

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3 REGISTRATION STATEMENT Under

THE SECURITIES ACT OF 1933

APPLIED DIGITAL SOLUTIONS, INC.

(Exact name of registrant as specified in its charter)

MISSOURI
(State or other jurisdiction of
incorporation or organization)

3661
(Primary Standard Industrial
Classification Code Number)

43-1641533
(I.R.S. Employer
Identification No.)

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including area code, of registrant's principal executive offices)

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Approximate date of commencement of proposed sale to public: From time to time 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, 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 this Form is a post-effective amendment filed pursuant to Rule 462(d) 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. ☐

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered	Proposed maximum offering price per unit(1)	Proposed maximum aggregate offering price(1)	Amount of registration fee
Common Stock, \$.001 par value per share	13,794,718 shares	\$0.29	\$4,000,468	\$1,000

(1) Pursuant to Rule 457(c), the proposed offering price and registration fee have been calculated on the basis of the average of the high and low trading prices for the Common Stock on July 11, 2001 as reported on the Nasdaq National Market.

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 the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

SUBJECT TO COMPLETION, DATED JULY 13, 2001

13,794,718 Shares



Common Stock

This prospectus relates to resales of up to 13,794,718 shares of our common stock, par value \$.001 per share, which may be sold at various times by the selling shareholders listed in this prospectus starting on page 21. More information about the shares is under "Description of Capital Stock" beginning on page 23.

The selling shareholders identified in this prospectus or their transferees may sell the shares of common stock from time to time in accordance with the plan of distribution described in this prospectus. See "Plan of Distribution" beginning on page 28.

Our shares are listed on the Nasdaq Stock Market under the symbol "ADSX." On July 10, 2001, the last reported sale price of our common stock was \$0.28 per share.

Since January 1, 2000, we have filed additional registration statements relating to secondary sales of an aggregate of 147,873,218 shares of our common stock. These additional registration statements remain effective at the date of this registration statement.

Investing in these securities involves risks. You should carefully consider the risk factors beginning on page 3 of this prospectus before purchasing the common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2001.

The information in this preliminary prospectus is not complete and may be changed. The Selling Shareholders may not sell these securities until the amendment to the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and we are not soliciting any offer to buy these securities in any state where the offer or sale is not permitted.

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RISK FACTORS

You should carefully consider the risk factors listed below. These risk factors may cause our future earnings to be less or our financial condition to be less favorable than we expect. You should read this section together with the other information in, or incorporated herein by reference into, this prospectus.

We cannot be certain of future financial results.

We incurred losses of \$11.4 million and \$33.9 million from continuing operations for the first quarter of 2001 and for the year ended December 31, 2000, respectively. We reported income from continuing operations before income taxes of \$3.7 million for the year ended December 31, 1999 which included a loss from continuing operations of \$16.3 million, offset by a gain of \$20 million from the sale of our Canadian subsidiary, TigerTel, Inc. In 1998, we reported a loss of \$0.6 million from continuing operations. Our business plan depends on our attaining and maintaining profitability; however, we cannot predict whether or when we will be profitable. Our profitability depends on many factors, including the success of our marketing programs, the maintenance and reduction of expenses and our ability to successfully coordinate the operations of our business units. If we do become profitable, we may not be able to sustain or increase profitability on a quarterly or annual basis. In addition, if we fail to sustain or grow our profits within the time frame expected by investors, the market price of our common stock may fall.

Our stock price may continue to be volatile, and you may be unable to resell your shares at or above the price at which you acquire them.

Since January 1, 2000, the price per share of our common stock has ranged from a high of \$18.00 to a low of \$0.28. The price of our common stock has been, and may continue to be, highly volatile and subject to wide fluctuations in response to factors, including the following:

- significant changes to our business resulting from continued acquisitions and expansions;
- quarterly fluctuations in our financial results or cash flows;
- changes in investor perception of us or the market for our products and services;
- changes in economic and capital market conditions for other companies in our market sector; and
- changes in general economic and market conditions.

In addition, the stock market in general, and the Nasdaq National Market and stocks of technology companies in particular, have often experienced extreme price and volume fluctuations. This volatility is often unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may decrease the market price of our common stock, regardless of our actual operating performance. Declines in the market price of our common stock could also harm employee morale and retention, our access to capital and other aspects of our business. If our share price is volatile, we may be the target of securities litigation, which is costly and time-consuming to defend. Historically, following periods of volatility in the market price of a company's securities, securities class action litigation has often been initiated against that company. Litigation of this type could result in substantial costs and a diversion of management's attention and resources, which would harm our business.

We may issue preferred stock, which will rank senior to the shares of common stock offered by this prospectus and which may delay or prevent a change in control of us.

Our board of directors has the right to issue additional preferred stock without further shareholder approval, and the holders of such preferred stock may have preferences over the holders of our common stock as to payments of dividends, liquidation and other matters. As described under "Recent Developments" beginning on page 17 below, we issued a series of convertible preferred stock in October,

2000, and have granted the purchasers the right to require us to issue additional shares of convertible preferred stock in the future. These provisions could delay or prevent a change in control of us or limit the price that investors might be willing to pay in the future for shares of our common stock.

Because the conversion of shares of our Series C preferred stock into shares of our common stock depends upon the market value of our common stock, a decline in the market value of our common stock would increase the number of shares issued upon conversion which could depress the market price of our common stock.

The conversion of our Series C preferred stock and the exercise of the related warrants would result in a substantial number of additional shares being issued, and such number would increase if the market price of our common stock declines. The conversion price per share of common stock into which the Series C preferred stock converts, as a percentage of then current market value, will decrease the longer the holders of the Series C preferred stock wait to convert their shares. In some cases, the conversion price could be as low as 50% of the lowest closing price of our common stock during a specified period. If such reduction in the conversion price occurs, it would more than double the number of shares of common stock issuable on conversion. For a detailed discussion of the effect of market price declines of our common stock as it relates to conversion of the Series C preferred stock, please refer to “Description of Capital Stock—Preferred Stock—Series C Convertible Preferred Stock—Effect of Decline in Market Price of Our Common Stock” on page 24.

Assuming a market price per share of our common stock of \$0.28 per share, the lowest closing share price for the 10-day period ending on July 10, 2001, and using the conversion rate most favorable to the Series C preferred stockholders, those holders would receive a total of 131,915,270 shares of our common stock on conversion of all Series C preferred stock and exercise of related warrants.

If our preferred stockholders exercise their option to require us to issue more Series C preferred stock, our stock could be further diluted.

The holders of the Series C preferred stock may require us to issue up to an additional \$26 million in stated value of preferred stock, on terms similar to the Series C preferred stock we currently have outstanding, for an aggregate purchase price of \$20 million, at any time during the next several months. The additional preferred stock would be accompanied by warrants to purchase up to an additional 800,000 shares of our common stock. If the holders of the Series C preferred stock require us to issue the additional preferred stock and warrants, it could cause further dilution and adversely affect the market price of our common stock.

We may be required to redeem the Series C preferred stock, which could harm our financial position.

Upon the occurrence of events described below under “Description of Capital Stock—Preferred Stock—Series C Convertible Preferred Stock” beginning on page 23, we may be required to redeem the Series C preferred stock at a redemption price equal to 130% of the stated value, which would be \$18.0 million at July 10, 2001, plus accrued dividends. We may also be required to redeem the Series C preferred stock at a redemption price equal to 130% of the stated value, plus accrued dividends, upon a change of control or other major transactions. If we become obligated to effect such redemption, it could adversely affect our financial condition. Our credit agreement with IBM Credit requires that we obtain IBM Credit’s prior written consent to make such payments.

If we are required to delist our common stock, trading in our shares could decrease and the market price of our shares could decline.

Our ability to remain listed on the Nasdaq National Market depends on our ability to satisfy applicable Nasdaq criteria including our ability to maintain a minimum bid price of \$1.00 per share. The

market price for our common stock has recently been below the minimum bid price required by Nasdaq, and we have recently received notification from Nasdaq that we have until October 10, 2001 to regain compliance with the minimum bid price requirement. If we are unable to satisfy this requirement, Nasdaq may begin procedures to remove our common stock from the Nasdaq National Market.

If we are delisted from the Nasdaq National Market, an active trading market for our common stock may no longer exist. As a result, trading in our shares of common stock could decrease substantially, and the price of our shares of common stock may decline.

Accretion of the discount on the Series C preferred stock will adversely affect our earnings.

We will be required to accrete a portion of the discount on the Series C preferred stock through equity, which will reduce the income available to common stockholders and earnings per share. In addition, the value assigned to the warrants issued in connection with the Series C preferred stock and the option to acquire additional shares of the Series C preferred stock in a second tranche will increase the discount on that stock.

Because the conversion rate of the Series C preferred stock depends on the market price, it may encourage short sales of our common stock.

Because of the fluctuating conversion rates described above, investors may engage in “short sales” of our common stock. Selling short is a technique used by an investor to take advantage of an anticipated decline in the price of a security, and a significant number of short sales can create a downward pressure on the price of the security. If investors engage in short sales of our common stock because of the anticipated effects of our issuance of the Series C preferred stock upon conversion by the holders of the Series C preferred stock, this could create a further downward pressure on the market price of our common stock.

If we are required to issue additional shares of common stock in connection with prior acquisitions, our stock may be further diluted.

As of July 10, 2001, there were 198,816,319 shares of our common stock outstanding. Since January 1, 2001, we have issued an aggregate of 100,004,552 shares of common stock, of which 85,021,542 shares were issued in connection with acquisitions of businesses and assets, and we have reacquired 2,624,934 shares of our common stock. We have effected, and will likely continue to effect, acquisitions or contract for services through the issuance of common stock or our other equity securities. In addition, we have agreed to “price protection” provisions in prior acquisition agreements which may result in additional shares of common stock being issued. Such issuances of additional securities may be dilutive to the value of our common stock and may have an adverse impact on the market price of our common stock.

Competition could reduce our market share and decrease our revenue.

Each of our business units is highly competitive, and we expect that competitive pressures will continue in the future. Many of our competitors have far greater financial, technological, marketing, personnel and other resources than us. The areas which we have identified for continued growth and expansion are also target market segments for some of the largest and most strongly capitalized companies in the United States, Canada and Europe. In response to competitive pressures, we may be required to reduce prices or increase spending in order to retain or attract customers or to pursue new market opportunities. As a result, our revenue, gross profit and market share may decrease, each of which could significantly harm our results of operations. In addition, increased competition could prevent us from increasing our market share, or cause us to lose our existing market share, either of which would harm our revenues and profitability. We cannot assure you that we will have the financial, technical, marketing and other resources required to successfully compete against current and future

competitors or that competitive pressures faced by us will not harm our business, financial condition or results of operations.

Our plans call for us to grow rapidly, and our inability to manage this growth could harm our business.

We have rapidly and significantly expanded our operations through a program of acquisitions we consider complementary to our lines of business and expect to continue to do so. Since January 1, 1996, we have made 51 acquisitions, and, since January 1, 2000, we have made 10 acquisitions. This growth has placed, and is expected to continue to place, a significant strain on our managerial, operational and financial resources and information systems. Failure to manage our growth effectively will harm our business, financial condition and operating results. Furthermore, we retain existing management personnel of the companies we acquire, under the overall supervision of our senior management. The success of the operations of the businesses we acquire depend largely on the continued efforts of existing management. If we are unable to retain members of existing management of the businesses we have acquired, or may acquire in the future, our results of operations could suffer, and we may have significant difficulty in integrating those businesses with our current operations.

We have entered into put and earnout agreements for companies which we have acquired, which could require us to pay additional cash or stock consideration to the sellers of these businesses.

We have entered into earnout arrangements under which sellers of some of the businesses we acquired are entitled to additional consideration for their interests in the companies they sold to us. Under these agreements, assuming that all earnout profits are achieved, at July 10, 2001, we are contingently liable for additional consideration of approximately \$11.7 million in 2001, \$24.0 million in 2002 and \$2.0 million in 2004, all of which would be payable in shares of our common stock.

We have entered into a put option with the selling shareholders of a company in which we acquired less than a 100% interest. The option requires us to purchase the remaining portion we do not own sometime after four years from the date of acquisition at an amount per share equal to 20% of the average annual earnings per share of the acquired company before income taxes for a two year period ending on the effective date of the put multiplied by a multiple of four. Based upon the provisions of the put agreement, at July 10, 2001, we are contingently liable for additional consideration of \$0.9 million payable in shares of our common stock. Assuming an aggregate obligation of \$0.9 million and using the closing price of our common stock on July 10, 2001, we would be required to issue approximately 3.2 million shares to the holders of the put options. In addition, the amount of this obligation would increase if the earnings of the acquired company increase.

In January 2001, we entered into an agreement with Marc Sherman and Edward Cummings to terminate all put rights and employment agreements that each had with or in respect of Intellesale. In exchange, we issued to Messrs. Sherman and Cummings an aggregate of 6,616,522 shares of our common stock.

Goodwill amortization will reduce our earnings.

As a result of the acquisitions we have completed through March 31, 2001, we have approximately \$160.7 million of goodwill, none of which is deductible for tax purposes. We currently amortize the goodwill we have recorded over periods ranging from 5 to 10 years at the rate of approximately \$24 million per year, which reduces our net income and earnings per share. Our business plan calls for future acquisitions which may further increase the amount of goodwill and annual amortization we record, further reducing net income and earnings per share. As required by Statement of Financial Accounting Standards No. 121, we periodically review the amount of goodwill we have recorded for impairment, based on expected undiscounted cash flows. If we determine that an impairment exists, our accounting policies require us to write down the amount of goodwill accordingly, which would also reduce our earnings.

If we need additional capital for our ongoing operations, to fund growth or to finance acquisitions and do not obtain it, we may not achieve our business objectives.

We may require additional capital to fund growth of our current business as well as to make future acquisitions. In addition, while we anticipate that funds available from our ongoing operations and from our current credit agreement will provide sufficient capital to fund our continuing operations for at least the next twelve months, if unanticipated events occur we may require additional capital for such ongoing operations. We may not be able to obtain capital from outside sources. Even if we do obtain capital from outside sources, it may not be on terms favorable to us. Our current credit agreement with IBM Credit may hinder our ability to raise additional debt capital. In addition, the terms of the Series C preferred stock and the sale of substantial amounts of our common stock upon the conversion of the Series C preferred stock may make it more difficult for us to raise capital through the sale of equity or equity-related securities. If we raise additional capital by issuing equity securities, these securities may have rights, preferences or privileges senior to those of our common stockholders.

We may be unable to comply with restrictions imposed by our credit facility, which could result in a default under that agreement, enabling IBM Credit Corporation to declare amounts borrowed due and payable or otherwise result in unanticipated costs.

We entered into an amended and restated credit agreement with IBM Credit on October 17, 2000, which we amended on March 30, 2001, which contains various financial and other restrictive covenants that, among other things, limit our ability to borrow additional funds and declare and pay dividends, and requires us to, among other things, maintain various financial ratios and comply with various other financial covenants.

Although we were in compliance with our financial debt covenants at March 31, 2001, we cannot assure you that we will be able maintain compliance with our covenants in the future. A failure to comply with these restrictions could constitute a default under our credit agreement, allowing IBM Credit to terminate its commitment to us and declare all amounts borrowed, together with accrued interest and fees, immediately due and payable. If this were to occur, we might not be able to pay these amounts, or we might be forced to seek a further amendment to our credit agreement which could make the terms of the agreement more onerous for us.

We depend on our small team of senior management, and we may have difficulty attracting and retaining additional personnel.

We depend on the continued service of our executive officers and other key personnel. We have entered into employment contracts ranging for periods of one to five years through February 2006 with our key officers and employees. Some of these employment contracts call for bonus arrangements based on earnings. There can be no assurance, however, that we will be successful in retaining our key employees or that we can attract and retain additional skilled personnel as required. The loss of the

services of any of our central management team could harm our business, financial condition and results of operations. In addition, the operations of any of our individual facilities could be adversely affected if the services of the local managers should be unavailable.

Our failure to successfully implement the plan of disposition with respect to our discontinued operations could adversely affect our financial position and results of operations.

On March 1, 2001, our board of directors approved a plan to sell our Intellesale business segment and all of our other “non-core businesses.” The success of this plan depends upon our ability to identify buyers for these businesses willing to pay an amount acceptable to us and to do so within the timeframe set by our board of directors. There can be no assurance, however, that we will be successful in implementing our plan of disposition. In fact, we may be unable to completely dispose of these businesses by March 1, 2002, which could result in additional costs and expenses and which may require us to devote substantial managerial, operational and financial resources. Also, during the discontinuation period, these businesses may generate significant losses in excess of what we anticipated and accrued at December 31, 2000. Even if we do find a buyer for these businesses, we may incur considerably greater costs in disposing of these businesses than we had previously planned or we may not receive the amount of proceeds we originally expected. Consequently, our inability to successfully implement our plan of disposition could harm our business, financial condition and results of operations.

We face the risks that the value of our inventory may decline before we sell it or that we may not be able to sell the inventory at the prices we anticipate.

We purchase and warehouse inventory, particularly at Intellesale, much of which is refurbished or excess inventory of personal computer equipment. As a result, we assume inventory risks and price erosion risks for these products. These risks are especially significant because personal computer equipment generally is characterized by rapid technological change and obsolescence. These changes affect the market for refurbished or excess inventory equipment. Our success will depend on our ability to purchase inventory at attractive prices relative to its resale value and our ability to turn our inventory rapidly through sales. If we pay too much or hold inventory too long, we may be forced to sell our inventory at a discount or at a loss or write down its value, and our business could be materially adversely affected. In addition, in the course of negotiations to sell Intellesale or any other non-core entity now classified as discontinued, we may face pressure to sell any remaining inventory on hand at a discount.

Because we will not pay dividends on our common stock for the foreseeable future, shareholders must rely on stock appreciation for any return on their investment in the common stock.

We do not have a history of paying dividends on our common stock, and we cannot assure you that any dividends will be paid in the foreseeable future. Our current credit agreement with IBM Credit places restrictions on the declaration and payment of dividends which are described in more detail under “Price Range of Common Stock and Dividend Information–Dividends” on page 27 below. In addition, we may not pay dividends on our common stock without the consent of the holders of a majority of the shares of the Series C preferred stock. We intend to use any earnings which we generate to finance the growth of our businesses, and, therefore, we do not anticipate paying cash dividends in the future. As a result, only appreciation of the price of our common stock will provide a return to our stockholders.

Provisions in our employment agreements may make it difficult for a third party to acquire us, despite the possible benefits to our shareholders.

Our employment or other agreements with Richard Sullivan, Garrett Sullivan, Mercedes Walton and Jerome Artigliere include change of control provisions under which the employees may terminate their employment within one year after a change of control and are entitled to receive specified severance payments and/or continued compensation payments for sixty months. The employment agreement for

Richard Sullivan also provides for supplemental compensation payments for sixty months upon termination of employment, even if there is no change in control, unless his employment is terminated due to a material breach of the terms of the employment agreement. Also, the agreements for both Richard Sullivan and Garrett Sullivan provide for certain "triggering events," which include a change in control, the termination of Richard Sullivan's employment other than for cause, or if Richard Sullivan ceases to hold his current positions with us for any reason other than a material breach of the terms of his employment agreement. In that case, we would be obligated to pay, in cash and/or in stock, \$12.1 million and \$3.5 million, respectively, to Richard Sullivan and to Garrett Sullivan, in addition to certain other compensation. Finally, the employment agreements provide for a gross up for excise taxes which are payable by these executive officers if any payments upon a change of control are subject to such taxes as excess parachute payments.

Our obligation to make the payments described in this section could adversely affect our financial condition or could discourage other parties from entering into transactions with us which might be treated as a change in control or triggering event for purposes of these agreements.

We may not prevail in ongoing litigation and may be required to pay substantial damages.

We are party to various legal actions as either plaintiff or defendant in the ordinary course of business. While we believe that the final outcome of these proceedings will not have a material adverse effect on our financial position, cash flows or results of operations, we cannot assure the ultimate outcome of these actions and the estimates of the potential future impact on our financial position, cash flows or results of operations for these proceedings could change in the future. In addition, we will continue to incur additional legal costs in connection with pursuing and defending such actions.

Digital Angel may not be able to develop products from its unproven technology.

Our wholly-owned subsidiary, Digital Angel Corporation has developed a miniature digital receiver named "Digital Angel™." This technology, which we believe will be able to send and receive data and be located by global positioning system technology to monitor at-risk patients, is not yet being sold to customers and is still undergoing additional development. Digital Angel's ability to develop and commercialize products based on its proprietary technology will depend on its ability to develop its products internally on a timely basis or to enter into arrangements with third parties to provide these functions. If Digital Angel fails to develop and commercialize products successfully and on a timely basis, it could have a material adverse effect on Digital Angel's business, operating results and financial condition.

Digital Angel is subject to restrictions imposed by government regulation.

Digital Angel is subject to federal, state and local regulation in the United States and other countries, and it cannot predict the extent to which it may be affected by future legislative and other regulatory developments concerning its products and markets. In addition to the digital receiver described above, Digital Angel also, following its acquisition of Destron Fearing, develops, assembles and markets a broad line of electronic and visual identification devices for the companion animal, livestock and wildlife markets. Digital Angel is required to obtain regulatory approval before marketing most of its products. Digital Angel's readers must and do comply with the FCC Part 15 Regulations for Electromagnetic Emissions, and the insecticide products purchased and resold by Digital Angel have been approved by the U.S. Environmental Protection Agency and are produced under EPA regulations. Sales of insecticide products are incidental to Digital Angel's primary business and do not represent a material part of its operations or revenues. Digital Angel's products also are subject to compliance with foreign government agency requirements. Digital Angel's contracts with its distributors generally require the distributor to obtain all necessary regulatory approvals from the governments of the countries into which they sell Digital Angel's products. However, any such approval may be subject to significant delays. Some

regulators also have the authority to revoke approval of previously approved products for cause, to request recalls of products and to close manufacturing plants in response to violations. Any actions by these regulators could materially adversely affect Digital Angel's business.

If the software we have sold to consumers has Year 2000 problems, we could be exposed to lawsuits.

During 1998 and 1999, we identified what we believe to be all potential Year 2000 problems with any of the software products we develop and market. However, our management believes that it is not possible to determine with complete certainty that all Year 2000 problems affecting our software products have been identified or corrected due to the complexity of these products. In addition, these products interact with other third party vendor products and operate on computer systems which are not under our control. For non-compliant products, we have provided and are continuing to provide recommendations as to how an organization may address possible Year 2000 issues regarding that product. Software updates are available for most, but not all, known issues. Such information is the most currently available concerning the behavior of our products and is provided "as is" without warranty of any kind. However, variability of definitions of "compliance" with the Year 2000 and of different combinations of software, firmware and hardware has led to, and could lead to further lawsuits against us. The outcome of any such lawsuits and the impact on us is not estimable at this time.

We do not believe that the Year 2000 problem has had or will continue to have a material adverse effect on our business, results of operations or cash flows. The estimate of the potential impact on our financial position, overall results of operations or cash flows for the Year 2000 problem could change in the future. Our ability to achieve Year 2000 compliance and the level of incremental costs associated with achieving such compliance could be adversely impacted by, among other things, the availability and cost of programming and testing resources, a vendor's ability to modify proprietary software, and unanticipated problems identified in the ongoing compliance review. The discussion of our efforts, and management's expectations, relating to Year 2000 compliance are forward-looking statements.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This document and the documents incorporated in this document by reference contain forward-looking statements within the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995 with respect to our financial condition, results of operations and business, and include statements relating to

- our growth strategies;
- anticipated trends in our business and demographics;
- our ability to successfully integrate the business operations of recently acquired companies; and
- regulatory, competitive or other economic influences.

Words such as “anticipates,” “expects,” “intends,” “plans,” “believes,” “seeks,” “estimates” and similar expressions also identify forward-looking statements. These forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results to differ materially from estimates or forecasts contained in the forward-looking statements. Some of these risks and uncertainties are beyond our control.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission utilizing a “shelf” registration process. Under this shelf process, the selling shareholders may, from time to time, sell their shares of our common stock in one or more offerings. This prospectus provides you with a general description of the common stock being offered. You should read this prospectus together with additional information described under the heading “Where You Can Find More Information About Us.”

The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered under this prospectus. That registration statement can be read at the Commission’s offices mentioned under the heading “Where You Can Find More Information About Us.”

OUR BUSINESS

General

We are an information management technology company. We provide solutions to allow our customers' existing software and hardware to integrate with our proprietary software. We call the solutions we provide our "I³ Services Platform", with the I³ standing for "Intelligent Integrated Information". We deliver our solutions through three core business segments, Applications, Services and Advanced Wireless, which work together to achieve heightened efficiencies for Applied Digital and better offerings for our customers.

The I³ Services Platform provides the following services:

- For our customers, the I³ Services Platform not only allows us to offer integrated media solutions, it allows our customers to manage the information carried by those media and to benefit from the technological progress of our Advanced Wireless division.
- For our sales team, the I³ Services Platform encourages cross-selling of our different products and services.
- For our financial performance, the I³ Services Platform furthers our mission to reduce enterprise costs by eliminating redundancies and inefficiencies.

The I³ Services Platform provides value by enabling our clients to collect, organize, analyze, warehouse and disseminate information. Better information leads to better decision-making. In today's ever-changing environment of immediate information, the rigorous management of information across different media allows our customers to react rapidly and intelligently to challenges. More importantly, the I³ Services Platform allows our customers to proactively improve their business to anticipate and stay ahead of challenges.

The majority of our current operations are the result of acquisitions completed during the last five years. Our revenues from continuing operations were \$134.8 million, \$129.1 million, \$74.3 million, \$41.6 million, and \$14.1 million respectively, in 2000, 1999, 1998, 1997, and 1996 and \$47.4 million in the first quarter of 2001. Since January 1, 1996, we have completed 51 acquisitions, and since January 1, 2000 we have completed 10 acquisitions. Management employs an acquisition committee to assess acquisition opportunities. The committee is comprised of several members of senior management on a corporate level with representation from key members from the operating units. The committee uses various criteria including:

- the strategic importance to the I³ Service Platform.
- profitability over a selected time period.
- the strength of the balance sheet.
- the strength of the customer base, and
- management experience.

Customers

We deliver products and services across a multitude of industries, including manufacturing, financial, utilities, retail, health, communications, high tech, insurance, transportation and government. Some of our largest customers include several agencies of the United States federal government, Daimler Chrysler, Morgan Stanley, Compucon, Hackensack University Medical, Goldman Sachs, Steve Madden, Polo Ralph Lauren, GAF Materials, PC Connection, Castle Superstore, Wireless Facilities and Toyota Motor Sales. Other than customary payment terms, we do not offer any financing to our customers.

Competitors

Some of our major competitors include Nova Coast, Corp Info, General Networks, DataTransit, Data Systems West, Lucent, Convergent Technologies, InterTel, Nortel, Fujitsu, Toshiba Dealers, All Star Communications, Kapp Communications, Mitel, Prime Communications, A-Tek, All Pro Com, STS, NSB, JDA Software, DataVantage, CRS, Astea, Vantive, Metrix, Siebel, Clarify (Nortel), Service Systems International, Custom Development, ASP, Education Vertical, Reliable Cash Register, Innovative Computer Systems, Cam Data, EZ4U, Retail Soft, All Flex, Avid, Datamars, Sokymat, Cisco, Eshare, Apropos, Interactive Intelligence, Entex, Alpha Net, TransNet, MTMC and More Direct. We believe each segment of our business is highly competitive, and we expect that the competitive pressures we face will not diminish. As a result of our product and service mix, management experience, time to delivery, knowledge of local markets and customer service, we believe the assessment of our ability to compete within these segments is excellent. However, we understand that many of our competitors have greater financial, technological, marketing, personnel and other resources than we do, and, consequently, we may not be able to compete as successfully as those companies.

Core Business

Our three business segments form the nucleus of our newly implemented I³ Services Platform. Each segment has, or is in the process of naming, a president to whom a variety of operating companies report. Each segment president, in turn, reports to our President.

Prior to January 2, 2001, our business was organized into four technology groups or industry segments: Networking, Internet, Applications, and Telephony. Combined, these groups formed the basis of the CTII strategy that was the predecessor to our I³ Services Platform. With the arrival of our new President and Chief Operating Officer, Mercedes Walton, our strategy has evolved to more adequately promote our product and service offerings in the marketplace and to more fully integrate our business units. In January 2001, we introduced the I³ Service Platform. Prior years segment information has been restated to reflect our current business segments.

Prior to March 1999, our business was organized into four business groups, or industry segments: the Services and Solutions Group (formerly the Retail Group), the Computer Group, the Manufacturing Group and the International Group. Each operating business was conducted through a separate subsidiary company directed by its own management team, and each subsidiary company had its own marketing and operations support personnel. Each management team originally reported to our President, who was responsible for overall corporate control and coordination, as well as financial planning.

Our primary businesses are now organized into three business segments, segment financial information for which is more fully disclosed in our financial statements and notes thereto:

Applications — Our Applications segment provides proprietary software applications for large retail application environments, including point of sale, data acquisition, asset management and decision support systems and develops programs for portable data collection equipment, including wireless hand-held devices. We equip our customers with the necessary tools and support services to enable them to make a successful transition to implementing e-business practices, Call Center Solutions, Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) solutions, website design, and application and internet access services to customers of our other divisions. We are also involved in the design, manufacture and support of satellite communication technology including satellite modems, data broadcast receivers and wireless global positioning systems for commercial and military applications.

For the years ended December 31, 2000, 1999 and 1998 and for the quarter ended March 31, 2001, revenues from this segment accounted for 20.9%, 21.7%, 13.7% and 23.3%, respectively, of our total revenues from continuing operations.

Our **Services** segment is comprised of the following business groups:

Telephony — Our Telephony group implements telecommunications and Computer Telephony Integration (CTI) solutions for e-business. We integrate a wide range of voice and data systems that transmit over the traditional telephone network and over the Internet. We provide complete design, project management, cable/fiber infrastructure, installation and on-going support for the customers we support.

Networks — Our Networks group is a professional services organization dedicated to delivering quality e-business services and support to our client partners, providing e-business infrastructure design and deployment, personal and mid-range computer solutions and network infrastructure for the development of local and wide area networks as well as training and customer support services.

For the years ended December 31, 2000, 1999 and 1998 and for the quarter ended March 31, 2001, revenues from this segment accounted for 61.6%, 67.0%, 73.4% and 52.9%, respectively, of our total revenues from continuing operations.

Advanced Wireless — Our Advanced Wireless segment is engaged in the business of developing and bringing to market technology used to locate, monitor and identify animals, people and objects. The Company's advanced wireless business, Digital Angel Corporation, has three divisions: the existing Animal Tracking Business, the newly developed Digital Angel technology and the Digital Angel Delivery System.

The Animal Tracking Business division uses simple technology solutions to track and identify animals. It focuses on cattle, hogs, fish and household pets. The tracking of cattle and hogs are crucial both for asset management and for disease control and food safety. Some customers, for example, the U. S. Department of Energy, track fish, such as salmon, to locate and protect spawning pools and to track migratory patterns for research and fishing purposes. The Animal Tracking Business' pet identification system is marketed in the U. S. by Schering-Plough Pharmaceutical under the brand name Home Again™, in Europe by Merial Pharmaceutical (Merck) and in Japan by Dainippon Pharmaceutical. The Animal Tracking Business partners with a variety of other companies outside the United States to market similar products. The Animal Tracking Business has an established infrastructure with readers placed in approximately 6,000 domestic animal shelters, or an estimated 70% of the market. Approximately 10,000 veterinary clinics, or an estimated 66% of US clinics, use its patented system for pet identification. The principal technologies employed by the Animal Tracking Business are electronic ear tags, e.Tags™, and implantable microchips that use radio frequency transmission.

The Digital Angel business division develops and markets advanced technology to gather location data and local sensory data and to communicate that data to a ground station. As of March 31, 2001, products were in the development stage and none had been sold. The Digital Angel technology is actually the novel combination of three technologies: wireless communication (*e.g.* cellular), sensors (including bio-sensors) and position location technology (including GPS and other systems). We plan to introduce this technology into a variety of products to suit different applications ranging from medical monitoring to asset management.

Following communication of data to the ground station, the Digital Angel Delivery System (also called DADS) manages the data in an application-specific format. For example, the medical applications gather bio-readings such as pulse and temperature, and communicate that data, along with location data, to a ground station or call center. If the readings suggest a critical health situation, emergency aid could be dispatched through the services of Medical Advisory Systems (AMEX: DOC), a company in which we have a 16.6% interest. For the pet location applications, the location information is available via call center or secure Internet site. DADS' main mission is to provide:

- an interface to wireless access,

- an immediate and effective response to variable conditions,
- an improved event decision-making,
- a storage of critical data,
- a secure authentication to data,
- an improved customer contact, and
- an application-specific logic for certain markets.

For the years ended December 31, 2000, 1999 and 1998 and for the quarter ended March 31, 2001, revenues from this segment accounted for 17.4%, 11.1%, 13.0% and 23.7%, respectively, of our total revenues from continuing operations.

Intellesale and Discontinued Non-Core Businesses

We previously announced our intention to divest, in the ordinary course of business, our non-core businesses at such time and on such terms as our board of directors determines advisable. During the third quarter of 2000, we sold ACT Leasing for no gain or loss, and effective October 31, 2000, we sold STC Netcom, Inc. In addition, in March 2001, our board of directors approved a plan to sell Intellesale. Effective May 10, 2001, we sold Innovative Vacuum Solutions, Inc. There can be no assurance that we will divest of any or all of these businesses or as to the terms or timing of any divestiture transaction.

Intellesale, Inc.

Our wholly-owned subsidiary, Intellesale, has refocused its business model away from the Internet segment and is now concentrating on its traditional business of asset management and brokerage services and the sale of refurbished and new desktop and notebook computers, monitors and related components as a wholesale, business to business supplier. It reaches its customers through other Internet companies, as well as through traditional channels, which includes sales made by Intellesale's sales force. Intellesale's customers are wholesale remarketers, international remarketers, and corporate end users. The computers range from Pentium 133 mhz to 1 GHZ. Monitors range from 14 inches to 21 inches. Intellesale offers brand name products, including IBM, Compaq, Dell, Gateway and Hewlett Packard. Although this industry is highly competitive, Intellesale competes with its vendors by providing value-added products and offering packages and multiple brand name selection. Intellesale is also able to compete by offering a greater selection than many of its competitors. Intellesale purchases its inventory primarily from leasing companies, computer manufacturers and corporate information technology departments.

For the years ended December 31, 2000, 1999 and 1998 and for the two months ended March 1, 2001, revenues from Intellesale amounted to approximately \$102.5 million, \$143.0 million, \$60.9 million and \$8.3 million, respectively.

Intellesale canceled a proposed initial public offering of its common stock during the first quarter of 2000 due to market conditions. The offering would also have included the sale of a portion of the shares of Intellesale which we held. Without the proceeds which were anticipated from the offering, the activities which we intended for Intellesale have been reduced significantly.

In the second quarter of 2000, Intellesale recorded a pre-tax charge of \$3.0 million which related to fees and expenses incurred in connection with the proposed offering, and certain other intangible assets. In the same quarter, Intellesale also recorded a pre-tax charge of \$14.0 million related to reserves established in connection with the purchase of Bostek and its affiliate, which was acquired by Intellesale in June 1999. The \$14.0 million charge is comprised of inventory reserve of \$8.5 million for products Intellesale sold below cost and \$5.5 million related to specific accounts and other receivables.

In March 2001, our board of directors approved a plan to sell Intellesale business. Please refer to “Recent Developments - Discontinued Operations.”

Other Discontinued Non-Core Businesses

In addition to Intellesale, we have identified the following individually managed companies for sale:

- Gavin-Graham Electrical Products is a custom manufacturer of electrical products, specializing in digital and analog panelboards, switchboards, motor controls and general control panels. The company also provides custom manufacturing processes such as shearing, punching, forming, welding, grinding, painting and assembly of various component structures.
- Ground Effects, Ltd., based in Windsor, Canada, is a certified manufacturer and tier one supplier of standard and specialized vehicle accessory products to the automotive industry. The company exports over 80% of the products it produces to the United States, Mexico, South America, the Far East and the Middle East.
- Hopper Manufacturing Co., Inc. re-manufactures and distributes automotive parts. This primarily includes alternators, starters, water pumps, distributors and smog pumps.
- Americom is involved in the fabrication, installation and maintenance of microwave, cellular and digital personal communication services towers.

For the years ended December 31, 2000, 1999 and 1998 and for the two months ended March 1, 2001, revenues from these other discontinued non-core businesses amounted to \$42.2 million, \$64.7 million, \$71.9 million and \$5.6 million, respectively.

Growth Strategy

Our growth strategy is focused on internal expansion and growth through targeted, disciplined acquisitions. The key elements of our strategy include:

Implementing our I³ Services Platform. Our ability to effectively implement our I³ Services Platform will depend on the following:

- Optimizing strategic interrelationships among the core businesses while positioning Applied Digital Solutions to deploy innovative and unique marketplace solutions.
- Launching expanded services driven by new products, global branding, strategic alliances and acquisitions.
- Executing the strategy as a tightly-managed and focused enterprise, following implementation of aggressive plans to reduce costs, streamline organizations and divest non-strategic assets.

Deploying the Advanced Wireless segment's new Digital Angel products and services.

Continuing to pursue acquisition opportunities. Since 1996, we have completed 51 acquisitions, and since January 1, 2000, we have completed 10 acquisitions. Our acquisition committee assesses acquisition opportunities using a disciplined approach driven by both strategic fit and financial value. The committee is comprised of members of senior management and senior managers of our operating units. The committee uses various criteria including the strategic importance to the I³ Service Platform, profitability over a selected time period, the strength of the balance sheet and the strength of the customer base.

RECENT DEVELOPMENTS

Discontinued Operations

On March 1, 2001, our board of directors approved the plan to sell Intellesale and all of our other non-core businesses. In order to implement our I³ Services Platform, we determined these businesses were not strategic or complementary to our redefined core business segments and should be disposed. The results of operations of these segments have been reclassified and reported as discontinued operations for all periods presented. Our plan of disposal anticipates that these entities will be disposed within 12 months from March 1, 2001, our defined “measurement date”. Proceeds from the sale of discontinued operations will be used to pay down debt.

In the second quarter of 2000, Intellesale recorded a pre-tax charge of \$17.0 million. Included in this charge was an inventory reserve of \$8.5 million for products Intellesale expected to sell below cost (included in cost of goods sold), \$5.5 million related to specific accounts and other receivables, and \$3.0 million related to fees and expenses incurred in connection with Intellesale's cancelled public offering and certain other intangible assets. This charge reflects the segment's decreasing revenue trend, lower quarterly gross profits and the expansion of Intellesale's infrastructure into a major warehouse facility. In addition, a more competitive business environment resulting from an overall slowdown in Intellesale's business segment, and management's attention to the Bostek operational and legal issues, discussed below under “Settlement of Litigation,” contributed to the negative results. The impact of the loss resulted in Intellesale restructuring its overhead and refocusing its business model away from the Internet segment and back to its traditional business lines. This restructuring was completed in the fourth quarter of 2000.

During the fourth quarter of 2000, Intellesale refocused its business model away from the Internet segment and is now concentrating on its traditional business of technology asset management and brokerage services, and selling refurbished and new desktop and notebook computers, monitors and related components as a wholesale, business to business supplier. As a result, we wrote down certain inventory to realizable market value resulting in an additional charge of \$5.5 million in order to quickly and effectively liquidate inventory purchased for distribution through retail channels. Management believes that this realignment, together with cost saving initiatives discussed below, will make Intellesale an attractive acquisition candidate for a strategic or financial buyer.

Since December 31, 2000, as a result of the realignment and reorganization of Intellesale's business, we have reduced the total number of employees from 197 employees to 108 employees as of July 10, 2001, some of whom may be rehired as circumstances warrant, resulting in annual savings of approximately \$3.5 million. In addition, in January 2001, we terminated or renegotiated the employment agreements of several senior executives, resulting in annual savings of approximately \$785,000. As a result of withdrawing from the retail and business to commerce e-commerce market, we have budgeted significant savings in sales, sales support, advertising, warranty, and customer support costs. We anticipate the annualized non personnel savings associated with our withdrawal from this market to be approximately \$2.2 million.

Private Placement of Series C Preferred Stock and Related Warrants

On October 26, 2000, we issued \$26 million in stated value of our Series C preferred stock and related warrants to a select group of institutional investors in a private placement for an aggregate purchase price of \$20 million. The detailed terms of the Series C preferred stock are set forth in the certificate of designation relating to those shares, which is an exhibit to the registration statement of which this prospectus is a part, and are described in more detail under “Description of Capital Stock—Preferred Stock—Series C Convertible Preferred Stock” on page 23 below.

The holders of the Series C preferred stock also received warrants to purchase up to an additional 800,000 shares of our common stock over the next five years. The warrants are also described in more detail below under “Description of Capital Stock—Options and Warrants” on page 26 below.

Option to Acquire Additional Preferred Stock. The investors may provide notice to purchase up to an additional \$26 million in stated value of Series C preferred stock and warrants with an initial conversion price of \$5.00 per share, for an aggregate purchase price of \$20 million, at any time up to ten months following the effective date of the registration statement of which this prospectus is a part. The additional Series C preferred stock will have the same preferences, qualifications and rights as the initial Series C preferred stock. If the investors exercise their option to purchase such additional shares of Series C preferred stock and related warrants, we have agreed to register the resale of shares of our common stock issuable upon the conversion of such Series C preferred stock and the exercise of such warrants.

Settlement of Litigation

On April 7, 2000, we and Intellesale filed a counterclaim against David Romano and Eric Limont, the former owners of Bostek, Inc. and Micro Components International Incorporated, two companies acquired by Intellesale in June 1999, in the U.S. District Court for the District of Delaware for, generally, breach of contract, breach of fiduciary duty and fraud. Messrs. Romano and Limont had filed their claim generally alleging that their earnout payment from Intellesale was inadequate. In July 2000, we and Intellesale amended our counterclaim in the U.S. District Court for the District of Delaware to seek damages for, among other things, securities law violations. In addition, on May 19, 2000, Intellesale, Bostek and Micro Components International Incorporated, filed suits against Messrs. Romano and Limont in Superior Court of Massachusetts to recover damages. In July 2000, Messrs. Romano and Limont amended their complaint in the U.S. District Court for the District of Delaware to add a claim for \$10 million for the \$10 million payment not made to them. As of January 16, 2001, we, Intellesale, Bostek and Micro Components settled all claims with Messrs. Romano and Limont. As part of the settlement agreement, Messrs. Romano and Limont agreed to invest up to \$6 million in shares of our common stock and to indemnify us against various other litigation filed against Bostek. The purchase price for the 2,955,665 shares of our common stock issued to Messrs. Roman and Limont was paid in the form of non-recourse, non-interest bearing promissory notes which are collateralized by the shares of common stock held by Messrs. Romano and Limont.

Significant Acquisitions

Pacific Decision Sciences Corporation

Effective October 1, 2000, we acquired Pacific Decision Sciences Corporation. In the merger transaction, we issued 8,568,532 shares of our common stock valued at approximately \$28.1 million. In addition, for each of the 12-month periods ending September 30, 2001 and September 30, 2002, the former stockholders of Pacific Decision Sciences will be entitled to receive earnout payments, payable in cash or in shares of our common stock, of \$9,662,947 plus 4.0 times earnings before income taxes, depreciation and amortization, which we refer to as “EBITDA,” in excess of \$3,675,880, subject to reduction by 4.0 times the shortfall from the projected EBITDA amount, as defined in the merger agreement. Any such additional payments will increase the purchase price and result in additional goodwill. The total purchase price of Pacific Decision Sciences, including the liabilities assumed, was allocated to the identifiable assets with the remainder of \$25.2 million recorded as goodwill, which is being amortized over 5 years. The transaction was accounted for under the purchase method of accounting.

Pacific Decision Sciences is a provider of proprietary web-based customer relationship management software. It develops, sells and implements software systems that enable automated, single point of contact delivery of customer service.

Destron Fearing Acquisition

On September 8, 2000, we completed our acquisition of Destron Fearing Corporation, through a merger of our wholly-owned subsidiary, Digital Angel (formerly Digital Angel.net Inc.), into Destron Fearing. As a result of the merger, Destron Fearing is now our wholly-owned subsidiary and has been renamed "Digital Angel Corporation"

In connection with the merger, each outstanding share of Destron Fearing common stock was exchanged for 1.5 shares of our common stock, with fractional shares settled in cash. In addition, outstanding options and warrants to purchase shares of Destron Fearing common stock were converted into a right to purchase that number of shares of our common stock as the holders would have been entitled to receive had they exercised such options or warrants prior to September 8, 2000 and participated in the merger. We issued 20,500,853 shares of our common stock in exchange for all the outstanding common stock of Destron Fearing and will issue up to 2,731,006 shares of our common stock upon the exercise of the Destron Fearing options and warrants. The total purchase price of Destron Fearing of approximately \$84.6 million, including the liabilities assumed, was allocated to the identifiable assets with the remainder of \$74.9 million recorded as goodwill, which is being amortized over 10 years. The transaction was accounted for under the purchase method of accounting.

Destron Fearing has been in the animal identification business since 1945. For over 50 years, Destron Fearing has developed, manufactured and marketed a broad range of individual animal identification products. Destron Fearing owns patents worldwide in microchip technology and is a leader in the world evolution of radio frequency animal identification.

Other Recent Acquisitions

In addition to Pacific Decision Sciences and Destron Fearing, since January 1, 2000 we have acquired, in transactions accounted for under the purchase method of accounting:

- 100% of the capital stock of Independent Business Consultants, a network integration company based in Valley Village, California, effective as of April 1, 2000;
- 100% of the capital stock of Timely Technology Corp., a software developer and application service provider based in Riverside, California, effective as of April 1, 2000;
- 100% of the capital stock of P-Tech, Inc., a software development company based in Manchester, New Hampshire, effective as of April 1, 2000;
- 100% of the capital stock of Computer Equity Corporation, a communications integration company based in Chantilly, Virginia, effective as of June 1, 2000. We have also issued an additional 13.4 million shares as "price protection" shares.
- 100% of the capital stock of WebNet Services, Inc., an internet service provider, network integrator and website developer, effective as of July 1, 2000;
- 54% of the capital stock of SysComm International Corporation (OTC-BB: SYCM), a hardware and software network integration company, effective as of November 13, 2000. We have also issued an additional 1.5 million shares as "price protection" shares; and
- 100% of the capital stock of Caledonian Venture Holdings Limited, a software development company based in the United Kingdom, effective December 1, 2000.

In October, 2000, we entered into transactions with MCY.com, Inc. (OTC-BB:MCYC) under which we agreed we would sell to MCY a non-exclusive perpetual worldwide license to use our recently-acquired Net-Vu product, an Internet-based Automatic Contact Distributor, for \$9 million in a stock subscription plus 615,000 shares of MCY; and MCY would grant to us an exclusive perpetual license to MCY's digital encryption and distribution systems, including its NETrax™ software, for use in various non-entertainment business-to-business applications, in consideration for 11.8 million shares of our common stock. All consideration was placed in escrow pending resolution of certain contingencies which were satisfied or waived on March 30, 2001 at which time the escrow was terminated and the transactions closed. This transaction did not result in any revenue recognition. The technology and software acquired from MCY has been integrated into the Digital Angel business division's products. As noted under "Risk Factors" beginning on page 3 and under "Our Business" beginning on page 11, Digital Angel's products and services are not yet being sold to customers and are still undergoing additional development. The transaction will be accounted at the fair value of the consideration paid to MCY and

SELLING SHAREHOLDERS

The following table sets forth information regarding the ownership of our common stock by the selling shareholders and the shares being offered under this prospectus.

We have issued shares of our common stock from time to time in various acquisition transactions. The registration of these shares has been effected pursuant to agreements entered into by us and the selling shareholders. Although such registration will allow the sale of the shares by the selling shareholders from time to time as described herein, we believe that the selling shareholders do not current intend to sell all or substantially all of the shares.

The percentage owned prior to and after the offering reflects the outstanding common shares at the time of the registration statement. The amount and percentage owned after the offering assumes the sale of all of the common stock being registered on behalf of the selling shareholders.

Selling Shareholder	Ownership Prior to the Offering		Number of Shares Offered Hereby	Ownership After the Offering	
	Shares	%		Shares	%
Sudiar Limited	492,940	*	492,940 (1)	—	*
Capital Alliance Corporation	921,614	*	342,741 (2)	578,873	*
William D. Asby	85,675	*	64,193 (3)	21,482	*
Steffanie R. Beach	85,675	*	64,193 (3)	21,482	*
David A. Crowell	107,060	*	80,216 (3)	26,844	*
Michael B. Dobbins	1,817,746	*	1,361,969 (3)	455,777	*
Calvin L. Ellis	85,675	*	64,193 (3)	21,482	*
Deborah M. Goff	71,425	*	53,516 (3)	17,909	*
David E. Keeney	284,971	*	213,518 (3)	71,453	*
Peter W. Mitchell	85,675	*	64,193 (3)	21,482	*
John R. Munshour	1,817,746	*	1,361,969 (3)	455,777	*
Kevin M. Rook	530,455	*	397,450 (3)	133,005	*
Paul R. Schechinger	530,455	*	397,450 (3)	133,005	*
Vincent J. Zulkowski	85,675	*	64,193 (3)	21,482	*
Steven P. Couture	359,999	*	268,928 (4)	91,071	*
Jeffrey M. Couture	349,413	*	261,020 (4)	88,393	*
Raymond D. Maggi	349,413	*	261,020 (4)	88,393	*
Burness Nominees Limited	716,590	*	541,708 (5)	174,882	*
Broadtrench Limited	731,706	*	553,135 (5)	178,571	*
National Westminster Bank PLC	7,276,133	3.7	5,500,410 (5)	1,775,723	*
Lica Development Capital Limited	175,990	*	133,040 (5)	42,950	*
Governor and Company of the Bank of Scotland	651,334	*	231,394 (5)	419,940	*
Bank of Scotland Nominees Ltd.	689,632	*	521,329 (5)	168,303	*
AFAC Equity, L.P.	537,994	*	500,000 (6)	37,994	*
Total	<u>18,840,991</u>		<u>13,794,718</u>	<u>5,046,273</u>	

* Represents ownership of less than one percent.

1. Represents shares issued to a creditor of Caledonian Venture Holdings Limited (CVH) in connection with the acquisition of CVH and exempt from registration pursuant to Section 4(2) of the Securities Act. The transaction document included an acknowledgment that the sale was not registered, that the party was acquiring the shares for investment and not for resale, and that the party acknowledged that it must hold the shares until and unless registered or transferred in another transaction exempt from registration. In addition, certificates representing the shares were legended to indicate that they were restricted. Phil Kelly and Lawrence Bland, directors of Sudiar Limited, share voting and dispositive power with respect to the shares held by Sudiar Limited.
2. Represents shares issued as finder's fees in connection with our acquisition of Pacific Decision Sciences Corporation, a company we acquired effective as of October 26, 2000. Ed Dawson, president of Capital Alliance Corporation, has sole voting and dispositive power with respect to the shares held by Capital Alliance Corporation.

3. Represents shares issued in connection with the “price protection” provision of the agreement of sale relating to our acquisition of P-Tech, Inc., a software development company based in Manchester, New Hampshire we acquired effective as of April 1, 2000. We acquired such shareholder’s interest in the company in a transaction directly negotiated by the stockholders in connection with the sale of their businesses to us and exempt from registration pursuant to Rule 506 promulgated under the Securities Act. The transaction document included an acknowledgment that the sale was not registered, that the shareholder was acquiring the shares for investment and not for resale, and that the shareholder acknowledged that he must hold the shares until and unless registered or transferred in another transaction exempt from registration. In addition, certificates representing the shares were legended to indicate that they were restricted.
4. Represents shares issued in connection with the “price protection” provision of the agreement of sale relating to our acquisition of WebNet Services, Inc., an internet service provider, network integrator and website developer we acquired effective as of July 1, 2000. We acquired such shareholder’s interest in the company in a transaction directly negotiated by the stockholders in connection with the sale of their businesses to us and exempt from registration pursuant to Section 4(2) of the Securities Act. The transaction document included an acknowledgment that the sale was not registered, that the shareholder was acquiring the shares for investment and not for resale, and that the shareholder acknowledged that he must hold the shares until and unless registered or transferred in another transaction exempt from registration. In addition, certificates representing the shares were legended to indicate that they were restricted.
5. Represents shares issued in connection with the “price protection” provision of the agreement of sale relating to our acquisition of Caledonian Venture Holdings Limited, a software development company based in the United Kingdom we acquired effective as of December 1, 2000. We acquired such shareholder’s interest in the company in a transaction directly negotiated by the stockholders in connection with the sale of their business to us and exempt from registration pursuant to Section 4(2) of the Securities Act. The transaction document included in an acknowledgment that the sale was not registered, that the shareholder was acquiring the shares for investment and not for resale, and that the shareholder acknowledged that he must hold the shares until and unless registered or unless transferred in another transaction exempt from registration. In addition, the certificates representing the shares were legended to indicate that they were restricted. John Rafferty, a partner of Burness Nominees Limited, has sole voting and dispositive power with respect to the shares held by Burness Nominees Limited. Edward Sharp, a director of Broadtrench Limited, has sole voting and dispositive power with respect to the shares held by Broadtrench Limited. William Troup, a director of Royal Bank Venture Limited, has sole voting and dispositive power with respect to the shares held by National Westminster Bank PLC. Peter Menzies Smaill, a director of Lica Development Capital Limited, has sole voting and dispositive power with respect to the shares held by Lica Development Capital Limited. Sir John Shaw, Sir Bob Reid, Peter Burt, Sir Ronald Garrick, Allan Gormly, Sir Russell Hillhouse, Ian Inglis, Brian Ivory, Lesley Knox, John Maclean, Gavin Masterton, Gordon McQueen, Colin Matthew, George Mitchell, and Lord Simpson of Dunkeld, the directors of Governor and Company of the Bank of Scotland, share voting and dispositive power with respect to the shares held by Governor and Company of the Bank of Scotland.
6. Represents shares issued for services rendered by McKinsey & Co., Inc. Bryan Feuer, portfolio manager of AFAC Equity, L.P. has sole voting and dispositive power with respect to the shares held by AFAC Equity, L.P.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock is subject to The General and Business Corporation Law of Missouri and to provisions contained in our Articles of Incorporation and Bylaws, copies of which are exhibits to our Registration Statement on Form S-3 of which this prospectus is a part and which are incorporated by reference into this prospectus. Reference is made to such exhibits for a detailed description of the provisions thereof summarized below.

Authorized Capital

Our authorized capital stock consists of 245,000,000 shares of common stock, \$.001 par value, and 5,000,000 shares of preferred stock, \$10.00 par value. At our annual shareholder's meeting held on June 23, 2001, our shareholders approved an amendment to our Articles of Incorporation increasing our authorized capital stock by 100,000,000 shares, consisting entirely of common stock. This amendment is not yet effective. Holders of our common stock have no preemptive or other subscription rights.

Common Stock

As of July 10, 2001, there were 198,816,319 shares of our common stock outstanding.

The holders of our common stock are entitled to one vote per share on all matters submitted to a vote of the shareholders. Holders of our common stock do not have cumulative voting rights. Therefore, holders of more than 50% of the shares of our common stock are able to elect all directors eligible for election each year. The holders of common stock are entitled to dividends and other distributions out of assets legally available if and when declared by our board of directors. Upon our liquidation, dissolution or winding up, the holders of our common stock are entitled to share pro rata in the distribution of all of our assets remaining available for distribution after satisfaction of all liabilities, including any prior rights of any preferred stock which may be outstanding. There are no redemption or sinking fund provisions applicable to our common stock.

The transfer agent and registrar for the common stock is The Registrar and Transfer Co.

Preferred Stock

Series C Convertible Preferred Stock.

As of July 10, 2001, there were 13,726.86 shares of Series C preferred stock outstanding and issued. The stated value of the Series C preferred stock is \$1,000 per share, or an aggregate of approximately \$13,726,860. The initial purchase price of the 26,000 shares of Series C preferred stock originally issued and the related warrants was an aggregate of \$20 million. The detailed terms of the Series C preferred stock are set forth in the certificate of designation relating to the Series C preferred stock, which is an exhibit to the registration statement of which this prospectus is a part.

Conversion; Conversion Rates. The Series C preferred stock is convertible into shares of our common stock at a price per share of our common stock (which we refer to as the "conversion price") of \$5.672 in stated value per share. The holders also have the option to use an "alternative conversion price," which is the average closing price for the 10 trading days preceding the date of the notice of conversion, multiplied by:

- 140%, where the date of the notice of conversion is prior to March 25, 2001;
- 125%, where the date of the notice of conversion is on or after March 25, 2001 but prior to April 25, 2001;
- 115%, where the date of the notice of conversion is on or after April 25, 2001 but prior to June 24, 2001; or

- 110%, where the date of the notice of conversion is on or after June 24, 2001.

Adjustment of the Conversion Price. The conversion price and the alternative conversion price are each subject to adjustment based on any of the following events:

- a stock dividend or distribution, stock split, reorganization, recapitalization, consideration, merger or sale or stock option issuance;
- the issuance of any security convertible into shares of our common stock which are based on a formula that differs from the formula described above, in which case the holders may elect to substitute such new formula for the current formula for calculating the number of shares into which the Series C preferred stock is convertible; or
- the issuance of shares of common stock, or options or other rights to acquire common stock, at a price lower than the “Base Price,” which we define below, at which time the conversion price is reduced to a price determined by multiplying the conversion price by the quotient of:
 - the sum of
 - the number of shares of common stock outstanding immediately prior to such sale, and
 - the number of shares of common stock which the aggregate consideration received by us would purchase at the Base Price; and
 - the number of shares of common stock outstanding immediately after such sale.

The “Base Price” means either (a) the conversion price of the Series C preferred stock or (b) the market price of our common stock at the time.

In addition, the conversion price is subject to further adjustment after the triggering events described below under “–Redemption.”

Effect of Decline in Market Price of Our Common Stock. The holders of the Series C preferred stock have the option to convert the shares of the preferred stock to common stock at an alternative conversion rate starting at 140% and declining to 110% of the average closing price for the 10 trading days preceding the date of the notice of conversion. In addition, if a “triggering event” described in the certificate of designation governing the Series C preferred stock occurs, the holders would be entitled to convert the stated value of the Series C preferred stock at a price per share of common stock equal to 50% of the lowest closing price during the occurrence of such triggering event. The following table illustrates the effect that declines of 25% and 50% to \$0.28 per share, which is the closing price of our common stock on July 10, 2001, would have on the number of shares of common stock issuable upon conversion of the Series C preferred stock.

<u>Conversion Rate</u>	<u>Shares Issuable at Current Market Price</u>	<u>Shares Issuable upon 25% Decline</u>	<u>Shares Issuable upon 50% Decline</u>
140% Alternative Conversion Rate	56,640,601	70,580,354	98,459,861
125% Alternative Conversion Rate	61,658,912	77,271,436	108,496,484
115% Alternative Conversion Rate	65,731,744	82,701,879	116,642,149
110% Alternative Conversion Rate	68,045,854	85,787,358	121,270,367
50% “Triggering Event” Conversion Rate	131,915,270	170,946,580	249,009,200

Accretion. We will be required to accrete the discount on the Series C preferred stock through equity. The value assigned to the warrants will increase the discount on the Series C preferred stock.

Dividends. The holders of the Series C preferred stock are entitled to receive annual dividends of 4% of the stated value, or 5.2% of the purchase price, payable quarterly in arrears beginning on December 31, 2000 in either cash or additional shares of Series C preferred stock.

Redemption. If any of the triggering events described below occurs with respect to the Series C preferred stock, the holders may require us to redeem the Series C preferred stock at a price per share equal to 130% of the stated value, or an aggregate of \$18.0 million at July 10, 2001, plus accrued and unpaid dividends, as long as such redemption is not prohibited under our credit agreement. In addition:

- the holders of the Series C preferred stock may require us to delist our common stock from The Nasdaq National Market;
- we must pay to each holder of Series C preferred stock an amount in cash per share equal to 2% of the liquidation value of the Series C preferred stock, such payments not to exceed \$6 million in the aggregate; and
- during the occurrence of a triggering event, the conversion price per share of the Series C preferred stock would be reduced to 50% of the lowest closing price of our common stock during such period.

The triggering events include:

- failure to have the registration statement relating to the common stock issuable on the conversion of the Series C preferred stock declared effective on or prior to 180 days after issuance of the Series C preferred stock or the suspension of the effectiveness of such registration statement;
- notice of suspension in trading for a period of 5 consecutive trading days or 30 trading days in a 365 day period;
- delisting for a period of 10 consecutive trading days or 30 trading days in a 365 day period;
- defaults in payment of or acceleration of our payment obligations under our credit agreement;
- failure to deliver shares of common stock within five days after conversion notice; or
- failure to make payment upon another triggering event.

Significant Transactions. If we enter into any transaction involving a consolidation or merger, the sale of all or substantially all of our assets or a purchase of more than 50% of our outstanding common stock, or if we are subject to any change in control, each holder has the right to convert the Series C preferred stock into shares of common stock at the lesser of the conversion price or the alternative conversion price described above, provided that:

- if we are unable to deliver the shares of common stock upon such conversion, we must
 - deliver as many shares as possible, and
 - mandatorily redeem the remainder in cash at a price per share equal to the product of (i) the aggregate number of shares of common stock into which each share of Series C preferred stock should be converted and (ii) the closing price of the common stock on the date of delivery of the conversion notice.

In addition, if we are party to any consolidation, merger or other business combination, we may require that all of the Series C preferred stock be redeemed at a price per share equal to 130% of the stated value, plus all accrued but unpaid dividends.

Other Preferred Stock.

Additional series of preferred stock may be created and issued from time to time by our board of directors, with such rights and preferences as it may determine. Because of its broad discretion with respect to the creation and issuance of any series of preferred stock without shareholder approval, our board of directors could adversely affect the voting power of our common stock. The issuance of preferred stock may also have the effect of delaying, deferring or preventing a change in control of us.

Options and Warrants

As of July 10, 2001, there were:

- 4,212,057 issued and outstanding warrants to purchase shares of our common stock at a weighted average exercise price of \$2.15 per share;
- warrants issued in connection with the sale of Series C preferred stock to purchase up to 800,000 shares of our common stock at \$4.73 per share over the next five years, subject to adjustment; and
- options held by our employees and others to purchase 30,546,893 shares of our common stock at a weighted average exercise price of \$2.28 per share.

All of the warrants are currently exercisable. Of the outstanding options, 13,019,876 are now exercisable at a weighted average exercise price of \$2.79 per share, and the rest become exercisable at various times over the next three years.

The exercise price of the warrants issued in connection with the Series C preferred stock is \$4.73 per share, subject to adjustment upon:

- the issuance of shares of common stock, or options or other rights to acquire common stock, at an issuance price lower than the exercise price under the warrants;
- the declaration or payment of a dividend or other distribution on our common stock;
- issuance of any other of our securities on a basis which would otherwise dilute the purchase rights granted by the warrants.

The exercise price may be paid in cash, in shares of common stock or by surrendering other warrants.

Indemnification

Our bylaws require us to indemnify each of our directors and officers to the fullest extent permitted by law. An amendment to such article does not affect the liability of any director for any act or omission occurring prior to the effective time of such amendment.

PRICE RANGE OF COMMON STOCK AND DIVIDEND INFORMATION

Our common stock is listed on The Nasdaq National Market under the symbol “ADSX.” The following table shows, for the periods indicated, the high and low sale prices per share of the common stock based on published financial sources.

	<u>High</u>	<u>Low</u>
<u>1998</u>		
First Quarter	\$ 5.50	\$ 4.03
Second Quarter	4.88	3.13
Third Quarter	3.50	1.56
Fourth Quarter	5.50	1.53
<u>1999</u>		
First Quarter	\$ 4.19	\$ 2.00
Second Quarter	3.50	2.00
Third Quarter	3.38	1.69
Fourth Quarter	16.00	1.63
<u>2000</u>		
First Quarter	\$ 18.00	\$ 6.50
Second Quarter	10.25	2.97
Third Quarter	5.22	2.59
Fourth Quarter	4.31	0.50
<u>2001</u>		
First Quarter	\$ 2.97	\$ 0.75
Second Quarter	1.75	0.39
Third Quarter (through July 10, 2001)	0.48	0.28

Dividends

We have never paid cash dividends on our common stock. The decision whether to apply legally available funds to the payment of dividends on our common stock will be made by our board of directors from time to time in the exercise of its business judgment. The IBM Agreement provides that we may not declare or pay any dividend, other than dividends payable solely in our common stock, on any shares of any class of our capital stock or any warrants, options or rights to purchase any such capital stock, or make any other distribution in respect of such stock or other securities, whether in cash, property or other obligations of us. In addition, the certificate of designation relating to our Series C convertible preferred stock prohibits payment of dividends on our common stock without the consent of the holders of a majority of the outstanding shares of preferred stock.

PLAN OF DISTRIBUTION

After the issuance of shares of our common stock, the selling shareholders may sell the shares offered hereby in one or more transactions (which may include “block” transactions) on the Nasdaq Stock Market, in the over-the-counter market, in negotiated transactions, through the settlement of short sales or in a combination of such methods of sales, at fixed prices which may be changed, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices. The selling shareholders may effect such transactions by selling the shares directly to purchasers, or may sell to or through agents, dealers or underwriters designated from time to time, and such agents, dealers or underwriters may receive compensation in the form of discounts, concessions or commissions from the selling shareholders and/or the purchaser(s) of the shares of our common stock for whom they may act as agent or to whom they may sell as principals, or both. The selling shareholders may also pledge certain of the shares of our common stock from time to time, and this prospectus also relates to any sale of shares of our common stock that might take place following any foreclosure of such a pledge. The selling shareholders also may transfer the shares of common stock in other circumstances in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of the prospectus. The selling shareholders and any agents, dealers or underwriters that act in connection with the sale of the shares of our common stock might be deemed to be “underwriters” within the meaning of Section 2(11) of the Securities Act, and any discount or commission received by them and any profit on the resale of the shares as principal might be deemed to be underwriting discounts or commissions under the Securities Act.

In connection with sales of the common stock or otherwise, the selling shareholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the common stock in the course of hedging in positions they assume. The selling shareholders may also sell shares of common stock short and deliver shares of common stock to close out short positions, or loan or pledge shares of common stock to broker-dealers that in turn may sell such shares. If the selling shareholders effect such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, brokers-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling shareholders or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, brokers-dealers or agents may be in excess of those customary in the types of transactions involved).

We will receive no portion of the proceeds from the sale of the shares and will bear all of the costs relating to the registration of this offering (other than any fees and expenses of counsel for the selling shareholders). Any commissions, discounts or other fees payable to a broker, dealer, underwriter, agent or market maker in connection with the sale of any of the shares will be borne by the selling shareholders.

At the time a particular offering of the shares of common stock is made, a prospectus supplement, if required, will be distributed which will set forth the aggregate amount of shares of common stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling shareholder and any discounts, commissions or concessions allowed or reallocated or paid to broker-dealers.

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

LEGAL OPINION

Bryan Cave LLP, St. Louis, Missouri, as our counsel, has issued an opinion as to the legality of the common stock.

EXPERTS

The consolidated financial statements incorporated in this Prospectus by reference to the Annual Report on Form 10-K of Applied Digital Solutions, Inc. (formerly, Applied Cellular Technology, Inc.) for the years ended December 31, 2000, 1999 and 1998, have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements of Pacific Decision Sciences Corporation and Subsidiaries as of and for the year ended June 30, 2000 incorporated in this Prospectus by reference to the Current Report on Form 8-K/A of Applied Digital Solutions, Inc. dated November 1 2000, have been so incorporated in reliance on the report of Rubin, Brown, Gornstein & Co. LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements of Destron Fearing Corporation as of and for the year ended September 30, 1999, incorporated by reference to the Current Report on Form 8-K of Applied Digital Solutions, Inc. dated September 8, 2000, have been audited by Arthur Andersen LLP, independent public accountants, as indicated in their report with respect thereto, and are included herein in reliance upon the authority of said firm as experts in giving said report.

The consolidated financial statements of Computer Equity Corporation and Subsidiaries as of February 28, 1999 and February 29, 2000 and for the two years then ended incorporated in this Prospectus by reference to the Current Report on Form 8-K/A of Applied Digital Solutions, Inc. dated September 11, 2000, have been so incorporated in reliance on the report of Grant Thornton LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION ABOUT US

We file annual, quarterly and special reports, proxy statements and other information with the Commission. You may read and copy any document we file at the Commission's public reference room at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549. You can request copies of these documents by writing to the Commission and paying a duplicating charge. Please call the Commission at 1-800-732-0330 for further information on the operation of its public reference rooms in other cities. The Commission also makes our filings available to the public on its Internet site (<http://www.sec.gov>). Quotations relating to our common stock appear on The Nasdaq National Market, and such reports, proxy statements and other information concerning us can also be inspected at the offices of the National Association of Securities Dealers, Inc., 1735 K Street, N.W., Washington, D.C. 20006.

The Commission allows us to "incorporate by reference" information from other documents that we file with them, which means that we can disclose important information by referring to those documents. The information incorporated by reference is considered to be part of this prospectus, and information we file later with the Commission will automatically update and supersede this information. We incorporate by reference into this prospectus the documents listed below, and any future filings we make with the Commission under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 prior to the termination of this offering:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2000 (filed on April 9, 2001), as amended by our Annual Report on Form 10-K/A (filed on April 24, 2001);

- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2001 (filed on May 15, 2001);
- Our Current Report on Form 8-K dated July 13, 2001 (filed on July 13, 2001);
- Our Current Report on Form 8-K dated June 5, 2001 (filed on June 6, 2001);
- Our Current Report on Form 8-K dated June 30, 2000 (filed on July 14, 2000), as amended by our Current Report on Form 8-K/A dated September 11, 2000 (filed on September 11, 2000) and by our Current Report on Form 8-K/A dated April 23, 2001 (filed on April 24, 2001) and by our Current Report on Form 8-K/A dated April 24, 2001 (filed on April 24, 2001);
- Our Current Report on Form 8-K dated October 25, 2000 (filed on November 1, 2000), as amended by our Current Report on Form 8-K/A dated October 25, 2000 (filed on December 29, 2000) and by our Current Report on Form 8-K/A dated April 23, 2001 (filed on April 24, 2001) and by our Current Report on Form 8-K/A dated April 24, 2001 (filed on April 24, 2001); and
- Our Current Report on Form 8-K dated September 8, 2000 (filed on September 21, 2000), as amended by our Current Report on Form 8-K/A dated April 23, 2001 (filed on April 24, 2001) and by our Current Report on Form 8-K/A dated April 24, 2001 (filed on April 24, 2001);
- Our Registration Statement on Form 8-A filed on May 5, 1995, registering our common stock under Section 12(g) of the Exchange Act, including any amendments or reports filed for the purpose of updating the description of such common stock.

To the extent that any statement in this prospectus is inconsistent with any statement that is incorporated by reference and that was made on or before the date of this prospectus, the statement in this prospectus shall control. The incorporated statement shall not be deemed, except as modified or superseded, to constitute a part of this prospectus or the registration statement. Statements contained in this prospectus as to the contents of any contract or other document are not necessarily complete and, in each instance, we refer you to the copy of each contract or document filed as an exhibit to the registration statement.

We will provide you with copies of any of the documents incorporated by reference into this prospectus, other than exhibits attached to those documents, unless such exhibits are specifically incorporated by reference into the information incorporated herein, without charge. Please direct your written or oral request to Applied Digital Solutions, Inc., 400 Royal Palm Way, Suite 410, Palm Beach, Florida 33480; Attention: Kay Langsford-Loveland, Vice President of Administration, telephone: (561) 805-8033.

We have not authorized anyone to give any information or to make any representation concerning this offering except the information and representations which are contained in this prospectus or which are incorporated by reference in this prospectus. If anyone gives or makes any other information or representation, you should not rely on it. This prospectus is not an offer to sell, or a solicitation of an offer to purchase, any securities other than those to which it relates, nor does it constitute an offer to sell or a solicitation of an offer to purchase by any person in any circumstances in which an offer or solicitation is unlawful. You should not interpret the delivery of this prospectus or any sale made hereunder as an indication that there has been no change in our affairs since the date of this prospectus. You should also be aware that the information in this prospectus may change after this date.

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL STATEMENTS

The accompanying unaudited pro forma condensed combined financial statements reflect the results of its condensed consolidated operations for the year ended December 31, 2000 after giving effect to the acquisitions of Computer Equity Corporation (“Compec”) and Pacific Decision Sciences Corporation (“Pacific”) and the merger with Destron Fearing Corporation (“Destron”), each as described further below. The unaudited pro forma condensed combined statement of operations for the year ended December 31, 2000 gives effect to the acquisitions of Compec and Pacific and the merger with Destron as if they had occurred on January 1, 2000.

The pro forma adjustments do not reflect any operating efficiencies and cost savings which may be achievable with respect to the combined companies. The pro forma adjustments do not include any adjustments to historical sales for any future price changes nor any adjustments to selling and marketing expenses for any future operating changes.

During June 2000, the Company’s subsidiary, Compec Acquisition Corp, acquired all of the outstanding common shares of Compec in a transaction accounted for under the purchase method of accounting. The aggregate purchase price was approximately \$24.7 million of which \$15.8 million was paid in 4.8 million shares of the Company’s common stock and \$8.9 million was paid in cash. The valuation of the common stock issued was based upon the terms of the agreement. In addition, the stockholders of Compec shall be entitled to earnout payments contingent upon Compec achieving certain earnings targets in the twenty-four months following the acquisition. The purchase price for Compec has preliminarily been assigned to the assets acquired and the liabilities assumed based on their estimated fair values at the acquisition date, which approximated their book values. Based upon such allocations, the aggregate purchase price exceeded the estimated fair value of the net assets acquired (goodwill) by approximately \$15.3 million, which is being amortized on a straight-line basis over 10 years. Any additional amounts paid out under the purchase price contingency provision noted above are expected to result in additional goodwill.

On September 8, 2000, the Company completed the acquisition of Destron through a merger of its wholly-owned subsidiary, Digital Angel Corporation, formerly known as Digital Angel.net, Inc., into Destron. As a result of the merger, Destron is now a wholly-owned subsidiary of the Company and has been renamed Digital Angel Corporation. The pro forma adjustments reflecting the consummation of the merger are based upon the purchase method of accounting and upon the assumptions set forth in the notes hereto. In connection with the merger, each outstanding share of Destron’s common stock was exchanged for 1.5 shares of the Company’s common stock. In addition, outstanding options and warrants to purchase shares of Destron’s stock prior to the date of the merger were converted into a right to purchase that number of shares of the Company’s common stock as the holders would have been entitled to receive had they exercised such options and warrants prior to September 8, 2000 and participated in the merger. The Company issued 20.5 million shares of its common stock in exchange for all the outstanding common stock of Destron and 0.3 million shares of its common stock as a transaction fee. The aggregate purchase price of approximately \$84.6 million, including the liabilities was preliminarily allocated to the identifiable assets based on their estimated fair values at the merger date, with the remainder of \$74.9 million recorded as goodwill, which is being amortized on a straight-line basis over 10 years. The value of the Company’s shares issued in exchange for Destron’s stock was calculated using the average of the closing price of the Company’s stock a few days before and a few days after the date the amendment to the definitive merger agreement, which fixed the exchange ratio, was signed.

Effective October 1, 2000, the Company's subsidiary, PDS Acquisition Corp, acquired all of the outstanding common shares of Pacific in a transaction accounted for under the purchase method of accounting. The aggregate purchase price of approximately \$28.0 million was paid in 8.6 million shares of the Company's common stock. The valuation of the common stock issued was based upon the terms of the agreement. In addition, the stockholders of Pacific shall be entitled to earnout payments contingent upon Pacific achieving certain earnings targets in the twenty-four months following the acquisition. The purchase price for Pacific was preliminarily assigned to the assets acquired and the liabilities assumed based on their estimated fair values at the acquisition date, which approximated their book values. Based upon such allocations, the aggregate purchase price exceeded the estimated fair value of the net assets acquired (goodwill) by approximately \$25.2 million, which is being amortized on a straight-line basis over 5 years. Any additional amounts paid out under the purchase price contingency provision noted above are expected to result in additional goodwill.

Applied Digital Solutions, Inc.
Unaudited Pro Forma Condensed Combined Statement of Operations
For the Year ended December 31, 2000
(in thousands, except per share data)

	Applied Digital Solutions, Inc. Historical Year Ended December 31, 2000	Computer Equity Corporation Historical (January 1, 2000– May 31, 2000)(A)	Pro Forma Adjustments	Pro Forma Combined December 31, 2000	Destron Fearing Corporation Historical (January 1, 2000– September 7, 2000)(G)	Merger Adjustments	Pro Forma Combined December 31, 2000	Pacific Decisions Corporation Historical Nine Months Ended September 30, 2000	Merger Adjustments	Pro Forma Combined December 31, 2000
Total revenue	\$ 134,766	\$ 10,453	\$ —	\$ 145,219	\$ 12,655	\$ —	\$ 157,874	\$ 6,248		\$ 164,122
Cost of goods and services sold	82,475	7,776		90,251	7,755		98,006	1,871		99,877
	—			—			—			—
Gross profit	52,291	2,677		54,968	4,900		59,868	4,377		64,245
Selling, general and administrative expenses	(64,500)	(2,848)		(67,348)	(3,241)		(70,589)	(3,541)		(74,130)
Depreciation and amortization	(11,073)	(178)	(638) (B)	(11,889)		(4,988) (H)	(16,877)	(25)	(3,783) (L)	(20,685)
Unusual and restructuring charges	(6,383)			(6,383)			(6,383)			(6,383)
Gain on sale of subsidiaries	486			486			486			486
Interest and other income	1,095			1,095	58		1,153	79		1,232
Interest expense	(5,901)		(310) (C)	(6,211)	(63)		(6,274)			(6,274)
(Loss) income from continuing operations before (benefit) provision for income taxes and minority interest	(33,985)	(349)	(948)	(35,282)	1,654	(4,988)	(38,616)	890	(3,783)	(41,509)
(Benefit) provision for income taxes	(5,040)	(187)	(124) (D)	(5,351)	38	— (I)	(5,313)	386	— (M)	(4,927)
(Loss) income from continuing operations before minority interest	(28,945)	(162)	(824)	(29,931)	1,616	(4,988)	(33,303)	504	(3,783)	(36,582)
Minority interest	229			229	—		229	—		229
Net (loss) income from continuing operations	(29,174)	(162)	(824)	(30,160)	1,616	(4,988)	(33,532)	504	(3,783)	(36,811)
Preferred stock dividends	191			191			191			191
Accretion of beneficial conversion feature and to redemption value of redeemable preferred stock — series c	3,857			3,857			3,857			3,857
Net (loss) income from continuing operations available to common shareholders	\$ (33,222)	\$ (162)	\$ (824)	\$ (34,208)	\$ 1,616	\$ (4,988)	\$ (37,580)	\$ 504	\$ (3,783)	\$ (40,859)
Earnings per common share — basic										
(Loss) from continuing operations	(\$0.52)									(\$0.47)
Earnings per share — diluted										
(Loss) from continuing operations	(\$0.52)									(\$0.47)
Weighted average number of common shares outstanding — basic	63,825		2,012 (E)			13,881 (J)			6,427 (N)	86,145
Weighted average number of common shares outstanding — diluted	63,825		2,012 (F)			13,881 (K)			6,427 (O)	86,145

The unaudited pro forma condensed combined statement of operations for the year ended December 31, 2000 gives effect to the consolidated results of operations for the year as if the acquisitions of Compec and Pacific and the merger of Destron occurred on January 1, 2000.

PRO FORMA ADJUSTMENTS FOR THE UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2000 ARE AS FOLLOWS:

(A) Represents the historical unaudited condensed combined results of Compec for the five months ended May 31, 2000. Compec was acquired by the Company effective June 1, 2000.

(B) The \$638 increase in depreciation and amortization expense represents the estimated amount of goodwill amortization expense to be recorded assuming straight line amortization of the \$15,313 of goodwill recorded on the Company's books related to the Compec acquisition over a ten year period.

(C) The \$310 increase in interest expense represents the increase to interest expense associated with debt issued in connection with the purchase of Compec, based upon borrowing the \$8,848 paid to the sellers at closing at the Company's effective interest rate of 8.41%.

(D) The \$124 adjustment to the provision for income taxes results from providing for taxes at a 40% rate (net federal and state) against the pre-tax pro-forma adjustment for interest expense. The amortization of goodwill is not deductible and therefore receives no tax benefit.

(E) The 2,012 shares represents the weighted average effect of the 4,829 shares of the Company's common stock issued to Compec's shareholders for the pro-forma period beginning January 1, 2000 to May 31, 2000.

(F) There were no potential dilutive common shares issued or assumed by the Company in connection with the acquisition of Compec.

(G) Represents the historical unaudited condensed combined results of Destron for the period from January 1, 2000 to September 7, 2000. Destron was acquired by the Company effective September 8, 2000.

(H) The \$4,988 increase in depreciation and amortization expense represents the estimated amount of goodwill amortization expense to be recorded for the period from January 1, 2000 to September 7, 2000, assuming straight line amortization of the \$74,818 of goodwill over a 10 year period and taking into consideration the \$58 of goodwill amortization expense included in Destron's historical statement of operations.

(I) The amortization of goodwill related to the Destron acquisition is not deductible and therefore receives no tax benefit.

(J) Includes the 20,501 shares of the Company's common stock issued to Destron shareholders. Each share of Destron's common stock was exchanged for 1.5 shares of the Company's common stock. Also includes 320 shares of the Company's common stock that were issued in payment of a finder's fee. The 13,881 shares represents the weighted average effect of the 20,501 shares for the pro-forma period beginning January 1, 2000 to September 7, 2001.

(K) The dilutive potential common shares were not included in the computation of diluted loss per share because to do so would have been anti-dilutive. The dilutive potential common shares consist of Destron options and warrants of 1,804 which were converted into 1.5 shares of the Company's common stock.

(L) The \$3,783 increase in depreciation and amortization expense represents the estimated amount of goodwill amortization expense to be recorded, assuming straight line amortization of the \$25,220 of goodwill over a 5 year period.

(M) The amortization of goodwill is not deductible and therefore receives no tax benefit.

(N) The 6,427 shares represents the weighted average effect of the 8,569 shares of the Company's common stock issued to Pacific shareholders for the pro-forma period beginning January 1, 2000 to September 30, 2000.

(O) There were no potential diluted common shares issued or assumed by the Company in connection with the acquisition of Pacific.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the expenses (other than underwriting discounts and commissions), which other than the SEC registration fee are estimates, payable by the Registrant in connection with the sale and distribution of the shares registered hereby**:

SEC Registration Fee	\$ 1,000
Accounting Fees and Expenses	2,000 *
Legal Fees and Expenses	5,000 *
Miscellaneous Expenses	2,000 *
Total	<u>\$ 10,000 *</u>

* Estimated

** The selling shareholders will pay any sales commissions or underwriting discount and fees incurred in connection with the sale of shares registered hereunder.

Item 15. Indemnification of Directors and Officers.

Sections 351.355(1) and (2) of The General and Business Corporation Law of the State of Missouri provide that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding by reason of the fact that he is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, judgments, fines and amounts paid in settlement actually and reasonably incurred by him in connection with such action, suit or proceeding if he acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of an action or suit by or in the right of the corporation, the corporation may not indemnify such persons against judgments and fines and no person shall be indemnified as to any claim, issue or matter as to which such person shall have been adjudged to be liable for negligence or misconduct in the performance of his duty to the corporation, unless and only to the extent that the court in which the action or suit was brought determines upon application that such person is fairly and reasonably entitled to indemnity for proper expenses. Section 351.355(3) provides that, to the extent that a director, officer, employee or agent of the corporation has been successful in the defense of any such action, suit or proceeding or any claim, issue or matter therein, he shall be indemnified against expenses, including attorneys' fees, actually and reasonably incurred in connection with such action, suit or proceeding. Section 351.355(7) provides that a corporation may provide additional indemnification to any person indemnifiable under subsection (1) or (2), provided such additional indemnification is authorized by the corporation's articles of incorporation or an amendment thereto or by a shareholder-approved bylaw or agreement, and provided further that no person shall thereby be indemnified against conduct which was finally adjudged to have been knowingly fraudulent, deliberately dishonest or willful misconduct or which involved an accounting for profits pursuant to Section 16(b) of the Exchange Act.

The bylaws of the Registrant provide that the Registrant shall indemnify, to the full extent permitted under Missouri law, any director, officer, employee or agent of the Registrant who has served as a director, officer, employee or agent of the Registrant or, at the Registrant's request, has served as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers or persons controlling the Registrant pursuant to such provisions, the Registrant has

been informed that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in such Act and is therefore unenforceable.

Item 16. Exhibits.

See Exhibit Index.

Item 17. Undertakings.

(a) The undersigned issuer hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment hereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

provided, however, that paragraphs (i) and (ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment 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.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Palm Beach, State of Florida, on July 13, 2001.

APPLIED DIGITAL SOLUTIONS, INC.

By: /s/ MERCEDES WALTON
Mercedes Walton
President and Chief Operating Officer

POWER OF ATTORNEY

Each person whose signature appears below hereby constitutes and appoints Jerome C. Artigliere and David Beckett, and each of them (with full power to each of them to act alone), the true and lawful attorney in fact and agent for the undersigned, to act on behalf of and in the name of the undersigned in connection with this Registration Statement, including the authority to sign any amendments (including post-effective amendments) to this Registration Statement, and to file the same, with exhibits and any and all other documents filed with respect thereto, with the Securities and Exchange Commission (or any other governmental or regulatory authority), and each such person ratifies and confirms all that said attorneys in fact and agents 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.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ RICHARD J. SULLIVAN</u> (Richard J. Sullivan)	Chairman of the Board of Directors, Chief Executive Officer and Secretary (Principal Executive Officer)	July 13, 2001
<u>/s/ MERCEDES WALTON</u> (Mercedes Walton)	President and Chief Operating Officer (Principal Operating Officer)	July 13, 2001
<u>/s/ JEROME C. ARTIGLIERE</u> (Jerome C. Artigliere)	Senior Vice President and Chief Financial Officer (Principal Accounting Officer)	July 13, 2001
<u>(Richard S. Friedland)</u>	Director	
<u>(Arthur F. Noterman)</u>	Director	
<u>/s/ DANIEL E. PENNI</u> (Daniel E. Penni)	Director	July 13, 2001
<u>(Angela M. Sullivan)</u>	Director	
<u>/s/ GARRETT A. SULLIVAN</u> (Garrett A. Sullivan)	Director	July 13, 2001
<u>/s/ CONSTANCE K. WEAVER</u> (Constance K. Weaver)	Director	July 13, 2001

EXHIBIT INDEX

<u>Exhibit Number</u>	<u>Description</u>
4.1	Second Restated Articles of Incorporation, of the Registrant (incorporated herein by reference to Exhibit 4.1 to the Registrant's Post-Effective Amendment No. 1 on Form S-1 to Registration Statement (Form S-3 File No. 333-64605) filed with the Commission on June 24, 1999)
4.2	Amendment of Articles of Incorporation of the Registrant filed with the Secretary of State of the State of Missouri on September 5, 2000 (incorporated herein by reference to Exhibit 4.3 to the Registrant's Post-Effective Amendment No. 3 on Form S-3 to Registration Statement on Form S-4 (File No. 333-38420-02) filed with the Commission on September 29, 2000)
4.3	Certificate of Designation of Preferences of Series C Convertible Preferred Stock (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the Commission on October 26, 2000)
4.4	Amended and Restated Bylaws of the Registrant dated March 31, 1998 (incorporated herein by reference to Exhibit 3.1 to the Registrant's Registration Statement on Form S-3 (File No. 333-51067) filed with the Commission on April 27, 1998)
5.1	Opinion of Bryan Cave LLP regarding the validity of the Common Stock*
10.1	Securities Purchase Agreement, dated as of October 24, 2000, relating to the Registrant's Series C Convertible Preferred Stock (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed with the Commission on October 26, 2000)
10.2	Form of warrant to purchase common stock of the Registrant issued to the holders of the Series C Convertible Preferred Stock (incorporated by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed with the Commission on October 26, 2000)
10.3	Registration Rights Agreement between the Registrant and the holders of the Series C Convertible Preferred Stock (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed with the Commission on October 26, 2000)
10.4	Agreement and Plan of Merger dated as of October 18, 2000 among the Registrant, PDS Acquisition Corp., Pacific Decision Sciences Corporation, H&K Vasa Family 1999 Limited Partnership, H&K Vasa Family 2000 Limited Partnership, David Dorret and David Englund (incorporated by reference to Exhibit 2 to the Registrant's Current Report on Form 8-K filed with the Commission on November 1, 2000)
23.1	Consent of PricewaterhouseCoopers LLP*
23.2	Consent of Rubin, Brown, Gornstein & Co. LLP*
23.3	Consent of Arthur Andersen LLP*
23.4	Consent of Grant Thornton LLP*
23.5	Consent of Bryan Cave LLP (included in Exhibit 5.1)*
24.1	Power of Attorney*

* Filed herewith.

BRYAN CAVE LLP

ONE METROPOLITAN SQUARE
211 N. BROADWAY, SUITE 3600
ST. LOUIS, MISSOURI 63102-2750
(314) 259-2000
FACSIMILE: (314) 259-2020

DENIS P. MCCUSKER
DIRECT DIAL NUMBER
(314) 259-2455

INTERNET ADDRESS
DMCCUSKER@BRYANCAVE.COM

July 13, 2001

Board of Directors
Applied Digital Solutions, Inc.
400 Royal Palm Way, Suite 410
Palm Beach, Florida 33480

Ladies and Gentlemen:

We are acting as counsel for Applied Digital Solutions, Inc., a Missouri corporation (the "Company"), in connection with the preparation and filing of a Registration Statement on Form S-3 (the "Registration Statement") with the Securities and Exchange Commission under the Securities Act of 1933, as amended. The Registration Statement relates to 13,794,718 shares of the Company's common stock, \$.001 par value per share.

In connection herewith, we have examined and relied without independent investigation as to matters of fact upon such certificates of public officials, such statements and certificates of officers of the Company and originals or copies certified to our satisfaction of the Registration Statement, the Articles of Incorporation and By-laws of the Company as amended and now in effect, proceedings of the Board of Directors of the Company and such other corporate records, documents, certificates and instruments as we have deemed necessary or appropriate in order to enable us to render this opinion. In rendering this opinion, we have assumed the genuineness of all signatures on all documents examined by us, the due authority of the parties signing such documents, the authenticity of all documents submitted to us as originals and the conformity to the originals of all documents submitted to us as copies.

Based upon and subject to the foregoing, it is our opinion that the 13,794,718 shares of common stock of the Company covered by the Registration Statement are legally issued, fully paid and non-assessable shares of common stock of the Company.

This opinion is not rendered with respect to any laws other than the laws of the State of Missouri, and the Federal law of the United States. We hereby consent to the reference to our name in the Registration Statement under the caption "Legal Opinion" and further consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement.

Very truly yours,

BRYAN CAVE LLP

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of Applied Digital Solutions, Inc. and subsidiaries of our report dated March 15, 2001 except as to Notes 2 and 13 which are as of March 30, 2001 relating to the financial statements and financial statement schedule, which appears in Applied Digital Solutions, Inc.'s Annual Report on Form 10-K for the year ended December 31, 2000. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PRICEWATERHOUSECOOPERS LLP

PricewaterhouseCoopers LLP

St. Louis, Missouri

July 12, 2001

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of Applied Digital Solutions, Inc. and subsidiaries of our report dated September 7, 2000 relating to the financial statements of Pacific Decision Sciences Corporation and Subsidiaries for the year ended June 30, 2000 which appear in Applied Digital Solutions, Inc.'s Amendment No. 1 dated December 29, 2000 to Form 8-K dated November 1, 2000. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ RUBIN, BROWN, GORNSTEIN & CO. LLP

Rubin, Brown, Gornstein & Co. LLP
St. Louis, Missouri
July 13, 2001

CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS

As independent public accountants, we hereby consent to the incorporation by reference in this registration statement of our report dated November 5, 1999 incorporated by reference in Destron Fearing Corporation's Form 10-K for the year ended September 30, 1999 and to all references to our Firm included in this registration statement.

/s/ ARTHUR ANDERSEN LLP

Arthur Andersen LLP
Minneapolis, Minnesota
July 13, 2001

CONSENT OF INDEPENDENT ACCOUNTANTS

We have issued our report dated April 28, 2000 accompanying the consolidated financial statements of Computer Equity Corporation and Subsidiaries for the years ended February 28, 1999 and February 29, 2000, included in Applied Digital Solutions, Inc.'s (formerly Applied Cellular Technology, Inc.) Amendment No. 1 dated September 11, 2000 to Form 8-K dated July 14, 2000. We consent to the incorporation by reference in this Registration Statement on Form S-3 of Applied Digital Solutions, Inc. of the aforementioned report and to the use of our name as it appears under the caption "Experts."

/s/ GRANT THORNTON LLP

Grant Thornton LLP
Vienna, Virginia
July 12, 2001