PIXELWORKS INC Form S-3 August 10, 2004

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As filed with the Securities and Exchange Commission on August 10, 2004

Registration No. 333-

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

PIXELWORKS, INC.

(Exact name of registrant as specified in its charter)

Oregon

(State of incorporation or organization)

91-1761992

(I.R.S. Employer Identification Number)

8100 SW Nyberg Road Tualatin, Oregon 97062 (503) 454-1750

(Address, including zip code, and telephone number, including area code of Registrant's principal executive offices)

Allen H. Alley
President and Chief Executive Officer
Pixelworks, Inc.
8100 SW Nyberg Road
Tualatin, Oregon 97062
(503) 454-1750

(Name, address, including zip code, and telephone number, including area code of agent for service)

Copies to:

Alice Cuprill-Comas, Esq. Ater Wynne LLP 222 SW Columbia, Suite 1800 Portland, Oregon 97201 (503) 226-1191

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. o

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, other than securities offered only in connection with dividend or interest investment plans, check the following box. ý

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. o

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
1.75% Convertible Subordinated Debentures Due 2024	\$150,000,000(1)	100%(3)	\$150,000,000(3)	\$19,005(3)
Common Stock, \$0.001 par value per share	8,581,032(2)	\$8.80(4)	\$21,310,317(4)	\$2,700(4)

- (1) The 1.75% Convertible Subordinated debentures due 2024 (the "Debentures") were issued at an original price of \$1,000 per \$1,000 principal amount at maturity, which represents an aggregate initial issue price and an aggregate principal amount at maturity of \$150,000,000.
- (2)
 Includes 6,159,405 shares of common stock initially issuable upon conversion of the Debentures at a rate of 41.0627 shares of common stock per \$1,000 principal amount at maturity of the Debentures, plus 2,421,627 shares of common stock offered by selling security holders and an indeterminate number of additional shares of common stock that may be issued from time to time upon conversion of the Debentures as a result of circumstances described in the prospectus that is a part of this registration statement.
- (3) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(i) of the Securities Act.
- Pursuant to Rule 457(i) under the Securities Act, there is no filing fee with respect to shares of common stock issuable upon conversion of the Debentures because no additional consideration will be received in connection with the exercise of the conversion privilege. With respect to the 2,421,627 shares of common stock offered by selling security holders, the fee is estimated based on the average of the high and low price per share of our common stock as reported on NASDAQ on August 6, 2004.

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.

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

SUBJECT TO COMPLETION, DATED AUGUST 10, 2004

PROSPECTUS

PIXELWORKS, INC.

\$150,000,000 PRINCIPAL AMOUNT 1.75% CONVERTIBLE SUBORDINATED DEBENTURES DUE 2024

and

6,159,405 SHARES OF COMMON STOCK ISSUABLE UPON CONVERSION OF THE DEBENTURES

and

2,421,627 SHARES OF COMMON STOCK

We originally issued the debentures in private placements in May and June 2004. This prospectus will be used by selling security holders to resell their debentures and the common stock issuable upon conversion of such debentures. In addition, certain selling security holders have elected to register their shares of common stock through the exercise of certain piggyback registration rights previously granted to them.

The debentures will bear interest at the rate of 1.75% per annum. Interest on the debentures is payable on May 15 and November 15 of each year, beginning on November 15, 2004.

The debentures are convertible under certain circumstances by holders into shares of our common stock initially at a conversion rate of 41.0627 shares of common stock per \$1,000 principal amount of debentures (subject to adjustment in certain events). This is equivalent to a conversion price of approximately \$24.35 per share. The debentures are convertible under the following circumstances: (1) if the price of our stock reaches a specified threshold, (2) if the trading price of the debentures is below a specified threshold, (3) if the debentures have been called for redemption, or (4) if specified corporate transactions occur, each as described in this offering memorandum.

The debentures will mature on May 15, 2024. We may redeem for cash at any time on or after May 15, 2011 some or all of the debentures at a price equal to 100% of the principal amount of the debentures to be redeemed plus any accrued and unpaid interest to, but excluding the date fixed for redemption. See "Description of Debentures" Optional Redemption."

The debentures will be our unsecured obligations and will be subordinated in right of payment to all of our senior indebtedness. Holders may require us to purchase all or a portion of their debentures on May 15, 2011, May 15, 2014 and May 15, 2019, at 100% of their principal amount of the debentures to be purchased, plus accrued and unpaid interest, if any, to but excluding the purchase date.

Since their initial issuance, the debentures have been eligible for trading on the PORTAL Market of The Nasdaq Stock Market, Inc. However, debentures sold by means of this prospectus will no longer trade on the PORTAL Market. We do not intend to list the debentures for trading on any other automated interdealer quotation system or any securities exchange. Our common stock is quoted on the Nasdaq National Market under the symbol "PXLW." On August 9, 2004, the last reported sale price of our common stock was \$8.46 per share. Our principal executive offices are located at 8100 S.W. Nyberg Road, Tualatin, Oregon 97062 and our telephone number is (503) 454-1750.

The selling security holders will receive all of the net proceeds from the sale of the securities and will pay all underwriting discounts and selling commissions. We are responsible for the payment of other expenses incident to the registration of the securities.

Investing in the debentures involves risks. See "Risk Factors" beginning on page 5.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is

, 2004.

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YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS PROSPECTUS, ANY PROSPECTUS SUPPLEMENT OR ANY DOCUMENT INCORPORATED HEREIN OR THEREIN TO WHICH WE HAVE REFERRED YOU. WE HAVE NOT AUTHORIZED ANYONE ELSE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT. THIS PROSPECTUS AND ANY PROSPECTUS SUPPLEMENT MAY BE USED ONLY WHERE IT IS LEGAL TO SELL THESE SECURITIES. THE INFORMATION IN THIS PROSPECTUS OR ANY PROSPECTUS SUPPLEMENT IS CURRENT ONLY AS OF THE DATE ON THE FRONT OF THESE DOCUMENTS.

PROSPECTUS SUMMARY

This summary contains basic information about us and this offering. Because it is a summary, it does not contain all of the information that you should consider before investing. You should read this entire offering memorandum carefully, including the section entitled "Risk Factors" and the documents incorporated by reference, including our financial statements and the notes thereto, before making an investment in the debentures. As used in this offering memorandum, "Pixelworks," "the Company," "we," "our," and "us" refer to Pixelworks, Inc., an Oregon corporation, except where the context otherwise requires or as otherwise indicated.

Pixelworks, Inc.

We are a leading designer, developer and marketer of semiconductors and software for the advanced display industry, including advanced televisions, multimedia projectors and flat panel monitors. Our system-on-chip semiconductors provide the 'intelligence' for these new types of displays by processing and optimizing video and computer graphic signals to produce high-quality images. Many of the world's leading manufacturers of consumer electronics and computer display products utilize our technology to enhance image quality and ease of use of their products. Our goal is to provide all of the electronics necessary to process the signal along its entire path through the system in order to provide a turnkey solution for our customers.

The display industry is undergoing a transformation from displays using cathode ray tubes, or CRTs, which have been the predominant display technology for more than 60 years and operate using analog, or waveform, signals. A new generation of technologies are now available that utilize display screens comprised of a grid of thousands of tiny picture elements, or pixels, and operate digitally. Examples of these new types of displays include liquid crystal displays, plasma displays, micro-mirror devices and other advanced display technologies.

During the transition to digital display technology, the way signal processing integrated circuits, or ICs, are developed is shifting away from development by vertically integrated manufacturers toward development by third-party companies like Pixelworks. We provide our customers, including manufacturers, original equipment manufacturers, or OEMs, and systems integrators, with video and graphics processing solutions that enable them to deliver an advanced display system with industry leading performance and features to market rapidly. By choosing this product development strategy, our customers reduce their research and development costs, thereby reducing the cost of the overall system. In addition, our customers can utilize a consistent design environment across multiple product lines.

We have a broad product line that uses proprietary technologies and advanced designs to address the requirements of the industry we serve. Our products range from single-purpose discrete ICs to system-on-chip ICs integrating a microprocessor, memory and image processing circuits that function as a computer on a single chip. We have expanded our technology portfolio through internal developments, acquisitions and co-developments with business partners. In the future, we plan to introduce products that continue to integrate additional functionality and utilize more advanced processes in order to improve performance and lower product costs. We are a fabless company and rely on third party foundries, including Infineon Technologies AG, Semiconductor Manufacturing International Corporation, Taiwan Semiconductor Manufacturing Corporation and Toshiba, to manufacture our ICs.

We are incorporated in Oregon and our principal offices are located at 8100 SW Nyberg Road, Tualatin, Oregon 97062. Our telephone number is (503) 454-1750. Our corporate website is located at http://www.pixelworks.com, although none of the information contained on our website is a part of this offering memorandum.

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The Offering

Issuer Pixelworks, Inc.

Securities Offered \$150,000,000 principal amount of 1.75% Convertible Subordinated Debentures due

2024 and 2,421,627 shares of common stock.

Offering Price 100% of the principal amount of the debentures, plus accrued interest from May 18,

2004, if any, or such other price as the initial purchasers determine.

Maturity Date May 15, 2024.

Interest 1.75% per annum on the principal amount, payable semi-annually in arrears on

May 15 and November 15 of each year, commencing November 15, 2004.

Ranking The debentures are unsecured obligations and are subordinated in right of payment

to all our existing and future senior debt and effectively subordinated to all existing and future debt of our subsidiaries. At June 30, 2004, we had no senior debt outstanding and our subsidiaries had approximately \$1.1 million of outstanding indebtedness and other liabilities to which the debentures will be effectively subordinated. However, the indenture under which the debentures will be issued will not prevent us or our subsidiaries from incurring additional senior debt or other

obligations. See "Description of Debentures Ranking."

Conversion Rights Holders may convert their debentures into shares of our common stock only under

the following circumstances:

during any calendar quarter after the quarter ending September 30, 2004 (and only during such calendar quarter) if the sale price of our common stock, for at least 20 trading days during the period of 30 consecutive trading days ending on the last trading day of the previous calendar quarter, is greater than or equal to 130% of the conversion price per share of our common stock;

subject to certain exceptions, during the five business day period following any five consecutive trading day period in which the trading price of the debentures for each day of such period was less than 98% of the product of the closing sale price of our common stock and the number of shares issuable upon conversion of \$1,000 principal amount of the debentures;

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if the debentures have been called for redemption; or

upon the occurrence of specified corporate transactions described under "Description of Debentures Conversion Rights Conversion Upon Specified Corporate Transactions."

For each \$1,000 principal amount of debentures surrendered for conversion you may convert your debentures into 41.0627 shares of our common stock. This represents an initial conversion price of approximately \$24.35 per share of common stock.

As described in this offering memorandum, the conversion rates may be adjusted upon the occurrence of certain events including for any cash dividend, but they will not be adjusted for accrued and unpaid interest. You will not receive any cash payment representing accrued and unpaid interest upon conversion of a debenture. Instead, interest will be deemed cancelled, extinguished and forfeited upon conversion. Debentures called for redemption may be surrendered for conversion prior to the close of business on the business day immediately preceding the redemption date.

We may redeem for cash at any time on or after May 15, 2011 some or all of the debentures at a price equal to 100% of the principal amount of the debentures to be redeemed plus any accrued and unpaid interest to but excluding the date fixed for redemption. See "Description of Debentures" Optional Redemption."

Holders of debentures have the right to require us to purchase all or a portion of their debentures on May 15, 2011, May 15, 2014 and May 15, 2019, each of which we refer to as a purchase date.

In each case, we will pay a purchase price equal to 100% of the principal amount of the debentures to be purchased, plus any accrued and unpaid interest. For more information about the purchase of debentures by us at the option of the holder, see "Description of Debentures Purchase of Debentures By Us at the Option of the Holder."

Upon a fundamental change, each holder of the debentures may require us to repurchase some or all of its debentures at a purchase price equal to 100% of the principal amount of the debentures plus any accrued and unpaid interest. See "Description of Debentures Fundamental Change Permits Purchase of Debentures By Us at the Option of the Holder."

Optional Redemption

Purchase of Debentures By Us at the Option of the Holder

Fundamental Change

Book Entry Form The debentures were issued in book-entry form and are

represented by permanent global certificates deposited with, or on behalf of, The Depository Trust Company ("DTC") and registered in the name of a nominee of DTC. Beneficial interests in any of the debentures will be shown on, and transfers will be effected only through, records maintained by DTC or its nominee and any such interest may not be exchanged for certificated securities.

except in limited circumstances.

Use of Proceeds We will not receive any proceeds from the sale of the

debentures or the shares of common stock offered by this

Prospectus.

Registration Rights We have entered into a registration rights agreement with

the initial purchasers of the debentures in which we agreed to file the shelf registration statement of which

this prospectus is a part with the SEC.

Trading Since their initial issuances, the debentures have been

eligible for trading on the PORTAL Market of the Nasdaq Stock Market, Inc. However, debentures sold by means of this prospectus will no longer trade on the PORTAL Market. We do not intend to list the debentures for trading on any other automated interdealer quotation system or any securities exchange, and we cannot assure you about the liquidity of or the development of any trading market for the debentures. Our common stock is quoted on the Nasdaq National Market under the

symbol "PXLW."

RATIO OF EARNINGS TO FIXED CHARGES

Our ratio of earnings to fixed charges for each of the periods indicated is as follows:

(1)

	Three Months Ended June 30, 2004	Six Months Ended June 30, 2004	Fiscal Year Ended December 31,				
			2003	2002	2001	2000	1999
Ratio of Earnings to Fixed Charges(1)	22.83	47.56			N/A		

These ratios are calculated by dividing (a) earnings before income taxes plus fixed charges less minority interests less preferred dividend requirements by (b) fixed charges. Fixed charges include interest expense, the portion of interest expense under leases we deem to be representative of the interest factor, and preferred dividend requirements. As of the date of this prospectus, we had one share of preferred stock outstanding, referred to as special voting preferred stock. This special voting preferred stock was issued in connection with our acquisition of Jaldi Semiconductor Corp., and relates to Jaldi's Canadian exchangeable shareholders. The holder of this share of special voting preferred stock is not entitled to receive any dividends. No other shares of preferred stock are outstanding. The ratio of earnings to fixed charges is equal to the ratio of earnings to combined fixed charges and preferred dividends

outstanding. The ratio of earnings to fixed charges is equal to the ratio of earnings to combined fixed charges and preferred dividends for each of these periods. Earnings were insufficient to cover fixed charges by \$1,448, \$20,045, \$605 and \$4,994 for the years ended December 31, 2003, 2002, 2000 and 1999, respectively. There were no fixed charges during the year ended December 31, 2001.

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RISK FACTORS

You should carefully consider the risks described below before making an investment decision. The risks described below are not the only ones that we face. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of the debentures and our common stock could decline due to any of these risks, and you may lose all or part of your investment. This offering memorandum and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this offering memorandum and the documents incorporated herein by reference.

(In thousands, except per share data.)

Risks Related to our Operations

We have incurred net losses since our inception, and we may not achieve or sustain annual profitability.

While we had \$5,759 and \$12,312 of net income in the three and six months ended June 30, 2004, our accumulated deficit is \$69,057 through June 30, 2004, and we have never been profitable in any full year period. In the future we expect our research and development and selling, general and administrative expenses to increase. Given expected increases in operating expenses, we must increase revenues and gross profit to become profitable. We cannot be certain that we will achieve profitability in the future or, if we do, that we can sustain or increase profitability on a quarterly or annual basis. This may in turn cause the price of our common stock to decline. In addition, if we are not profitable in the future we may be unable to continue our operations.

Fluctuations in our quarterly operating results make it difficult to predict our future performance and may result in volatility in the market price of our common stock.

Our quarterly operating results have varied significantly from quarter to quarter and are likely to vary significantly in the future based on a number of factors related to our industry and the markets for our products. Some of these factors are not in our control and any of them may cause the price of our common stock to fluctuate. These factors include:

demand for multimedia projectors, advanced televisions, and LCD monitors;

demand for our products and the timing of orders for our products;

the deferral of customer orders in anticipation of new products or product enhancements from us or our competitors or due to a reduction in our end customers' demand;

the loss of one or more of our key distributors or customers or a reduction, delay or cancellation of orders from one or more of these parties;

changes in the available production capacity at the semiconductor fabrication foundries that manufacture our products and changes in the costs of manufacturing;

our ability to provide adequate supplies of our products to customers and avoid excess inventory;

announcement or introduction of products and technologies by our competitors;

changes in product mix, product costs or pricing, or distribution channels; and

general economic conditions and economic conditions specific to the advanced display and semiconductor markets.

These factors are difficult or impossible to forecast, and these or other factors could seriously harm our business. We anticipate the rate of new orders may vary significantly from quarter to quarter.

Our operating expenses and inventory levels are based on our expectations of future revenues and our operating expenses are relatively fixed in the short term. Consequently, if anticipated sales and shipments in any quarter do not occur when expected, operating expenses and inventory levels could be disproportionately high, and our operating results for that quarter and, potentially, future quarters may be negatively impacted. Any shortfall in our revenues would have a direct impact on our business. In addition, fluctuations in our quarterly results could adversely affect the price of our common stock in a manner unrelated to our long-term operating performance. Because our operating results are volatile and difficult to predict, you should not rely on the results of one quarter as an indication of our future performance. It is possible that in some future quarter our operating results will fall below the expectations of securities analysts and investors. In this event, the price of our common stock may decline significantly.

Our products are characterized by average selling prices that decline over relatively short time periods, which will negatively affect financial results unless we are able to reduce our product costs or introduce new products with higher average selling prices.

Average selling prices for our products decline over relatively short time periods while many of our product costs are fixed. When our average selling prices decline, our gross profits decline unless we are able to sell more units or reduce the cost to manufacture our products. Our operating results are negatively affected when revenue or gross profit margins decline. We have experienced these problems and expect that we will continue to experience them in the future, although we cannot predict when they may occur or how severe they will be.

Our highly integrated products and high-speed mixed signal products are difficult to manufacture without defects and the existence of defects in the manufactured products could result in an increase in our costs and delays in the availability of our products.

The manufacture of semiconductors is a complex process and it is often difficult for semiconductor foundries to produce semiconductors free of defects. Because our products are more highly integrated than many other semiconductors and incorporate mixed analog and digital signal processing and embedded memory technology, they are even more difficult to produce without defects.

The ability to manufacture products of acceptable quality depends on both product design and manufacturing process technology. Since defective products can be caused by either design or manufacturing difficulties, identifying quality problems can occur only by analyzing and testing our semiconductors in a system after they have been manufactured. The difficulty in identifying defects is compounded because the process technology is unique to each of the multiple semiconductor foundries we contract with to manufacture our products. Failure to achieve defect-free products due to their increasing complexity may result in an increase in our cost and delays in the availability of our products. For example, we have experienced field failures of our ICs in certain customer system applications that required us to institute additional IC level testing. As a result of these field failures we incurred additional costs due to customers returning potentially affected products. Additionally, customers have experienced delays in receiving product shipments from us that resulted in the loss of revenue and profits. Shipment of defective products may also harm our reputation with customers.

If we do not achieve additional design wins in the future, our ability to grow would be seriously limited.

Our future success will depend on developers of advanced display products designing our products into their systems. To achieve design wins we must define and deliver cost-effective, innovative and integrated semiconductors. Once a supplier's products have been designed into a system, the developer

may be reluctant to change its source of components due to the significant costs associated with qualifying a new supplier. Accordingly, the failure on our part to obtain additional design wins with leading branded manufacturers or integrators, and to successfully design, develop and introduce new products and product enhancements could harm our business, financial condition and results of operations.

Achieving a design win does not necessarily mean that a developer will order large volumes of our products. A design win is not a binding commitment by a developer to purchase our products. Rather, it is a decision by a developer to use our products in the design process of that developer's products. Developers can choose at any time to discontinue using our products in their designs or product development efforts. If our products are chosen to be incorporated into a developer's products, we may still not realize significant revenues from that developer if that developer's products are not commercially successful or if that developer chooses to qualify a second source for the products that we promote.

Because of the complex nature of our semiconductor designs and of the associated manufacturing process and the rapid evolution of our customers' product designs we may not be able to develop new products or product enhancements in a timely manner, which could decrease customer demand for our products and reduce our revenues.

The development of our semiconductors, some of which incorporate mixed analog and digital signal processing, is highly complex. These complexities require that we employ advanced designs and manufacturing processes that are unproven. We have experienced increased development time and delays in introducing new products that resulted in significantly less revenue than originally expected for those products. We will not always succeed in developing new products or product enhancements nor will we always do so in a timely manner. Acquisitions have significantly added to the complexity of our product development efforts. We must now coordinate very complex product development programs between multiple, geographically dispersed locations.

Many of our designs involve the development of new high-speed analog circuits that are difficult to simulate and that require physical prototypes not required by the primarily digital circuits we currently design. The result could be longer and less predictable development cycles.

Successful development and timely introduction of new or enhanced products depends on a number of other factors, including:

accurate prediction of customer requirements and evolving industry standards, including digital interface and content piracy protection standards;

development of advanced display technologies and capabilities;

timely completion and introduction of new product designs;

use of advanced foundry processes and achievement of high manufacturing yields; and

market acceptance of the new products.

If we are not able to successfully develop and introduce our products in a timely manner, our business and results of operations will be adversely affected.

Integration of software in our products adds complexity and cost that may affect our ability to achieve design wins and may affect our profitability.

Our products incorporate software and software development tools. The integration of software adds complexity, may extend our internal development programs and could impact our customers' development schedules. This complexity requires increased coordination between hardware and

software development schedules and may increase our operating expenses without a corresponding increase in product revenue. Some customers and potential customers may choose not to use our products because of the additional requirements of implementing our software, preferring to use a product that works with their existing software. This additional level of complexity lengthens the sales cycle and may result in customers selecting competitive products requiring less software integration.

A significant amount of our revenue comes from a few customers and distributors. Any decrease in revenues from, or loss of any of these customers or distributors, could significantly reduce our total revenues.

We are and will continue to be dependent on a limited number of large distributors and customers for a substantial portion of our revenue. Sales to distributors represented 71% of our total revenue for the three and six months ended June 30, 2004, and 63% and 65% of total revenue for the three and six months ended June 30, 2004, sales to Tokyo Electron Device Limited, or TED, our distributor in Japan, represented 27% and 29% of our total revenue, respectively. Sales to TED represented 31% and 37% of total revenue in the comparable periods in 2003. Sales to our top five end customers accounted for approximately 34% and 32% of our total revenue for the three and six months ended June 30, 2004, respectively, and 38% and 34% of our total revenue for the comparable periods in 2003. As a result of this distributor and end customer concentration, any one of the following factors could significantly impact our revenues:

a significant reduction, delay or cancellation of orders from one or more of our key distributors, branded manufacturers or integrators; or

a decision by one or more significant customers to select products manufactured by a competitor, or its own internally developed semiconductor, for inclusion in future product generations.

The display manufacturing market is highly concentrated among relatively few large manufacturers. We expect our operating results to continue to depend on revenues from a relatively small number of distributors that sell our products to display manufacturers and their suppliers.

The concentration of our accounts receivable with a limited number of customers exposes us to increased credit risk and could seriously harm our operating results and cash flows.

At June 30, 2004, we had three customers that each represented more than 10% of our accounts receivable balance. TED represented 23% and 20% of our total accounts receivable at June 30, 2004 and December 31, 2003, respectively. Neoview, our distributor in Taiwan, represented 12% and 33% of total accounts receivable at June 30, 2004 and December 31, 2003, respectively. A third customer accounted for 10% of total accounts receivable at June 30, 2004 and a fourth customer accounted for 11% of total accounts receivable at December 31, 2003. The failure to pay these balances by TED, Neoview or any other customer representing 10% or more of our total accounts receivable in the future would result in a significant expense that would increase our operating expenses and would reduce our cash flows.

International sales account for almost all of our revenue, and if we do not successfully address the risks associated with our international operations, our revenue could decrease.

Sales outside the U.S. accounted for approximately 99% of total revenue for the three and six months ended June 30, 2004 and for the comparable periods in 2003. Most of our customers are concentrated in Japan, Taiwan, China and Korea, with aggregate sales from those four countries accounting for 87% and 88% of our total revenue during the three and six months ended June 30, 2004 and 88% during the comparable periods of 2003. We anticipate that sales outside the U.S. will continue to account for a substantial portion of our revenue in future periods. In addition, customers who incorporate our products into their products sell a substantial portion of them outside of the U.S.,

thereby exposing us indirectly to further international risks. In addition, all of our products are manufactured outside of the U.S. We are, therefore, subject to many international risks, including, but not limited to:

increased difficulties in managing international distributors and manufacturers of our products and components due to varying time zones, languages and business customs;

foreign currency exchange fluctuations such as the devaluation in the currencies of Japan, Taiwan and Korea that could result in an increased cost of procuring our semiconductors;

potentially adverse tax consequences, such as license fee revenue taxes imposed in Japan;

difficulties regarding timing and availability of export and import licenses, which have limited our ability to freely move demonstration equipment and samples in and out of Asia;

political and economic instability, particularly in China, Taiwan and Korea;

reduced or limited protection of our intellectual property, significant amounts of which are contained in software, which is more prone to design piracy;

increased transaction costs related to sales transactions conducted outside of the U.S. such as charges to secure letters of credit for foreign receivables;

difficulties in maintaining sales representatives outside of the U.S. that are knowledgeable about the display processor industry and our display processor products;

changes in the regulatory environment in China, Japan, Korea and Taiwan that may significantly impact purchases of our products by our customers;

outbreaks of SARS in China or other parts of Asia; and

difficulties in collecting accounts receivable.

Our growing presence and investment within the Peoples Republic of China subjects us to risks of economic and political instability in the area, which could adversely impact our results of operations.

A substantial and potentially increasing portion of our products are manufactured by foundries located in the Peoples Republic of China, or the PRC, and a large number of our customers are geographically concentrated in the PRC. In addition, approximately 30 percent of our employees are located in this area and we made an investment of \$10,000 in Semiconductor Manufacturing International Corporation (SMIC) located in Shanghai, China in the third quarter of 2003. Disruptions from natural disasters, health epidemics (including new outbreaks of SARS) and political, social and economic instability may affect the region, and would have a negative impact on our results of operations. In addition, the economy of the PRC differs from the economies of many countries in respects such as structure, government involvement, level of development, growth rate, capital reinvestment, allocation of resources, self-sufficiency, rate of inflation and balance of payments position, among others. In the past, the economy of the PRC has been primarily a planned economy subject to state plans. Since the entry of the PRC into the World Trade Organization in 2002, the PRC government has been reforming its economic and political systems. These reforms have resulted in significant economic growth and social change. We cannot assure, however, that the PRC government's policies for economic reforms will be consistent or effective. Our results of operations and financial position may be harmed by changes in the PRC's political, economic or social

conditions.

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Our dependence on selling through distributors and integrators increases the complexity of managing our supply chain and may result in excess inventory or inventory shortages.

Selling through distributors reduces our ability to forecast sales and increases the complexity of our business. Since our distributors act as intermediaries between us and the companies using our products, we must rely on our distributors to accurately report inventory levels and production forecasts. This arrangement requires us to manage a more complex supply chain and monitor the financial condition and creditworthiness of our distributors and customers. Our failure to manage one or more of these challenges could result in excess inventory or shortages that could seriously impact our operating revenue or limit the ability of companies using our semiconductors to deliver their products.

Dependence on a limited number of sole-source, third party manufacturers for our products exposes us to shortages based on capacity allocation or low manufacturing yield, errors in manufacturing, price increases with little notice, volatile inventory levels and delays in product delivery, which could result in delays in satisfying customer demand, increased costs and loss of revenues.

We do not own or operate a semiconductor fabrication facility and we do not have the resources to manufacture our products internally. We rely on third party foundries for wafer fabrication and other contract manufacturers for assembly and testing of our products. Our requirements represent only a small portion of the total production capacity of our contract manufacturers. Our third-party manufacturers have in the past re-allocated capacity to other customers even during periods of high demand for our products. We expect that this may occur in the future. We have limited control over delivery schedules, quality assurance, manufacturing yields, potential errors in manufacturing and production costs. We do not have long-term supply contracts with our third-party manufacturers so they are not obligated to supply us with products for any specific period, in any specific quantity or at any specific price, except as may be provided in a particular purchase order. From time to time our third-party manufacturers increase prices charged to manufacture our products with little notice. This requires us to either increase the price we charge for our products or suffer a decrease in our gross margins. We try not to maintain substantial inventories of products, but need to order products long before we have firm purchase orders for those products which could result in excess inventory or inventory shortages.

If we are unable to obtain our products from manufacturers on schedule, our ability to satisfy customer demand will be harmed, and revenue from the sale of products may be lost or delayed. If orders for our products are cancelled, expected revenues would not be realized. In addition, if the price charged by our third-party manufacturers increases we will be required to increase our prices, which could harm our competitiveness.

The concentration of our manufactures and customers in the same geographic region increases our risk that a natural disaster, labor strike or political unrest could disrupt our operations.

Most of our current manufacturers and customers are located in China, Japan, Korea and Taiwan. The risk of earthquakes in the Pacific Rim region is significant due to the proximity of major earthquake fault lines in the area. A current manufacturer's facilities were affected by a significant earthquake in Taiwan in September 1999. As a consequence of this earthquake, the manufacturer suffered power outages and disruption that impaired its production capacity. Earthquakes, fire, flooding, power outages and other natural disasters in the Pacific Rim region, or political unrest, labor strikes or work stoppages in countries where our manufacturers and customers are located likely would result in the disruption of our foundry partners' assembly capacity. Any disruption resulting from extraordinary events could cause significant delays in shipments of our solutions until we are able to shift our manufacturing or assembling from the affected contractor to another third-party vendor. There can be no assurance that alternative capacity could be obtained on favorable terms, if at all.

We use a COT, or customer owned tooling, process for manufacturing some of our products which exposes us to the possibility of poor yields and unacceptably high product costs.

We are building many of our products on a customer owned tooling basis, also known in the semiconductor industry as COT, where we directly contract the manufacture of wafers and assume the responsibility for the assembly and testing of our products. As a result, we are subject to increased risks arising from wafer manufacturing yields and risks associated with coordination of the manufacturing, assembly and testing process. Poor product yields would result in higher product costs, which could make our products uncompetitive with products offered by our competitors, thereby resulting in low gross profit margins or loss of revenue, or both.

We are dependent on our foundries to implement complex semiconductor technologies, which could adversely affect our operations if those technologies are not available, delayed or inefficiently implemented.

In order to increase performance and functionality and reduce the size of our products, we are continuously developing new products using advanced technologies that further miniaturize semiconductors. However, we are dependent on our foundries to develop and provide access to the advanced processes that enable such miniaturization. We cannot be certain that future advanced manufacturing processes will be implemented without difficulties, delays or increased expenses. Our business, financial condition and results of operations could be materially and adversely affected if advanced manufacturing processes are unavailable to us, substantially delayed or inefficiently implemented.

Manufacturers of our semiconductor products periodically discontinue manufacturing processes, which could make our products unavailable from our current suppliers.

Semiconductor manufacturing technologies change rapidly and manufacturers typically discontinue older manufacturing processes in favor of newer ones. Once a manufacturer makes the decision to retire a manufacturing process, notice is generally given to its customers. Customers will then either retire the affected part or develop a new version of the part that can be manufactured on the newer process. In the event that a manufacturing process is discontinued, our products could become unavailable from our current suppliers. Additionally, migrating to a new, more advanced process requires significant expenditures for research and development. A significant portion of our products use 0.25um embedded DRAM technology and the required manufacturing process for these technologies will likely be available for the next two years. We also utilize a 0.18um standard logic process, which we expect will be readily available for the next five to seven years. We have commitments from our suppliers to notify us in the event of a discontinuance of a manufacturing process in order to assist us with product transitions.

If we have to qualify a new contract manufacturer or foundry for any of our products, we may experience delays that result in lost revenues and damaged customer relationships.

None of our products are fabricated by more than one supplier. Additionally, our products require manufacturing with state-of-the-art fabrication equipment and techniques. Because the lead-time needed to establish a relationship with a new contract manufacturer is at least six months, and the estimated time for us to adapt a product's design to a particular contract manufacturer's processes is at least four months, there is no readily available alternative source of supply for any specific product. This could cause significant delays in shipping products, which may result in lost revenues and damaged customer relationships.

Our future success depends upon the continued services of key personnel, many of whom would be difficult to replace and the loss of one or more of these employees could seriously harm our business by delaying product development.

Our future success depends upon the continued services of our executive officers, key hardware and software engineers, and sales, marketing and support personnel, many of whom would be difficult to replace. The loss of one or more of these employees, particularly Allen Alley, our President and Chief Executive Officer, could seriously harm our business. In addition, because of the highly technical nature of our business, the loss of key engineering personnel could delay product introductions and significantly impair our ability to successfully create future products. We believe our success depends, in large part, upon our ability to identify, attract and retain qualified hardware and software engineers, and sales, marketing, finance and managerial personnel. Competition for talented personnel is intense and we may not be able to retain our key personnel or identify, attract or retain other highly qualified personnel in the future. We have experienced, and may continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. If we do not succeed in hiring and retaining employees with appropriate qualifications, our product development efforts, revenues and business could be seriously harmed.

Because we do not have long-term commitments from our customers, and plan purchases based on estimates of customer demand which may be inaccurate, we must contract for the manufacture of our products based on those potentially inaccurate estimates.

Our sales are made on the basis of purchase orders rather than long-term purchase commitments. Our customers may cancel or defer purchase orders at any time. This process requires us to make multiple demand forecast assumptions, each of which may introduce error into our estimates. If our customers or we overestimate demand, we may purchase components or have products manufactured that we may not be able to use or sell. As a result, we would have excess inventory, which would negatively affect our operating results. Conversely, if our customers or we underestimate demand or if sufficient manufacturing capacity is unavailable, we would forego revenue opportunities, lose market share and damage our customer relationships.

Development projects may cause us to incur substantial operating expenses without the guarantee of any associated revenue or far in advance of revenue.

We have development projects that consume large amounts of engineering resources far in advance of product revenue. Our work under these projects is technically challenging and places considerable demands on our limited resources, particularly on our most senior engineering talent, and may not result in revenue for twelve to eighteen months, if at all. In addition, allocating significant resources to these projects may detract from or delay the completion of other important development projects. Any of these development projects could be canceled at any time without notice. These factors could have a material and adverse effect on our long-term business and results of operations.

Because of our long product development process and sales cycle, we may incur substantial expenses before we earn associated revenues and may not ultimately sell as many units of our products as we forecasted.

We develop products based on anticipated market and customer requirements and incur substantial product development expenditures, which can include the payment of large up-front, third-party license fees and royalties, prior to generating associated revenues. Because the development of our products incorporates not only our complex and evolving technology, but also our customers' specific requirements, a lengthy sales process is often required before potential customers begin the technical evaluation of our products. Our customers typically perform numerous tests and extensively evaluate our products before incorporating them into their systems. The time required for testing, evaluation and design of our products into a customer's equipment can take up to six months or more. It can take

an additional six months before a customer commences volume shipments of systems that incorporate our products. However, even when we achieve a design win, the customer may never ship systems incorporating our products. We cannot assure you that the time required for the testing, evaluation and design of our products by our customers would not exceed six months. Because of this lengthy development cycle, we will experience delays between the time we incur expenditures for research and development, sales and marketing, inventory levels and the time we generate revenues, if any, from these expenditures. Additionally, if actual sales volumes for a particular product are substantially less than originally forecasted, we may experience large write-offs of capitalized license fees, product masks and prepaid royalties that would negatively affect our operating results.

Shortages of other key components for our customers' products could delay our ability to sell our products.

Shortages of components and other materials that are critical to the design and manufacture of our customers' products could limit our sales. These components include liquid crystal display panels and other display components, analog-to-digital converters, digital receivers and video decoders. During 2000, some of our customers experienced delays in the availability of key components from other suppliers, which, in turn, caused a delay in demand for the products that we supplied to our customers.

Shortages of materials used in the manufacturing of our products may increase our costs or limit our revenues and impair our ability to ship our products on time.

From time to time, shortages of materials that are used in our products may occur. In particular, we may experience shortages of semiconductor wafers and packages. If material shortages occur, we may incur additional costs or be unable to ship our products to our customers in a timely fashion, all of which could harm our business and negatively impact our earnings.

Our products could become obsolete if necessary licenses of third-party technology are not available to us or are only available on terms that are not commercially viable.

We license technology from third parties that is incorporated into our products or product enhancements. Future products or product enhancements may require additional third-party licenses that may not be available to us or available on terms that are commercially reasonable. If we are unable to obtain any third-party license required to develop new products and product enhancements, we may have to obtain substitute technology of lower quality or performance standards or at greater cost, either of which could seriously harm the competitiveness of our products.

We may not be able to respond to the rapid technological changes in the markets in which we compete, or we may not be able to comply with industry standards in the future making our products less desirable or obsolete.

The markets in which we compete or seek to compete are subject to rapid technological change, frequent new product introductions, changing customer requirements for new products and features, and evolving industry standards. The introduction of new technologies and the emergence of new industry standards could render our products less desirable or obsolete, which could harm our business. Examples of changing industry standards include the introduction of high-definition television, or HDTV, new digital receivers and displays with resolutions that have required us to accelerate development of new products to meet these new standards.

Our software development tools may be incompatible with industry standards and challenging to implement, which could slow product development or cause us to lose customers and design wins.

Our existing products incorporate complex software tools designed to help customers bring products into production. Software development is a complex process and we are dependent on software development languages and operating systems from vendors that may compromise our ability to design software in a timely manner. Also, software development is a volatile market and new software languages are introduced to the market that may be incompatible with our existing systems and tools. New software development languages may not be compatible with our own requiring significant engineering efforts to migrate our existing systems in order to be compatible with those new languages. Existing or new software development tools could make our current products obsolete or hard to use. Software development disruptions could slow our product development or cause us to lose customers and design wins.

Our integrated circuits and software could contain defects, which could reduce sales of those products or result in claims against us.

Despite testing by both our customers and us, errors or performance problems may be found in existing or new semiconductors and software. This could result in a delay in the recognition or loss of revenues, loss of market share or failure to achieve market acceptance. These defects may cause us to incur significant warranty, support and repair costs. They could also divert the attention of our engineering personnel from our product development efforts and harm our relationships with our customers. The occurrence of these problems could result in the delay or loss of market acceptance of our semiconductors and would likely harm our business. Defects, integration issues or other performance problems in our semiconductors and software could result in financial or other damages to our customers or could damage market acceptance of our products. Our customers could also seek damages from us for their losses. A product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend.

Others may bring infringement actions against us that could be time-consuming and expensive to defend.

We may become subject to claims involving patents or other intellectual property rights. For example, in early 2000, we were notified by InFocus Corporation ("InFocus") that we were infringing patents held by InFocus. In February 2000, we entered into a license agreement with InFocus granting us the right to use the technology covered by those InFocus patents. As a result, we recorded a one-time charge of \$4,078 for patent settlement expense in the first quarter of 2000. Intellectual property claims could subject us to significant liability for damages and invalidate our proprietary rights. In addition, intellectual property claims may be brought against customers that incorporate our products in the design of their own products. These claims, regardless of their success or merit and regardless of whether we are named as defendants in a lawsuit, would likely be time-consuming and expensive to resolve and would divert the time and attention of management and technical personnel. Any future intellectual property litigation or claims also could force us to do one or more of the following:

stop selling products using technology that contains the allegedly infringing intellectual property;

attempt to obtain a license to the relevant intellectual property, which license may not be available on reasonable terms or at all;

attempt to redesign those products that contain the allegedly infringing intellectual property; and

pay damages for past infringement claims that are determined to be valid or which are arrived at in settlement of such litigation or threatened litigation.

If we are forced to take any of the foregoing actions, we may be unable to manufacture and sell our products, which could seriously harm our business. In addition, we may not be able to develop, license or acquire non-infringing technology under reasonable terms. These developments could result in an inability to compete for customers or could adversely affect our ability to increase our earnings.

Our limited ability to protect our intellectual property and proprietary rights could harm our competitive position by allowing our competitors to access our proprietary technology and to introduce similar display processor products.

Our ability to compete effectively with other companies will depend, in part, on our ability to maintain the proprietary nature of our technology, including our semiconductor designs and software. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as nondisclosure agreements and other methods to protect our proprietary technologies. We hold 9 U.S. patents and have 39 patent applications pending with the U.S. Patent and Trademark Office for protection of our significant technologies. We cannot assure you that the degree of protection offered by patents or trade secret laws will be sufficient. Furthermore, we cannot assure you that any patents will be issued as a result of any pending applications, or that, if issued, any claims allowed will be sufficiently broad to protect our technology. In addition, it is possible that existing or future patents may be challenged, invalidated or circumvented. Competitors in both the U.S. and foreign countries, many of whom have substantially greater resources, may apply for and obtain patents that will prevent, limit or interfere with our ability to make and sell our products, or develop similar technology independently or design around our patents. Effective copyright, trademark and trade secret protection may be unavailable or limited in foreign countries. In addition, we provide the computer programming code for our software to selected customers in connection with their product development efforts, thereby increasing the risk that customers will misappropriate our proprietary software.

Any acquisition or equity investment we make could disrupt our business and severely harm our financial condition.

To date, we acquired Panstera, Inc. in January 2001, nDSP in January 2002 and Jaldi Semiconductor in September 2002. In March 2003, we announced the execution of a definitive merger agreement with Genesis Microchip, Inc.; however, the merger was terminated in August of 2003, and we incurred \$8,949 of expenses related to the transaction. Additionally, in the third quarter of 2003, we made an investment of \$10,000 in SMIC. We intend to continue to consider investments in or acquisitions of complementary businesses, products or technologies. In the second quarter of 2004, we raised \$150,000 upon the sale of our 1.75% convertible debentures. We may use these proceeds to fund such future acquisitions or equity investments.

The acquisitions of Panstera, nDSP and Jaldi contained a very high level of risk primarily because the investments were made based on in-process technological development that may not have been completed, or if completed, may not have become commercially viable.

issuance of stock that dilutes current shareholders' percentage ownership; incurrence of debt; assumption of liabilities; amortization expenses related to other intangible assets; impairment of goodwill; or

These and any future acquisitions and investments could result in:

large and immediate write-offs.

Our operation of any acquired business will also involve numerous risks, including, but not limited to:

problems combining the purchased operations, technologies or products;

unanticipated costs;

diversion of management's attention from our core business;

adverse effects on existing business relationships with customers;

risks associated with entering markets in which we have no or limited prior experience; and

potential loss of key employees, particularly those of the acquired organizations.

We may not be able to successfully integrate businesses, products, technologies or personnel that we might acquire in the future and any failure to do so could disrupt our business and seriously harm our financial condition.

Goodwill represents a significant portion of our total assets.

As of June 30, 2004, goodwill amounted to \$82,007, or approximately 19% of our total assets. Effective January 1, 2002 with the adoption of new accounting standards we are required to review goodwill for possible impairment on an annual basis or when events and circumstances arise which indicate a possible impairment. The review of goodwill for impairment may result in large write-offs of goodwill, which could have a material adverse effect on our results of operations.

We have incurred substantial indebtedness as a result of the sale of convertible debentures.

In the second quarter of 2004, we issued \$150 million of 1.75% convertible debentures due 2024 in a private placement pursuant to Rule 144A and Regulation S under the Securities Act of 1933. As a result of this indebtedness, our principal obligations will increase substantially. These debt obligations could materially and adversely affect our ability to obtain debt financing for working capital, acquisitions or other purposes, limit our flexibility in planning for or reacting to changes in our business, reduce funds available for use in our operations and could make us more vulnerable to industry downturns and competitive pressures. Our ability to meet our debt service obligations will be dependent upon our future performance, which will be subject to financial, business and other factors affecting our operations, many of which are beyond our control.

Additionally, we have agreed to file a shelf registration statement with the Securities and Exchange Commission covering resales of the debentures and the common stock issuable upon conversion of the debentures. If we fail to file the registration statement as required, or if the registration statement is not declared effective as required, we must pay liquidated damages in an amount equal to 0.25% or 0.50% per annum of the principal amount of the debentures.

Failure to manage our expansion effectively could adversely affect our ability to increase our business and our results of operations.

Our ability to successfully market and sell our products in a rapidly evolving market requires effective planning and management processes. We continue to increase the scope of our operations domestically and internationally and have increased our headcount substantially. Through internal growth as well as acquisition, our headcount grew from 176 employees at the end of 2001 to 290 at June 30, 2004. Our past growth, and our expected future growth, places a significant strain on our management systems and resources including our financial and managerial controls, reporting systems and procedures. To manage our growth effectively, we must implement and improve operational and financial systems, train and manage our employee base and attract and retain qualified personnel with

relevant experience. We must also manage multiple relationships with customers, business partners, contract manufacturers, suppliers and other third parties. Moreover, we will spend substantial amounts of time and money in connection with our rapid growth and may have unexpected costs. Our systems, procedures or controls may not be adequate to support our operations and we may not be able to expand quickly enough to exploit potential market opportunities. While we have not, to date, suffered any significant adverse consequences due to our growth, if we do not continue to manage growth effectively our operating expenses could increase more rapidly than our revenue causing decreased profitability.

Risks Related to our Industry

Failure of consumer demand for advanced displays and other digital display technologies to increase would impede our growth and adversely affect our business.

Our product development strategies anticipate that consumer demand for flat panel displays and other emerging display technologies will increase in the future. The success of our products is dependent on increased demand for these display technologies. The potential size of the market for products incorporating these display technologies and the timing of its development are uncertain and will depend upon a number of factors, all of which are beyond our control. In order for the market for many of our products to grow, advanced display products must be widely available and affordable to consumers. In the past, the supply of advanced display products has been cyclical. We expect this pattern to continue. Under-capacity in the advanced display market may limit our ability to increase our revenues because our customers may limit their purchases of our products if they cannot obtain sufficient supplies of LCD panels or other advanced display components. In addition, advanced display prices may remain high because of limited supply, and consumer demand may not grow.

If products incorporating our semiconductors are not compatible with computer display protocols, video standards and other devices, the market for our products will be reduced and our business prospects could be significantly limited.

Our products are incorporated into our customers' products, which have different parts and specifications and utilize multiple protocols that allow them to be compatible with specific computers, video standards and other devices. If our customers' products are not compatible with these protocols and standards, consumers will return these products, or consumers will not purchase these products, and the markets for our customers' products could be significantly reduced. As a result, a portion of our market would be eliminated, and our business would be harmed.

Intense competition in our markets may reduce sales of our products, reduce our market share, decrease our gross profit and result in large losses.

Rapid technological change, evolving industry standards, compressed product life cycles and declining average selling prices are characteristics of our market and could have a material adverse effect on our business, financial condition and results of operations. As the overall price of advanced flat panel display screens continues to fall, we may be required to offer our products to manufacturers at discounted prices due to increased price competition. At the same time, new, alternative display processing technologies and industry standards may emerge that directly compete with technologies that we offer. We may be required to increase our investment in research and development at the same time that product prices are falling. In addition, even after making this investment, we cannot assure you that our technologies will be superior to those of our competitors or that our products will achieve market acceptance, whether for performance or price reasons. Failure to effectively respond to these trends could reduce the demand for our products.

We compete with specialized and diversified electronics and semiconductor companies that offer display processors or scaling components. Some of these include Genesis Microchip, I-Chips, ITE, Macronix, Mediatek, Media Reality Technologies, Micronas, MStar Semiconductor, Inc., Oplus, Realtek, Silicon Image, Silicon Optix, STMicroelectronics, Techwell, Topro, Trident, Trumpion, Weltrend, Zoran and other companies. Potential competitors may include diversified semiconductor manufacturers and the semiconductor divisions or affiliates of some of our customers, including ATI, Intel, Koninlijke Philips Electronics, LG Electronics, Matsushita Electric Industrial, Mitsubishi, National Semiconductor, NEC, nVidia, Samsung Electronics, Sanyo Electric Company, Sharp Corporation, Sony Corporation, Texas Instruments and Toshiba Corporation. In addition, start-up companies may seek to compete in our markets. Many of our competitors have longer operating histories and greater resources to support development and marketing efforts. Some of our competitors may operate their own fabrication facilities. These competitors may be able to react more quickly and devote more resources to efforts that compete directly with our own. In the future, our current or potential customers may also develop their own proprietary display processors and become our competitors. Our competitors may develop advanced technologies enabling them to offer more cost-effective and higher quality semiconductors to our customers than those offered by us. Increased competition could harm our business, financial condition and results of operations by, for example, increasing pressure on our profit margin or causing us to lose sales opportunities. We cannot assure you that we can compete successfully against current or potential competitors.

The cyclical nature of the semiconductor industry may lead to significant variances in the demand for our products and could harm our operations.

In the past, the semiconductor industry has been characterized by significant downturns and wide fluctuations in supply and demand. Also, during this time, the industry has experienced significant fluctuations in anticipation of changes in general economic conditions, including economic conditions in Asia and North America. The cyclical nature of the semiconductor industry has led to significant variances in product demand and production capacity. It has also accelerated erosion of average selling prices per unit. We may experience periodic fluctuations in our future financial results because of changes in industry-wide conditions.

Other Risks

The anti-takeover provisions of Oregon law and in our articles of incorporation could adversely affect the rights of the holders of our common stock by preventing a sale or takeover of us at a price or prices favorable to the holders of our common stock.

Provisions of our articles of incorporation and bylaws and provisions of Oregon law may have the effect of delaying or preventing a merger or acquisition of us, making a merger or acquisition of us less desirable to a potential acquirer or preventing a change in our management, even if the shareholders consider the merger or acquisition favorable or if doing so would benefit our shareholders. In addition, these provisions could limit the price that investors would be willing to pay in the future for shares of our common stock. The following are examples of such provisions in our articles of incorporation or bylaws:

our board of directors is authorized, without prior shareholder approval, to create and issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to acquire us or change our control, commonly referred to as "blank check" preferred stock;

members of our board of directors can only be removed for cause;

the board of directors may alter our bylaws without obtaining shareholder approval; and

shareholders are required to provide advance notice for nominations for election to the board of directors or for proposing matters to be acted upon at a shareholder meeting.

Our principal shareholders have significant voting power and may take actions that may make it more difficult to sell our shares at a premium to take over candidates.

Our executive officers, directors and other principal shareholders, in the aggregate, beneficially own 12,501,903 shares or approximately 27% of our outstanding common stock as of July 31, 2004. These shareholders currently have, and will continue to have, significant influence with respect to the election of our directors and approval or disapproval of our significant corporate actions. This influence over our affairs might be adverse to the interest of our other shareholders. In addition, the voting power of these shareholders could have the effect of delaying or preventing a change in control of our business or otherwise discouraging a potential acquirer from attempting to obtain control of us, which could prevent our other shareholders from realizing a premium over the market price for their common stock.

The price of our common stock has and may continue to fluctuate substantially.

inconsistent trading volume levels of our common stock.

Investors may not be able to sell shares of our common stock at or above the price they paid due to a number of factors, including:

actual or anticipated fluctuations in our operating results;

changes in expectations as to our future financial performance;

changes in financial estimates of securities analysts;

announcements by us or our competitors of technological innovations, design wins, contracts, standards or acquisitions;

the operating and stock price performance of other comparable companies;

changes in market valuations of other technology companies; and

In particular, the stock prices of technology companies similar to us have been highly volatile. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. Market fluctuations as well as general economic, political and market conditions including recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of our common stock. Therefore, the price of our common stock may decline, and the value of your investment may be reduced regardless of our performance.

We may be unable to meet our future capital requirements, which would limit our ability to grow.

We believe our current cash balances will be sufficient to meet our capital requirements for the next 12 months. However, we may need, or could elect, to seek additional funding prior to that time. To the extent that currently available funds are insufficient to fund our future activities, we may need to raise additional funds through public or private equity or debt financing. Additional funds may not be available on terms favorable to us or our shareholders. Further, if we issue equity securities, our shareholders may experience additional dilution or the new equity securities may have rights, preferences or privileges senior to those of our common stock. If we cannot raise funds on acceptable terms, we may not be able to develop or enhance our products, take advantage of future opportunities or respond to competitive pressures or unanticipated requirements.

Risks Related to the Debentures

The debentures are contractually subordinated to all of our senior debt and are effectively subordinated to any secured debt we may incur and the debt of our subsidiaries.

The debentures are unsecured obligations and are contractually subordinated in right of payment to all of our existing and future senior debt. As a result, upon any distribution to our creditors in a bankruptcy, liquidation, reorganization or similar proceeding relating to us or our property, the holders of senior debt will be entitled to be paid in full in cash before any payment may be made with respect to the debentures. In addition, all payments on the debentures will be blocked in the event of a payment default on senior debt and may be blocked for up to 179 of 365 consecutive days in the event of certain non-payment defaults on designated senior debt. Our assets remaining after payment of our senior debt may be insufficient to repay the debentures. As of June 30, 2004, we had no senior debt outstanding.

In addition, the debentures are not secured by any of our assets and therefore are effectively subordinated to all of any secured debt we may incur. In addition, future debt that we incur, including accounts payable and other liabilities incurred in obtaining goods and services, may be secured by our assets. If we become insolvent or are liquidated, or if payment of any of our secured debt is accelerated, the holders of that secured debt will be entitled to exercise the remedies available to secured lenders under applicable law, including the ability to foreclose on and sell the assets securing such debt to satisfy such debt. In any such case, our remaining assets may be insufficient to repay the debentures.

Our subsidiaries are separate legal entities and have no obligation to make any payments on the debentures or make any funds available for payment on the debentures, whether by dividends, loans or other payments. The payment of dividends and the making of loans and advances to us by our subsidiaries may be subject to statutory or contractual restrictions and are dependent upon the earnings of our subsidiaries. Our subsidiaries will not guarantee the payment of the debentures. Our right to receive assets of any of our subsidiaries upon their liquidation or reorganization, and your right to participate in these assets, will be effectively subordinated to the claims of that subsidiary's creditors. Consequently, the debentures will be effectively subordinated to all liabilities, including trade payables, of our subsidiaries and any subsidiaries that we may in the future acquire or establish, except to the extent that we are recognized as a creditor of such subsidiary, in which case our claims would still be

subordinate to any security interests in the assets of such subsidiary and any debt of such subsidiary senior to that held by us. As of June 30, 2004, our subsidiaries had approximately \$1.1 million of outstanding indebtedness and other liabilities to which the debentures will be effectively subordinated.

We may be unable to purchase the debentures for cash on specified dates or following a fundamental change.

Holders of the debentures have the right to require us to repurchase the debentures on specified dates or upon the occurrence of a fundamental change prior to maturity. Any of our future debt agreements may contain a similar provision. We may not have sufficient funds to make the required purchase in cash at such time or the ability to arrange necessary financing on acceptable terms. In addition, our ability to purchase the debentures in cash may be limited by law or the terms of other agreements relating to our debt outstanding at the time. However, if we fail to purchase the debentures as required by the indenture, it would constitute an event of default under the indenture governing the debentures which, in turn, may constitute an event of default, and result in the acceleration of the maturity of our then existing indebtedness, under another indenture or other agreement.

There is currently no public market for the debentures, and an active trading market may not develop for the debentures. The failure of a market to develop for the debentures could adversely affect the liquidity and value of your debentures.

Since their initial issuance, the debentures have been eligible for trading on the PORTAL Market. However, the debentures resold pursuant to this prospectus will no longer trade on the PORTAL Market. A market may not develop for the debentures, and if a market does develop, it may not be sufficiently liquid for your purposes. If an active, liquid market does not develop for the debentures, the market price and liquidity of the debentures may be adversely affected. If any of the debentures are traded after their initial issuance, they may trade at a discount from their initial offering price.

The liquidity of the trading market, if any, and future trading prices of the debentures will depend on many factors, including, among other things, the market price of our common stock, our ability to register the resale of the debentures, prevailing interest rates, our operating results, financial performance and prospects, the market for similar securities and the overall securities market, and may be adversely affected by unfavorable changes in these factors. Historically, the market for convertible debt has been subject to disruptions that have caused volatility in prices. The market for the debentures may be subject to disruptions which could have a negative effect on the holders of the debentures, regardless of our operating results, financial performance or prospects.

The conditional conversion feature of the debentures could result in you receiving less than the value of the common stock into which a debenture is convertible.

The debentures are convertible into shares of our common stock only if specified conditions are met. If these conditions are not met, you will not be able to convert your debentures, and you may not be able to receive the value of the common stock into which the debentures would otherwise be convertible.

The debentures do not restrict our ability to incur additional debt, repurchase our securities or to take other actions that could negatively impact holders of the debentures.

We are not restricted under the terms of the debentures from incurring additional debt, including secured debt, or repurchasing our securities. In addition, the limited covenants applicable to the debentures do not require us to achieve or maintain any minimum financial results relating to our financial position or results of operations. Our ability to recapitalize, incur additional debt and take a number of other actions that are not limited by the terms of the debentures could have the effect of

diminishing our ability to make payments on the debentures when due. Certain of our other debt instruments may, however, restrict these and other actions.

The price of our common stock, and therefore of the debentures, may fluctuate significantly, and this may make it difficult for you to resell the debentures when you want or at prices you find attractive.

The price of our common stock on The Nasdaq National Market constantly changes. Because the debentures are convertible into shares of our common stock, volatility in the market price for our common stock could have a similar effect on the trading price of the debentures. This may result in greater volatility in the market price of the debentures than would be expected for nonconvertible debt securities. The market price of our common stock has been and may continue to be subject to wide fluctuations. From July 1, 2003 through June 30, 2004, the intra-day sale prices of our common stock on the Nasdaq National Market ranged from \$5.90 to \$20.74 per share. Fluctuations in our common stock price may be caused by a variety of factors, some of which are beyond our control:

actual or anticipated variations in quarterly operating results and announcements of technological innovations;

new products or services offered by us or our competitors;

changes in financial estimates by securities analysts;

changes in research coverage by securities analysts;

conditions or trends in the personal computer, display and semiconductor markets;

any announcement by us of significant acquisitions, strategic partnerships, joint ventures or capital commitments;

additions or departures of key personnel;

sales by current holders of our common stock; and

general conditions in, and investor sentiment regarding, semiconductor companies generally.

See also "Risk Factors Other Risks The Price of our Common Stock has and may Continue to Fluctuate Substantially."

Future sales of our common stock in the public market or the issuance of securities senior to our common stock could adversely affect the trading price of our common stock and the value of the debentures and our ability to raise funds in new stock offerings.

Future sales of substantial amounts of our common stock or equity-related securities in the public market, or the perception that such sales could occur, could adversely affect prevailing trading prices of our common stock and the value of the debentures and could impair our ability to raise capital through future offerings of equity or equity-related securities. No prediction can be made as to the effect, if any, that future sales of shares of common stock or the availability of shares of common stock for future sale, will have on the trading price of our common stock or the value of the debentures.

We have significantly increased our leverage as a result of the sale of the debentures.

In connection with the sale of the debentures, we incurred \$150,000,000 of indebtedness. As a result of this indebtedness, our principal obligations have increased substantially. Furthermore, we are not restricted under the terms of the debentures from incurring additional indebtedness. The level of our indebtedness, among other things, could:

reduce our ability to obtain financing for working capital, acquisitions or other purposes;

limit our flexibility in planning for or reacting to changes in our business;

reduce fu