut's employment due to a 'Change of Control' of the Company (i) if the Payment Condition (as defined below) is satisfied, the Company shall pay him an amount equal to 2.9 times his annual base salary; and (ii) if the Payment Condition is not satisfied, then the Company shall pay him an amount equal to one year's annual salary. For this purpose, the 'Payment Condition' shall be deemed to be satisfied if the Value Per Share (as defined below) is (i) at least \$17.25, if the Change of Control occurs during 1996 and (ii) at least such other price as may be agreed to by the Company and Mr. Dahut, if the Change of Control occurs after 1996. The foregoing prices shall be appropriately adjusted to give effect to any stock split or similar event. The 'Value Per Share' shall mean the total consideration received in respect of one share of Common Stock in connection with the transaction constituting the Change of Control; provided, however, that if the Change of Control occurs other than as the result of a transaction in which stockholders of the Company receive value, then the 'Value Per Share' shall be deemed to be the last reported sale price, regular way, prior to the Change of Control date on the principal national securities exchange upon which such stock is regularly traded on such date. 'Change of Control' is deemed to occur upon (i) the acquisition of 25% or more of the outstanding Common Stock or voting power of the Company (by other than any acquisition directly from the Company, any acquisition by the Company, any acquisition by a Company employee benefit plan or any acquisition by any corporation pursuant to a reorganization, merger or consolidation), (ii) the Incumbent Directors, as defined, becoming less than a majority of the Board of Directors, or (iii) a reorganization, merger, consolidation, liquidation or dissolution of the Company or a sale of substantially all of its assets unless, among other things, at least 60% of the shares of the successor in said reorganization, merger or consolidation or transferee of such assets are owned by the owners of the Company's Common Stock prior to such transaction.

Effective January 1, 1993, the Company entered into an employment agreement with Michael E. McConnell to serve as Vice President and Chief Financial Officer of the Company. The agreement expires on December 31, 1996. Mr. McConnell's annual base salary is currently \$122,500 and he is further eligible to receive, at the discretion of the Company, an annual bonus in an aggregate amount of up to fifty percent (50%) of his annual base salary based upon the Company meeting certain operating goals and objectives, including financial performance, as established from time to time by the Company. In the event of a 'Change of Control' of the Company, Mr. McConnell will be entitled to a lump sum severance payment equal to the sum of (i) his annual base salary and highest annual bonus paid during the term of the agreement and (ii) the sum of his unpaid base salary through the date of termination and a pro rata portion of the highest annual bonus awarded him during the term of the employment agreement. A 'Change in Control' is deemed to occur upon (i) the acquisition of 20% or more of the outstanding Common Stock or voting power of the Company (by other than Mr. McConnell or a Company employee benefit plan or pursuant to a purchase directly from the Company), (ii) the Incumbent Directors, as defined, becoming less than a majority of the Board of Directors, or (iii) a reorganization, merger, consolidation, liquidation or dissolution of the Company or a sale of substantially all of its assets unless, among other things, at least 60% of the shares of the successor in said reorganization, merger or consolidation or transferee of such assets are owned by the owners of the Company's Common Stock prior to such transaction.



PRINCIPAL AND SELLING SHAREHOLDERS

The following table sets forth as of July 1, 1996 (except as otherwise indicated in footnotes 3 and 4), information with respect to the beneficial ownership of the Company's Common Stock by (i) each Selling Shareholder, (ii) each person known by the Company to beneficially own more than 5% of the outstanding shares of Common Stock, (iii) each director of the Company, (iv) each of the Named Executive Officers (as such term is herein defined) and (v) all directors and executive officers of the Company as a group.

| NAME AND ADDRESS<br>OF BENEFICIAL OWNER(1)  | AMOUNT AND<br>NATURE OF<br>BENEFICIAL<br>OWNERSHIP(2) | SHARES TO<br>BE SOLD IN<br>THIS<br>OFFERING | PERCENT OF OUTSTANDING<br>SHARES |                           |
|---|---|---|----------------------------------|---------------------------|
|   |   |   | BEFORE THE<br>OFFERING           | FOLLOWING<br>THE OFFERING |
| President and Fellows of Harvard College .....<br>c/o Harvard Management Company, Inc.<br>600 Atlantic Avenue<br>Boston, MA 02210 | 2,141,400(3)  | --  | 9.7%                             | 9.1%                      |
| Terren S. Peizer .....<br>1999 Avenue of the Stars<br>Los Angeles, CA 90067   | 1,430,000(4)  | --  | 6.5%                             | 6.1%                      |
| Stephen Katz.....   | 842,614(5)  | --  | 3.9%                             | 3.6%                      |
| Robert P. Dahut.....  | 180,000(6)  | 150,000                                     | *                                | *                         |
| Jay Goldberg.....   | 60,000(6)   | --  | *                                | *                         |
| Michael E. McConnell.....   | 64,000(6)   | --  | *                                | *                         |
| David N. Hoogerwerf.....  | 78,000(6)   | 60,000                                      | *                                | *                         |
| Douglas F. Anderson.....  | 0   | --  | *                                | *                         |
| Heidi P. Adkisson.....  | 16,800(6)   | 16,000                                      | *                                | *                         |
| All directors and executive officers as a group (8<br>persons).....   | 1,253,014(7)  | 226,000                                     | 5.5%                             | 4.4%                      |

\* Less than 1%.

(1) Pursuant to the rules of the Securities and Exchange Commission (the 'SEC'), addresses are only given for holders of 5% or more of the outstanding Common Stock of the Company.

(2) Unless otherwise indicated, each person or group has sole voting and investment power with respect to such shares. For purposes of computing the percent of outstanding shares held by each person or group named above as of a given date, any shares which such person or group has the right to so acquire are deemed to be outstanding, but are not deemed to be outstanding for the purpose of computing the percentage owned by any other person or group.

(3) Represents 2,100,794 shares as to which the President and Fellow of Harvard College have sole voting and dispositive power and 25,660 shares as to which the Harvard Yenching Institute, with an address at 2 Divinity Avenue, Cambridge, Massachusetts 02138 has sole voting and dispositive power. The information is based on a Schedule 13G dated February 13, 1996 filed with the SEC by the President and Fellow of Harvard College and the Harvard Yenching Institute as a group. Also represents an additional 15,006 shares (which information is based on 13(f) institutional filings for the week ended May 26, 1996, reporting as of March 31, 1996, as reported in the CDA Bullseye Ownership Report).

(4) Information based on a Schedule 13D dated February 5, 1993, as amended through June 27, 1994, filed with the SEC by Terren S. Peizer.

(5) Includes 302,000 shares subject to currently exercisable options.

(6) Consists of shares subject to currently exercisable options.

(7) Represents an aggregate of 712,200 shares subject to currently exercisable options.



## CERTAIN TRANSACTIONS

### COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During the fiscal year ended December 31, 1995, the Compensation and Stock Option Committee of the Board of Directors of the Company (the 'Committee') consisted of Jay Goldberg (all year), Joseph Esposito (until his death in August 1995) and Lawrence Howard (from October 1995).

### DESCRIPTION OF CAPITAL STOCK

The following summary description of the Company's capital stock is qualified in its entirety by reference to the Company's Certificate of Incorporation.

#### COMMON STOCK

The Company is authorized to issue up to 30,000,000 shares of Common Stock, par value \$.001 per share. As of June 14, 1996, the Company had 177 shareholders of record and the Company believes its Common Stock is beneficially owned by in excess of 5,000 holders.

Holder of Common Stock are entitled to one vote for each share held of record on each matter submitted to a vote of shareholders. There is no cumulative voting for election of directors. Subject to the prior rights of any series of preferred stock which may from time to time be outstanding, if any, holders of Common Stock are entitled to receive ratably dividends when, as, and if declared by the Board of Directors out of funds legally available therefore and, upon the liquidation, dissolution or winding up of the Company, are entitled to share ratably in all assets remaining after payment of liabilities and payment of accrued dividends and liquidation preferences on the preferred stock, if any. Holders of Common Stock have no preemptive rights and have no rights to convert their Common Stock into any other securities. The outstanding Common Stock is, and the Common Stock to be outstanding upon completion of this Offering will be, duly authorized and validly issued, fully paid and nonassessable.

#### PREFERRED STOCK

The Company is authorized to issue up to 5,000,000 shares of preferred stock, par value \$.01 per share. The preferred stock may be issued in one or more series, the terms of which may be determined at the time of issuance by the Board of Directors, without further action by shareholders, and may include voting rights (including the right to vote as a series on particular matters), preferences as to dividends and liquidation, conversion and redemption rights and sinking fund provisions.

No shares of preferred stock will be outstanding as of the closing of this offering, and the Company has no present plans for the issuance thereof. The issuance of any such preferred stock could adversely affect the rights of the holders of Common Stock and therefore, reduce the value of the Common Stock. The ability of the Board of Directors to issue preferred stock could discourage, delay or prevent a takeover to the Company. See 'Risk Factors -- Anti-Takeover Provisions.'

#### ANTI-TAKEOVER PROVISIONS

The Certificate of Incorporation and By-laws of the Company contain various provisions which may have the effect of discouraging, delaying or preventing future changes of control or takeover attempts, which the Company's stockholders may deem to be in their best interests, and perpetuating the Company's existing management. Among other things, such provisions: (i) provide the Board of Directors with broad discretion to issue serial preferred stock; (ii) provide for three-year terms for the directors of the Company and the election of such directors on a staggered basis; (iii) prohibit repurchases by the Company from a stockholder owning 5% or more of the Company's voting securities (other than those stockholders meeting such description as of May 30, 1991) who have held their securities for less than two years, unless approved by a majority of the disinterested stockholders; and (iv) require the approval of two-thirds of all shares eligible to vote for any proposed amendment to the Certificate of Incorporation or By-laws that seeks to modify or remove the foregoing provisions. In addition, in certain circumstances, Delaware law requires the approval of two-thirds of all shares eligible



to vote for certain business combinations involving a stockholder owning 15% or more of the Company's voting securities (other than stockholders currently meeting such description), excluding the voting power held by such stockholder. The existence of all of the above provisions may have the effect of discouraging, delaying or preventing a future change of control or takeover attempt of the Company, which could have an adverse effect on the market price of the Common Stock. See 'Description of Capital Stock -- Anti-Takeover Provisions.'

#### ELECTION OF DIRECTORS

The Certificate of Incorporation and By-laws of the Company set the number of directors at a minimum of three and a maximum of fifteen and provide for three-year terms of office on a staggered basis.

#### REMOVAL OF DIRECTORS

The Certificate of Incorporation of the Company permits stockholders to remove a director with or without cause by an affirmative vote of two-thirds of the total votes eligible to be cast at a duly constituted meeting called expressly for that purpose.

#### APPROVAL OF REPURCHASES

The Certificate of Incorporation of the Company prohibits repurchases by the Company from a stockholder owning more than 5% of the Company's voting securities (a 'Significant Stockholder') (other than those stockholders meeting such description as of May 30, 1991) who has owned such securities of the Company for less than two years, unless approved by an affirmative vote of at least a majority of the total votes entitled to vote generally in the election of directors other than the voting power held by the Significant Stockholder.

#### AMENDMENT OF CERTIFICATE OF INCORPORATION AND BY-LAWS

The Certificate of Incorporation provides that in addition to the general requirements to amend a certificate of incorporation, an affirmative vote of the holders of at least two-thirds of the total votes eligible to be cast is required to amend the anti-takeover provisions described above.

The Certificate of Incorporation of the Company provides that either the Board of Directors or the stockholders may alter, amend or repeal the By-laws of the Company. The Board of Directors may take such action by an affirmative vote of at least a majority of the directors at a meeting expressly called for that purpose. Such action by stockholders requires an affirmative vote of at least two-thirds of the total votes eligible to be cast at a meeting called expressly for that purpose.

#### TRANSFER AGENT

Continental Stock Transfer & Trust Company, New York, New York as Transfer Agent for the Common Stock.

#### SHARES ELIGIBLE FOR FUTURE SALE

Shares Eligible for Future Sale. Upon completion of this offering, the Company will have outstanding 23,669,748 (including 237,280 shares issued for option exercises from April 1, 1996 to the date of this prospectus) shares of Common Stock, of which the 1,726,000 shares sold in this offering (1,984,900 shares if the Underwriters' over-allotment option is exercised in full) and the 4,600,000 shares sold in the Company's initial public offering in August 1991 and all other shares will be freely tradeable without restriction or further registration under the Securities Act, except for those shares held by 'affiliates' (as defined in the Securities Act) of the Company. There are no restricted shares currently outstanding. Affiliates are able to sell shares pursuant to Rule 144 ('Rule 144') under the Securities Act, subject to compliance with certain requirements set forth in Rule 144. In addition, 5,400,000 shares of Common Stock are authorized under the Company's 1991 Qualified Stock Option Plan, 1991 Non-



Qualified Stock Option Plan, as amended, 1993 Non-Employee Directors Stock Option Plan and 1996 Stock Option Plan. Of these shares, 2,176,160 shares are issuable upon the exercise of outstanding stock options granted by the Company, of which options to purchase 513,100 shares are currently exercisable (assuming the exercise by certain Selling Stockholders of options to purchase 76,000 shares of Common Stock). Registration statements on Form S-8 have been filed with the Securities and Exchange Commission (the 'Commission') registering all of the shares of Common Stock that may be issued under these plans, other than the 1996 Stock Option Plan, and registering 600,000 shares of Common Stock issued to Robert Dahut which were not issued in connection with any stock option plan of the Company. Of these shares, 390,000 are issuable upon exercise of certain options to purchase shares of Common Stock (which are in addition to the 150,000 shares being sold by Mr. Dahut in connection with this Prospectus and which include 30,000 options currently exercisable by Mr. Dahut. The Company and each of its executive officers and directors have agreed with the Underwriters, subject to limited exceptions, not to offer, sell, pledge, contract to sell, grant any other option to purchase or otherwise dispose of any shares of Common Stock or any securities convertible into or exchangeable or exercisable for, or warrants, rights or options to acquire shares of Common Stock, for a period of 180 days from the date of this Prospectus without the prior written consent of the Representative. The Company estimates that 540,434 shares of outstanding Common Stock and 838,820 shares of Common Stock that are issuable upon the exercise of outstanding options will be subject to such agreements. No new options will be granted under either the Company's 1991 Non-Qualified Stock Option Plan, or under the Company's 1991 Qualified Stock Option Plan. Sales of substantial amounts of shares of Common Stock in the public market, or the availability of such shares for future sale, could adversely affect the market price of the Common Stock and could impair the Company's future ability to raise additional capital through an offering of its equity securities. See 'Shares Eligible for Future Sale' and 'Underwriting.'



UNDERWRITING

The Underwriters named below, for whom Gerard Klauer Mattison & Co., LLC is acting as the representative (the 'Representative'), have severally agreed, subject to the terms and conditions of an underwriting agreement (the 'Underwriting Agreement'), to purchase on a 'firm commitment' basis, the respective numbers of shares of Common Stock set forth opposite their names below:

| UNDERWRITER                            | NUMBER<br>OF SHARES |
|--|---------------------|
| Gerard Klauer Mattison & Co., LLC..... |                     |
| Total.....                             | 1,726,000<br>-----  |

The Underwriting Agreement provides that the obligations of the several Underwriters to pay for and accept delivery of the shares of Common Stock offered hereby are subject to approval of certain legal matters by counsel and to certain other conditions. The Underwriters are obligated to take and pay for all the shares of Common Stock if any are taken.

The Representative has advised the Company that the Underwriters propose to offer the shares of Common Stock offered hereby initially at the public offering price per share set forth on the cover page of this Prospectus and in part, through the Representative, to certain other dealers at such prices less a concession not in excess of \$ per share; that the Underwriters may allow, and such dealers may reallow, a discount not in excess of \$ per share on sales to other dealers; and that after the initial public offering, the public offering price, concession and the discount selling terms may be changed by the Representative. The Underwriters have informed the Company that they do not intend to confirm sales to any accounts over which they exercise discretionary authority.

The Company and certain of the Selling Shareholders have granted the Underwriters an option, exercisable for 45 days from the date of this Prospectus, to purchase, in the aggregate, up to an additional 258,900 shares of Common Stock, at the public offering price less underwriting discounts. The Underwriters may exercise such option only for the purpose of covering over-allotments, if any, incurred in connection with the sale of Common Stock offered hereby. To the extent that the Underwriters exercise such option, each Underwriter will become obligated, subject to certain conditions, to purchase the same percentage of such additional shares as the number of other shares of Common Stock to be purchased by that Underwriter shown on the foregoing table bears to the total number of shares initially offered hereby.

The Company and each of its executive officers and directors have agreed with the Underwriters, subject to limited exceptions, not to offer, sell, pledge, contract to sell, grant any other option to purchase or otherwise dispose of any shares of Common Stock or any securities convertible into or exchangeable or exercisable for, or warrants, rights or options to acquire shares of Common Stock, for a period of 180 days from the date of this Prospectus without the prior written consent of the Representative.

The Company also has agreed to indemnify the Underwriters against certain liabilities, including liabilities under the Act, or to contribute to payments that may be required to make in respect thereof.

In connection with this offering, certain Underwriters and selling group members (if any) or their respective affiliates who are qualified market makers on the Nasdaq National Market may have engaged



in passive market making transactions in the Common Stock of the Company on the Nasdaq National Market in accordance with Rule 10b-6A under the Exchange Act, during the two business day period before commencement of offers or sales of the Common Stock. Passive market making transactions must comply with applicable volume and price limits and be identified as such. In general, a passive market maker may display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, such bid must then be lowered when certain purchase limits are exceeded.

#### LEGAL MATTERS

The validity of the Common Stock offered hereby has been passed upon for the Company by Parker Chapin Flattau & Klimpl, LLP, New York, New York. Certain legal matters will be passed upon for the Underwriters by Andrews & Kurth L.L.P. New York, New York.

#### EXPERTS

The financial statements of the Company as at December 31, 1994 and 1995 and for each of the three years in the period ended December 31, 1995 appearing in this prospectus and registration statement have been audited by Ernst & Young LLP, independent auditors, as set forth in their reports therein, appearing elsewhere herein, and are included in reliance upon such reports given upon the authority of such firm as experts in accounting and auditing.

#### ADDITIONAL INFORMATION

The Company is subject to the informational requirements of the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder, and in accordance therewith files reports, proxy statements and other information with the Commission. Such reports, proxy statements and other information filed by the Company with the Commission, including the Registration Statement on Form S-1 of which this Prospectus is a part, and the exhibits and schedules thereto, may be inspected and copied at the public reference facilities maintained by the Commission at 450 Fifth Street, N.W., Washington D.C. 20549, and at the Commission's regional offices located at Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661-2511 and Seven World Trade Center, 13th Floor, New York, New York 10048. Copies of such material can also be obtained at prescribed rates by mail from the Public Reference Section of the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549. Upon written or oral request, the Company will provide, without charge, to each person who receives a copy of this Prospectus, a copy of any of the information that is incorporated by reference herein. Electronic registration statements made through the Electronic Data Gathering Analysis and Retrieval System are publicly available through the Commission's Web Site (<http://www.sec.gov>).

The Company has filed a Registration Statement on Form S-1 under the Securities Act with the Commission with respect to the Common Stock offered hereby. This Prospectus does not contain all of the information set forth in that Registration Statement and the exhibits, as permitted by the rules and regulations of the Commission. For further information with respect to the Company and its Common Stock, reference is hereby made to such Registration Statement and exhibits. Statements contained in this Prospectus as to the contents of any contract or any other document are not necessarily complete and where such contract or other document is an exhibit to the Registration Statement, each such statement is qualified in all respects by the provision of such exhibit, to which reference is made for a full statement of the provisions thereof.



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REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

The Board of Directors and Stockholders  
CELLULAR TECHNICAL SERVICES COMPANY, INC.

We have audited the accompanying balance sheets of Cellular Technical Services Company, Inc. as of December 31, 1995 and 1994, and the related statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 1995. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. 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 financial position of Cellular Technical Services Company, Inc. at December 31, 1995 and 1994, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 1995, in conformity with generally accepted accounting principles.

/s/ ERNST & YOUNG LLP

Seattle, Washington

March 1, 1996, except for the first paragraph of Note K as to which the date is June 24.



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
BALANCE SHEETS

|  | DECEMBER 31, |              | MARCH 31,    |
|--|--------------|--------------|--------------|
|  | 1994         | 1995         | 1996         |
|  |              |              | (UNAUDITED)  |
| ASSETS   |              |              |              |
| CURRENT ASSETS   |              |              |              |
| Cash and cash equivalents.....   | \$ 9,041,985 | \$ 9,448,255 | \$ 5,720,399 |
| Accounts receivable, net of allowances of \$177,658 in 1994,<br>\$70,000 in 1995 and \$80,000 in 1996.....   | 1,746,801    | 508,238      | 480,309      |
| Inventories, net.....  | 454,516      | 1,947,060    | 2,783,130    |
| Prepaid expenses and other current assets.....   | 290,668      | 827,712      | 1,289,477    |
| Total Current Assets.....  | 11,533,970   | 12,731,265   | 10,273,315   |
| PROPERTY AND EQUIPMENT, net.....   | 1,336,915    | 2,292,632    | 2,257,209    |
| SOFTWARE DEVELOPMENT COSTS, net.....   | 2,605,835    | 3,346,748    | 3,500,605    |
| TOTAL ASSETS.....  | \$15,476,720 | \$18,370,645 | \$16,031,129 |
| LIABILITIES AND STOCKHOLDERS' EQUITY   |              |              |              |
| CURRENT LIABILITIES  |              |              |              |
| Accounts payable and accrued liabilities.....  | \$ 892,697   | \$ 1,154,396 | \$ 912,989   |
| Payroll-related liabilities.....   | 506,314      | 223,222      | 296,526      |
| Taxes (other than payroll and income).....   | 131,307      | 197,843      | 28,825       |
| Deferred revenue and customers' deposits.....  | 220,631      | 61,973       | 195,421      |
| Total Current Liabilities.....   | 1,750,949    | 1,637,434    | 1,433,761    |
| STOCKHOLDERS' EQUITY   |              |              |              |
| Preferred Stock, \$.01 par value per share, 5,000,000 shares<br>authorized, none issued and outstanding  |              |              |              |
| Common Stock, \$.001 par value per share, 30,000,000 shares<br>authorized, 19,741,268 shares issued and outstanding in 1994,<br>21,602,768 in 1995 and 21,706,468 in 1996..... | 19,741       | 21,603       | 21,707       |
| Additional paid-in capital.....  | 17,395,481   | 20,337,872   | 20,702,484   |
| Retained deficit.....  | (3,689,451)  | (3,626,264)  | (6,126,823)  |
| Total Stockholders' Equity.....  | 13,725,771   | 16,733,211   | 14,597,368   |
| TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY.....  | \$15,476,720 | \$18,370,645 | \$16,031,129 |

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



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
STATEMENTS OF OPERATIONS

|   | YEAR ENDED DECEMBER 31, |              |              | THREE MONTHS ENDED<br>MARCH 31, |               |
|---|-------------------------|--------------|--------------|---------------------------------|---------------|
|   | 1993                    | 1994         | 1995         | 1995                            | 1996          |
|   | (UNAUDITED)             |              |              |                                 |               |
| <b>REVENUES</b>                             |                         |              |              |                                 |               |
| License and service fees.....               | \$ 3,875,353            | \$ 8,691,036 | \$10,944,788 | \$ 2,736,768                    | \$ 645,622    |
| Equipment sales.....                        | 1,215,738               | 1,040,863    | 1,164,536    | 612,812                         | 89,164        |
| Interest income.....                        | 176,594                 | 280,181      | 475,512      | 118,984                         | 107,493       |
| Total Revenues.....                         | 5,267,685               | 10,012,080   | 12,584,836   | 3,468,564                       | 842,279       |
| <b>COSTS AND EXPENSES</b>                   |                         |              |              |                                 |               |
| Cost of license and service fees.....       | 1,574,521               | 2,619,435    | 3,330,801    | 922,539                         | 785,200       |
| Cost of equipment sales.....                | 1,329,276               | 1,112,254    | 1,485,952    | 611,731                         | 278,405       |
| Sales and marketing.....                    | 738,068                 | 789,578      | 2,141,853    | 507,607                         | 822,873       |
| General and administrative.....             | 1,563,794               | 2,269,170    | 2,115,991    | 601,783                         | 510,611       |
| Research and development.....               | 1,268,361               | 1,661,772    | 3,445,052    | 576,777                         | 945,749       |
| Total Costs and Expenses...                 | 6,474,020               | 8,452,209    | 12,519,649   | 3,220,437                       | 3,342,838     |
| INCOME (LOSS) BEFORE INCOME TAXES...        | (1,206,335)             | 1,559,871    | 65,187       | 248,127                         | (2,500,559)   |
| PROVISION FOR INCOME TAXES.....             | --                      | 10,000       | 2,000        | 5,000                           | --            |
| NET INCOME (LOSS).....                      | \$(1,206,335)           | \$ 1,549,871 | \$ 63,187    | \$ 243,127                      | \$(2,500,559) |
| NET INCOME (LOSS) PER SHARE.....            | \$(0.07)                | \$0.08       | \$0.00       | \$0.01                          | \$(0.12)      |
| WEIGHTED AVERAGE SHARES<br>OUTSTANDING..... | 17,363,680              | 20,297,326   | 22,026,150   | 22,158,686                      | 21,608,900    |

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



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
STATEMENTS OF STOCKHOLDERS' EQUITY

|  | COMMON STOCK |          | ADDITIONAL<br>PAID-IN<br>CAPITAL | RETAINED<br>DEFICIT | TOTAL        |
|--|--------------|----------|----------------------------------|---------------------|--------------|
|  | SHARES       | AMOUNT   |                                  |                     |              |
| Balance, January 1, 1993.....              | 17,216,000   | \$17,216 | \$13,472,691                     | \$(4,032,987)       | \$ 9,456,920 |
| Exercise of common stock warrants.....     | 320,976      | 321      | 395,551                          |                     | 395,872      |
| Exercise of stock options.....             | 292,000      | 292      | 372,552                          |                     | 372,844      |
| Other.....                                 |              |          | 33,000                           |                     | 33,000       |
| Net loss.....                              |              |          |                                  | (1,206,335)         | (1,206,335)  |
| Balance, December 31, 1993.....            | 17,828,976   | 17,829   | 14,273,794                       | (5,239,322)         | 9,052,301    |
| Exercise of common stock warrants.....     | 1,628,772    | 1,629    | 2,764,671                        |                     | 2,766,300    |
| Exercise of stock options.....             | 283,520      | 283      | 357,016                          |                     | 357,299      |
| Net income.....                            |              |          |                                  | 1,549,871           | 1,549,871    |
| Balance, December 31, 1994.....            | 19,741,268   | 19,741   | 17,395,481                       | (3,689,451)         | 13,725,771   |
| Exercise of stock options.....             | 1,861,500    | 1,862    | 2,942,391                        |                     | 2,944,253    |
| Net income.....                            |              |          |                                  | 63,187              | 63,187       |
| Balance, December 31, 1995.....            | 21,602,768   | 21,603   | 20,337,872                       | (3,626,264)         | 16,733,211   |
| Exercise of stock options (unaudited)..... | 103,700      | 104      | 364,612                          |                     | 364,716      |
| Net loss (unaudited).....                  |              |          |                                  | (2,500,559)         | (2,500,559)  |
| Balance, March 31, 1996 (unaudited).....   | 21,706,468   | \$21,707 | \$20,702,484                     | \$(6,126,823)       | \$14,597,368 |

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



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
STATEMENTS OF CASH FLOWS

|  | YEAR ENDED DECEMBER 31, |                    |                    | THREE MONTHS ENDED<br>MARCH 31, |                     |
|--|-------------------------|--------------------|--------------------|---------------------------------|---------------------|
|  | 1993                    | 1994               | 1995               | 1995                            | 1996                |
|  | (UNAUDITED)             |                    |                    |                                 |                     |
| <b>OPERATING ACTIVITIES</b>  |                         |                    |                    |                                 |                     |
| Net income (loss).....   | \$(1,206,335)           | \$1,549,871        | \$ 63,187          | \$ 243,127                      | \$(2,500,559)       |
| Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities: |                         |                    |                    |                                 |                     |
| Depreciation and amortization of property and equipment.....                                       | 433,062                 | 433,718            | 609,755            | 127,401                         | 180,651             |
| Amortization of software development costs.....  | 556,942                 | 550,257            | 984,977            | 241,775                         | 279,972             |
| Other.....   | 33,000                  |                    |                    |                                 |                     |
| Changes in operating assets and liabilities:   |                         |                    |                    |                                 |                     |
| (Increase) decrease in accounts receivable.....  | (289,689)               | (315,949)          | 1,238,563          | (1,528,363)                     | 27,929              |
| (Increase) decrease in inventories.....  | (437,223)               | 114,663            | (1,492,544)        | (209,194)                       | (836,070)           |
| (Increase) in prepaid expenses and other current assets.....                                       | (168,138)               | (59,122)           | (537,044)          | (204,007)                       | (461,765)           |
| Increase (decrease) in accounts payable and accrued liabilities.....                               | 52,982                  | 370,975            | 261,699            | 119,575                         | (241,407)           |
| Increase (decrease) in payroll-related liabilities.....  | 16,711                  | 379,835            | (283,092)          | (134,552)                       | 73,304              |
| Increase (decrease) in taxes (other than payroll and income).....                                  | 143,627                 | (30,427)           | 66,536             | 2,120                           | (169,018)           |
| Increase (decrease) in deferred revenue and customers' deposits.....                               | (1,613)                 | 219,436            | (158,658)          | 331,408                         | 133,448             |
| <b>NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES....</b>                                     | <b>(866,674)</b>        | <b>3,213,257</b>   | <b>753,379</b>     | <b>(1,010,710)</b>              | <b>(3,513,515)</b>  |
| <b>INVESTING ACTIVITIES</b>  |                         |                    |                    |                                 |                     |
| Purchase of property and equipment.....  | (439,495)               | (727,690)          | (1,565,472)        | (597,204)                       | (145,228)           |
| Capitalization of software development costs.....  | (750,277)               | (1,724,722)        | (1,725,890)        | (413,857)                       | (433,829)           |
| <b>NET CASH USED IN INVESTING ACTIVITIES.....</b>  | <b>(1,189,772)</b>      | <b>(2,452,412)</b> | <b>(3,291,362)</b> | <b>(1,011,061)</b>              | <b>(579,057)</b>    |
| <b>FINANCING ACTIVITIES</b>  |                         |                    |                    |                                 |                     |
| Proceeds from exercise of common stock warrants...   | 395,872                 | 2,766,300          |                    |                                 |                     |
| Proceeds from exercise of stock options.....   | 372,844                 | 357,299            | 2,944,253          | 268,399                         | 364,716             |
| <b>NET CASH PROVIDED BY FINANCING ACTIVITIES.....</b>  | <b>768,716</b>          | <b>3,123,599</b>   | <b>2,944,253</b>   | <b>268,399</b>                  | <b>364,716</b>      |
| <b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS...</b>                                     | <b>(1,287,730)</b>      | <b>3,884,444</b>   | <b>406,270</b>     | <b>(1,753,372)</b>              | <b>(3,727,856)</b>  |
| <b>CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR.....</b>   | <b>6,445,271</b>        | <b>5,157,541</b>   | <b>9,041,985</b>   | <b>9,041,985</b>                | <b>9,448,255</b>    |
| <b>CASH AND CASH EQUIVALENTS AT END OF YEAR.....</b>   | <b>\$ 5,157,541</b>     | <b>\$9,041,985</b> | <b>\$9,448,255</b> | <b>\$7,288,613</b>              | <b>\$ 5,720,399</b> |

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



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
NOTES TO FINANCIAL STATEMENTS  
(AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

NOTE A -- SIGNIFICANT ACCOUNTING POLICIES:

Nature of Operations and Organization -- Cellular Technical Services Company, Inc. (the 'Company') is primarily engaged in the design, development, marketing, installation and support of integrated data processing systems for the wireless communications industry. Although the Company's current customer base is comprised of domestic U.S. cellular service providers, management believes that demand for the Company's products extends worldwide. The Company was incorporated in Delaware on August 19, 1988. Prior to September 14, 1995, the Company's single largest stockholder had been Nationwide Cellular Service, Inc. ('Nationwide').

Interim Financial Information -- The financial information at March 31, 1996 and for the three months ended March 31, 1996 and 1995 and the related notes thereto are unaudited, but include all adjustments (consisting of normal recurring accruals) that the Company considers necessary for a fair presentation of the financial position at such date and the operating results and cash flows for those periods. Operating results for the three months ended March 31, 1996 are not necessarily indicative of results that may be expected for the entire year.

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.

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 which are held to maturity. The estimated fair values of the securities approximate cost. Credit risk associated with trade receivables is subject to ongoing credit evaluations. Reserves for potential losses, if any, are maintained where appropriate.

Inventories -- Inventories, which primarily consist of raw materials, work in process, finished components, and 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. Inventories are integrated for delivery to customers by either the Company or its third-party integrators.

Property and Equipment -- Property and equipment, including leasehold improvements, are stated at costs, 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 estimated useful lives of the assets of two to five years or terms of the associated operating lease. 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, consisting of purchased and internally developed software, have been capitalized in accordance with Financial Accounting Standards Board Statement No. 86, 'Accounting for the Costs of Computer Software to be Sold, Leased or Otherwise Marketed.' Capitalization of software development costs begins upon the establishment of technological feasibility. The 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. Amortization of capitalized software development costs is the greater of the amount computed using (a) the ratio that current gross revenues for a product bear to the total of current and anticipated future gross revenues for that product or (b) the straight-line method over the remaining estimated economic life of the product. Amortization begins when products are available for general release.

Revenue Recognition -- Software license fees are recognized in accordance with contractual agreements entered into between the Company and its customers and typically provide for (a) single fee license sales whereby the purchaser receives unlimited usage of the software product for the duration of



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)  
(AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

the contract, (b) fixed monthly payments over the term of the contract, or (c) the monthly payment of fees based upon usage levels, which may be subject to predetermined minimums. Revenues from services and equipment sales are recognized at the time the Company has completed its material obligations with respect to each sales transaction. Maintenance revenues, which are included with service fees, are recognized ratably over the period that maintenance coverage is provided.

**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 Income (Loss) Per Share** -- The computation of net income (loss) per share is based upon the weighted average number of common shares outstanding during the period plus (in periods in which they have a dilutive effect) the weighted average effect of common shares contingently issuable upon the exercise of stock options and warrants (using the treasury stock method). Fully diluted earnings per common and common equivalent share are not presented since dilution is less than 3%.

**Stock-Based Compensation** -- In October 1995, the Financial Accounting Standards Board issued Statement No. 123, 'Accounting for Stock-Based Compensation.' The Statement is effective for fiscal years beginning after December 15, 1995. Under Statement No. 123, stock-based compensation expense is measured using either the intrinsic-value method as prescribed by Accounting Principles Board Opinion No. 25 or the fair value method described in Statement No. 123. Companies choosing the intrinsic-value method will be required to disclose the pro forma impact of the fair value method on net income and earnings per share. The Company plans to implement the Statement in 1996 using the intrinsic-value method; accordingly, there will be no effect of adopting the Statement on the Company's financial position and results of operations.

**Risks and Uncertainties** -- Effective for fiscal years ending after December 15, 1995, the Company is required to disclose, among other items, certain significant risks and uncertainties in accordance with the AICPA Statement of Position ('SOP') No. 94-6. 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.

**Competition** in selling the Company's products continues to grow as cellular software vendors, cellular carriers and other technology-oriented companies have developed or are developing products that do or will compete against the Company's products. In connection with developing the Company's software products, significant amounts of software development costs have been capitalized. Additionally, the Company has purchased inventories that are intended to support future product sales. In the event that the Company is not successful in generating sufficient future product revenues, the carrying value of capitalized software, inventories, and other assets could be significantly impaired.

The nature of the Company's business is such that a single customer will account for more than 10% of the Company's product and service revenues during a given fiscal period. Sales to customers aggregating 10% or more, either individually or combined as affiliates due to common ownership, were concentrated as follows: four customers with sales of 34%, 17%, 16% and 11% during the quarterly period ended March 31, 1996, three customers with sales of 12%, 15% and 59% in 1995, three customers with sales of 11%, 22% and 54% in 1994 and two customers with sales of 24% and 56% in 1993. The aggregate sales to these customers (only one of which has accounted for more than 10% during all periods presented) represented 83%, 86%, 87% and 80% of the Company's total product and service revenues during the 1996, 1995, 1994 and 1993 periods, respectively. There can be no assurances



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
 NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)  
 (AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
 FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

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.

Should the Company's recent contract signings and expanded sales efforts lead to additional sales of its Blackbird'r' Products, the Company may need to obtain additional financing to fund this growth. Factors impacting the need will be timing of contract signings, negotiated payment terms, manufacturing and inventory lead times and others. Debt or equity financing could be obtained from currently identified or new sources.

From time to time, the Company could be subject to involvement with legal actions and claims arising in the ordinary course of business. The Company has received a request for indemnification from a former customer who utilized the Company's discontinued phone rental products, pursuant to a contract between the Company and the former customer which includes a limited warranty against infringement. The Company has demanded arbitration to resolve whether it has any obligation under the contract to indemnify the former customer against a claim of patent infringement brought against the former customer by a third party. The Company has conducted a review of the underlying matter and, based upon the information currently available to the Company, but subject to the inherent uncertainties involved in legal proceedings, believes that the outcome of the claim will not be material to the Company.

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 financial statements and accompanying notes. Actual results could differ from those estimates.

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

NOTE B -- INVENTORY:

Inventory consists of the following:

|  | DECEMBER 31, |             | MARCH 31,   |
|--|--------------|-------------|-------------|
|  | 1994         | 1995        | 1996        |
|  |              |             | (UNAUDITED) |
| Raw materials.....                           | \$ 78,901    | \$ 704,641  | \$ 923,515  |
| Work in process and finished components..... | 464,387      | 1,460,211   | 2,107,407   |
|  | 543,288      | 2,164,852   | 3,030,922   |
| Less inventory reserves.....                 | (88,772)     | (217,792)   | (247,792)   |
|  | \$454,516    | \$1,947,060 | \$2,783,130 |

NOTE C -- PROPERTY AND EQUIPMENT:

Property and equipment consist of the following:

|   | DECEMBER 31, |             | MARCH 31,   |
|---|--------------|-------------|-------------|
|   | 1994         | 1995        | 1996        |
|   |              |             | (UNAUDITED) |
| Computer equipment and software.....                | \$2,226,661  | \$2,917,070 | \$3,041,959 |
| Furniture, fixtures and office equipment.....       | 558,588      | 1,220,404   | 1,240,743   |
| Leasehold improvements.....                         | 61,166       | 222,904     | 222,904     |
|   | 2,846,415    | 4,360,378   | 4,505,606   |
| Less accumulated depreciation and amortization..... | (1,509,500)  | (2,067,746) | (2,248,397) |
|   | \$1,336,915  | \$2,292,632 | \$2,257,209 |



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
 NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)  
 (AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
 FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

NOTE D -- SOFTWARE DEVELOPMENT COSTS:

Software development costs consist of the following:

|                                    | DECEMBER 31, |             | MARCH 31,   |
|------------------------------------|--------------|-------------|-------------|
|                                    | 1994         | 1995        | 1996        |
|                                    |              |             | (UNAUDITED) |
| Purchased software.....            | \$1,008,167  | \$1,008,167 | \$1,008,167 |
| Developed software.....            | 3,549,746    | 5,275,636   | 5,709,465   |
|                                    | 4,557,913    | 6,283,803   | 6,717,632   |
| Less accumulated amortization..... | (1,952,078)  | (2,937,055) | (3,217,027) |
|                                    | \$2,605,835  | \$3,346,748 | \$3,500,605 |

NOTE E -- COMMITMENTS AND CONTINGENCIES:

Leases -- The Company leases office space under separate non-cancelable operating leases that expire in 2000 and contain renewal options for additional five-year terms. The Company also leases equipment and telecommunication lines and services under non-cancelable operating leases with initial terms ranging from three to five years expiring through 1999. 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. Amounts charged to operations under all lease and rental agreements totaled \$754,000, \$536,000 and \$555,000 in 1995, 1994 and 1993, respectively. Future minimum annual lease payments at December 31, 1995, under those agreements with initial terms greater than one year are as follows:

|            |             |
|------------|-------------|
| 1996.....  | \$ 482,000  |
| 1997.....  | 631,000     |
| 1998.....  | 684,000     |
| 1999.....  | 692,000     |
| 2000.....  | 503,000     |
|            | -----       |
| Total..... | \$2,992,000 |
|            | -----       |
|            | -----       |

Royalty Agreements -- The Company has entered into three separate third-party agreements that provide for the payment of royalties based on future product sales. The agreements, some of which contain minimum royalty provisions, have varying expiration dates.

Employment Agreements -- The Company has employment agreements with four officers and one senior employee with varying expiration dates extending through 1997.

NOTE F -- RELATED-PARTY TRANSACTIONS:

In 1994 and 1993, the Company licensed certain of its software products, provided services and sold equipment to an affiliate that had common shareholders and management with the Company. Sales to the related party amounted to \$422,000 and \$1,205,000 for the years ended December 31, 1994 and 1993, respectively. Related-party receivables associated with such sales amounted to \$448,000 as of December 31, 1993. Since February 1994, the Company has not been an affiliate of the entity to which such products and services were provided.

During 1991, the Company entered into a management advisory service agreement with Nationwide at \$25,000 per month for a four-year period expiring in 1995. Amounts charged to general and administrative expenses under this agreement totaled \$178,000, \$300,000 and \$300,000 during 1995, 1994 and 1993, respectively.



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
 NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)  
 (AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
 FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

NOTE G -- EMPLOYEE RETIREMENT SAVINGS PLAN:

The Company has adopted an Employee Retirement Savings Plan (the 'Plan') covering substantially all employees who have been employed for at least six months 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 \$97,000, \$57,000 and \$38,000 during 1995, 1994 and 1993, respectively.

NOTE H -- INCOME TAXES:

The Company had available for federal income tax purposes net operating loss carry forwards of approximately \$27,500,000 and \$31,200,000 at December 31, 1995 and March 31, 1996, respectively, 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 software development costs and deductibility of certain amounts on exercise of stock options. A portion of the net operating loss carryforwards (approximately \$21,000,000 and \$22,000,000 at December 31, 1995 and March 31, 1996, respectively) are attributed to the stock option deduction, the tax effect of which will be credited to additional paid-in capital when realized. The net operating loss carryforwards of the Company have been and will continue to be subject to limitations imposed by Section 382 of the Internal Revenue Code since there has been an ownership change of greater than 50% in the Company. Additionally, the Company had research and development tax credits of approximately \$688,000 at December 31, 1995 and March 31, 1996 respectively, which begin to expire in 2003.

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:

|   | DECEMBER 31, |             |             | MARCH 31,    |
|---|--------------|-------------|-------------|--------------|
|   | 1993         | 1994        | 1995        | 1996         |
|   |              |             |             | (UNAUDITED)  |
| Deferred tax assets:  |              |             |             |              |
| Net operating loss carryforwards.....   | \$2,346,000  | \$2,822,000 | \$9,363,000 | \$10,604,000 |
| Research and development tax credits.....                                     | 273,000      | 450,000     | 688,000     | 688,000      |
| Reserves and allowances on financial statements in excess of tax returns..... | 62,000       | 139,000     | 98,000      | 144,000      |
| Total deferred tax assets.....  | 2,681,000    | 3,411,000   | 10,149,000  | 11,436,000   |
| Valuation allowance for deferred tax assets...                                | (2,260,000)  | (2,547,000) | (8,988,000) | (10,215,000) |
| Net deferred tax assets.....  | 421,000      | 864,000     | 1,161,000   | 1,221,000    |
| Deferred tax liabilities:   |              |             |             |              |
| Depreciation on tax returns in excess of financial statements.....            | 35,000       | 38,000      | 54,000      | 55,000       |
| Capitalized software development costs.....                                   | 386,000      | 826,000     | 1,107,000   | 1,166,000    |
| Total deferred tax liabilities.....   | 421,000      | 864,000     | 1,161,000   | 1,221,000    |
| Net.....  | \$ --        | \$ --       | \$ --       | \$ --        |



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
 NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)  
 (AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
 FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

The reconciliation of income tax computed at the U.S. federal statutory tax rate to income tax expense is as follows:

|  | YEAR ENDED DECEMBER 31, |            |           | MARCH 31,   |
|--|-------------------------|------------|-----------|-------------|
|  | 1993                    | 1994       | 1995      | 1996        |
|  |                         |            |           | (UNAUDITED) |
| Income tax provision (benefit) at statutory rate of 34%..... | \$(410,154)             | \$ 530,356 | \$ 22,164 | \$(850,190) |
| Losses producing no current tax benefit.....                 | 410,154                 |            |           | 850,190     |
| Utilization of net operating loss carryforward.....          |                         | (530,356)  | (22,164)  |             |
| Alternative minimum tax -- current.....                      |                         | 10,000     | 2,000     |             |
| Provision for income taxes.....                              | \$ --                   | \$ 10,000  | \$ 2,000  | \$ --       |

NOTE I -- STOCKHOLDERS' EQUITY: Stock Split -- On January 10, 1994, the Company declared a two-for-one split of its Common Stock, \$.001 par value per share, effected by a 100% stock dividend whereby each holder of Common Stock received one additional share of Common Stock for each share held. The additional shares were distributed on February 15, 1994. All outstanding common shares and per share amounts in the accompanying financial statements have been retroactively adjusted to give effect to the two-for-one stock split.

Class A Warrant Redemption -- On January 28, 1994, the Company exercised its right to redeem, at a price of \$.25 per Warrant, all 287,500 Class A Warrants issued in 1992. Each Class A Warrant had entitled the registered holder to purchase, at a price of \$8.00 per Warrant, four shares of Common Stock for a period of three years ending May 12, 1995. As of March 18, 1994 (the termination date of the Warrant exercise period), substantially all of the outstanding Class A Warrants had been exercised in exchange for 1,149,748 shares of Common Stock. Proceeds to the Company, net of expenses of \$176,885 associated with the issuance of the Common Stock, amounted to \$2,122,611.

Underwriter's Warrants -- In connection with the initial public offering of its securities in 1991, the Company sold to its underwriter, at a nominal price, Underwriter's Warrants to purchase 100,000 units at an exercise price of \$5.75 per unit. Each unit consisted of four shares of Common Stock and one underlying warrant to purchase for \$5.00 four additional shares of Common Stock. As of December 31, 1994, the Company had issued 800,000 shares of Common Stock associated with the exercise of all Underwriter's Warrants and Warrants underlying the Underwriter's Warrants. Proceeds to the Company amounted to \$643,689 in 1994 and \$395,872, net of registration expenses of \$35,440, in 1993.

Nationwide Cellular Service, Inc. -- Prior to September 14, 1995, Nationwide owned 6,680,000 shares of the Company's Common Stock and was the holder of an option to purchase an additional 1,280,000 shares. On September 14, 1995, in conjunction with the merger between Nationwide and MCI Communications Corporation, Nationwide exercised its option and distributed the combined total of 7,960,000 shares to its stockholders. As a result of the exercise of the option, the Company received \$1,600,000 and issued 1,280,000 shares of Common Stock.

Stock Options -- The Company has adopted a 1991 Qualified Stock Option Plan and a 1991 Non-Qualified Stock Option Plan. Pursuant to the 1991 Qualified Plan, as amended, the Company may grant options to purchase up to 2,800,000 shares of Common Stock to its officers and key employees, at a price which may not be less than the fair market value per share of Common Stock on the date of grant and have a term of ten years. Pursuant to the 1991 Non-Qualified Plan, as amended, the Company may grant options to purchase up to 1,200,000 shares of Common Stock to its directors, officers, key employees and others who render services to the Company at such price as fixed by the Compensation and Stock Option Committee. 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



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)  
(AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

on the first anniversary date of the grant. In December 1993, the Company adopted the 1993 Non-Employee Director Stock Option Plan which allows the Company to grant options to purchase up to 300,000 shares of Common Stock. Pursuant to the 1993 Non-Employee Director Plan, each non-employee director is to be granted options to purchase 20,000 shares of Common Stock upon initial appointment as a director of the Company and an additional 12,000 options, 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 has also granted options to purchase 920,000 shares of Common Stock at fair market value to certain directors and officers of the Company at exercise prices ranging from \$1.25 to \$6.13 per share. These options are in addition to those granted under the 1991 Qualified and Non-Qualified Plans, the 1993 Non-Employee Director Plan, and the options previously granted to and subsequently exercised by Nationwide (as discussed above). The options have terms ranging from five to ten years and vest to the respective option holder over periods ranging from two to five years.

Information with respect to the Company's stock options is as follows:

|   | SHARES UNDER<br>OPTION | OPTION PRICES |           |
|---|------------------------|---------------|-----------|
|   | -----                  | -----         | -----     |
| Balance, December 31, 1992.....                                 | 2,846,000              | \$ 1.00       | - \$ 2.11 |
| Granted.....  | 1,897,200              | 1.67          | - 6.13    |
| Exercised.....  | (292,000)              | 1.00          | - 2.11    |
| Canceled.....   | (269,600)              | 1.00          | - 5.41    |
| Balance, December 31, 1993.....                                 | 4,181,600              | 1.00          | - 6.13    |
| Granted.....  | 724,000                | 6.00          | - 7.25    |
| Exercised.....  | (283,520)              | 1.00          | - 5.41    |
| Canceled.....   | (92,000)               | 1.67          | - 5.41    |
| Balance, December 31, 1994.....                                 | 4,530,080              | 1.00          | - 7.25    |
| Granted.....  | 462,900                | 7.13          | - 12.38   |
| Exercised.....  | (1,861,500)            | 1.00          | - 7.25    |
| Canceled.....   | (116,820)              | 1.00          | - 8.25    |
| Balance, December 31, 1995.....                                 | 3,014,660              | 1.00          | - 12.38   |
| Granted (unaudited).....  | 33,000                 | 12.00         | - 12.56   |
| Exercised (unaudited).....                                      | (103,700)              | 1.67          | - 8.25    |
| Canceled (unaudited).....                                       | (4,920)                | 7.25          | - 10.94   |
| Balance, March 31, 1996 (unaudited).....                        | 2,939,040              | 1.00          | - 12.56   |
| Exercisable at December 31, 1995.....                           | 844,680                | 1.00          | - 7.25    |
| Exercisable at March 31, 1996 (unaudited).....                  | 904,780                | 1.00          | - 8.25    |
| Available for grant at December 31, 1995.....                   | 1,032,320              |               |           |
| Available for grant at March 31, 1996 (unaudited).....          | 1,004,240              |               |           |
| Reserved for future issuance at December 31, 1995.....          | 4,046,980              |               |           |
| Reserved for future issuance at March 31, 1996 (unaudited)..... | 3,943,280              |               |           |



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
NOTES TO FINANCIAL STATEMENTS -- (CONTINUED)  
(AMOUNTS AND DISCLOSURES AS OF MARCH 31, 1996 AND  
FOR THE THREE MONTHS ENDED MARCH 31, 1995 AND 1996 ARE UNAUDITED)

NOTE J -- RECENT CONTRACTS:

In March 1996, the Company signed a five-year agreement with AirTouch Cellular ('AirTouch'), under which the Company will be the exclusive provider of cellular fraud prevention systems using radio frequency technology to AirTouch and its affiliates. Under the terms of the agreement, the Company and AirTouch will begin installation of the Blackbird Platform and PreTect fraud prevention software application in AirTouch's Atlanta and Los Angeles markets immediately. The exclusive five-year agreement, which calls for the purchase of these products for at least 1,000 cell sites, schedules minimum deployment in approximately half of the cell sites during 1996 and 1997. In addition, the Company and AirTouch signed five-year agreements for the Company's support services and real-time roaming fraud prevention service. The real-time roaming fraud prevention service will provide seamless protection initially between AirTouch's controlled and affiliated markets and subsequently between these markets and the markets of other cellular carriers who contract with the Company for its real-time fraud prevention roaming services.

In March 1996, the Company signed an interim agreement with Bell Atlantic NYNEX Mobile ('BANM') whereby the Company and BANM are currently deploying its Blackbird Platform and PreTect products in BANM's New York market. Concurrently both parties are negotiating a definitive Master Purchase and License Agreement, which will ultimately determine the size and scope of an anticipated greater deployment. The Company believes that the definitive agreement will include installation of the Company's products in a large percentage of BANM's cell sites, and will also include provisions for the Company's support and maintenance services and the Company's real-time roaming fraud prevention service.

NOTE K -- SUBSEQUENT EVENTS:

On June 14, 1996 the Company declared a two-for-one split of its Common Stock, \$.001 par value per share, effected by a 100% stock dividend whereby each holder of Common Stock will receive one additional share of Common Stock for each share held. Distribution of the shares is to take place on June 27, 1996 for shareholders of record on June 24, 1996. All outstanding Common Shares and per share amounts in the accompanying financial statements have been retroactively adjusted to give effect to the two for one stock split.

In June 1996, the Company signed a Letter of Intent with GTE Mobilnet of California, L.P. ('GTE') to deploy at least 150 units of the Company's Blackbird Platform and PreTect in GTE's San Francisco market. The Company and GTE are currently negotiating a definitive agreement and expect deployment of such units to begin in the second half of 1996.

In June 1996, the Company's stockholders approved the 1996 Stock Option Plan ('the 1996 Plan') which is designed to provide an incentive to employees of the Company and to offer an additional inducement in obtaining the services of such persons. The 1996 Plan covers both incentive stock options and non-qualified stock options. As a result of this adoption, no shares are available for grant under either the 1991 Qualified Stock Option Plan and the 1991 Non-Qualified Stock Option Plan. The 1996 Plan authorizes the grant of options to purchase a maximum of 1,100,000 shares of the Company's Common Stock. Options to purchase an aggregate of 160,000 shares of Common Stock were granted subsequent to the plan adoption.

During April through June 30, 1996 the Company granted 160,000 shares under its option plans. Additionally, 237,280 options were exercised and 69,600 options were cancelled during the same period.

In June 1996, the Company's Board of Directors authorized management to file a Registration Statement with the Securities and Exchange Commission to sell up to 1,758,900 Shares of its Common Stock to the public.



NO DEALER, SALESPERSON OR ANY OTHER PERSON HAS BEEN AUTHORIZED TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS OTHER THAN THOSE CONTAINED IN THIS PROSPECTUS IN CONNECTION WITH THE OFFER MADE BY THIS PROSPECTUS AND, IF GIVEN OR MADE, SUCH INFORMATION OR REPRESENTATIONS MUST NOT BE RELIED UPON AS HAVING BEEN AUTHORIZED BY THE COMPANY OR ANY OF THE UNDERWRITERS. THIS PROSPECTUS DOES NOT CONSTITUTE AN OFFER TO SELL OR A SOLICITATION OF AN OFFER TO BUY ANY SECURITY OTHER THAN THE SHARES OF COMMON STOCK OFFERED BY THIS PROSPECTUS, NOR DOES IT CONSTITUTE AN OFFER TO SELL OR A SOLICITATION OF ANY OFFER TO BUY THE SHARES OF COMMON STOCK BY ANYONE IN ANY JURISDICTION IN WHICH SUCH OFFER OR SOLICITATION IS NOT AUTHORIZED, OR IN WHICH THE PERSON MAKING SUCH OFFER OR SOLICITATION IS NOT QUALIFIED TO DO SO, OR TO ANY PERSON TO WHOM IT IS UNLAWFUL TO MAKE SUCH OFFER OR SOLICITATION. NEITHER THE DELIVERY OF THIS PROSPECTUS NOR ANY SALE MADE HEREUNDER SHALL, UNDER ANY CIRCUMSTANCES, CREATE ANY IMPLICATION THAT THE INFORMATION CONTAINED HEREIN IS CORRECT AS OF ANY TIME SUBSEQUENT TO THE DATE HEREOF.

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 UNTIL \_\_\_\_\_, 1996 (25 DAYS AFTER THE DATE OF THIS PROSPECTUS), ALL DEALERS EFFECTING TRANSACTIONS IN THE COMMON STOCK OFFERED HEREBY, WHETHER OR NOT PARTICIPATING IN THIS DISTRIBUTION, MAY BE REQUIRED TO DELIVER A PROSPECTUS. THIS DELIVERY REQUIREMENT IS IN ADDITION TO THE OBLIGATION OF THE DEALERS TO DELIVER A PROSPECTUS WHEN ACTING AS UNDERWRITERS AND WITH RESPECT TO THEIR ALLOTMENTS OR SUBSCRIPTIONS.

CELLULAR TECHNICAL  
 SERVICES COMPANY, INC.

1,726,000 SHARES  
 COMMON STOCK

-----  
 PROSPECTUS  
 -----

GERARD KLAUER MATTISON & CO., LLC  
 \_\_\_\_\_  
 \_\_\_\_\_, 1996



PART II  
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

All of the expenses listed below are estimated except for the SEC registration fee and the NASD filing fee. The itemized statement below includes all expenses in connection with the distribution of the securities being registered, other than underwriting discounts and commissions:

|  |              |
|--|--------------|
| Securities and Exchange Commission registration fee.....                 | \$ 12,320.07 |
| NASD filing fee.....   | 4,073.00     |
| Blue Sky fees and expenses (including attorneys' fees and expenses)..... | 16,625.00    |
| Printing and engraving expenses.....                                     | 80,000.00    |
| Transfer Agent's fees and expenses.....                                  | 2,500.00     |
| Accounting fees and expenses.....  | 65,000.00    |
| Legal fees and expenses.....   | 100,000.00   |
| Miscellaneous expenses.....  | 19,481.93    |
|  | -----        |
| TOTAL.....   | \$300,000.00 |
|  | -----        |
|  | -----        |

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

The Company is incorporated under the laws of the State of Delaware. Section 145 of the General Corporation Law of the State of Delaware ('Section 145') provides that a Delaware corporation may indemnify any persons who are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his conduct was unlawful. A Delaware corporation may indemnify any persons who are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person was a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the director, officer, employee or agent is adjudged to be liable to the corporation. Where a director, officer, employee or agent is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him against the expenses which he has actually and reasonably incurred.

The Company's certificate of incorporation provides for the indemnification of directors and officers of the Company to the fullest extent permitted by Section 145.

The Underwriting Agreement contains, among other things, provisions whereby the Underwriters agree to indemnify the Company, each officer and director of the Company who has signed the Registration Statement and each person who controls the Company within the meaning of Section 15 of the Securities Act against any losses, liabilities, claims or damages arising out of the alleged untrue statements or alleged omissions of material facts with respect to information furnished to the Company by the Underwriters for use in the Registration Statement or Prospectus. See Item 17 'Undertakings.'



ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES.

Not applicable.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

(a) Exhibits:

- 1.1 -- Form of Underwriting Agreement(11)
- 3.1 -- Restated Certificate of Incorporation of the Registrant, as amended(1)
- 3.2 -- By-Laws of the Registrant(1)
- 3.3 -- Amendment I to By-Laws of the Registrant, dated October 28, 1993(4)
- 4.1 -- Specimen Certificate for Common Stock of Registrant(1)
- 5.1 -- Opinion of Parker Chapin Flattan & Klimpl, LLP(12)
- 7.1 -- 1991 Qualified Stock Option Plan (as amended as of November 30, 1993)(3)(+)
- 7.2 -- 1991 Non-Qualified Stock Option Plan (as amended as of November 30, 1993)(3)(+)
- 7.3 -- 1993 Non-Employee Director Stock Option Plan(4)(+)
- 7.4 -- 1996 Stock Option Plan(11)
- 10.1 -- Employment Agreement between the Registrant and Robert P. Dahut dated January 31, 1994(4)(+)
- 10.2 -- Employment Agreement between the Registrant and Michael E. McConnell dated January 1, 1993(4)(+)
- 10.3 -- Employment Agreement between the Registrant and Kyle R. Sugamele dated June 29, 1995(9)(+)
- 10.4 -- Agreement of Lease dated May 23, 1994 between the Registrant and Martin Selig Properties(7)
- 10.4A -- Amendment to Lease dated April 7, 1995 between the Registrant and Martin Selig Properties(9)
- 10.5 -- Master Purchase and Licensing Agreement dated July 1, 1991 among the Registrant, LIN Broadcasting Corporation and American Cellular Communications(a)(2)
- 10.5A -- Amendment I dated July 1, 1993 to Master Purchase and License Agreement: Hotwatch System, between Registrant and Los Angeles Cellular Telephone Company(b)(4)
- 10.6 -- Technical Services Agreement dated December 1, 1993, between Registrant and McCaw Cellular Communications, Inc.(c)(5)
- 10.7 -- Source Code License Agreement (CTS Software) dated December 1, 1993, between Registrant and McCaw Cellular Communications, Inc.(c)(5)
- 10.8 -- Source Code License Agreement (McCaw Software) dated July 15, 1994, between Registrant and McCaw Cellular Communications, Inc.(c)(5)
- 10.9 -- Purchase and License Agreement (Metered Billing and Creditwatch) dated November 3, 1994, between Registrant and McCaw Cellular Communications, Inc.(d)(6)
- 10.10 -- Master Purchase and Licensing Agreement dated November 30, 1994 among the Registrant and Sprint Cellular Company(f)(7)
- 10.11 -- Master Purchase and License Agreement between the Registrant and AirTouch Cellular dated March 6, 1996(10)
- 10.12 -- Support Services Agreement between the Registrant and AirTouch Cellular dated March 6, 1996(10)
- 10.13 -- Service Agreement for Real-Time Prevention of Roaming Cloning Fraud between the Registrant and AirTouch Cellular dated March 6, 1996(10)
- 10.14 -- Interim Agreement with Bell Atlantic NYNEX Mobile(10)
- 10.15 -- Patent Sublicense Agreement between Registrant and The Boeing Company dated April 29, 1994(f)(7)
- 10.16 -- Patent Sublicense Agreement between Registrant and Motron Electronics dated May 24, 1995(e)(8)
- 10.17 -- Patent License Agreement between Registrant and AirTouch Cellular, dated December 22, 1995(10)
- 11.1 -- Statement Regarding Computation of Earnings Per Share(11)
- 23.1 -- Consent of Ernst & Young LLP(11)



- -----
- (a) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission dated April 16, 1992 (File No. 33-46531).
  - (b) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission dated May 24, 1994 (File No. 0-19437).
  - (c) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission dated December 1, 1994 (File No. 0-19437).
  - (d) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission dated April 21, 1995 (File No. 0-19437).
  - (e) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission dated January 25, 1996 (File No. 0-19437).
  - (f) Confidential treatment granted pursuant to order of the Secretary of the Securities and Exchange Commission dated April 21, 1995 (File No. 0-19437).
  - (+) 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. 33-41176).
  - (2) Incorporated by reference to Registration Statement on Form S-1 filed on March 19, 1992 (File No. 33-46531).
  - (3) Incorporated by reference to Registration Statement on Form S-8 filed on March 7, 1994 (File No. 33-76128).
  - (4) Incorporated by reference to Annual Report on Form 10-K filed on March 30, 1994 for the year ended December 31, 1993 (File No. 0-19437).
  - (5) Incorporated by reference to Quarterly Report on Form 10-Q filed on August 12, 1994 for the quarter ended June 30, 1994 (File No. 0-19437).
  - (6) Incorporated by reference to Quarterly Report on Form 10-Q filed on November 11, 1994 for the quarter ended September 30, 1994 (File No. 0-19437).
  - (7) Incorporated by reference to Annual Report on Form 10-K filed on March 28, 1995 for the year ended December 31, 1994 (File No. 0-19437).
  - (8) Incorporated by reference to Quarterly Report on Form 10-Q filed on August 8, 1995 for the quarter ended June 30, 1995 (File No. 0-19437).
  - (9) Incorporated by reference to Annual Report on Form 10-K filed on March 29, 1996 for the year ended December 31, 1995 (File No. 0-19437).
  - (10) Incorporated by reference to Annual Report on Form 10-K filed on March 29, 1996 for the year ended December 31, 1995 (File No. 0-19437) for which a request for confidential treatment was submitted pursuant to Rule 24b-2 of the Securities and Exchange Commission which request is currently pending.
  - (11) Filed herewith.
  - (12) To be filed by Amendment.

- -----

(b) Financial Statement Schedules:

For the three years ended December 31, 1995:

Report of Ernst & Young LLP

Schedule II -- Valuation and Qualifying Accounts

All other schedules are omitted because they are not applicable or the required information is shown in the financial statements.

ITEM 17. UNDERTAKINGS.

The undersigned registrant hereby undertakes to provide to the Underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the Underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 (the 'Act') may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and



Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) For purposes of determining any liability under the Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining the liability under the Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.



SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New York, State of New York, on the 2nd day of July 1996.

CELLULAR TECHNICAL SERVICES COMPANY,  
INC.

By: /S/ STEPHEN KATZ

STEPHEN KATZ, CHAIRMAN OF THE BOARD  
OF DIRECTORS  
AND CHIEF EXECUTIVE OFFICER

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints each of Stephen Katz and Michael E. McConnell his true and lawful attorney-in-fact and agent, each with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or either of them or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

| SIGNATURE  | TITLE   | DATE         |
|--|---|--------------|
| /s/ STEPHEN KATZ<br>STEPHEN KATZ                 | Chairman of the Board of Directors and Chief Executive Officer                          | July 2, 1996 |
| /s/ ROBERT P. DAHUT<br>ROBERT P. DAHUT           | Director, President and Chief Operating Officer   | July 2, 1996 |
| /s/ MICHAEL E. MCCONNELL<br>MICHAEL E. MCCONNELL | Vice President and Chief Financial Officer (Principal Financial and Accounting Officer) | July 2, 1996 |
| /s/ JAY GOLDBERG<br>JAY GOLDBERG                 | Director  | July 2, 1996 |



REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We have audited the financial statements of Cellular Technical Services Company, Inc. as of December 31, 1994 and 1995, and for each of the three years in the period ended December 31, 1995, and have issued our report thereon dated March 1, 1996, except for the first paragraph of Note K as to which the date is June 24, 1996, (included elsewhere in this Registration Statement). Our audits also included the financial statement schedule listed in Item 16(b) of this Registration Statement. That schedule is the responsibility of the Company's management. Our responsibility is to express an opinion based on our audits.

In our opinion, the financial statement schedule referred to above, when considered in relation to the basic financial statements taken as a whole, presents fairly in all material respects the information set forth therein.

/s/ ERNST & YOUNG LLP

Seattle, Washington  
March 1, 1996, except for the first paragraph of Note K as to which the date is  
June 24, 1996.



SCHEDULE II

CELLULAR TECHNICAL SERVICES COMPANY, INC.  
VALUATION AND QUALIFYING ACCOUNTS

|                                   | BALANCE AT<br>BEGINNING OF<br>PERIOD | ADDITIONS   | DEDUCTIONS | BALANCE AT<br>END OF<br>PERIOD |
|-----------------------------------|--------------------------------------|-------------|------------|--------------------------------|
|                                   | -----                                | -----       | -----      | -----                          |
| Inventory Reserves                |                                      |             |            |                                |
| Year ended December 31, 1993..... | \$ 30,066                            | \$ 43,235   | \$ 18,394  | \$ 54,907                      |
|                                   | -----                                | -----       | -----      | -----                          |
| Year ended December 31, 1994..... | \$ 54,907                            | \$ 136,075  | \$102,210  | \$ 88,772                      |
|                                   | -----                                | -----       | -----      | -----                          |
| Year ended December 31, 1995..... | \$ 88,772                            | \$ 180,446  | \$ 51,426  | \$217,792                      |
|                                   | -----                                | -----       | -----      | -----                          |
| Sales and Receivable Allowances   |                                      |             |            |                                |
| Year ended December 31, 1993..... | \$ 30,450                            | \$ 24,000   | \$ 9,666   | \$ 44,784                      |
|                                   | -----                                | -----       | -----      | -----                          |
| Year ended December 31, 1994..... | \$ 44,784                            | \$ 152,444  | \$ 19,570  | \$177,658                      |
|                                   | -----                                | -----       | -----      | -----                          |
| Year ended December 31, 1995..... | \$177,658                            | \$ (58,340) | \$ 49,318  | \$ 70,000                      |
|                                   | -----                                | -----       | -----      | -----                          |

STATEMENT OF DIFFERENCES

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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  
 The degree symbol shall be expressed as ..... [d].



\_\_\_\_\_ Shares

CELLULAR TECHNICAL SERVICES COMPANY, INC.

(a Delaware Corporation)

Common Stock  
(Par Value \$0.001 Per Share)

UNDERWRITING AGREEMENT

July , 1996

GERARD KLAUER MATTISON & CO., LLC  
As Representative of the  
several underwriters  
named in Schedule I hereto  
c/o Gerard Klauer Mattison & Co., LLC  
529 Fifth Avenue  
New York, New York 10017

Dear Sirs:

Cellular Technical Services Company, Inc., a Delaware corporation (the "Company"), proposes to issue and sell \_\_\_\_\_ shares of its Common Stock, \$0.001 par value (the "Company Shares") to the several underwriters named in Schedule I hereto (the "Underwriters"). The selling shareholders named in Schedule II hereto (the "Selling Shareholders") shall also sell to the Underwriters \_\_\_\_\_ shares of the Company's Common Stock, (the "Shareholder Shares"). Upon your request, as provided in Section 2 hereof, certain of the Selling Shareholders shall have the right to, and the Company will be obligated to sell to the Underwriters an aggregate of not more than \_\_\_\_\_ additional shares of its Common Stock (the "Additional Shares") solely for the purposes of covering over-allotments, if any. As used herein, (i) the "Initial Shares" shall mean the Company Shares and Shareholder Shares and (ii) the "Shares" shall mean the Company Shares, the Shareholder Shares, and the Additional Shares.



1. Registration Statement and Prospectus. The Company has prepared and filed with the Securities and Exchange Commission (the "Commission") in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder (collectively called the "Act"), a registration statement on Form S-1 including a prospectus relating to the Shares, which may be amended. The registration statement as amended at the time when it becomes effective, including a registration statement (if any) filed pursuant to Rule 462(b) under the Act increasing the size of the offering registered under the Act and information (if any) deemed to be part of the registration statement at the time of effectiveness pursuant to Rule 430A or Rule 434 under the Act, is hereinafter referred to as the "Registration Statement"; and the prospectus (including any prospectus subject to completion taken together with any term sheet meeting the requirements of Rule 434(b) or Rule 434(c) under the Act) in the form first used to confirm sales of Shares is hereinafter referred to as the "Prospectus".

2. Agreements to Sell and Purchase. On the basis of the representations and warranties contained in this Agreement, and subject to its terms and conditions, the Company agrees to issue and sell, and each Underwriter agrees to purchase, severally and jointly, from the Company at a price per share of \$\_\_\_\_\_ (the "Purchase Price") the number of Company Shares set forth in Schedule I hereto; the Selling Shareholders agree to sell and each Underwriter agrees to purchase, severally and jointly, from the Selling Shareholders at the Purchase Price the number of Shareholder Shares set forth in Schedule II hereto.

On the basis of the representations and warranties contained in this Agreement, and subject to its terms and conditions, the Selling Shareholders have the option to sell in the aggregate up to \_\_\_\_\_ Additional Shares, and to the extent the Selling Shareholders exercise their option to sell in the aggregate less than all of the Additional Shares, the Company agrees to issue and sell any portion of or all of the Additional Shares, and the Underwriters shall have the right to purchase, severally and jointly, up to \_\_\_\_\_ Additional Shares from the Selling Shareholders and the Company at the Purchase Price. Additional Shares may be purchased solely for the purpose of covering over-allotments made in connection with the offering of the Company Shares. The Underwriters may exercise their right to purchase Additional Shares in whole or in part from time to time by giving written notice thereof through you to the Company within 30 days after the date of this Agreement. Such notice shall specify the aggregate number of Additional Shares to be purchased pursuant to such exercise and the date for payment and delivery thereof. The date specified in any such notice shall be a business day (i) no earlier than the Closing Date (as hereinafter defined), (ii) no later than two business days after such notice has been given and (iii) no earlier than two business days after such notice has been given. If any Additional Shares are to be purchased, each Underwriter, severally and not jointly, agrees to purchase the number of Additional Shares (subject to such adjustments to eliminate fractional shares as you may determine) which bears the same proportion to the total number of Additional Shares as the number of Company Shares set forth opposite the name of such Underwriter in Schedule I bears to the total number of Company Shares.

The Company hereby agrees and the Company shall, concurrently with the execution of this Agreement, deliver an agreement executed by (i) each of the directors and officers of the Company, and (ii) each shareholder listed on Annex I hereto, pursuant to which each such person agrees, not to offer, sell, contract to sell, grant any option to purchase, or otherwise dispose of any Common



Stock of the Company or any securities convertible into or exercisable or exchangeable for such Common Stock or in any other manner transfer all or a portion of the economic consequences associated with the ownership of any such common stock, except to the Underwriters pursuant to this Agreement, for a period of 180 days after the date of the Prospectus without your prior written consent. Notwithstanding the foregoing, during such period (i) the Company may grant stock options pursuant to the Company's existing stock option plan and (ii) the Company may issue shares of its Common Stock upon the exercise of an option or warrant outstanding on the date hereof or the conversion of a security outstanding on the date hereof.

3. Terms of Public Offering. The Company has been advised by you that the Underwriters propose (i) to make a public offering of their respective portions of the Shares as soon after the effective date of the Registration Statement as in your judgment is advisable and (ii) initially to offer the Shares upon the terms set forth in the Prospectus.

4. Delivery and Payment. Delivery to the Underwriters of and payment for the Initial Shares shall be made at 10:00 A.M., New York City time, on the date (the "Closing Date") that is the third or fourth business day, unless otherwise permitted by the Commission pursuant to Rule 15c6-1 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), following the date of the initial public offering, at such place as you shall designate. The Closing Date and the location of delivery of and the form of payment for the Initial Shares may be varied by agreement among you, the Company and the Selling Shareholders.

Delivery to the Underwriters of and payment for any Additional Shares to be purchased by the Underwriters shall be made at such place as you shall designate at 10:00 A.M., New York City time, on the date specified in the applicable exercise notice given by you pursuant to Section 2 (an "Option Closing Date"). Any such Option Closing Date and the location of delivery of and the form of payment for such Additional Shares may be varied by agreement between you and the Company.

Certificates for the Shares shall be registered in such names and issued in such denominations as you shall request in writing not later than two full business days prior to the Closing Date or an Option Closing Date, as the case may be. Such certificates shall be made available to you for inspection not later than 9:30 A.M., New York City time, on the business day next preceding the Closing Date or the applicable Option Closing Date, as the case may be. Certificates in definitive form evidencing the Company Shares or the Additional Shares shall be delivered to you on the Closing Date or the applicable Option Closing Date, as the case may be, with any transfer taxes thereon duly paid by the Company, for the respective accounts of the several Underwriters against payment of the Purchase Price therefor on such date by certified or official bank check or checks to the order of the Company payable in New York Clearing House Funds or similar next-day funds or by wire transfer of similar funds to such account as the Company may specify at least two days in advance of payment. Certificates in definitive form evidencing the Shareholder Shares shall be delivered to you on the Closing Date, with any transfer taxes thereon duly paid by the Selling Shareholders, for the respective accounts of the several Underwriters against payment of the Purchase Price therefor on such date by certified or official bank check or checks to the order of the



Selling Shareholders' attorney-in-fact (as named herein), as agent for the Selling Shareholders, in New York Clearing House Funds or similar next-day funds.

5. Agreements of the Company. The Company agrees with the Underwriters:

(a) To use its best efforts to cause the Registration Statement to become effective at the earliest possible time.

(b) To advise you promptly and, if requested by you, to confirm such advice in writing, (i) when the Registration Statement has become effective and when any post-effective amendment to it becomes effective, (ii) of any request by the Commission for amendments to the Registration Statement or amendments or supplements to the Prospectus or for additional information, (iii) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or of the suspension of qualification of the Shares for offering or sale in any jurisdiction, or the initiation of any proceeding for such purposes, and (iv) of the happening of any event during the period referred to in paragraph (e) below which makes any statement of a material fact made in the Registration Statement or the Prospectus untrue or which requires the making of any additions to or changes in the Registration Statement or the Prospectus in order to make the statements therein not misleading. If at any time the Commission shall issue any stop order suspending the effectiveness of the Registration Statement, the Company will make every reasonable effort to obtain the withdrawal or lifting of such order at the earliest possible time.

(c) To furnish to you and each Underwriter designated by you, without charge, as many signed copies of the Registration Statement as originally filed with the Commission and of each amendment to it, including all exhibits, and such number of conformed copies of the Registration Statement as so filed and of each amendment thereto (including documents incorporated by reference into the Prospectus but without exhibits) as you may reasonably request.

(d) Not to file any amendment or supplement to the Registration Statement, whether before or after the time when it becomes effective, or to make any amendment or supplement to the Prospectus (including the issuance or filings of any term sheet within the meaning of Rule 434) of which you shall not previously have been advised or to which you shall reasonably object; and to prepare and file with the Commission, promptly upon your reasonable request, any amendment to the Registration Statement or supplement to the Prospectus (including the issuance or filings of any term sheet within the meaning of Rule 434) which may be necessary or advisable in connection with the distribution of the Shares by you, and to use its best efforts to cause the same to become promptly effective.

(e) Promptly after the Registration Statement becomes effective, and from time to time thereafter for such period as in the opinion of counsel for the Underwriters a prospectus is required by law to be delivered in connection with sales by an Underwriter or a dealer, to furnish to each Underwriter and dealer as many copies of the Prospectus (and of any amendment or supplement to the Prospectus) as such Underwriter or dealer may reasonably request.



(f) If during the period specified in paragraph (e) any event shall occur as a result of which, in the opinion of counsel for the Underwriters, it becomes necessary to amend or supplement the Prospectus in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered to a purchaser, not misleading, or if it is necessary to amend or supplement the Prospectus to comply with any law, forthwith to prepare and file with the Commission an appropriate amendment or supplement to the Prospectus so that the statements in the Prospectus, as so amended or supplemented, will not in the light of the circumstances when it is so delivered, be misleading, or so that the Prospectus will comply with law, and to furnish to each Underwriter and to such dealers as you shall specify such number of copies thereof as such Underwriters or dealers may reasonably request.

(g) Prior to any public offering of the Shares, to cooperate with you and counsel for the Underwriters in connection with the registration or qualification of the Shares for offer and sale under state securities or Blue Sky laws of such jurisdictions as you may request, to continue such qualification in effect so long as required for distribution of the Shares and to file such consents to service of process or other documents as may be necessary in order to effect such registration or qualification.

(h) To mail and make generally available to its stockholders as soon as reasonably practicable an earnings statement covering a period of at least twelve months after the effective date of the Registration Statement (but in no event commencing later than 90 days after such date) which shall satisfy the provisions of Section 11(a) of the Act, and to advise you in writing when such statement has been so made available.

(i) During the period of five years after the date of this Agreement, (i) to mail as soon as reasonably practicable after the end of each fiscal year to the record holders of its Common Stock a financial report of the Company, all such financial reports to include a balance sheet, a statement of operations, a statement of cash flows and a statement of shareholders' equity as of the end of and for such fiscal year, together with comparable information as of the end of and for the preceding year, certified by independent certified public accountants, and (ii) to mail and make generally available as soon as practicable after the end of each quarterly period (except for the last quarterly period of each fiscal year) to such holders, a balance sheet, a statement of operations and a statement of cash flows as of the end of and for such period, and for the period from the beginning of such year to the close of such quarterly period, together with comparable information for the corresponding periods of the preceding year.

(j) During the period referred to in paragraph (i), to furnish to you as soon as available a copy of each report or other publicly available information of the Company mailed to the holders of its Common Stock or filed with the Commission and such other publicly available information concerning the Company as you may reasonably request.

(k) To pay all costs, expenses, fees and taxes incident to (i) the preparation, printing, filing and distribution under the Act of the Registration Statement (including financial statements



and exhibits), each preliminary prospectus and all amendments and supplements to any of them prior to or during the period specified in paragraph (e), (ii) the printing and delivery of the Prospectus and all amendments or supplements to it during the period specified in paragraph (e), (iii) the printing and delivery of this Agreement, the Preliminary and Supplemental Blue Sky Memoranda and all other agreements, memoranda, correspondence and other documents prepared, printed or delivered in connection with the offering of the Shares (including in each case any disbursements of counsel for the Underwriters relating to such preparation, printing or delivery), (iv) the registration or qualification of the Shares for offer and sale under the securities or Blue Sky laws of the several states (including in each case the fees and disbursements of counsel for the Underwriters relating to such registration or qualification and memoranda relating thereto), (v) the filings and clearance with the National Association of Securities Dealers, Inc. in connection with the offering, (vi) the inclusion of the [Company] Shares [and the Additional Shares] on the National Association of Securities Dealers Automated Quotation ("NASDAQ") National Market System and (vii) furnishing such copies of the Registration Statement, the Prospectus and all amendments and supplements thereto as may be requested for use in connection with the offering or sale of the Shares by the Underwriters or by dealers to whom Shares may be sold.

(l) To use its best efforts to maintain the inclusion of such Common Stock in the NASDAQ National Market System (or on a national securities exchange) for a period of five years after the effective date of the Registration Statement.

(m) To use its best efforts to do and perform all things required or necessary to be done and performed under this Agreement by the Company prior to the Closing Date or any Option Closing Date, as the case may be, and to satisfy all conditions precedent to the delivery of the Shares.

6. Representations and Warranties of the Company. The Company represents and warrants you that:

(a) The Registration Statement has become effective; no stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose are pending before or threatened by the Commission.

(b) (i) Each part of the Registration Statement, when such part became effective, did not contain and each such part, as amended or supplemented, if applicable, will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) the Registration Statement and the Prospectus comply and, as amended or supplemented, if applicable, will comply in all material respects with the Act and (iii) the Prospectus does not contain and, as amended or supplemented, if applicable, will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, except that the representations and warranties set forth in this paragraph (b) do not apply to statements or omissions in the Registration Statement or the Prospectus based upon information



relating to any Underwriter furnished to the Company in writing by such Underwriter through you expressly for use therein.

(c) Each preliminary prospectus filed as part of the registration statement as originally filed or as part of any amendment thereto, or filed pursuant to Rule 424 under the Act, and each Registration Statement filed pursuant to Rule 462(b) under the Act, if any, complied when so filed in all material respects with the Act; and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(d) The Company has been duly incorporated, is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation and has the corporate power and authority to carry on its business as it is currently being conducted and to own, lease and operate its properties, and is duly qualified to do business in each jurisdiction in which the nature of its business or its ownership or leasing of property requires such qualification, except where the failure to be so qualified would not have a material adverse effect on the Company.

(e) The Company has no subsidiaries.

(f) All the outstanding shares of capital stock of the Company (including the Shareholder Shares) have been duly authorized and validly issued and are fully paid, non-assessable and not subject to any preemptive or similar rights; and the Company Shares and the Additional Shares have been duly authorized and, when issued and delivered to the Underwriters against payment therefor as provided by this Agreement, will be validly issued, fully paid and non-assessable, and the issuance of such Company Shares and Additional Shares will not be subject to any preemptive or similar rights.

(g) The authorized capital stock of the Company, including the Common Stock, conforms as to legal matters to the description thereof contained in the Prospectus.

(h) The Company is not in violation of its charter or by-laws or in default in the performance of any obligation, agreement or condition contained in any bond, debenture, note or any other evidence of indebtedness or in any other agreement, indenture or instrument to which the Company is a party or by which it or its property is bound, except for such violations and defaults which would not reasonably be expected to have a material adverse effect on the business or condition (financial or otherwise) of the Company.

(i) The execution, delivery and performance of this Agreement, compliance by the Company with all the provisions hereof and the consummation of the transactions contemplated hereby will not require any consent, approval, authorization or other order of any court, regulatory body, administrative agency or other governmental body (except as such may be required under the securities or Blue Sky laws of the various states) and will not conflict with or constitute a breach of any of the terms or provisions of, or a default under, the charter or by-laws of the Company or any



agreement, indenture or other instrument to which it is a party or by which it or its property is bound, or violate or conflict with any laws, administrative regulations or rulings or court decrees applicable to the Company and its property.

(j) Except as otherwise set forth in the Prospectus, there are no material legal or governmental proceedings pending to which the Company is a party or of which any of its property is the subject, and, to the best of the Company's knowledge, no such proceedings are threatened or contemplated. No contract or document of a character required to be described in the Registration Statement or the Prospectus or to be filed as an exhibit to the Registration Statement is not so described or filed as required.

(k) The Company has not violated any foreign, federal, state or local law or regulation relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("Environmental Laws"), nor any federal or state law relating to discrimination in the hiring, promotion or pay of employees nor any applicable federal or state wages and hours laws, nor any provisions of the Employee Retirement Income Security Act or the rules and regulations promulgated thereunder, which in each case might result in any material adverse change in the business, prospects, financial condition or results of operation of the Company.

(l) The Company has such permits, licenses, franchises and authorizations of governmental or regulatory authorities ("permits"), including, without limitation, under any applicable Environmental Laws, as are necessary to own, lease and operate its respective properties and to conduct its business; the Company has fulfilled and performed all of its material obligations with respect to such permits and no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other material impairment of the rights of the holder of any such permit; and, except as described in the Prospectus, such permits contain no restrictions that are materially burdensome to the Company.

(m) In the ordinary course of its business, the Company conducts a periodic review of the effect of Environmental Laws on the business, operations and properties of the Company, in the course of which it identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties). On the basis of such review, the Company has reasonably concluded that such associated costs and liabilities would not, singly or in the aggregate, have a material adverse effect on the Company.

(n) Except as otherwise set forth in the Prospectus or such as are not material to the business, prospects, financial condition or results of operation of the Company, the Company has good and marketable title, free and clear of all liens, claims, encumbrances and restrictions except liens for taxes not yet due and payable, to all property and assets described in the Registration Statement as being owned by it. All leases to which the Company is a party are valid and binding



and no default has occurred or is continuing thereunder, which might result in any material adverse change in the business, prospects, financial condition or results of operation of the Company, and the Company enjoys peaceful and undisturbed possession under all such leases to which any of them is a party as lessee with such exceptions as do not materially interfere with the use made by the Company.

(o) The Company owns or possesses adequate rights to use all patents, trademarks registrations, service marks, service mark registrations, trade names, mask works, copyrights, licenses, inventions, trade secrets and rights necessary for each of the products and technology which the Company has identified in the Prospectus as having been developed by the Company, and the Company is not aware of any claims to the contrary or any challenges by any other person to the rights of the Company with respect to the foregoing. The Company's business as now conducted does not and will not infringe or conflict with, in any material respect, patents, trademarks, service marks, mask works, trade names, copyrights, licenses, inventions, trade secrets or other intellectual property or franchise rights of any person or entity, except for such infringements or conflicts which would not reasonably have a material adverse effect on the business or condition (financial or otherwise) of the Company. Except as described in the Prospectus, no claim has been made against the Company alleging the infringement by the Company of any patent, trademarks, service marks, mask works, trade names, copyrights, licenses, inventions, trade secrets or other intellectual property or franchise rights of any person or entity. The Company has duly and properly filed or caused to be filed with the United States Patent and Trademark (the "PTO") all its United States patent applications described or referred to in the Prospectus. The Company has clear title to its patents and patent applications referred to in the Prospectus.

(p) The Company maintains reasonably adequate insurance.

(q) Ernst & Young LLP are independent public accountants with respect to the Company as required by the Act.

(r) The financial statements, together with related schedules and notes forming part of the Registration Statement and the Prospectus (and any amendment or supplement thereto), present fairly the consolidated financial position, results of operations and changes in financial position of the Company on the basis stated in the Registration Statement at the respective dates or for the respective periods to which they apply; such statements and related schedules and notes have been prepared in accordance with generally accepted accounting principles consistently applied throughout the periods involved, except as disclosed therein; and the other financial and statistical information and data set forth in the Registration Statement and the Prospectus (and any amendment or supplement thereto) is, in all material respects, accurately presented and prepared on a basis consistent with such financial statements and the books and records of the Company.

(s) The Company is not and, immediately after the Closing Date will not be, an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended.



(t) No holder of any security of the Company has any right to require registration of shares of Common Stock or any other security of the Company.

(u) There are no outstanding subscriptions, rights, warrants, options, calls, convertible securities, commitments of sale or liens related to or entitling any person to purchase or otherwise to acquire any shares of the capital stock of, or other ownership interest in, the Company thereof except as otherwise disclosed in the Registration Statement.

(v) All material tax returns required to be filed by the Company in any jurisdiction have been filed, other than those filings being contested in good faith, and all material taxes, including withholding taxes, penalties and interest, assessments, fees and other charges due pursuant to such returns or pursuant to any assessment received by the Company have been paid, other than those being contested in good faith and for which adequate reserves have been provided.

(w) The Company has filed a registration statement pursuant to Section 12(g) of the Exchange Act, to register the Common Stock, has filed an application to list the [Company] Shares [and the Additional Shares] on the NASDAQ National Market System, and has received notification that the listing has been approved, subject to notice of issuance of the [Company] Shares [and the Additional Shares].

(x) The Company has signed agreements with AT&T Wireless Services, LIN Broadcasting Company, American Cellular Communications, 360[d] Communications Company (formerly Sprint Cellular Company), Ameritech Mobile Communications, Inc., AirTouch Cellular, and Bell Atlantic NYNEX Mobile. These agreements, as described in the Prospectus, have been duly executed and delivered and are valid, binding and in full force and effect.

(y) The Company has complied with all provisions of Section 517.075, Florida Statutes (Chapter 92-198, Laws of Florida).

(z) There are no business relationships or related party transactions required to be disclosed therein by Item 404 of Regulation S-K of the Commission.

[Additional representations may be added after consultation with representatives of Gerard Klauer Mattison & Co., LLC]

7. Representations and Warranties of the Selling Shareholders. Each Selling shareholder severally and not jointly represents and warrants to the Underwriters that:

(a) Such Selling Shareholder is the lawful owner of the Shareholder Shares which may be sold by such Selling Shareholder pursuant to this Agreement and has, and on the Option Closing Date, if applicable, will have, good and clear title to such Shares, free of all restrictions on transfer, liens, encumbrances, security interests and claims whatsoever.



(b) Upon delivery of and payment for such Shares pursuant to this Agreement, good and clear title to such Shares will pass to the Underwriters, free of all restrictions on transfer, liens, encumbrances, security interests and claims whatsoever except as set forth in this Agreement or in the Custody Agreement (as defined herein).

(c) Such Selling Shareholder has full legal right, power and authority to enter into this Agreement and the Custody Agreement between the Selling Shareholders and \_\_\_\_\_, as Custodian (the "Custody Agreement"), and to sell, assign, transfer and deliver such Shareholder Shares in the manner provided herein and therein, and this Agreement and the Custody Agreement have been duly authorized, executed and delivered by such Selling Shareholder and each of this Agreement and the Custody Agreement is a valid and binding agreement of such Selling Shareholder enforceable in accordance with its terms, except as rights to indemnity and contribution hereunder may be limited by applicable law or equitable principles, and except as may be limited by bankruptcy, reorganization or moratorium or similar laws affecting the enforceability of creditors' rights generally and rules of law governing specific performance, injunctive relief and other equitable remedies.

(d) The power of attorney signed by such Selling Shareholder appointing Stephen Katz and Michael E. McConnell or either one of them as his or its attorney-in-fact ("Selling Shareholders' attorney-in-fact") to the extent set forth therein with regard to the transaction contemplated hereby and by the Registration Statement and the Custody Agreement has been duly authorized, executed and delivered by or on behalf of such Selling Shareholder and is a valid and binding instrument of such Selling Shareholder enforceable in accordance with its terms except as may be limited by bankruptcy, reorganization, moratorium or similar laws affecting the enforceability of creditors' rights generally and rules of law governing specific performance, injunctive relief and other equitable remedies, and, pursuant to such power of attorney, such Selling Shareholder has authorized and or either one of them, to execute and deliver on his or its behalf this Agreement and any other document necessary or desirable in connection with transactions contemplated hereby and to deliver the Shares which may be sold by such Selling Shareholder pursuant to this Agreement.

(e) Such Selling Shareholder has not taken, and will not take, directly or indirectly, any action designed to, or which might reasonably be expected to, cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares pursuant to the distribution contemplated by this Agreement and, other than as permitted by the Act, the Selling Shareholder has not distributed and will not distribute any prospectus or other offering material in connection with the offering and sale of the Shares.

(f) The execution, delivery and performance of this Agreement by such Selling Shareholder, compliance by such Selling Shareholder with all the provisions hereof and the consummation of the transactions contemplated hereby will not require any consent, approval, authorization or other order of any court, regulatory body, administrative agency or other governmental body (except such as may be required under the Act or state securities or Blue Sky



laws), and will not conflict with or constitute a breach of any agreement, indenture or other instrument to which such Selling Shareholder is a party or by which such Selling Shareholder or any property of such Selling Shareholder is bound, or violate or conflict with any law, administrative regulation or ruling or court decree applicable to such Selling Shareholder or property of such Selling Shareholder.

(g) Such parts of the Registration Statement under the caption "Principal and Selling Shareholders" which specifically relate to such Selling Shareholder do not, and will not on the Closing Date (and any Option Closing Date, if applicable), contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of circumstances under which they were made, not misleading.

(h) At any time during the period described in paragraph 5(e) hereof, if there is any change in the information referred to in paragraph 7(g) above with respect to such Selling Shareholder, such Selling Shareholder will immediately notify you of such change.

8. Indemnification. (a) The Company agrees to indemnify and hold harmless each Underwriter and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, from and against any and all losses, claims, damages, liabilities and judgments (i) caused by any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (as amended or supplemented if the Company shall have furnished any amendments or supplements thereto) or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (ii) caused by any untrue statement or alleged untrue statement of material fact contained in the Prospectus or any preliminary prospectus or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, except insofar as such losses, claims, damages, liabilities or judgments are caused by any such untrue statement or omission or alleged untrue statement or omission based upon information relating to any Underwriter furnished in writing to the Company by or on behalf of any Underwriter through you expressly for use therein; provided, however, that the foregoing indemnity agreement with respect to any preliminary prospectus shall not inure to the benefit of any Underwriter from whom the person asserting any such losses, claims, damages and liabilities and judgments purchased Shares, or any person controlling such Underwriter, if a copy of the Prospectus (as then amended or supplemented if the Company shall have furnished any amendments or supplements thereto) was not sent or given by or on behalf of such Underwriter to such person, if required by law so to have been delivered, at or prior to the written confirmation of the sale of the Shares to such person, and if the Prospectus (as so amended and supplemented) would have cured the defect giving rise to such loss, claim, damage, liability or judgment.

(b) In case any action shall be brought against any Underwriter or any person controlling such Underwriter, based upon any preliminary prospectus, the Registration Statement or the Prospectus or any amendment or supplement thereto and with respect to which indemnity may be



sought hereunder, such Underwriter shall promptly notify the Company in writing and the Company shall assume the defense thereof, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses. Any Underwriter or any such controlling person shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Underwriter or such controlling person unless (i) the employment of such counsel shall have been specifically authorized in writing by the Company, (ii) the Company shall have failed to assume the defense and employ counsel within a reasonable time after notice of commencement of the action or (iii) the named parties to any such action (including any impleaded parties) include both such Underwriter or such controlling person and the Company and such Underwriter or such controlling person shall have been advised by such counsel that there may be one or more legal defenses available to it which involve a conflict of interest with the interests of the Company (in which case the Company shall not have the right to assume the defense of such action on behalf of such Underwriter or such controlling person, it being understood, however, that the Company shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the fees and expenses of more than one separate firm of attorneys (in addition to any local counsel) for all such Underwriters and controlling persons, which firm shall be designated in writing by you and that all such fees and expenses shall be reimbursed as they are incurred). The Company shall not be liable for any settlement of any such action effected without its written consent, provided that such consent shall not be unreasonably withheld, but if settled with the written consent of the Company, the Company agrees to indemnify and hold harmless any Underwriter and any such controlling person from and against any loss or liability by reason of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such proceeding.

(c) Each Selling Shareholder agrees, severally and not jointly, to indemnify and hold harmless each Underwriter and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act from and against any and all losses, claims, damages, liabilities and judgments (including, without limiting the foregoing, the fees and expenses of counsel incurred in connection with any action, suit or governmental or regulatory proceeding) (i) caused by any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (as amended or supplemented if the Company shall have furnished any amendments or supplements thereto), or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (ii) caused by any untrue statement or alleged untrue statement of a material fact contained in the Prospectus or any preliminary prospectus or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading (but, in the case of any such Registration Statement or Prospectus, only insofar as such statement



or omission was made in reliance upon written information furnished by such Selling Shareholder to the Company or an Underwriter specifically for inclusion therein), except insofar as (i) such losses, claims, damages, liabilities or judgments are caused by any such untrue statement or omission or alleged untrue statement or omission based upon information relating to any Underwriter furnished in writing to the Selling Shareholder by or on behalf of such Underwriter through you expressly for use therein or (ii) such losses, claims, damages, liabilities or judgments arise out of or are based upon any action or alleged untrue statement or omission made in or from any preliminary prospectus but corrected in the Prospectus, as amended or supplemented, if the person asserting any such loss, claim, damage or liability purchased such securities from such Underwriter, but was not sent or given, at or prior to the written confirmation of such sale, a copy of the Prospectus (or of the Prospectus as then amended or supplemented), in any case where such delivery is required under the Act, and where the Prospectus (as amended or supplemented) would have cured the defect giving rise to such loss, claim, damage, liability or judgment. Notwithstanding the foregoing, the aggregate liability of any Selling Shareholder pursuant to the provisions of this paragraph shall be limited to an amount equal to the aggregate purchase price received by such Selling Shareholder from the sale of such Selling Shareholder's Shareholder Shares hereunder.

(d) In case any action shall be brought against any Underwriter or any person controlling such Underwriter, based upon any preliminary prospectus, the Registration Statement or the Prospectus or any amendment or supplement thereto and with respect to which indemnity may be sought against a Selling Shareholder, such Underwriter or such person controlling an Underwriter shall promptly notify such Selling Shareholder in writing and such Selling Shareholder shall assume the defense thereof, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses of such counsel. Any Underwriter or any such controlling person shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Underwriter or such controlling person, other than the Selling Shareholder, unless (i) the employment of such counsel has been specifically authorized in writing by such Selling Shareholder, (ii) such Selling Shareholder has failed to assume the defense thereof and employ counsel within a reasonable time after notice of commencement of the action or (iii) the named parties to any such action (including any impleaded parties) include both such Underwriter or such controlling person and such Selling Shareholder, and such Underwriter or such controlling person shall have been advised by such counsel that there may be one or more legal defenses available to it which involve a conflict of interest with the interests of the Company (in which case, such Selling Shareholder shall not have the right to assume the defense of such action on behalf of such Underwriter or such controlling person, it being understood, however, that such Selling Shareholder shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the fees and expenses of more than one separate firm of attorneys (in addition to any local counsel) for all such Underwriters and controlling persons, which firm shall be designated in writing by you, and that all such fees and expenses shall be reimbursed as they are incurred). Such Selling Shareholder shall not be liable for any settlement of any such action effected without the written consent of such Selling Shareholder, provided that such consent shall not be unreasonably withheld. Such Selling



Shareholder shall not, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such proceeding.

(e) Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, any Selling Shareholder who sells Shareholder Shares, the Company's directors and officers who sign the Registration Statement and any person controlling the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, to the same extent as the foregoing indemnity from the Company to each Underwriter but only with reference to information relating to such Underwriter furnished in writing by or on behalf of such Underwriter through you expressly for use in the Registration Statement, the Prospectus or any preliminary prospectus. In case any action shall be brought against the Company, any of the Selling Shareholders who sell Shareholder Shares, any of the Company's directors, any such officer or any person controlling the Company based on the Registration Statement, the Prospectus or any preliminary prospectus and in respect of which indemnity may be sought against any Underwriter, the Underwriter shall have the rights and duties given to the Company (except that if the Company shall have assumed the defense thereof, such Underwriter shall not be required to do so, but may employ separate counsel therein and participate in the defense thereof but the fees and expenses of such counsel shall be at the expense of such Underwriter), and the Company, its directors, any such officers and any such person controlling the Company and any such Selling Shareholder shall have the rights and duties given to the Underwriter, by Section 8(b) hereof.

(f) If the indemnification provided for in this Section 8 is unavailable to an indemnified party in respect of any losses, claims, damages, liabilities or judgments referred to therein, then each indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages, liabilities and judgments (i) in such proportion as is appropriate to reflect the relative benefits received by the Company and the Selling Shareholders on the one hand and the Underwriters on the other hand from the offering of the Shares or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, such Selling Shareholders and the Underwriters in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or judgments, as well as any other relevant equitable considerations. The relative benefits received by the Company, the Selling Shareholders and the Underwriters shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company and you Selling Shareholders, respectively, and the total underwriting discounts and commissions received by the Underwriters, bear to the total price to the public of the Shares, in each case as set forth in the table on the cover page of the Prospectus. The relative fault of the Company, the Selling Shareholders and the Underwriters shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the Company, the Selling Shareholders or



the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company, the Selling Shareholders and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 8(f) were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. The amount paid or payable by an indemnified party as a result of the losses, claims, damages, liabilities or judgments referred to in the immediately preceding paragraph shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 8, no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 8(f) are several in proportion to the respective number of Shares purchased by each of the Underwriters hereunder and not joint.

9. Conditions of Underwriters' Obligations. The several obligations of the Underwriters to purchase the Initial Shares under this Agreement are subject to the satisfaction of each of the following conditions:

(a) All the representations and warranties of the Company and the Selling Shareholders contained in this Agreement shall be true and correct on the Closing Date with the same force and effect as if made on and as of the Closing Date.

(b) The Registration Statement shall have become effective not later than 5:00 P.M. (and in the case of a Registration Statement filed under Rule 462(b) of the Act, not later than 10:00p.m.), New York City time, on the date of this Agreement or at such later date and time as you may approve in writing, and at the Closing Date no stop order suspending the effectiveness of the Registration Statement shall have been issued and no proceedings for that purpose shall have been commenced or shall be pending before or contemplated by the Commission.

(c) (i) Since the date of the latest balance sheet included in the Registration Statement and the Prospectus, there shall not have been any material adverse change, or any development involving a prospective material adverse change, in the condition, financial or otherwise, or in the earnings, affairs or business prospects, whether or not arising in the ordinary course of business, of the Company, (ii) since the date of the latest balance sheet included in the Registration Statement and the Prospectus there shall not have been any change, or any development involving a prospective material adverse change, in the capital stock or in the long-term debt of the Company from that set



forth in the Registration Statement and Prospectus, (iii) the Company shall have no liability or obligation, direct or contingent, which is material to the Company, other than those reflected in the Registration Statement and the Prospectus and (iv) on the Closing Date you shall have received a certificate dated the Closing Date, signed by \_\_\_\_\_ and \_\_\_\_\_, in their capacities as the \_\_\_\_\_ and \_\_\_\_\_ of the Company, confirming the matters set forth in paragraphs (a), (b), and (c) of this Section 9.

(d) You shall have received on the Closing Date an opinion (satisfactory to you and counsel for the Underwriters), dated the Closing Date, of Parker Chapin Flattau & Klimpl LLP, counsel for the Company, to the effect that:

(i) the Company is in good standing as a Delaware corporation and is duly qualified to do business in each jurisdiction in which the nature of its business or its ownership or leasing of property requires such qualification, except where the failure to be so qualified would not have a material adverse effect on the Company;

(ii) all the outstanding shares of Common Stock, including the Shareholder Shares, have been duly authorized and validly issued and are fully paid, non-assessable and not subject to any preemptive or similar rights;

(iii) the Company Shares and the Additional Shares have been duly authorized, and when issued and delivered to the Underwriters against payment therefor as provided by this Agreement, will have been validly issued and will be fully paid and non-assessable, and the issuance of such Shares is not subject to any preemptive or similar rights;

(iv) this Agreement has been duly authorized, executed and delivered by the Company and is a valid and binding agreement of the Company enforceable in accordance with its terms (except as rights to indemnity and contribution hereunder may be limited by applicable law);

(v) the authorized capital stock of the Company, including the Common Stock, conforms as to legal matters to the description thereof contained in the Prospectus;

(vi) the Registration Statement has become effective under the Act, no stop order suspending its effectiveness has been issued and no proceedings for that purpose are, to the knowledge of such counsel, pending before or contemplated by the Commission;

(vii) the statements under the captions "\_\_\_\_\_", "\_\_\_\_\_", "\_\_\_\_\_", "\_\_\_\_\_", "\_\_\_\_\_", "\_\_\_\_\_", "Description of Capital Stock" and "Underwriting" in the Prospectus and Items 13 and 14 of Part II of the Registration Statement insofar as such statements constitute a summary of legal matters documents or proceedings referred to therein, fairly present the information called for with respect to such legal matters, documents and proceedings;



(viii) the Company is not in violation of its charter or by-laws and, to the best of such counsel's knowledge after due inquiry, the Company is not in default in the performance of any obligation, agreement or condition contained in any bond, debenture, note or any other evidence of indebtedness or in any other agreement, indenture or instrument material to the conduct of the business of the Company, to which the Company is a party or by which its property is bound;

(ix) the execution, delivery and performance of this Agreement by the Company and each Selling Shareholder, compliance by each of them with all the provisions hereof and the consummation of the transactions contemplated hereby will not require any consent, approval, authorization or other order of or filing with any United States federal or state court, regulatory body, administrative agency or other governmental body (except as such may be required under the Act, the Exchange Act, by the rules, regulations or by-laws of the National Association of Securities Dealers, Inc. and the NASDAQ National Market System or other securities or Blue Sky laws) and, to the best of such counsel's knowledge, will not conflict with or constitute a breach of any of the terms or provisions of, or a default under, any agreement, indenture or other instrument to which the Company is a party, or by which it or its properties are bound, or violate or conflict with any United States federal or state laws, administrative regulations or rulings or court decrees applicable to the Company or its properties, except for such conflicts, breaches and defaults which would not reasonably be expected to have a material adverse effect on the business or condition (financial or otherwise) of the Company;

(x) after due inquiry, such counsel does not know of any legal or governmental proceeding pending or threatened to which the Company is a party or to which any of its property is subject which is required to be described in the Registration Statement or the Prospectus and is not so described, or of any contract or other document which is required to be described in the Registration Statement or the Prospectus or is required to be filed as an exhibit to the Registration Statement which is not described or filed as required;

(xi) to the best of such counsel's knowledge, after due inquiry, the Company any has not violated any Environmental Laws, nor any federal or state law relating to discrimination in the hiring, promotion or pay of employees nor any applicable federal or state wages and hours laws, nor any provisions of the Employee Retirement Income Security Act or the rules and regulations promulgated thereunder, which in each case might result in any material adverse change in the business, prospects, financial condition or results of operation of the Company;

(xii) the Company has such permits, licenses, franchises and authorizations of governmental or regulatory authorities ("permits"), including, without limitation, under any applicable Environmental Laws, as are necessary to own, lease and operate its respective properties and to conduct its business in the manner described in the Prospectus; to the best of such counsel's knowledge, after due inquiry, the Company has fulfilled and performed all



of its material obligations with respect to such permits and no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other material impairment of the rights of the holder of any such permit, subject in each case to such qualification as may be set forth in the Prospectus; and, except as described in the Prospectus, such permits contain no restrictions that are materially burdensome to the Company;

(xiii) the Company is not and, immediately following the Closing Date, will not be an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended;

(xiv) to the best of such counsel's knowledge, after due inquiry, no holder of any security of the Company has any right to require registration of shares of Common Stock or any other security of the Company;

(xv) to the best of such counsel's knowledge, after due inquiry, all leases to which the Company or any of its subsidiaries is a party are valid and binding and no default has occurred or is continuing thereunder, which might result in any material adverse change in the business, prospects, financial condition or results of operation of the Company, and the Company enjoys peaceful and undisturbed possession under all such leases to which any of them is a party as lessee with such exceptions as do not materially interfere with the use made by the Company;

(xvi) (1) the Registration Statement (including any Registration Statement filed under 462 (b) of the Act, if any) and the Prospectus and any supplement or amendment thereto (except for financial statements as to which no opinion need be expressed) comply as to form in all material respects with the Act, and (2) such counsel believes that (except for financial statements, as aforesaid) the Registration Statement and the prospectus included therein at the time the Registration Statement became effective did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and that the Prospectus, as amended or supplemented, if applicable (except for financial statements, as aforesaid) does not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(xvii) assuming due authorization, execution and delivery, the Custody Agreement is a valid and binding agreement of each Selling Shareholder enforceable in accordance with its terms, except as may be limited by bankruptcy, reorganization or moratorium or similar laws affecting the enforceability of creditors' rights generally and rules of law governing specific performance, injunctive relief and other equitable remedies;



(xviii) assuming due authorization, execution and delivery of the power of attorney signed by each Selling Shareholder appointing Stephen Katz and Michael E. McConnell or either of them, as such Selling Shareholder's attorney-in-fact to the extent set forth therein with regard to the transactions contemplated hereby and by the Registration Statement, such powers of attorney are valid and binding instruments of each Selling Shareholder enforceable in accordance with their terms;

(xix) to the best of such counsel's knowledge, after due inquiry, no facts exist that would form a basis for the belief that the Company lacks any rights or licenses to use patents and know-how necessary for the manufacture, use or sale of those products or technologies which the Company has identified in the Prospectus as having been developed; to the best of such counsel's knowledge, no facts exist that would form a basis for the belief that the Company lacks any rights or licenses to use patents and know-how necessary for the manufacture, use or sale of the products proposed to be developed, as described in the Prospectus;

(xx) after due inquiry, such counsel is not aware of any valid patents or trademarks of others that would be infringed by the manufacture, use or sale by the Company of those products or technologies which the Company has identified in the Prospectus as having been developed by the Company, and except as disclosed in the Prospectus, such counsel has no knowledge of any pending or threatened action, suit, proceeding or claims by others that the Company is infringing any patent or trademark; and

(xxi) on the basis of the participation of such counsel in conferences with officers and representatives of the Company at which the portion of the Registration Statement and the Prospectus dealing with the Company's patents and patent applications ("Company Patents") were discussed, but without independent verification by such counsel of the accuracy, completeness or fairness of the statements contained in the Registration Statement, the Prospectus or any amendment or supplement to the Registration Statement or the Prospectus, such counsel has no reason to believe that the Registration Statement and the Prospectus included therein at the time that the Registration Statement became effective contained any untrue statement of a material fact relating to the Company Patents or omitted to state a material fact relating to the Company Patents required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

The opinion of Parker Chapin Flattau & Klimpl LLP described in paragraph (d) above shall be rendered to you at the request of the company and shall so state therein.

In giving such opinion with respect to the matters covered by clause (xvi) such counsel may state that their opinion and belief are based upon their participation in the preparation of the Registration Statement and Prospectus and any amendments or supplements thereto and review and



discussion of the contents thereof, but are without independent check or verification except as specified.

(e) You shall have received on the Closing Date an opinion dated the Closing Date, of Seed & Berry, [ ], patent counsel for the Company, substantially in the form delivered to you by Seed & Berry, [ ], on the date of this Agreement.

(f) You shall have received on the Closing Date an opinion dated the Closing Date, of Andrews & Kurth, counsel for the Underwriters, as to the matters referred to in clauses (ix) and (x) (but only with respect to the statements under the caption "Description of Capital Stock" and "Underwriting") and (xvi) of the foregoing paragraph (d). In giving such opinion with respect to the matters covered by clause (xvi) such counsel may state that their opinion and belief are based upon their participation in the preparation of the Registration Statement and Prospectus and any amendments or supplements thereto and review and discussion of the contents thereof, but are without independent check or verification except as specified.

(g) You shall have received a letter on and as of the Closing Date, in form and substance satisfactory to you, from Ernst & Young LLP, independent public accountants, with respect to the financial statements and certain financial information contained in the Registration Statement and the Prospectus and substantially in the form and substance of the letter delivered to you by Ernst & Young LLP on the date of this Agreement.

(h) The Company shall have delivered to you the agreements specified in Section 2 hereof.

(i) The Company and the Selling Shareholders shall not have failed at or prior to the Closing Date to perform or comply in any material respect with any of the agreements herein contained and required to be performed or complied with by the Company or the Selling Shareholders at or prior to the Closing Date, including, without limitation, the termination of all preemptive rights.

The several obligations of the Underwriter to purchase any Additional Shares hereunder are subject to the delivery to you on the applicable Option Closing Date of such documents as you may reasonably request with respect to the good standing of the Company, the due authorization and issuance of such Additional Shares and other matters related to the issuance of such Additional Shares.

10. Effective Date of Agreement and Termination. This Agreement shall become effective upon the later of (i) execution of this Agreement and (ii) when notification of the effectiveness of the Registration Statement has been released by the Commission.

This Agreement may be terminated at any time prior to the Closing Date by you by written notice to the Company if any of the following has occurred: (i) since the respective dates as of which information is given in the Registration Statement and the Prospectus, any material adverse change or development involving a prospective material adverse change in the condition, financial or



otherwise, of the Company, or the earnings, affairs, or business prospects of the Company, whether or not arising in the ordinary course of business, which would, in your judgment, make it impracticable to market the Shares on the terms and in the manner contemplated in the Prospectus, (ii) any outbreak or escalation of hostilities or other national or international calamity or crisis or change in economic conditions or in the financial markets of the United States or elsewhere that, in your judgment, is material and adverse and would, in your judgment, make it impracticable to market the Shares on the terms and in the manner contemplated in the Prospectus, (iii) the suspension or material limitation of trading in securities on the New York Stock Exchange, the American Stock Exchange or the NASDAQ National Market System or limitation on prices for securities on any such exchange or National Market System or any suspension of trading of any securities of the Company on any such exchange, or National Market System or on any over-the-counter market, (iv) the enactment, publication, decree or other promulgation of any federal or state statute, regulation, rule or order of any court or other governmental authority which in your opinion materially and adversely affects, or will materially and adversely affect, the business or operations of the Company, (v) the declaration of a banking moratorium by either federal or New York State authorities or (vi) the taking of any action by any federal, state or local government or agency in respect of its monetary or fiscal affairs which in your opinion has a material adverse effect on the financial markets in the United States.

If on the Closing Date or on an Option Closing Date, as the case may be, any one or more of the Underwriters shall fail or refuse to purchase the Initial Shares or Additional Shares, as the case may be, which it or they have agreed to purchase hereunder on such date and the aggregate number of Initial Shares or Additional Shares, as the case may be, which such defaulting Underwriter or Underwriters, as the case may be, agreed but failed or refused to purchase is not more than one-tenth of the total number of Shares to be purchased on such date by all Underwriters, each non-defaulting Underwriter shall be obligated severally, in the proportion which the number of Firm Shares set forth opposite its name in Schedule I bears to the total number of Initial Shares which all the non-defaulting Underwriters, as the case may be, have agreed to purchase, or in such other proportion as you may specify, to purchase the Initial Shares or Additional Shares, as the case may be, which such defaulting Underwriter or Underwriters, as the case may be, agreed but failed or refused to purchase on such date; provided that in no event shall the number of Initial Shares or Additional Shares, as the case may be, which any Underwriter has agreed to purchase pursuant to Section 2 hereof be increased pursuant to this Section 10 by an amount in excess of one-ninth of such number of Initial Shares or Additional Shares, as the case may be, without the written consent of such Underwriter. If on the Closing Date or on an Option Closing Date, as the case may be, any Underwriter or Underwriters shall fail or refuse to purchase Initial Shares, or Additional Shares, as the case may be, and the aggregate number of Initial Shares or Additional Shares, as the case may be, with respect to which such default occurs is more than one-tenth of the aggregate number of Shares to be purchased on such date by all Underwriters and arrangements satisfactory to you and the Company for purchase of such Shares are not made within 48 hours after such default, this Agreement will terminate without liability on the part of any non-defaulting Underwriter and the Company. In any such case which does not result in termination of this Agreement, either you or the Company shall have the right to postpone the Closing Date or the applicable Option Closing Date, as the case may be, but in no event for longer than seven days, in order that the required changes, if any, in the Registration Statement and the Prospectus or any other documents or



arrangements may be effected. Any action taken under this paragraph shall not relieve any defaulting Underwriter from liability in respect of any default of any such Underwriter under this Agreement.

11. Miscellaneous. Notices given pursuant to any provision of this Agreement shall be addressed as follows: (a) if to the Company, to Stephen Katz, Chairman of the Board of Chief Executive Officer, Cellular Technical Services Company, Inc., 2401 Fourth Avenue, Seattle, Washington 98121 with a copy to Edward R. Mandell, Esq., Parker Chapin Flattau & Klimpl, LLP, (b) if to any Selling Shareholder, to, Cellular Technical Services Company, Inc., 2401 Fourth Avenue, Seattle, Washington 98121 98121 with a copy to Edward R. Mandell, Esq., Parker Chapin Flattau & Klimpl, LLP, and (c) if to you, Simon Strauss, Gerard Klauer Mattison & Co., LLC, 529 Fifth Avenue, New York, New York, 10017 with a copy to Emanuel S. Cherney, Esq., Andrews & Kurth LLP, 425 Lexington Avenue, New York 10017, or in any case to such other address as the person to be notified may have requested in writing.

The respective indemnities, contribution agreements, representations, warranties and other statements of the Company, its officers and directors and of you set forth in or made pursuant to this Agreement shall remain operative and in full force and effect, and will survive delivery of and payment for the Shares, regardless of (i) any investigation, or statement as to the results thereof, made by or on your behalf or by or on behalf of the Company, the officers or directors of the Company or any controlling person of the Company, (ii) acceptance of the Shares and payment for them hereunder and (iii) termination of this Agreement.

If this Agreement shall be terminated by the Underwriters because of any failure or refusal on the part of the Company to comply with the terms or to fulfill any of the conditions of this Agreement, the Company agrees to reimburse the several Underwriters for all out-of-pocket expenses (including the fees and disbursements of counsel) reasonably incurred by them.

Except as otherwise provided, this Agreement has been and is made solely for the benefit of and shall be binding upon the Company, the Underwriters, and any controlling persons referred to herein and their respective successors and assigns, all as and to the extent provided in this Agreement, and no other person shall acquire or have any right under or by virtue of this Agreement. The term "successors and assigns" shall not include a purchaser of any of the Shares from the several Underwriters merely because of such purchase.

This Agreement shall be governed and construed in accordance with the laws of the State of New York.



This Agreement may be signed in various counterparts which together shall constitute one and the same instrument.

\* \* \* \* \*

[SIGNATURES FOLLOW]

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Please confirm that the foregoing correctly sets forth the agreement between the Company and the several Underwriters.

Very truly yours,

CELLULAR TECHNICAL SERVICES COMPANY, INC.

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

THE SELLING SHAREHOLDERS NAMED IN  
SCHEDULE II HERETO

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Attorney-in-Fact \_\_\_\_\_

CONFIRMED AND ACCEPTED, as of the date first written:

GERARD KLAUER MATTISON & CO., LLC  
Acting severally on behalf of themselves and  
the several Underwriters named in Schedule I hereto

By: GERARD KLAUER MATTISON & CO., LLC

By: \_\_\_\_\_



SCHEDULE I

Underwriters  
-----

Number of Company Shares  
to be Purchased  
-----

Number of Shareholder  
Shares to be Purchased  
-----

GERARD KLAUER  
MATTISON & CO., LLC  
[Additional Underwriters to  
be specified]



SCHEDULE II

| Selling Shareholders<br>----- | Number of Shares<br>to be Sold<br>----- | Number of Additional<br>Shares which may be Sold<br>----- |
|-------------------------------|---|---|
|-------------------------------|---|---|

[Selling Shareholders to be specified]



ANNEX I

Required Officer, Director and Shareholder Lock-ups



1996 STOCK OPTION PLAN

of

CELLULAR TECHNICAL SERVICES COMPANY, INC.

1. PURPOSES OF THE PLAN. This stock option plan (the "Plan") is designed to provide an incentive to employees (including directors and officers who are employees) of and consultants to Cellular Technical Services Company, Inc., a Delaware corporation (the "Company") or any of its Subsidiaries (as defined in Paragraph 19), and to offer an additional inducement in obtaining the services of such persons. The Plan provides for the grant of "incentive stock options" ("ISOs") within the meaning of Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), and nonqualified stock options which do not qualify as ISOs ("NQSOs"), but the Company makes no representation or warranty, express or implied, as to the qualification of any option as an "incentive stock option" under the Code.

2. STOCK SUBJECT TO THE PLAN. Subject to the provisions of Paragraph 12, the aggregate number of shares of common stock, \$.001 par value per share, of the Company ("Common Stock") for which options may be granted under the Plan shall not exceed 550,000. Such shares of Common Stock may, in the discretion of the Board of Directors of the Company (the "Board of Directors"), consist either in whole or in part of authorized but unissued shares of Common Stock or shares of Common Stock held in the treasury of the Company. Subject to the provisions of Paragraph 13, any shares of Common Stock subject to an option which for any reason expires, is canceled or is terminated unexercised or which ceases for any reason to be exercisable shall again become available for the granting of options under the Plan. The Company shall at all times during the term of the Plan reserve and keep available such number of shares of Common Stock as will be sufficient to satisfy the requirements of the Plan.

3. ADMINISTRATION OF THE PLAN. The Plan shall be administered by a committee of the Board of Directors (the "Committee") consisting of not less than two directors, each of whom shall be a "disinterested person" within the meaning of Rule 16b-3 (or any successor rule or regulation) promulgated under the Securities Exchange Act of 1934, as amended (as the same may be in effect and interpreted from time to time, "Rule 16b-3"). A majority of the members of the Committee shall constitute a quorum, and the acts of a majority of the members present at any meeting at which a quorum is present, and any acts approved in writing by all members without a meeting, shall be the acts of the Committee.

Subject to the express provisions of the Plan, the Committee shall have the authority, in its sole discretion, to determine: the employees and consultants who shall be granted options; the times when options shall be granted; whether an option granted to an employee shall be an ISO or a NQSO; the number of shares of Common Stock to be subject to each option; the term



of each option; the date each option shall become exercisable; whether an option shall be exercisable in whole, in part or in installments and, if in installments, the number of shares of Common Stock to be subject to each installment, whether the installments shall be cumulative, the date each installment shall become exercisable and the term of each installment; whether and under what conditions to accelerate the date of exercise of any option or installment; whether shares of Common Stock may be issued upon the exercise of an option as partly paid and, if so, the dates when future installments of the exercise price shall become due and the amounts of such installments; the exercise price of each option; the form of payment of the exercise price; whether to restrict the sale or other disposition of the shares of Common Stock acquired upon the exercise of 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 11 hereof (the "Contract"), including without limitation, contingencies relating to entering into a covenant not to compete with the Company, any of its Subsidiaries or a Parent (as defined in Paragraph 19), to financial objectives for the Company, any of its Subsidiaries or a Parent, a division of any of the foregoing, a product line or other category, and/or the period of continued employment of the optionee with the Company, any of its Subsidiaries or a Parent, and to determine whether such contingencies have been met; whether an optionee is Disabled (as defined in Paragraph 19); the amount, if any, necessary to satisfy the Company's obligation to withhold taxes or other amounts; and the fair market value of a share of Common Stock; to construe the Plan; 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, and further, provided, that in the case of a modification (within the meaning of Section 424(h) of the Code) of an ISO, such option as modified would be permitted to be granted on the date of such modification under the terms of the Plan; to prescribe, amend and rescind rules and regulations relating to the Plan; and to make all other determinations necessary or advisable for administering the Plan. Any controversy or claim arising out of or relating to the Plan shall be determined unilaterally by the Committee in good faith in its sole discretion. The determinations of the Committee on the matters referred to in this Paragraph 3 shall be conclusive and binding on the parties. No member or former member of the Committee shall be liable for any action, failure to act or determination made in good faith with respect to the Plan or any option hereunder.

4. ELIGIBILITY. The Committee may from time to time, in its sole discretion, consistent with the purposes of the Plan, grant options to employees (including officers and directors who are employees) of, and to consultants to, the Company or any of its Subsidiaries. Such options granted shall cover such number of shares of Common Stock as the Committee may determine in the applicable Contract, in its sole discretion; provided, however, that the maximum number of shares subject to options that may be granted to any employee during any calendar year under the Plan (the "162(m) Maximum") shall not exceed 200,000 shares; and further, provided, that the aggregate market value (determined at the time the option is granted in accordance with Paragraph 5) of the shares of Common Stock for which any eligible employee may be granted ISOs under the Plan or any other plan of the Company, or of a Parent or a Subsidiary of the Company, which are exercisable for the first time by such optionee during any calendar year shall not exceed



\$100,000. Such limitation shall be applied by taking ISOs into account in the order in which they were granted. Any option granted in excess of such amount shall be treated as a NQSO to the extent of such excess.

5. EXERCISE PRICE. The exercise price of the shares of Common Stock under each option shall be determined by the Committee in the applicable Contract, in its sole discretion; provided, however, that the exercise price of an ISO shall not be less than the fair market value of the Common Stock subject to such option on the date of grant; and further, provided, that if, at the time an ISO is granted, the optionee owns (or is deemed to own under Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company, of any of its Subsidiaries or of a Parent, the exercise price of such ISO shall not be less than 110% of the fair market value of the Common Stock subject to such ISO on the date of grant.

The fair market value of a share of Common Stock on any day shall be (a) if the principal market for the Common Stock is a national securities exchange, the average of the highest and lowest sales prices per share of Common Stock on such day as reported by such exchange or on a composite tape reflecting transactions on such exchange, (b) if the principal market for the Common Stock is not a national securities exchange and the Common Stock is quoted on The Nasdaq Stock Market ("Nasdaq"), and (i) if actual sales price information is available with respect to the Common Stock, the average of the highest and lowest sales prices per share of Common Stock on such day on Nasdaq, or (ii) if such information is not available, the average of the highest bid and lowest asked prices per share of Common Stock on such day on Nasdaq, or (c) if the principal market for the Common Stock is not a national securities exchange and the Common Stock is not quoted on Nasdaq, the average of the highest bid and lowest asked prices per share of Common Stock on such day as reported on the OTC Bulletin Board Service or by National Quotation Bureau, Incorporated or a comparable service; provided, however, that if clauses (a), (b) and (c) of this Paragraph are all inapplicable, or if no trades have been made or no quotes are available for such day, the fair market value of the Common Stock shall be determined by the Board by any method consistent with applicable regulations adopted by the Treasury Department relating to stock options.

6. TERM. The term of each option granted pursuant to the Plan shall be such term as is established by the Committee in the applicable Contract, in its sole discretion; provided, however, that the term of each ISO granted pursuant to the Plan shall be for a period not exceeding 10 years from the date of grant thereof; and further, provided, that if, at the time an ISO is granted, the optionee owns (or is deemed to own under Section 424(d) of the Code) stock possessing more than 10% of the total combined voting power of all classes of stock of the Company, of any of its Subsidiaries or of a Parent, the term of the ISO shall be for a period not exceeding five years from the date of grant. Options shall be subject to earlier termination as hereinafter provided.



7. EXERCISE. An option (or any part or installment thereof), to the extent then exercisable, shall be exercised by giving written notice to the Company at its principal office stating which option is being exercised, specifying the number of shares of Common Stock as to which such option is being exercised and accompanied by payment in full of the aggregate exercise price therefor (or the amount due on exercise if the Contract permits installment payments) (a) in cash or by certified check or (b) if the applicable Contract permits, with previously acquired shares of Common Stock having an aggregate fair market value on the date of exercise (determined in accordance with Paragraph 5) equal to the aggregate exercise price of all options being exercised, or with any combination of cash, certified check or shares of Common Stock.

The Committee may, in its sole discretion, permit payment of the exercise price of an option by delivery by the optionee of a properly executed notice, together with a copy of his irrevocable instructions to a broker acceptable to the Committee to deliver promptly to the Company the amount of sale or loan proceeds sufficient to pay such exercise price. In connection therewith, the Company may enter into agreements for coordinated procedures with one or more brokerage firms.

A person entitled to receive Common Stock upon the exercise of an option shall not have the rights of a stockholder with respect to such shares of Common Stock until the date of issuance of a stock certificate for such shares or in the case of uncertificated shares, an entry is made on the books of the Company's transfer agent representing such shares; provided, however, that until such stock certificate is issued or book entry is made, any optionee using previously acquired shares of Common Stock in payment of an option exercise price shall continue to have the rights of a stockholder with respect to such previously acquired shares.

In no case may a fraction of a share of Common Stock be purchased or issued under the Plan.

8. TERMINATION OF RELATIONSHIP. Except as may otherwise be expressly provided in the applicable Contract, any optionee whose relationship with the Company, its Parent and Subsidiaries as an employee or a consultant has terminated for any reason (other than the death or Disability of the optionee) may exercise such option, to the extent exercisable on the date of such termination, at any time within three months after the date of termination, but not thereafter and in no event after the date the option would otherwise have expired; provided, however, that if such relationship is terminated either (a) for Cause (as defined in Paragraph 19) , or (b) without the consent of the Company, such option shall terminate immediately.

For the purposes of the Plan, an employment relationship shall be deemed to exist between an individual and the Company, any of its Subsidiaries or a Parent if, at the time of the determination, the individual was an employee of such corporation for purposes of Section 422(a) of the Code. As a result, an individual on military, sick leave or other bona fide leave of absence shall continue to be considered an employee for purposes of the Plan during such leave if the period



of the leave does not exceed 90 days, or, if longer, so long as the individual's right to reemployment with the Company, any of its Subsidiaries or a Parent is guaranteed either by statute or by contract. If the period of leave exceeds 90 days and the individual's right to reemployment is not guaranteed by statute or by contract, the employment relationship shall be deemed to have terminated on the 91st day of such leave.

Except as may otherwise be expressly provided in the applicable Contract, options granted under the Plan shall not be affected by any change in the status of the optionee so long as the optionee continues to be an employee of, or a consultant to, the Company, or any of the Subsidiaries or a Parent (regardless of having changed from one to the other or having been transferred from one corporation to another).

Nothing in the Plan or in any option granted under the Plan shall confer on any optionee any right to continue in the employ of, or as a consultant to, the Company, any of its Subsidiaries or a Parent, or interfere in any way with any right of the Company, any of its Subsidiaries or a Parent to terminate the optionee's relationship at any time for any reason whatsoever without liability to the Company, any of its Subsidiaries or a Parent.

9. DEATH OR DISABILITY OF AN OPTIONEE. Except as may otherwise be expressly provided in the applicable Contract, if an optionee dies (a) while he is an employee of, or consultant to, the Company, any of its Subsidiaries or a Parent, (b) within three months after the termination of such relationship (unless such termination was for Cause or without the consent of the Company) or (c) within one year following the termination of such relationship by reason of his Disability, his option may be exercised, to the extent exercisable on the date of his death, by his Legal Representative (as defined in Paragraph 19) at any time within one year after death, but not thereafter and in no event after the date the option would otherwise have expired.

Except as may otherwise be expressly provided in the applicable Contract, any optionee whose relationship as an employee of, or consultant to, the Company, its Parent and Subsidiaries has terminated by reason of such optionee's Disability may exercise his option, to the extent exercisable upon the effective date of such termination, at any time within one year after such date, but not thereafter and in no event after the date the option would otherwise have expired.

10. COMPLIANCE WITH SECURITIES LAWS. The Committee may require, in its sole discretion, as a condition to the exercise of any option that either (a) a Registration Statement under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the shares of Common Stock to be issued upon such exercise shall be effective and current at the time of exercise, or (b) there is an exemption from registration under the Securities Act for the issuance of the shares of Common Stock upon such exercise. Nothing herein shall be construed as requiring the Company to register shares subject to any option under the Securities Act or to keep any Registration Statement effective or current.



The Committee may require, in its sole discretion, as a condition to the exercise of any option that the optionee execute and deliver to the Company his representations and warranties, in form, substance and scope satisfactory to the Committee, which the Committee determines are necessary or convenient to facilitate the perfection of an exemption from the registration requirements of the Securities Act, applicable state securities laws or other legal requirement, including without limitation that (a) the shares of Common Stock to be issued upon the exercise of the option are being acquired by the optionee for his own account, for investment only and not with a view to the resale or distribution thereof, and (b) any subsequent resale or distribution of shares of Common Stock by such optionee will be made only pursuant to (i) a Registration Statement under the Securities Act which is effective and current with respect to the shares of Common Stock being sold, or (ii) a specific exemption from the registration requirements of the Securities Act, but in claiming such exemption, the optionee shall prior to any offer of sale or sale of such shares of Common Stock provide the Company with a favorable written opinion of counsel satisfactory to the Company, in form, substance and scope satisfactory to the Company, as to the applicability of such exemption to the proposed sale or distribution.

In addition, if at any time the Committee shall determine, in its sole discretion, that the listing or qualification of the shares of Common Stock subject to such option on any securities exchange, Nasdaq or under any applicable law, or the consent or approval of any governmental regulatory body, is necessary or desirable as a condition to, or in connection with, the granting of an option or the issue of shares of Common Stock thereunder, such option may not be exercised in whole or in part unless such listing, qualification, consent or approval shall have been effected or obtained free of any conditions not acceptable to the Committee.

11. STOCK OPTION CONTRACTS. Each option shall be evidenced by an appropriate Contract which shall be duly executed by the Company and the optionee, and shall contain such terms, provisions and conditions not inconsistent herewith as may be determined by the Committee.

12. ADJUSTMENTS UPON CHANGES IN COMMON STOCK. Notwithstanding any other provision of the Plan, in the event of a stock dividend, split-up, spin off, combination, reclassification, recapitalization, merger in which the Company is the surviving corporation, or exchange of shares or the like which results in a change in the number or kind of shares of Common Stock which are outstanding immediately prior to such event, the aggregate number and kind of shares subject to the Plan, the aggregate number and kind of shares subject to each outstanding option and the exercise price thereof, and the 162(m) Maximum shall be appropriately adjusted by the Board of Directors, whose determination shall be conclusive and binding on all parties.

In the event of (a) the liquidation or dissolution of the Company, or (b) a merger in which the Company is not the surviving corporation or a consolidation, any outstanding options shall terminate upon the earliest of any such event, unless other provision is made therefor in the



transaction. The Company shall give each optionee under the Plan at least 20 days prior notice of any such transaction, advising the optionee of the impact of the transaction on his options.

13. AMENDMENTS AND TERMINATION OF THE PLAN. The Plan was adopted by the Board of Directors on April 24, 1996. No option may be granted under the Plan after April 23, 2006. The Board of Directors, without further approval of the Company's stockholders, may at any time suspend or terminate the Plan, in whole or in part, or amend it from time to time in such respects as it may deem advisable, including, without limitation, in order that ISOs granted hereunder meet the requirements for "incentive stock options" under the Code, to comply with the provisions of Rule 16b-3, Section 162(m) of the Code, or any change in applicable law, regulations, rulings or interpretations of administrative agencies; provided, however, that no amendment shall be effective without the requisite prior or subsequent stockholder approval which would (a) except as contemplated in Paragraph 12, increase the maximum number of shares of Common Stock for which options may be granted under the Plan or the 162(m) Maximum, (b) materially increase the benefits accruing to participants under the Plan or (c) change the eligibility requirements to receive options hereunder. No termination, suspension or amendment of the Plan shall, without the consent of the holder of an existing and outstanding option affected thereby, adversely affect his rights under such option. The power of the Committee to administer any options granted under the Plan prior to the termination or suspension of the Plan nevertheless shall continue after such termination or during such suspension.

14. NON-TRANSFERABILITY OF OPTIONS. No option granted under the Plan shall be transferable otherwise than by will or the laws of descent and distribution, and options may be exercised, during the lifetime of the optionee, only by the optionee or his Legal Representatives. Except to the extent provided above, options may not be assigned, transferred, pledged, hypothecated or disposed of in any way (whether by operation of law or otherwise) and shall not be subject to execution, attachment or similar process, and any such attempted assignment, transfer, pledge, hypothecation or disposition shall be null and void ab initio and of no force or effect.

15. WITHHOLDING TAXES. The Company may withhold (a) cash, (b) subject to any limitations under Rule 16b-3, shares of Common Stock to be issued with respect thereto having an aggregate fair market value on the exercise date (determined in accordance with Paragraph 5), or (c) any combination thereof, in an amount equal to the amount, if any, which the Committee determines is necessary to satisfy the Company's obligation to withhold Federal, state and local income taxes or other amounts incurred by reason of the grant or exercise of an option, its disposition, or the disposition of the underlying shares of Common Stock. Alternatively, the Company may require the optionee to pay to the Company such amount, in cash, promptly upon demand. The Company shall not be required to issue any shares of Common Stock pursuant to any such option until all required payments have been made.



16. LEGENDS; PAYMENT OF EXPENSES. The Company may endorse such legend or legends upon the certificates for shares of Common Stock issued upon exercise of an option under the Plan and may issue such "stop transfer" instructions to its transfer agent in respect of such shares as it determines, in its discretion, to be necessary or appropriate to (a) prevent a violation of, or to perfect an exemption from, the registration requirements of the Securities Act and any applicable state securities laws, (b) implement the provisions of the Plan or any agreement between the Company and the optionee with respect to such shares of Common Stock, or (c) permit the Company to determine the occurrence of a "disqualifying disposition," as described in Section 421(b) of the Code, of the shares of Common Stock issued or transferred upon the exercise of an ISO granted under the Plan.

The Company shall pay all issuance taxes with respect to the issuance of shares of Common Stock upon the exercise of an option granted under the Plan, as well as all fees and expenses incurred by the Company in connection with such issuance.

17. USE OF PROCEEDS. The cash proceeds from the sale of shares of Common Stock pursuant to the exercise of options under the Plan shall be added to the general funds of the Company and used for such corporate purposes as the Board of Directors may determine.

18. SUBSTITUTIONS AND ASSUMPTIONS OF OPTIONS OF CERTAIN CONSTITUENT CORPORATIONS. Anything in this Plan to the contrary notwithstanding, the Board of Directors may, without further approval by the stockholders, substitute new options for prior options of a Constituent Corporation (as defined in Paragraph 19) or assume the prior options of such Constituent Corporation.

19. DEFINITIONS. For purposes of the Plan, the following terms shall be defined as set forth below:

(a) Cause. The term "Cause" shall mean (i) if there is a written employment or consulting agreement between the optionee and the Company, any of its Subsidiaries or a Parent which defines cause for termination of such relationship, cause as defined in such agreement, or (ii) if there is no such agreement, cause as defined by applicable state law.

(b) Constituent Corporation. The term "Constituent Corporation" shall mean any corporation which engages with the Company, any of its Subsidiaries or a Parent in a transaction to which Section 424(a) of the Code applies (or would apply if the option assumed or substituted were an ISO), or any Parent or any Subsidiary of such corporation.

(c) Disability. The term "Disability" shall mean a permanent and total disability within the meaning of Section 22(e)(3) of the Code.



(d) Legal Representative. The term "Legal Representative" shall mean the executor, administrator or other person who at the time is entitled by law to exercise the rights of a deceased or incapacitated optionee with respect to an option granted under the Plan.

(e) Parent. The term "Parent" shall have the same definition as "parent corporation" in Section 424(e) of the Code.

(f) Subsidiary. The term "Subsidiary" shall have the same definition as "subsidiary corporation" in Section 424(f) of the Code.

20. GOVERNING LAW; CONSTRUCTION. The Plan, such options as may be granted hereunder and all related matters shall be governed by, and construed in accordance with, the laws of the State of Delaware, without regard to conflict of law provisions.

Neither the Plan nor any Contract shall be construed or interpreted with any presumption against the Company by reason of the Company causing the Plan or Contract to be drafted. Whenever from the context it appears appropriate, any term stated in either the singular or plural shall include the singular and plural, and any term stated in the masculine, feminine or neuter gender shall include the masculine, feminine and neuter.

21. PARTIAL INVALIDITY. The invalidity, illegality or unenforceability of any provision in the Plan or any Contract shall not affect the validity, legality or enforceability of any other provision, all of which shall be valid, legal and enforceable to the fullest extent permitted by applicable law.

22. STOCKHOLDER APPROVAL. The Plan shall be subject to approval by a majority of the votes present in person or by proxy at the next duly held meeting of the Company's stockholders at which a quorum is present. No options granted hereunder may be exercised prior to such approval; provided, however, that the date of grant of any option shall be determined as if the Plan had not been subject to such approval. Notwithstanding the foregoing, if the Plan is not approved by a vote of the stockholders of the Company on or before April 23, 1997, the Plan and any options granted hereunder shall terminate.



CELLULAR TECHNICAL SERVICES COMPANY, INC.  
 COMPUTATION OF EARNINGS PER SHARE  
 (UNAUDITED)

|   | YEAR ENDED DECEMBER 31, |              |            | THREE MONTHS<br>ENDED<br>MARCH 31, |               |
|---|-------------------------|--------------|------------|------------------------------------|---------------|
|   | 1993                    | 1994         | 1995       | 1995                               | 1996          |
|   |                         |              |            | (UNAUDITED)                        |               |
| Primary earnings per share:   |                         |              |            |                                    |               |
| Net income (loss) for calculation of<br>primary earnings per share.....   | \$(1,206,335)           | \$ 1,549,871 | \$ 63,187  | \$ 243,127                         | \$(2,500,559) |
| Weighted average number of shares<br>outstanding.....   | 17,363,680              | 19,091,036   | 20,398,272 | 19,752,808                         | 21,608,900    |
| Dilutive effect of outstanding<br>warrants and stock options -- based<br>upon the Treasury Stock Method<br>using average market price(1)..... |                         | 1,206,290    | 1,627,878  | 2,405,878                          |               |
| Weighted average number of shares, as<br>adjusted, for calculation of<br>primary earnings per share.....                                      | 17,363,680              | 20,297,326   | 22,026,150 | 22,158,686                         | 21,608,900    |
| Primary earnings (loss) per<br>share(2).....  | \$(.07)                 | \$.08        | \$.00      | \$.01                              | \$(.12)       |

(1) Common Stock equivalent shares have not been considered in the calculation for the year ended December 31, 1993 and the quarterly period ended March 31, 1996, because the effect would be antidilutive.

(2) Fully diluted earnings per share computations are not included since they would not materially change results presented on a primary earnings per share basis.



CONSENT OF INDEPENDENT AUDITORS

We consent to the reference to our firm under the captions 'Selected Financial Data' and 'Experts' and to the use of our reports dated March 1, 1996, except for the first paragraph of Note K, as to which the date is June 24, 1996, in the Registration Statement on Form S-1 and the related Prospectus of Cellular Technical Services Company, Inc. for the registration of 1,725,000 shares of its common stock.

/s/ ERNST & YOUNG LLP

Seattle, Washington  
July 1, 1996