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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**FORM 10-K**

(Mark One)

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

**For the Fiscal Year Ended March 31, 2001**

**OR**

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

**Commission File Number: 000-25139**

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**SAGE, INC.**

(Exact Name of Registrant as specified in its Charter)

**Delaware**

(State or other jurisdiction of  
incorporation or organization)

**77-0501710**

(I.R.S. Employer  
Identification No.)

**1601 McCarthy Boulevard, Milpitas, California, 95035**

(Address of Principal Executive Offices) (Zip Code)

**Registrant's Telephone Number, Including Area Code: 408-383-5300**

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**Securities Registered Pursuant to Section 12(b) of the Act:**

**Title of Each Class: None**

**Securities Registered Pursuant to Section 12(g) of the Act:**

**Common Stock, \$0.01 Par Value**

(Title of Class)

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Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

As of June 18, 2001, 13,981,223 shares of common stock par value of \$0.01 per share were outstanding. The aggregate market value of the voting shares (based on the closing price reported by the NASDAQ National Market System on June 18, 2001) of Sage, Inc., held by non-affiliates was \$105,408,380. For purpose of this disclosure, shares of common stock held by persons who own 5% or more of the outstanding common stock and shares of common stock held by each officer and director have been excluded in that such persons may be deemed to be "affiliates" as that term is defined under the Rules and Regulations of the Act. This determination of affiliate status is not necessarily conclusive.

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**Documents Incorporated by Reference**

Portions of the definitive proxy statement for the Annual Meeting of Stockholders to be held on August 31, 2001, are incorporated by reference into Part III of this Form 10-K.

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## CAUTIONS ABOUT FORWARD LOOKING STATEMENTS

Certain information in this Annual Report on Form 10-K, including but not limited to the Management's Discussion and Analysis of Financial Condition and Results of Operations, may constitute forward-looking statements as such term is defined in Section 27A of the Securities Act of 1933 (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934. Certain forward-looking statements can be identified by the use of forward-looking terminology such as, "believes," "expects," "may," "will," "should," "seeks," "approximately," "intends," "plans," "estimates," "anticipates," or "hopeful," or the negative thereof or other comparable terminology, or by discussions of strategy, plans or intentions. Forward-looking statements involve risks and uncertainties, including those described in the Risk Factors section of this Annual Report on Form 10-K, which could cause actual results to be materially different than those in the forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

## PART I

### Item 1. Business

#### Overview

Sage designs, develops and markets high performance digital display processors used for digital displays and video processing. Flat panel displays and other emerging digital display devices have substantial advantages over their traditional analog counterparts, and markets for these products are beginning to grow rapidly. Display signals are characterized by several important attributes: resolution, frame refresh rate, scanning format and color depth. Combinations of these characteristics are called modes, and there are over 100 different modes used today to display images on PCs and televisions. These modes must be recognized and processed to produce a high quality image on a display. Display manufacturers seek display processing solutions that can function effectively with the large number of existing and emerging signal modes, ensure the compatibility of new displays with the large installed base of PCs and provide consumers with plug and play capability. Increasingly the display industry is showing convergence as displays are developed supporting multiple types of signal, and the need for separate PC monitors and televisions becomes unnecessary.

We offer state-of-the-art digital display processors that provide, highly integrated signal interfaces, signal reformatting and color processing capabilities. Our solutions are compatible with all commercially available display signal modes and display types and are designed with a common architecture, configurable software and modular components that can be easily and rapidly incorporated into digital display devices. We sell our processing solutions to leading display manufacturers, including Compal, Fujitsu, NEC, Philips, Sanyo, Samsung, Sony and Toshiba.

Since its inception, we has focused primarily on the design and sale of high performance display processor ICs and will continue to do so as this is a high-growth volume market serving major mass-market manufacturers of displays and televisions. However, we also have a legacy systems business supplying system solutions to other market channels, including board level solutions to industrial customers and video processing boxes to the home theater market. As of the March 2001 quarter, such system sales actually represented 49.3% of our total revenue. We expect our IC business will grow rapidly, while our system business remains static or even declines over time resulting in ICs accounting for a growing majority of total revenue over the next few years. Because board level products typically have lower margins than ICs we expect this to have a beneficial impact on our future gross margin. Even though system activities are not our primary focus, we intend to continue to offer products into the home theater markets for the foreseeable future. Our home theater box products, sold under the Faroudja brand name, provide a powerful high-quality marketing umbrella which serves to shelter and

promote a quality image for all our video processing products, including video processing ICs that may be developed and offered to the mass market.

We recognize revenue at the time we ship products to our customers who generally have a short lead-time and maintain relatively limited inventory. In the case of systems products sold through distributors who may have limited return rights, we do not recognize revenue until we have received evidence that they have sold the inventory to their end customer.

Since November 1996, we have introduced a succession of new display processor ICs, starting with the Cheetah family and now featuring the Jaguar family. Our IC product development road map is driven by (i) introduction of latest generation manufacturing processes, reducing the die size of our earliest ICs from .6 micron in stages to .18 micron in the case of our latest IC, thereby reducing cost and improving performance; (ii) increasing levels of feature integration such as integrated analog to digital conversion and digital receiver so as to lower total system cost to our customer while increasing our average selling price; (iii) addition of incremental features such as AutoSet which simplifies end user calibration, Active Color Management which allows a manufacturer to ensure consistent color appearance on panels sourced from different vendors, and Picture in Picture (PiP) Auto detect to locate and optimize the color and brightness of video window and background screen, and (iv) customization of our various technology and IP cores to produce a wider range of ICs with optimized price and performance levels for different market segments. Whereas at the beginning of fiscal year 1999 we offered only one IC, the Cheetah 2, we now offer a series of fourteen different ICs, targeted at analog, digital, or dual interface monitors, low or high resolution screens, and monitors (PC) or consumer products (televisions, DVDs and projectors).

Initially, we purchased packaged, assembled and tested semiconductor products for our digital only processors. However, with the launch of our new range of mixed signal ICs, we have assumed greater responsibility over this process by separately subcontracting for the production of wafers, the assembly of the completed semiconductor, and their testing. While this transition to a new manufacturing model exposes us to greater responsibilities for semiconductor yields and the coordination of the assembly and testing process, we believe that our gross margins should improve and that the transition should result in our having greater control over the manufacturing process.

In November 1999, we completed an initial public offering of 3,450,000 shares of Common Stock at an initial offering price of \$12.00 per share, raising \$37.2 million, net of underwriting commission and related expenses.

On June 7, 2000 Sage and Faroudja completed a merger in a transaction that was accounted for as a purchase. Faroudja is a developer and provider of home theater systems that incorporate their proprietary decoding, de-interlacing and video enhancement technologies. The total purchase price of \$154.7 million included the issuance of Sage Common Stock valued at \$133.9 million, the assumption of Faroudja stock options and warrants valued at \$16.8 million, and direct transaction costs of approximately \$4.0 million. Shareholders of Faroudja received 0.285 shares of Sage Common Stock for every share held.

During the fourth quarter ended March 31, 2001, management performed an impairment assessment of the identifiable intangible assets, including goodwill, recorded upon the acquisition for stock of Faroudja. The assessment was performed primarily due to two reasons. First, due to changed business conditions, including negative outlooks for rates of growth, Sage now expects significantly lower revenues and lower profitability from the acquired operations. Second, there has been a significant decline in Sage's stock price since measurement date of the acquisition and the recorded balance of goodwill and other intangible assets significantly exceeded Sage's market capitalization prior to the impairment charge.

As a result of this review, management recorded a \$91.5 million impairment charge to reduce goodwill. The charge was determined based upon estimated discounted cash flows using a discount rate

of 15 percent. The assumptions supporting cash flows including the discount rate were determined using management's best estimates.

### **Industry Background**

Electronic displays have become part of our daily lives as our computing, communications and entertainment needs are increasingly being met by familiar technologies, such as personal computers and televisions, and emerging technologies, such as personal digital assistants, Internet appliances and touch-screen displays used in retail and industrial settings. Historically, most desktop PC monitors and all television screens displayed images on a cathode ray vacuum tube, or CRT. A CRT displays images that are transmitted to it by an analog signal. The display signal controls a beam of electrons that creates the image by illuminating phosphorescent dots, or pixels, on the back of the CRT screen. The quality of the image is a function of the mode of the input signal, which consists of the following four principal parameters:

- *Resolution*: the number of horizontal and vertical lines on the display screen into which the image is divided;
- *Frame refresh rate*: the number of times per second that the image is displayed on the screen;
- *Scanning format*: the order in which the lines comprising the image are displayed on the screen, either in sequence, known as progressive scanning format, or alternating, known as interlaced scanning format; and
- *Color depth*: the number of colors used to display the image.

#### *The emergence of digital displays*

Digital flat panel display devices in the form of liquid crystal displays ("LCDs") have been developed as an alternative to traditional analog CRTs. Flat panel displays render images by digitally switching pixels on or off on the surface of the display screen. Flat panel displays offer significant advantages over traditional CRTs because they have a more compact form factor, generate less heat, consume less power and produce less radiation. Flat panel displays also produce images that do not flicker and that are more sharply defined than the images displayed on CRT monitors. Flat panel displays were first incorporated into laptop computers and, as panel sizes increased, they were incorporated into desktop displays. Flat panel displays for PCs, originally deployed primarily in situations where space was limited, are gaining widespread market acceptance as prices decline, as manufacturing capacities increase and as manufacturing yields improve.

The emergence of a significant digital flat panel display market has led PC manufacturers to introduce PCs that produce both conventional analog as well as digital or dual display signals. Some PC manufacturers have begun to sell flat panel displays incorporating the PC into its base, known as all-in-one PCs. The introduction of digital display signal outputs has also provided manufacturers of analog CRT monitors with an opportunity to develop new products that incorporate digital signal processing capabilities into CRTs. Content today is all digital whether it comes from a digital satellite, HDTV, DVDs or CD and hence to properly view this format a digital display is required instead of converting it back to the analog format. These displays, commonly referred to as digital CRTs, display images using the same technology employed by traditional analog CRTs but by incorporating internal digital processing they can have new display features, such as picture-in-picture display and enhanced compatibility with multiple display signals. By adding digital signal input features, manufacturers can differentiate digital CRTs from the highly commoditized, price-sensitive analog CRT displays.

#### *The digital television market*

Television signals have traditionally been broadcast in analog form and displayed in an interlaced scanning format on analog television CRTs. Recent developments in the television industry have

mirrored the changes that have taken place in the PC display market. Traditional analog CRT televisions are being manufactured in larger sizes, and displays with a progressive scanning format are being introduced to improve the quality of images on larger screens. Flat panel and plasma displays, which are digital, have been introduced to offer the same form factor and image quality advantages as flat panel PC monitors. Sage believes the worldwide trend toward broadcasting digital signals will lead to increasing demand for HDTV or digitally enhanced TV sets that can produce higher quality images in varying aspect ratios, such as the wider format, cinema-style aspect ratio of  $16 \times 9$  in addition to the traditional television-style  $4 \times 3$  aspect ratio. International Data Corporation forecasts that annual shipments of digital televisions will grow to 7.2 million units in 2002. Display processing functionality, which is not currently included in traditional analog televisions, will increasingly be needed to process digitally enhanced TV signals as well as analog signals for display on digital and progressive scanning televisions.

#### *Display processing challenges*

Display signals, which can be analog or digital, are generated in numerous non-compatible modes for both personal computing and television applications. The challenges of processing a signal to render a high quality image on a digital display in this environment include:

- *Recognizing and properly converting an analog or digital signal type.* In order for a display device to generate an image, the incoming display signal must match the type accepted by the device. An analog display device cannot display a digital signal and vice versa. Most PCs produced today are configured to output analog signals because they are connected to analog CRTs. The introduction of digital displays requires processors that are capable of identifying whether the input type is analog or digital and converting it, if necessary, in real time.
- *Reformatting the mode of the input signal.* The mode of each input signal, whether analog or digital, must be reformatted to properly display the full image on the screen. The display processor must recognize the signal's mode and process it in real time in order to match the particular resolution, scanning format, refresh rate and color depth specifications of the display. If the signal is not correctly processed, the screen will fail to display an image, or will produce an image that is distorted, flickers or contains shadows or other flaws.
- *Displaying true-to-life colors.* Each display device displays colors differently in response to the same signal. Display processors must compensate for these different characteristics to ensure consistent true-to-life color quality. In addition, certain digital display devices can only display a limited number of colors. In such cases, the display signal must be specially processed to simulate a full range of colors on the display screen. To aid this we have developed a proprietary Active Color Management technology whereby color can be managed locally, globally or in a window with color detection circuitry.

#### *The challenge to display manufacturers*

Display manufacturers face significant challenges and opportunities in responding to developments in the PC and television display markets. The emergence of new digital display devices and the proliferation of signal modes increasingly require manufacturers to incorporate more powerful and flexible display processors into their displays. Displays must be designed to function with digital signals and remain compatible with the large installed base of existing PCs and other appliances that transmit analog display signals. The large number of different signal modes and types, the growing trend towards plug and play devices in the PC market and the established easy-to-use characteristics of the television market make it essential that displays operate properly with minimal consumer configuration or adjustment in order to achieve widespread market acceptance. At the same time, manufacturers are seeking ways to take advantage of the capabilities of digital displays by developing differentiating



product features and associated brand recognition, all while maintaining short design and manufacturing cycles and recognizing cost constraints.

### **Sage's Solution**

Sage is a leading global provider of high performance digital display processors. Our advanced technology offers state-of-the-art display and video processing, highly integrated signal interfaces, signal reformatting and color processing capabilities. Our solutions are compatible with all commercially available display signal modes and display types. We provide manufacturers with a highly integrated and efficient display processing solution equipped with custom design features. Furthermore, we have introduced the world's first fully integrated SmartMonitor product that integrated a dual interface, microprocessor, and timing controller using the system-on-a-chip approach. The principal benefits of our solution include:

*Support for all commercially available signal modes and display types.* We provide display processors that enable any input display signal mode to be displayed on all commercially available digital displays, including flat panel monitors, flat panel televisions, projection devices, digital CRTs, Internet appliances and touch-screen displays used in retail and industrial settings. Our display processors, which incorporate integrated Analog to Digital Conversion, integrated Digital Visual Interface (DVI) receiver with High-Bandwidth Digital Content Protection, superior scaling with variable sharpness, SureSync and SmartSet algorithm features, produce high quality images by recognizing the characteristics of the input signal and automatically reformatting an image as needed, in real time, to match the type of signal accepted by the device. These features provide optimal plug and play capabilities between the computing platform and the display device.

*Highly integrated and manufacturable display processing solution.* Our display processors are designed to provide an interface to convert incoming analog, or encoded digital signals, mode detection, reformatting and color depth processing in a highly integrated semiconductor with associated software. Our processors employ a common architecture across our family of products. In addition, we provide software-based design and test tools and offers manufacturers our extensive system-level design and hardware experience and support. These features of our products enable manufacturers to reduce the time required to design and manufacture a wide range of display devices.

*Highly customizable products.* We support display manufacturers with a suite of products and screen display configuration software design tools that allow manufacturers to easily enhance their ability to brand their products by facilitating the creation of customized on-screen interfaces for consumers. Our software tools accelerate display manufacturers' product development cycles and their time to market. Our display processors are modular, allowing display manufacturers to add or delete memory as needed to reduce costs, while minimizing reengineering and redesign.

### **Sage's Strategy**

Our goal is to be the leading provider of display signal and video processing solutions for display manufacturers. Our strategy consists of the following key elements:

- *Offer highly integrated semiconductor solutions compatible with all signal modes and display types.* We intend to provide increasingly integrated, high performance semiconductor solutions that are fully compatible with all PC display monitors, televisions, flat panel monitors, flat panel televisions, projection devices, digital CRTs, Internet appliances and touch-screen displays in retail and industrial settings. We plan to develop our products to support digitally enhanced TVs, DVDs, multimedia projectors, digital CRTs and other emerging digital displays, and to design products that are compatible with all developing industry display signal standards.
- *Target leading OEM manufacturers.* We will continue to focus our sales efforts on the leading global display manufacturers. Working with these customers will allow us to reach a wider

number of consumers and helps us to maintain and enhance our technological capabilities. Securing design wins with leading manufacturers provides references for our products, helping to secure future sales to these and other manufacturers. Furthermore, achieving a broad number of design wins with leading OEMs creates an opportunity to capitalize on the success of our products. In addition, these manufacturers have more reliable product development cycles, better forecasting and greater availability of panel supply.

- *Continue to offer high quality products and superior levels of engineering support.* We aim to develop the strongest possible customer relationships by providing OEM manufacturers with easy-to-use solutions and superior engineering support. Our latest generations products incorporate full scan capability enabling high level testing at the foundry leading to higher productivity, and higher yields. We will continue to offer our OEM customers a range of easy-to-use, custom design tools to simplify our product design and development processes and provide them with the ability to differentiate their products through customized features. We intend to deliver greater value to manufacturers by helping them design new product features, greater levels of component integration, and to bring their products to market more rapidly.
- *Maintain technology leadership.* We intend to make significant investments in research and development in order to further develop our display processing technology. We were the first company to introduce a fully effective automatic display adjustment feature and the first to integrate mode detection, reformatting, color depth processing and customized on-screen displays onto a single display processor. Today, we boast a new SmartMonitor product that lowers overall systems costs with full integration thereby changing the way displays are manufactured using the “SmartPanel” concept that is rapidly gaining momentum with OEM customers. Through our Faroudja division, we are a leader in high-end video processing with a powerful patent portfolio. We will also continue to seek to enter into strategic relationships with companies whose technology is complementary.
- *Maintain a flexible engineering and manufacturing model.* We intend to maintain our established engineering and design operations in India and in the U.S., allowing us to access a larger pool of highly educated and motivated employees. We will continue to reduce our capital requirements and increase our operating leverage by maintaining a fables manufacturing model, which gives us significant operating leverage without the need for large capital expenditures.

### **Sage's Products**

We offer state-of-the-art digital display processors that provide, highly integrated signal interfaces, signal reformatting and color processing capabilities. Our solutions are compatible with all commercially available display signal modes and display types and are designed with a common architecture, configurable software and modular components that can be easily and rapidly incorporated into digital display devices. We sell our processing solutions to leading display manufacturers, including Compal, Fujitsu, NEC, Philips, Sanyo, Samsung, Sony and Toshiba.

*Semiconductor products.* We design and sell a family of display and video processors to display manufacturers, TV and PC manufacturers and third party subsystem manufacturers who design and manufacture monitors and TVs on behalf of brand name companies. Some of the world's leading display and PC manufacturers have chosen our Cheetah4, Jaguar D, Jaguar 200 and FLI 2200 processors for use in their products and are currently evaluating recently announced new products.

Following the introduction of Cheetah2 in 1997, we have launched a series of processor ICs to the mass market. Our flagship product, the Cheetah 4 has sold over 1 million units through March 31, 2001 and is still in production. The Jaguar D, the first of a new generation of display processors has sold over 400,000 units in the nine months ended March 31, 2001. These early ICs were primarily discrete display processors and required the use of independent front-end receivers to convert the incoming analog or digital signal into a format where it could be processed digitally. Our latest products such as

the s9350, Jaguar TX and Jaguar ASM ICs are mixed signals chips integrating all the necessary functions onto a single chip for lower cost, higher performance solutions. With the acquisition of Faroudja we are now offering video decoder, deinterlacer and enhancer chips into the digitally enhanced TV and progressive scan DVD markets. All of our products can process television signals using an external video decoder chip and are compliant with widely used standards, such as VESA, and emerging display standards, such as DVI. All of our products include our proprietary SureSync and SmartSet mode recognition and adjustment technologies, our high performance-scaling engine and our software-configurable on-screen display features. The following table illustrates the key features of our display processor ICs.

<b>Product Name (Date of Introduction)</b>	<b>Supported Signal Inputs</b>	<b>Features and Technology</b>	<b>Applications</b>
Cheetah3 (February 1999)	<ul style="list-style-type: none"> <li>• Analog PC</li> <li>• Digital PC</li> <li>• Television</li> <li>• Dual analog and digital input</li> <li>• Dual analog and television input</li> </ul>	<ul style="list-style-type: none"> <li>• Internal ADC</li> <li>• Image enhancement</li> <li>• Color depth processing</li> <li>• Maximum display output: 135M pixels per second</li> <li>• Computing speed: 1600M operations per second</li> <li>• Technology: 0.35 micron, 4 layer metal</li> </ul>	<ul style="list-style-type: none"> <li>• Analog input monitor</li> <li>• Dual analog and digital input monitor</li> <li>• Dual analog and television monitor</li> </ul>
Cheetah4 (March 1999)	<ul style="list-style-type: none"> <li>• Digital PC</li> <li>• Television</li> </ul>	<ul style="list-style-type: none"> <li>• Image enhancement</li> <li>• Color depth processing</li> <li>• Maximum display output: 110M pixels per second</li> <li>• Computing speed: 1300M operations per second</li> <li>• Technology: 0.35 micron, 3 layer metal</li> </ul>	<ul style="list-style-type: none"> <li>• Digital input monitor</li> <li>• Television display</li> <li>• All-in-one PC</li> </ul>
Jaguar 200Mx and Jaguar 200Mx/HD (Feb 2000)	<ul style="list-style-type: none"> <li>• Analog PC</li> <li>• Digital PC</li> <li>• Television and HDTV</li> <li>• Multi input capability- up to 5 inputs are supported</li> </ul>	<ul style="list-style-type: none"> <li>• Picture in Picture/PBP</li> <li>• External ADC and PLL</li> <li>• High speed single chip mixed signal display processor</li> <li>• Technology: .25 micron 5 layer metal</li> </ul>	<ul style="list-style-type: none"> <li>• Multi input monitors</li> <li>• Supports resolution up to <b>WUXGA/HDTV</b></li> </ul>
Jaguar 200 (Feb 2000)	<ul style="list-style-type: none"> <li>• Analog PC</li> <li>• Digital PC</li> <li>• Television</li> <li>• Multi input capability- up to 5 inputs are supported</li> </ul>	<ul style="list-style-type: none"> <li>• Picture in Picture/PBP</li> <li>• External ADC and PLL</li> <li>• High speed single chip mixed signal display processor</li> <li>• Technology: .25 micron 5 layer metal</li> </ul>	<ul style="list-style-type: none"> <li>• Multi input monitors</li> <li>• Support resolution up to <b>UXGA</b></li> </ul>
Jaguar D (May 2000)	<ul style="list-style-type: none"> <li>• Analog PC</li> <li>• Digital PC</li> <li>• Television</li> </ul>	<ul style="list-style-type: none"> <li>• Image enhancement</li> <li>• Active color management with Video Window Detection</li> <li>• Supports 1280x1024 pixels, or SXGA, and NTSC/PAL.</li> <li>• Computing speed: 1300M operations per second</li> <li>• Technology: 0.25 micron, 3 layer metal</li> </ul>	<ul style="list-style-type: none"> <li>• Analog input monitor</li> <li>• Digital input monitor</li> <li>• Television display</li> <li>• All-in-one PC</li> <li>• Can be used with separate analog or digital interface IC</li> </ul>
Jaguar TX/TS (July 2000)	<ul style="list-style-type: none"> <li>• Digital PC</li> <li>• Television</li> </ul>	<ul style="list-style-type: none"> <li>• Image enhancement</li> <li>• Active color management with Video Window Detection</li> <li>• Supports 1280x1024 pixels, or SXGA, and NTSC/PAL.</li> <li>• Technology: 0.25 micron, 5 layer metal</li> </ul>	<ul style="list-style-type: none"> <li>• Digital input monitor</li> <li>• Television display</li> <li>• Integrates DVI receiver with HDCP</li> </ul>



Product Name (Date of Introduction)	Supported Signal Inputs	Features and Technology	Applications
Jaguar ASM/AUM (June 2001)	<ul style="list-style-type: none"> <li>• Analog PC</li> <li>• Digital PC</li> <li>• Television</li> <li>• Multi input capability- up to 5 inputs are supported</li> </ul>	<ul style="list-style-type: none"> <li>• Picture in Picture</li> <li>• Integrated ADC and PLL</li> <li>• High speed single chip mixed signal display processor</li> <li>• Technology: .25 micron 5 layer metal</li> </ul>	<ul style="list-style-type: none"> <li>• Analog input monitor</li> <li>• Dual input monitor</li> <li>• Supports resolution up to SXGA/UXGA</li> </ul>
S 9350 (April 2001)	<ul style="list-style-type: none"> <li>• Analog PC</li> <li>• Digital PC</li> <li>• Dual PC</li> <li>• Smart panels</li> </ul>	<ul style="list-style-type: none"> <li>• Image enhancement</li> <li>• Active color management</li> <li>• Supports 1280x1024 pixels, or SXGA,</li> <li>• Technology: 0.25 micron, 5 layer metal</li> <li>• Integrates analog and DVI interface</li> <li>• Integrates microprocessor and panel timing controller</li> </ul>	<ul style="list-style-type: none"> <li>• Dual input monitor</li> <li>• Integrates ADC, DVI receiver with HDCP, TCON, Microprocessor</li> <li>• All-in-one PC</li> <li>• Eliminates separate board by attaching directly to glass module</li> </ul>
S 9330 (April 2001)	<ul style="list-style-type: none"> <li>• Analog PC</li> <li>• Digital PC</li> <li>• Dual PC</li> </ul>	<ul style="list-style-type: none"> <li>• Image enhancement</li> <li>• Active color management</li> <li>• Supports 1280x1024pixels, or SXGA,</li> <li>• Technology: 0.25 micron, 5 layer metal</li> <li>• Integrates analog and DVI interface for dual input monitors</li> </ul>	<ul style="list-style-type: none"> <li>• Dual input monitor</li> <li>• All-in-one PC</li> </ul>
FLI 2000 (June 2000)	<ul style="list-style-type: none"> <li>• NTSC/PAL Decoder</li> <li>• Enhancer</li> </ul>	<ul style="list-style-type: none"> <li>• Video enhancer</li> <li>• Decoder</li> <li>• Time base correction</li> </ul>	<ul style="list-style-type: none"> <li>• Progressive scan TV</li> <li>• Progressive scan DVD</li> <li>• Multimedia projector</li> </ul>
FLI 2200 (November 2000)	<ul style="list-style-type: none"> <li>• NTSC, PAL, SECAM</li> </ul>	<ul style="list-style-type: none"> <li>• Deinterlacer</li> <li>• DCDi processing</li> <li>• FilmMode processing</li> <li>• Cross color suppression</li> <li>• 10-bit processor</li> </ul>	<ul style="list-style-type: none"> <li>• Progressive scan TV</li> <li>• Progressive scan DVD</li> <li>• Multimedia projector</li> </ul>
FLI 2220 (June 2001)	<ul style="list-style-type: none"> <li>• NTSC, PAL, SECAM</li> </ul>	<ul style="list-style-type: none"> <li>• Video enhancer</li> <li>• Chroma luma enhancer</li> </ul>	<ul style="list-style-type: none"> <li>• Progressive scan TV</li> <li>• Progressive scan DVD</li> <li>• Multimedia projector</li> </ul>

We intend to continue extending our line of integrated digital display and video processor ICs with the intention of creating a range of processors optimized for different applications and market segments. We cannot offer any assurance that we will successfully develop new products or product enhancements based on our research and development activities. In addition, we cannot offer assurances that, if new products or product enhancements are developed, any such new product or product enhancements will be developed in time to capture market opportunities or achieve a significant or substantial level of acceptance in new and existing markets.

*Home Theater box products.* Sage, under our Faroudja brand, designs, develops and markets a range of video processing and video image enhancement products for the home theater, commercial presentation and broadcast markets. These products include system level products for consumer and commercial end-users. We have pioneered video image enhancement technologies and designs, and develop and market a variety of video image enhancement products incorporating these technologies. These technologies and products dramatically improve image quality, producing cinema quality images on a wide variety of displays. These products substantially reduce the imperfections inherent in standard TV signals, which become increasingly apparent on large screen and high-resolution displays. Our technology improves picture quality by removing artifacts and noise, detecting and compensating for motion, enhancing resolution, and multiplying the number of lines displayed. Our products for the home theater and commercial presentation market include standalone system-level products. These boxes sell for between \$4,000 to \$28,000 through a network of installers and dealers. Our products continue to enjoy critical reviews in the leading video enthusiast magazines. Today the advanced algorithms are built into FPGA packages in these boxes but we intend to include our own video processing ICs into future models of these products.

<b>Product Name (Date of Introduction)</b>	<b>Supported Signal Inputs</b>	<b>Features and Technology</b>	<b>Applications</b>
DVP 2200 (1999)	<ul style="list-style-type: none"> <li>• Video processor</li> <li>• CRT, DLP, LCD &amp; plasma</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptive comb filter</li> <li>• Bandwidth expansion</li> <li>• Inverse film detection with edit correction</li> <li>• Cross-color suppression</li> <li>• Aspect ratio control</li> <li>• Scan rate scaling 480i to VGA, SVGA and DTV rate of 480p</li> </ul>	<ul style="list-style-type: none"> <li>• Video projection and display</li> </ul>
DVP 2220 (1999)	<ul style="list-style-type: none"> <li>• Video processor</li> <li>• CRT, DLP, LCD &amp; plasma</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptive comb filter</li> <li>• Bandwidth expansion</li> <li>• Inverse film detection with edit correction</li> <li>• Cross-color suppression</li> <li>• Aspect ratio control</li> <li>• Scan rate scaling 480i to VGA, SVGA and DTV rate of 480p</li> <li>• Frame doubling to convert PAL sources from 50Hz to 100Hz to eliminate flicker</li> </ul>	<ul style="list-style-type: none"> <li>• Video projection and display</li> </ul>
DVP 3000 (1999)	<ul style="list-style-type: none"> <li>• Video processor/ scaler</li> <li>• CRT, DLP, LCD &amp; plasma</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptive comb filter</li> <li>• Bandwidth expansion</li> <li>• Inverse film detection with edit correction</li> <li>• Cross-color suppression</li> <li>• Aspect ratio control</li> <li>• Scan rate scaling 480i to VGA, SVGA and DTV rate of 480p</li> <li>• Frame doubling to convert PAL sources from 50Hz to 100Hz to eliminate flicker</li> <li>• Scan rate scaling 480i to computer SXGA &amp; DTV rate of 480p, 1080i, 720p, 960p &amp; 1080p</li> <li>• Progressive DVD inputs</li> </ul>	<ul style="list-style-type: none"> <li>• Video projection and display</li> </ul>
DVP 5000 (2000)	<ul style="list-style-type: none"> <li>• Video processor/ scaler</li> <li>• CRT, DLP, LCD &amp; plasma</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptive comb filter</li> <li>• Bandwidth expansion</li> <li>• Inverse film detection with edit correction</li> <li>• Cross-color suppression</li> <li>• Aspect ratio control</li> <li>• Scan rate scaling 480i to VGA, SVGA and DTV rate of 480p</li> <li>• Frame doubling to convert PAL sources from 50Hz to 100Hz to eliminate flicker</li> <li>• Scan rate scaling 480i to computer SXGA &amp; DTV rate of 480p, 1080i, 960p &amp; 1080p</li> <li>• DCDi deinterlacing</li> <li>• Progressive DVD inputs</li> </ul>	<ul style="list-style-type: none"> <li>• Video projection and display</li> </ul>
VS50 (2000)	<ul style="list-style-type: none"> <li>• Low noise video decoder</li> <li>• NTSC, PAL</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptive comb filter</li> <li>• Bandwidth expansion</li> <li>• Cross-color suppression</li> </ul>	<ul style="list-style-type: none"> <li>• Video post production</li> <li>• Large screen displays</li> </ul>
NRS Series (March 2001)	<ul style="list-style-type: none"> <li>• NTSC, PAL,</li> </ul>	<ul style="list-style-type: none"> <li>• Similar technology to DVP 3000 but with separate input board of line doubling of HDTV 1080i to 1080p</li> </ul>	<ul style="list-style-type: none"> <li>• 9" CRT and JVC QXGA projectors</li> </ul>

*Circuit board products.* We also design and market both custom and standard display processing circuit boards, built around our semiconductors, as turnkey display processing solutions for specific display applications. Our custom circuit boards address the unique needs of display manufacturers that want to support several control and output capabilities on a single circuit board. Our standard controller circuit boards provide an effective off-the-shelf solution to our low volume display OEM customers.

## **Technology**

Processing display signals requires large data streams to be recognized, sampled, formatted and converted in real time. For example, operating a flat panel SXGA digital display requires the digital processor to perform more than 1.5 billion operations per second. Our processors convert signals from a broad range of sources into a format that can be displayed on different display devices with minimal need for consumers to adjust operating device parameters. To accomplish this, our processors must identify the input signal type and mode, convert it into a digital form and then process it to match the display device. Our processors respond and automatically adjust in real time to changes in the type and mode of the incoming display signal. We have developed significant proprietary architecture and design features to support the processes implemented by our chips. These processes include:

*Analog-to-digital conversion.* Most PCs and televisions generate analog display signals. In order to display this signal on a digital screen, the analog data stream must be correctly identified, rapidly and accurately sampled and converted to a digital signal with no measurable error in the timing of the sampling. With our Cheetah3 and Jaguar 200/200MX and Jaguar ASM analog interface processors, we have successfully addressed the significant technical challenges of integrating analog-to-digital conversion onto a single semiconductor. This enables us to lower costs and improve display performance.

*Digital Interface receiver.* The Digital Display Working group, lead by Intel and other leading computer companies recently established standards for the transmission of high-speed, broadband video display signals. These standards, described as DVI (“Digital Video Interface”) and DVI HDCP (“DVI High -Bandwidth Digital Content Protection”) are embodied in the form of a transmitter in the host PC and a receiver in the client display. We have developed an integrated DVI receiver which is now included in our Jaguar TX product for the digital interface market.

*Mode detection.* Our processors are designed to identify the resolution, scanning format and frame refresh rate of the incoming display signal. Analog display signals do not contain explicit information about these parameters. Our SureSync technology measures the frequency of horizontal and vertical synchronization signals contained within the incoming signal to deduce its mode. The timing of these signals is not uniform and varies depending upon the architecture and implementation of the PC graphics subsystem. We regularly examine and incorporate information about these characteristics into the software that supports our products, enabling them to detect and synchronize with the PC graphics subsystems of virtually all manufacturers worldwide.

*Spatial processing.* Spatial processing, or scaling, is the process of reformatting the resolution of an image to properly match the resolution of a display. We have developed several generations of scaling technology that increase and reduce the size of images, as needed using efficient processing algorithms.

*Frame Rate Conversion.* Each type of digital display supports a single, fixed frame refresh rate, requiring adjustment of the flow of data to be matched to the display device. Typically, the adjustment is performed through the use of external memory. Our Cheetah3 display processor was among the first products on the market to provide integrated support for external frame memory on a single chip and

to provide an option to exclude memory, if desired, to reduce cost. The Jaguar ASM/AUM, Jaguar 200 series, and the s9700 with the s8500 support memory options.

*Color depth processing.* Display devices often render the colors of the same image differently because of variations in technologies and manufacturing techniques used by different display manufacturers. Our processors incorporate hardware and software that allows manufacturers to compensate for these differences and to adjust the image being displayed. In addition, many digital displays generate far fewer than the 16 million colors, which traditional CRTs are capable of displaying. In the case of certain older flat panel displays, colors are limited to as few as eight. Our color processing technology simulates additional colors so that the human eye perceives a far larger number of colors than are supported by the display device. Our processors also include circuitry that can enhance the details in the image, compensating for certain losses and degradation of signal data resulting from the physical transmission of the analog signals.

*Active Color Management/Picture in Picture.* Typically video displays, for example those shown by a DVD player incorporated into certain PCs, appear to be relatively dark compared to the standards of brightness expected and needed for reading normal text or spreadsheet displays. When a video window is exposed onto a standard desktop display, the contrasting brightness and color differentials can reduce the quality of the viewing experience. Our active color management process enables the existence and location of a video picture-in-picture to be determined in relation to the background desktop application, and differential rates of brightness and color management to be applied optimally to the respective areas.

*Display formatting.* Digital displays have differences in their internal architecture to which a signal must be adapted in order for the image to appear on the screen. These differences can affect the characteristics of display processing output signals that operate them. These variations include differences in the number of bits or information that must be transmitted to the display at one time and in the format and timing of signals that control certain display functions. The format of these display signals from our processors is programmable in software. Our processors can support all available types of digital displays, including all types of plasma displays, projector devices and liquid crystal displays, including active and passive matrix. This offers our customers flexibility because they can change the manufacturing source of a particular size of panel, or even change the size of the panel, without redesigning a new display processing circuit board.

*Software technology.* The operation and internal configuration of our processors is controlled by embedded software running on the display manufacturer's circuit board. Our embedded software and easy-to-use software utilities allows us to offer significant custom design features to display manufacturers, including the design of the on-screen display user interface. In addition, our SureSync and Smart-Set technologies enable consumers to optimize image quality by clicking a single button or setting and are implemented using a combination of hardware and software.

***Sage has also acquired a range of video processing technology from our acquisition of Faroudja in June 2000 including the following:***

*Encoding Technology.* A NTSC or PAL signal consists of a luminance signal and two color-difference signals. In a conventional NTSC or PAL encoder, the color-difference signals are modulated on a subcarrier and added to the luminance signal. In this case, the spectrum of both the luminance signal and the modulated chrominance signal are mixed together, which generates "rainbow patterns," "dot crawl" and other artifacts in TV receivers. Our patented pre-filtering technology is applied to luminance and chrominance signals separately so that they will not interfere with each other. The two signals are added together without an overlaid spectrum, which significantly reduces rainbow patterns and other artifacts

*Decoding Technology.* The color section of the NTSC standard was originally designed with severe bandwidth restrictions. This causes colors in various video images to “blur” and “smear.” These effects are aggravated by storage media, such as VHS tapes, that further degrade the chroma or color signal. Our decoder technology utilizes proprietary circuitry to recreate and correct color details. This is accomplished by making use of the sharper black and white transitions to develop a correction signal that is then used to sharpen the color transitions. As a result, colors are restored with sharp details and video images retain their original crispness. Digital adaptive comb filter circuitry eliminates decoding errors from imperfect separation of the luminance and chrominance signals and enables the reproduction of sharper, cleaner color images. Our decoder technology has two separate correction circuits that create color transitions that are clear, sharp and natural by eliminating the artifact known as “dot crawl”, a rapid upward movement of colored dots on sharp vertical transitions, and hanging dots which lie underneath all the colored horizontal transitions. Dot crawl and hanging dots are readily apparent with large, highly saturated, stationary graphics such as titles and credits.

*Motion Compensation Technology.* The inherent scan and frame rate changes that are required to display the enhanced video image make motion compensation necessary in the reconstruction of the enhanced picture. TV images are transmitted in an interlaced fashion in which the picture is transmitted in two parts, the first being the odd lines of the picture, the second the even lines. This creates a time delay of 16 milliseconds between the odd and even lines of the image. If motion is present, artifacts can be generated in the conversion to a line multiplied image. Also, while TV images are displayed at approximately 60 frames per second, cinema film sources are displayed at 24 frames per second. To ensure an image noticeably free from artifacts, the motion of the video has to be taken into account and identification of the source material as video or film is necessary. Our patented motion and film detection technology is used in most of its video enhancement products.

*Line Multiplier Technology.* The line multiplier technology reduces scan line visibility resulting from utilizing a 525 line interlaced broadcast standard on today’s large screen TVs by changing the interlaced video signal to a progressively scanned signal. Our line multiplier technology detects motion and interpolates correctly to “fill in the blanks.” This technology can detect the difference between a film image that has been transferred to video or a video image that emanates from a video camera. After detecting the image type, the line multiplier technology selects its algorithm to compensate accordingly. This is critical because today’s home theaters are primarily used to show films that were transferred to video, whether on tape, laser disc, DVD or off the air.

*Detail Enhancement Technology.* The best video sources such as DVD (if properly recorded) provide good resolution while others such as digital satellite reception and laser discs often provide acceptable resolution. Common sources such as broadcast or VHS tapes are noticeably deficient. The problem is compounded when scan lines are multiplied and when other signal processing is applied. The resulting picture is free of artifacts (including visible scan lines) but dull, with loss of definition and a general blurriness. Through the use of non-linear processing our proprietary technology increases the visibility of small image details, whether horizontal or vertical, without introducing ringing or noise artifacts and without modifying large edge response. This technique also expands the apparent bandwidth of large edge signals without introducing artifacts, such as ringing, in both the horizontal and vertical domains. The combination of these two techniques results in an image that gives a greater feeling of depth.

*Noise Reduction.* All analog video sources contain some degree of picture noise. This is manifested as low level moving or shimmering artifacts, or an excessive graininess in the picture. High quality digital sources such as DVDs have much reduced noise content. Noise reduction processing is required to bring analog sources, either existing archive material or new material from traditional cameras, up to digital standards. Small static details in the picture have to be distinguished from the



moving noise artifacts so that correct discrimination can be accomplished. We make use of motion detection and adaptive video filtering technologies to optimize noise reduction in the video images.

*Time Base Correction, Video* sources that are transmitted from a broadcast studio or by a satellite or cable TV headend derive line and frame scan rates from stable, crystal-controlled sources, which are timing accurate. Video produced by consumer videocassette recorders, camcorders and, to a lesser extent, videodiscs are subject to timing errors, because the playback relies on the mechanical rotation of the storage medium for timing accuracy. In the case of VCRs, line lengths may vary causing color decoding and video picture alignment problems. If a VCR source is to be transmitted in the industry standard digital D1 format, this line timing variability is not permissible. Our time base correction technology permits our decoders not only to separate the luminance and chrominance components of the video source, but also to re-lock the video to a crystal reference. This stabilizes the picture, particularly when video is overlaid on other video sources, and makes it compliant with digital studio transmission standards.

### **Customers, Marketing and Technical Support**

Our customers are those manufacturers and direct and indirect suppliers who dominate the digital display manufacturing market. This market is relatively concentrated with a limited number of manufacturers and suppliers. We have achieved initial success in this concentrated market. Our display processor customers include Compal, Fujitsu, NEC, Philips, Sanyo, Samsung, Sony and Toshiba. NEC, with 13.8% was the only customer to exceed 10% of our annual sales revenue. Toshiba and Fujitsu were 7.3% and 6.9% of sales for the fiscal year ended March 31, 2001.

We do not have purchase contracts with any of our customers that obligate them to continue to purchase our display processors, and these customers could stop purchasing our display processors at any time.

As of March 31, 2001, we employed 44 individuals in sales and marketing and as field applications engineers and maintained relationships with six independent regional sales representatives for our IC division, and approximately 450 independent dealers for our Home Theater Division. Our sales and marketing strategy focuses on achieving design wins from leading OEM display manufacturers. We market and sell our semiconductor products in the U.S. through distributors and independent regional sales representatives and in Asia through independent regional sales representatives in Japan, Korea, Taiwan and elsewhere, with product development support from our U.S. and Indian offices. We market and sell our circuit board products in the U.S. through distributors and our direct sales personnel, and in Asia through sales representatives, with product development support from our U.S. and Indian offices. We believe that providing customers with product development support is critical to remaining competitive in the markets we serve. We provide product development support through our sales representatives and from our offices in Milpitas and Sunnyvale, California. We currently provide full-time, on-site field applications engineers to support major customers in Japan, Korea, Taiwan, PRC and Singapore.

### **Research and Development**

Our future success will depend to a large extent on our ability to rapidly develop and introduce new products and enhancements to our existing products that meet emerging industry standards and satisfy changing customer requirements. We have made and expect to continue to make substantial investments in research and development and to participate in the development of new and existing industry standards.

Our research and development has been focused in high-speed analog-to-digital signal display processors and advanced display-processing algorithms. We also conduct research and development in custom semiconductor design. The majority of our engineers are involved in high speed, mixed-signal

integrated circuit design and verification, with the remaining engineers involved in algorithm development and software and system design. Before development of a new product commences, our marketing managers work closely with research and development engineers and customers to develop comprehensive requirement specifications. In addition, our marketing managers and engineers review the applicable industry standards and incorporate desired changes into new product specifications. After a product is designed and becomes commercially available, our engineers continue to work with various customers on specific design issues to understand emerging requirements that may be incorporated into future product generations or product upgrades.

Our research and development expenditures totaled \$8.1 million for the twelve months ended March 31, 2001, \$4.1 million for the twelve months ended March 31, 2000, and \$2.3 million in the fiscal year ended March 31, 1999. Research and development expenses consist primarily of salaries and related costs of employees engaged in research, design, and development activities. In addition, expenses for outside engineering consultants and NRE are included in research and development expenses. As of March 31, 2001, there were 91 employees engaged in research and development. We perform our research and development activities at our headquarters in Milpitas, California and at our engineering facility in Bangalore, India. As of March 31, 2001, 55 of our employees were based at our facility in India.

### **Manufacturing**

Sage has adopted a fabless semiconductor-manufacturing model and we out-source our entire semiconductor manufacturing, assembly and testing. This approach allows us to focus our resources on the design, development and marketing of our products and significantly reduces our capital requirements. As of March 31, 2001, we had a staff of 26 operations personnel responsible for inventory shipping, purchasing, final testing, packing and quality control. To date, we have subcontracted the manufacturing of our .35-micron Cheetah family of display processor ICs on a turnkey basis to Fujitsu Microelectronics and Kawasaki LSI U.S.A, and our FLI de-interlacer ICs to ST Micro. We have subcontracted the production of certain of our new .25 micron Jaguar mixed signal family of display processor ICs to Taiwan Semiconductor Manufacturing Corporation ("TSMC") and are assuming the risks of yield, test and packaging which, if successful, could reduce our future unit costs. All of our IC products have been and are expected to continue to be single-source manufactured for the foreseeable future. Currently, we must place orders three to four months in advance of expected delivery. We maintain our inventory levels based on current lead times from foundries plus safety stock to account for fluctuations in demand that we anticipate on the basis of our customers' forecasts. As of March 31, 2001, most semiconductor subcontractors have announced that they are running below full capacity, following the supply constraints that were experienced at times during the first half of the fiscal year ended March 31, 2001.

If we lose or decide to change a key supplier or foundry, it could take several months to qualify a new supplier or foundry. Changing or qualifying a new supplier or foundry, would likely involve delay and expenses, resulting in foregone revenues, reduced operating margins and possible detriment to customer relationships. Since we place our orders on a purchase order basis and do not have a long-term volume purchase agreement with any of our existing suppliers, any of these suppliers may allocate capacity to the production of other products while reducing deliveries to us on short notice. While we believe that we currently have good relationships with our foundries and adequate capacity to support our current sales levels, there can be no assurance that adequate foundry capacity will be available in the future on acceptable terms, if at all.

Our semiconductor products are currently fabricated using a range of process technologies. We must continuously develop our products using new sub-micron technologies to remain competitive on a cost and performance basis. Migrating to new technologies is a challenging task requiring new design skills, methods and tools. We believe that the transition of our products to smaller geometries will be

important for us to remain competitive. Our business could be harmed if any transition is delayed or inefficiently implemented.

### **Intellectual Property**

Sage relies on a combination of non-disclosure agreements and copyright, trademark and trade secret laws to protect our algorithms, design and architecture of our semiconductor technology. We currently have three patents filed with the U.S. Patent and Trademark Office for protection of certain of our significant technologies, including our on-screen user interface, dual spatial and temporal scaling system, video signal processing and channel equalization technology, and our video adapter circuit for detection of analog video scanning formats. In addition, our Faroudja subsidiary has over sixty US and international patents covering an extensive range of video enhancement processes. In the future, we expect to seek patent protection for our technologies as necessary. Any future patents may not be granted and, even if granted, may be invalidated, circumvented, challenged or licensed to others.

To supplement the technologies that we develop internally, we have licensed rights to use certain patents held by third parties, and we may license additional technology rights in the future.

The semiconductor industry is characterized by frequent litigation regarding patent and other intellectual property rights. We have certain indemnification obligations with respect to the infringement of third-party intellectual property rights. There is no intellectual property litigation currently pending against Sage. However, we may from time to time receive notifications of claims that we may be infringing patents or other intellectual property rights owned by third parties. If it is necessary or desirable, we may seek licenses under those patents or intellectual property rights. However, we cannot be sure that licenses will be offered or that the terms of any offered licenses would be acceptable to us.

### **Competition**

The display signal processing industry is very competitive. The markets in which we operate are characterized by rapid technological change, evolving industry standards and declining average selling prices, and we expect them to become increasingly competitive. We believe that the key competitive factors in our markets are product design, performance, price, features, size, reliability, time-to-market and customer support. Our ability to successfully compete in our target markets also depends on our continued success in the development of high-performance display processors at optimal price points. In addition, our competitiveness may be affected by the development of competing technologies, the emergence of new industry standards, and consumer demand for specific display features on the display device. Failure to monitor and effectively respond to these trends could reduce demand for our products.

Our competitors include a range of diversified electronic and semiconductor companies that offer display processing products. In particular, we compete in varying degrees against Genesis, Pixelworks, Macronix, Smart Asic, and Silicon Image. In some instances, we also compete with internally designed processing solutions, developed by OEM display manufacturers for their own use. In the future, our current or potential customers may also develop their own proprietary display processors and become our competitors. In addition, start-up companies that are seeking to capitalize on business opportunities as a result of the shift from analog to digital technology may seek to compete in our markets. Our competitors may develop advanced technologies enabling them to offer more cost-effective and higher quality solutions to OEM 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 margins or causing us to lose sales opportunities.

## **Employees**

As of March 31, 2001, we employed 183 full-time employees of which 121 are in the United States and 62 are located throughout the world. Of the total, 91 are in research and development, 44 are in sales and marketing, 26 are in operations and 22 are in finance and administration. Our success is dependent on a large part on our ability to attract and retain qualified employees. To date, we believe we have been successful. However, there are uncertainties that we will continue to be successful in the future, given the competitive nature of employment in the semiconductor industry and the high cost of living in the Silicon Valley. Our employees are not represented by collective bargaining agreements, and we believe that our relations with our employees are good.

## **Other Factors Affecting Our Business**

**Effective June 8, 2000, Faroudja Labs merged with Sage. If the costs associated with the merger exceed the benefits realized, Sage may experience increased losses.**

If the benefits of the merger do not exceed the costs associated with the merger, including any dilution to our stockholders resulting from the issuance of shares in connection with the merger, our financial results, on a consolidated basis, could be adversely affected, including increased losses.

**A significant amount of Sage's revenues will come from a few customers and any decrease in revenues from these few customers could significantly impact our total revenues.**

Sage is dependent on a limited number of large customers. We will, for the foreseeable future, also be dependent on a limited number of large customers for a substantial portion of our revenues. As a result of customer concentration any one of the following factors could significantly impact our total revenues:

- a significant reduction, delay or cancellation of orders from one or more of our key customers;  
or
- a decision by one or more significant customers to select products manufactured by a competitor, or its own internally developed solution, for inclusion in future product generations.

The manufacturing market for digital televisions, high definition televisions, liquid crystal display monitors and plasma displays is highly concentrated among relatively few large manufacturers. We expect that our operating results will continue to depend on revenues from a relatively small number of manufacturers and their suppliers.

**The reliance by Sage on a limited number of large customers reduces our ability to negotiate favorable pricing terms with our customers.**

The markets for digital display and video image enhancement products are highly concentrated among relatively few large manufacturers of certain types of personal computers, televisions, home theaters and consumer electronics. These manufacturers have significantly greater financial and other resources than us; therefore we may be unable to negotiate favorable pricing terms with them. Any inability to negotiate favorable pricing terms with customers could impact our ability to generate positive earnings.

**Any delay in introducing new products or enhancements to existing products could reduce customer acceptance of Sage's products and could decrease our market share or revenues.**

Our display manufacturing customers have regular design cycles for their next display models. Our future success will depend to a substantial degree upon our ability to develop and introduce new products and enhancements to our existing products, and to do so on a schedule that makes our products and enhancements available at the time our customers are making purchasing decisions.

Likewise, we are developing consumer video products that are designed to conform to certain current video processing industry standards. However, there can be no assurance that manufacturers will continue to follow these standards or that more desirable standards will not emerge. The acceptance of our products also depends in part upon content providers developing and marketing content for end-user systems, such as video and audio playback systems, in a format compatible with our products. There can be no assurance that these or other factors beyond our control will not adversely affect the development of markets for our products.

Our products and product enhancements must incorporate technological changes and innovations to meet evolving customer and industry standards. Our future success will depend, to a substantial degree, upon our ability to develop and introduce new products and enhancements to our existing products that meet evolving customer and industry standards, and to do so on a schedule that makes the products and enhancements available at the time our customers are making purchasing decisions.

**Because display and video processors are complex, they may have errors or defects that are found only after the processors have been incorporated into Sage's customers' products, which could result in warranty claims and a reduction in revenues.**

Our display processors, are complex products and are designed to be incorporated into digital and high definition display devices which are themselves complex. Although the products are, and will be, thoroughly tested, design and manufacturing defects may not be discovered during the manufacturing and testing process and may only be discovered when the finished products are connected to a signal source. Consequently, customers may discover errors or defects in hardware or software after large quantities of products have been fully incorporated into customers' digital and video display devices. To date, however, our customers have not, to our knowledge, discovered any significant errors or defects in their products. If our customers were to discover errors or defects that may be identified after a device is connected to a signal source, the customer might hold us responsible for:

- loss of or delay in revenues and loss of market share;
- loss of customers;
- failure to achieve market acceptance;
- diversion of development resources;
- increased warranty costs;
- customer legal actions; and
- increased insurance costs.

In addition, in the event of a significant number of product returns due to a defect or recall of our products, revenues, gross margin and our name brands could be significantly harmed.

**There are risks associated with the failure to identify new markets and applications.**

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. If we fail to produce technologically competitive products in a cost-effective manner and on a timely basis or are unable to comply with industry standards in the future, our business and results of operations could be harmed.

Substantial portions of our revenues have been derived from sales of products that address the home theater and commercial presentation markets. Certain of our current Faroudja branded products and future product plans address markets that are not now and may never become substantial commercial markets. Our future growth will depend, in large part, on our ability to identify new



markets for our products and to apply our products and technology to evolving markets and applications. There can be no assurance that these markets will become substantial commercial markets or that our products will achieve market acceptance in those markets. There can be no assurance that new display technologies will be successful or that the television and personal computer markets will converge, that these new markets will present substantial commercial opportunities, or that our products will adequately address these markets in a timely manner.

Although we expect to continue to make significant investments in research and development to enhance our current products and to develop products incorporating new and existing technologies, we cannot offer any assurance that new products or product enhancements will be successfully developed. If developed, we cannot offer any assurance that any new products or product enhancements will be developed in time to capture market opportunities or achieve a significant or sustainable level of acceptance in new and existing markets.

**Sage will be exposed to distribution risks and issues surrounding the diversification of sales channels.**

We sell our products domestically and internationally through distributors, third party sales representatives and dealers and our success depends on the continued efforts of this network. The loss of, or reduction in sales to, any of our key customers, could have a material adverse affect on our operating results. The short life cycles of our products, and the difficulty in predicting future sales, increase the risk that new product introductions, price reductions by us or our competitors or other factors affecting the flat panel display and video imaging industry could result in significant product returns. In addition, there can be no assurance that new product introductions by competitors or other market factors will not require us to reduce prices in a manner or at a time which has a material adverse impact upon our business, financial condition and operating results.

An integral element of our strategy is to enhance and diversify our distribution channels. Our ability to achieve revenue growth in the future will depend in large part on our success in recruiting and training sufficient sales personnel, third party sales representatives, distributors and dealers, of which, a certain number currently distribute, or may in the future distribute, the product lines of our competitors. There can be no assurance that we will be able to attract, train and retain a sufficient number of distributors, third party sales representatives or direct sales personnel, or that they will continue to recommend, or devote sufficient resources to market and provide customer support for our products. All of these factors could have a material adverse effect on our business, financial condition and operating results.

**Intense competition may reduce the demand or prices for Sage's products, decreasing our gross margin.**

The markets in which we compete are intensely competitive. Rapid technological change, evolving industry standards and declining average selling prices in these markets could have a material adverse effect on our business, financial condition and results of operations. As the overall price of personal computers, televisions and other products that use our technology continues to fall, we may be required to offer solutions to manufacturers at discounted prices due to increased price competition. At the same time, new, alternative display and video 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 be sure 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 a range of diversified companies that offer display and video processors, some of which have substantially greater resources than we do. In particular, we compete against

Communications Specialties Inc., Leitch Incorporated, Panasonic Broadcast and Television Systems Company, DVDO, Inc., nDSP, TeraNex, Miranda Technology, Inc., RGB Spectrum, Cinema Pro Corporation dba Runco International, Genesis Microchip, Inc., Pixelworks, Inc., Silicon Image, Inc., DWIN Electronics, Inc., Extron Electronics, NEC Technologies, Inc. USA, Snell & Wilcox, Inc., Sony Corporation and Yamashita Engineering Manufacturing, Inc. We also compete in some instances against in-house processing solutions designed by large original equipment manufacturers. In the future, our current or potential customers may also develop their own proprietary display and video processors and become our competitors. In addition, start-up companies that are seeking to capitalize on business opportunities as a result of the shift from analog to digital technology may seek to compete in our markets. Our competitors may develop advanced technologies enabling them to offer more cost-effective and higher quality solutions 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.

**Concerns about an economic slowdown may influence Sage's customers to reduce production and inventory of display products in anticipation of a slowdown.**

Unforeseen reduction, or expectations of a reduction in demand by our customers could reduce orders and shipments, which could result in us carrying increased inventory. Since order cycles are brief and the backlog small, we are required to carry a certain level of inventory to service our customers. If our inventory builds up as a result of order postponement, or cutbacks of sales forecasts by our customers, we could end up with excess inventory that is either unusable, or that has to be sold at clearance prices which will harm our sales margins.

**Fluctuations in the operating results make it difficult to predict Sage's future performance and may result in volatility in the market price of our Common Stock.**

Our quarterly operating results have fluctuated significantly in the past and we expect our results to fluctuate significantly in the future based on a number of factors. Some of these factors arise from decisions we have made with respect to the timing and magnitude of expenditures and our ability to control our revenues. Our operating expenses, which include research and development expenses and selling, general and administration expenses, are relatively fixed over the short-term. If our revenues are lower than we expect because we sell fewer display processors or video image enhancement products, because we delay the release or the announcement of new products or because of other reasons, we may not be able to quickly reduce our spending in response. In addition, our revenues could fall short of our expectations if we experience delays or cancellations of even a small number of orders.

Certain other factors have, in the past, caused, and may in the future cause, fluctuations in our quarterly operating results. These factors are industry risks over which we have no control, including:

- changes in the available supply of flat panel displays at reasonable prices;
- changes related to selected video processing products;
- changes in our customers' demand for our products;
- timing of major NRE payments on new products
- the deferral of customer orders in anticipation of new products or enhancements by our competitors; or us
- changes in the available production capacity at the semiconductor fabrication foundries that manufacture our products and changes in the costs of manufacturing; and
- our ability to develop, introduce and market new products in time to meet the product design cycles of our customers.

There are additional factors that could, but which have not, affected our operating results including:

- the growth rate of the overall digital display and video processing markets;
- incorrect forecasting of future revenues;
- changes in product mix, product costs or pricing;
- general economic conditions and economic conditions specific to the personal computer, television, home theater, display and semiconductor markets;
- growth rate of HDTV market; and
- growth rate of projector market.

Any one or more of these factors are difficult to forecast and could result in fluctuations in our future operating results. Any shortfall in our revenues would have a direct impact on the combined business. In addition, fluctuations in our quarterly results could adversely affect the market 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 likely that in some future quarter our operating results will fall below the expectations of securities analysts and investors. In this event, the trading price of our common stock may decline significantly. Furthermore, the average daily volumes of our Common Stock traded are frequently light and even events like the release of press information by Sage or a competitor can give rise to a significant change in relative demand and the consequent price of our Common Stock.

**Sage relies on independent foundries and manufacturing.**

We currently rely on independent foundries to manufacture, assemble and test all of our semiconductor components and products. These independent foundries fabricate products for other companies and may also manufacture products of their own design. We purchase products from all of our foundries pursuant to individually negotiated purchase orders. We do not have long-term supply contracts with any of these foundries, and, therefore, none of them will be obligated to supply products for any specific period, in any specific quantity or at any specified price, except as may be provided in a particular purchase order. Our reliance on independent foundries involves a number of risks, including the inability to obtain adequate capacity, unavailability of or interruption of access to certain process technologies, reduced control over delivery schedules, quality assurance, manufacturing yields and cost, and potential misappropriation of our intellectual property. Our ability to obtain the foundry capacity necessary to meet the demand for our products is based in part on our ability to accurately forecast demand. If we fail to accurately forecast our future demand, we may be unable to obtain adequate supplies of integrated circuits on a timely basis. There can be no assurance that we will be able to accurately forecast the demand for our products or obtain sufficient foundry capacity in the future.

While we have not experienced any material disruptions in supply to date, there can be no assurance that manufacturing problems will not occur in the future. In the event that any of our foundries are unable or unwilling to produce sufficient supplies of our products in required volumes at acceptable costs, we will be required to reallocate production among our other existing foundries or identify and qualify acceptable alternatives. This qualification process could take six months or longer, and no assurance can be given that any additional source would become available or that we would be in a position to satisfy our production requirements on a timely basis. The loss of any of our foundries, our inability to obtain additional production in a period of increased demand, or our inability to obtain timely and adequate deliveries from our suppliers could reduce or delay shipments of our products.

Any of these developments could damage relationships with our current and prospective customers and could have a material adverse effect on our business, financial condition and operating results.

Our reliance on third-party manufacturers limits our control over delivery schedules, quality assurance and product cost. Disruptions in the provision of services by our assemblers or other circumstances that would require us to seek alternative sources of assembly could lead to supply constraints or delays in the delivery of our products. In addition, the need for high quality assurance may increase costs paid us to third parties for manufacturing and assembly of our products. These constraints or delays could damage relationships with current and prospective customers and could have a material adverse effect on our business, financial condition and operating results. In addition, third party contractors assemble our board and Box level products.

**Sage currently depends on a limited number of contract manufacturers for its semiconductor and system level products, and we must order products from them based on forecasts from customers from whom we do not have firm purchase orders.**

We do not own or operate a semiconductor fabrication facility and we do not have the resources to manufacture our products internally. Our display processor ICs have historically been manufactured, assembled and tested by Kawasaki LSI, Fujitsu Microelectronics and ST Micro. Our new Jaguar series of integrated mixed signal ICs are being manufactured by Taiwan Semiconductor Manufacturing Company and we will be responsible for the assembly and testing. Our system level products are manufactured and tested by Viasystems Electronics or Eagle Contracts while our box products are manufactured by Bestronics. We do not have a long-term supply contract with any of our contract manufacturers, and 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. We try not to maintain substantial inventories of products, but we must often place orders for products two to six months before they are needed and before we have firm purchase orders for those products. None of our products are currently manufactured by more than one supplier.

There are many risks associated with our dependence on third-party manufacturing, assembling and product testing relationships, including:

- delays in delivering products in response to purchase orders due to increased demand, disruptions in operations or other factors;
- lack of control over pricing;
- reduced quality assurance;
- reduced manufacturing yields and costs;
- unavailability or interruption of access to process technologies necessary to manufacture our products; and
- potential misappropriation of our intellectual property.

If we are unable to obtain our products from manufacturers on schedule, revenues from the sale of those products may be delayed. If orders for our products are cancelled, revenues will be lost.

**Failure to manage Sage's expansion effectively could adversely affect our ability to increase our revenues and improve our earnings.**

Our ability to successfully offer 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. Our past growth, and expected future growth, places a significant strain on our management systems and resources including our

financial and managerial controls, reporting systems and procedures. In addition, we will need to continue to expand, train and manage our workforce worldwide.

**We depend on key personnel to manage our businesses effectively, and if Sage is unable to retain or hire additional personnel, our revenues and product development efforts could be harmed.**

Our future success depends upon the continued services of our executive officers and other key engineering, sales, marketing and support personnel, many of whom would be difficult to replace. Current and prospective employees may experience uncertainty about their future roles. This uncertainty may adversely affect our ability to retain key management, sales, marketing and technical personnel, or to attract qualified personnel in the future.

We intend to hire a significant number of engineering, sales and marketing and support personnel in the future, and we believe success depends, in large part, upon our ability to attract and retain our key employees. Competition for these persons is intense, especially in the San Francisco Bay Area, 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 candidates with appropriate qualifications. If we do not succeed in hiring and retaining candidates with appropriate qualifications, our revenues and product development efforts could be harmed.

**Sage's 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 products.**

Our ability to compete effectively with other companies will depend, in part, on our ability to maintain the proprietary nature of our technology. However, we cannot assure you that the degree of protection offered by our patents will be sufficient or that any of our pending patents will be issued. In addition, competitors in both the U.S. and foreign countries, many of which 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.

Our competitors may also be able to design around the licensed patents. The laws of certain foreign countries in which our products are or may be developed, manufactured or sold, including various countries in Asia, may not protect our products or intellectual property rights to the same extent as the laws of the United States. There can be no assurance that the steps taken by us to protect our intellectual property rights will be adequate to prevent misappropriation of our technology or that our competitors will not independently develop technologies that are substantially equivalent or superior to our technology.

Substantially all of the intellectual property acquired with the Faroudja acquisition is licensed to us by Yves Faroudja. There are risks associated with this intellectual property because we are a licensee and not the owner of such intellectual property rights. Under this agreement with Mr. Faroudja, he retains the non-exclusive right to license his patents and technologies to third parties for use outside our field of use. Notwithstanding the particular terms of the license agreement with Mr. Faroudja, we face the risk that he may attempt to terminate the granted licenses and that such an attempt may be successful or that the response to such attempt may consume substantial financial and personnel resources. In the event our resources are so consumed, such consumption could have a material adverse affect on our business, financial condition and operating results.

We may from time to time receive notifications or claims alleging that we may be infringing patents or intellectual property rights owned by third parties. While there is currently no intellectual property rights litigation pending against us, litigation could result in significant expenses to us and could reduce sales of our products. Any litigation could also divert the efforts of our technical and management personnel, whether or not the litigation is determined in our favor. 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.

**Sage has incurred net losses since inception, and Sage may not achieve or sustain annual profitability.**

We incurred net losses of \$4.8 million; \$4.6 million and \$121.1 million for each of the respective years ended March 31, 1999, 2000 and 2001, and had an accumulated deficit of \$134.4 million as of March 31, 2001. In addition we have capitalized approximately \$10 million of goodwill and intangibles in connection with the acquisition of Faroudja and intend to amortize this over four years, resulting in annual non-cash charges to operating expenses of over \$2.4 million per year. Accordingly, we expect to continue to report additional operating losses, and even before non-cash charges, we may continue to report operating losses for at least the next 12 months. Although we have experienced revenue growth over the last fiscal year as a whole, we experienced a 31% reduction in our total sales in the March 2001 quarter compared to the December 2000 quarter. This growth is not necessarily indicative of future operating results, and we cannot assure you that we will be able to sustain the growth, or recovery of growth, in our revenues. If we do achieve profitability, we cannot be certain that we can sustain or increase profitability on a quarterly or annual basis in the future or at all. This may in turn cause our stock price to decline. In addition, if we do not achieve or sustain profitability in the reasonable future, we have limited cash resources and may therefore be unable to continue our operations.

**Sage has a limited operating history, making it difficult for you to evaluate our business.**

We commenced operations in January 1995, but did not generate material revenues from the sale of our semiconductor products until July 1998. Thus, we have a limited operating history upon which to evaluate our current business and prospects. Due to the limited history, it is difficult or impossible for us to predict our future results of operations with any degree of accuracy. For example, we cannot accurately forecast expenses based on our projections of future revenues. Most of our expenses are relatively fixed in the short term, and we may not be able to quickly reduce spending if our revenues are lower than projections. In addition, because substantially all of our present customers order on a purchase order basis rather than long-term purchase commitments, we have only a limited ability to project future revenues. Therefore, net losses in a given quarter may be greater than expected. Moreover, due to our limited operating history, any evaluation of our business and prospects must be made in light of the risks and uncertainties often encountered by early stage companies in technology markets. Many of these risks are discussed elsewhere in this section. Please see “Sage Management’s Discussion and Analysis of Financial Condition and Results of Operations” for more detailed information on our historical results of operations.

**Sage’s foreign customers account for a significant portion of its revenues, and if we do not successfully address certain risks associated with our international operations, our revenues could decrease and our business prospects could deteriorate because the majority of our customers could be lost at a substantial cost to our business prospects, and our revenues could decline.**

Sales outside of the U.S. accounted for 57% of total sales for the year ended March 31, 2001. Substantial numbers of our customers are located in Japan, Taiwan, Korea and PRC. We anticipate that sales outside of the U.S. could increase in future periods and may account for an increasing portion of our revenues. In addition, manufacturers who incorporate our processors into their displays sell them outside of the U.S., thereby exposing us indirectly to foreign risks. Specifically, we will be subject to the following risks:

- difficulties in maintaining sales representatives outside of the U.S. that are knowledgeable of the display processor industry, the video processing industry and our range of products;

- ongoing restructuring activities of ours customers;
- potential difficulties in collecting accounts receivable from our customers located in Japan, Korea, Taiwan and PRC; and
- difficulties related to design piracy of display and video processing technologies that may exist outside the U.S.

To date, sales of our products have been denominated exclusively in U.S. dollars. An increase in the value of the U.S. dollar will increase the price of our products so that they become relatively more expensive to customers in the local currency of a particular country, potentially leading to a reduction in our revenues and profitability.

**Portions of Sage's research and development efforts are performed in India, and risks related to those operations could harm our research and development capabilities and negatively impact our product sales.**

Any risks related to the political or economic conditions in India and the surrounding region, including risks relating to India's national security situation or labor market conditions, may adversely impact our ability to take advantage of operations in India. In addition, circumstances beyond our control at our facilities, related to operating in a developing country, such as unreliable power supplies, may have a material adverse effect on our research and development capabilities. We cannot assure you that restrictive laws or policies on either the part of India or the United States will not constrain our ability to effectively operate in both countries. If we are required to relocate our Indian facilities, we cannot assure you that a relocation will not disrupt our business.

**If monitors incorporating Sage's solutions are not compatible with personal computers, televisions, and other devices for which they are marketed, the market for Sage's products will be reduced and our business prospects could be significantly limited.**

Our products are incorporated into our customers' display monitors which have different parts and specifications and utilize multiple protocols that allow them to be compatible with specific PCs, televisions, home theaters and other devices. If our customers' products are not compatible with the PCs and other devices for which they have been marketed and sold, consumers will return those monitors, or consumers will not purchase those monitors, and the market 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.

### **Risks Related to the Display Processing Industry**

**Failure of consumer demand for flat panel displays to increase as we expect could impede Sage's growth prospects.**

Our product development strategies anticipate that consumer demand for flat panel displays and other emerging display products will increase in the future. The success of our products is dependent on increased demand for these products, which are at early stages of development. The potential size of these markets and the timing of their development are uncertain and will depend upon a number of factors, including available supply capacity and retail price of flat panel monitors, all of which are beyond our control.

**Because of Sage's long product development process and sales cycle, Sage may incur substantial expenses before it earns associated revenues and may not ultimately sell as many units of its products as forecasted.**

We develop products based on forecasts of demand and incur substantial product development expenditures prior to generating associated revenues. 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. Because of this lengthy development cycle, we may experience a delay between the time we accrue expenses for research and development and sales and marketing efforts and the time when we generates revenues, if any, from such expenditures.

Furthermore, achieving a design win with a customer does not necessarily mean that this customer will order large volumes of our products. A design win is not a binding commitment by a customer to purchase our products. Rather, it is a decision by a customer to use our products in the design process of that customer's products. In addition, ours customers can choose at any time to discontinue using our products in that customer's designs or product development efforts. If our products are chosen to be incorporated into a customer's products, we may still not realize significant revenues from that customer if that customer's products are not commercially successful.

**If Sage does not achieve design wins with leading display manufacturers, we may be unable to secure additional design wins in the future and our ability to grow would be seriously limited.**

The development of new, technologically advanced products and product enhancements is a complex and uncertain process requiring accurate anticipation of technological and market trends, as well as skill in obtaining design wins. Any failure on our part to obtain additional design wins with leading original equipment manufacturers and to successfully design, develop and introduce new products and product enhancements could harm our business, financial condition and results of operations. In addition, development and manufacturing schedules for our products are difficult to predict, and we cannot assure you that we will achieve timely customer shipments of new products. The timely introduction of these products and their acceptance by customers are important to our future success. Any delays in product development, whether due to manufacturing, product design and development, lack of market acceptance or otherwise, could reduce future customer acceptance of our products and harm our business, financial condition and results of operations.

**If we have to qualify a new contract manufacturer for any of Sage's products, we may lose revenues and damage our customer relationships.**

Our display processors require manufacturing with state-of-the-art fabrication equipment and techniques. Because the lead time needed to establish a strategic 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 an additional three to four months, there is no readily available alternative source of supply for any specific product. A manufacturing disruption at any of our contract manufacturers would impact the production of our display processors for a substantial period of time, thereby reducing our revenues, and would harm our customer relationships.

**Shortages of materials included in our semiconductor and circuit board products may increase Sage's costs or limit our revenues and delay our ability to ship our products on time.**

From time to time, shortages of certain materials that are used in our semiconductor and circuit board products may occur. In particular, we may experience shortages of semiconductor wafers. If materials shortages occur, we may incur additional costs to procure the scarce components or be unable to ship our products to our customers in a timely fashion, all of which could negatively impact our earnings.

**By subcontracting separately for the production of wafers for our mixed signal processors, Sage is assuming risks that we do not currently face.**

Historically, we purchased packaged, assembled and tested semiconductor products from contract manufacturers. We have assumed greater responsibility for this process with our new generation of mixed signal products by subcontracting separately for the production of wafers and for their assembly

and testing and consequently we will become more responsible for losses arising from wafer manufacturing yields and for coordination of the manufacturing, assembly and testing process. Poor yields, or our failure to implement this approach to manufacturing properly, would reduce our revenues and harm our gross margin and results of operations.

**Interruptions of power supply in California may disrupt Sage's business.**

Recently the State of California has experienced a shortage of power supplies resulting in temporary disconnection and blackouts. Such interruptions of supply are random and unforeseeable and can lead to loss of data, test results, operational capability and other inefficiencies. The resulting outcome may range from delays and added cost to lost business, and is substantially outside our control.

**Item 2. Properties**

Sage maintains facilities in Milpitas and Sunnyvale, California pursuant to leases that expire in June 2012 and September 2003, respectively. The Milpitas facility of approximately 48,000 square feet, of which we occupy about 24,000 square feet, houses our corporate headquarters and includes our research and development; marketing; and finance and administration departments. In September 2000, we sublet the remaining 24,000 square feet pursuant to a sublease that expires September 2003. The Sunnyvale facility, acquired with the Faroudja acquisition, of approximately 20,000 square feet houses our sales and operations departments. We also acquired another lease for a 10,000 square foot facility with the Faroudja acquisition pursuant to a lease that also expires in September 2003. This facility was deemed excess and is currently subleased for the balance of the lease. We intend to relocate our sales and operations departments to Milpitas when the sublease at Milpitas and the leases in Sunnyvale expire.

We also maintain a 4,000 square foot facility in Bangalore, India pursuant to a month-to-month lease. In April 2001, we entered into a 5-year lease agreement, with a 5-year option, for a 25,000 square foot facility in Bangalore, India. The base lease with options expires in April 2011. We intend to relocate to the new facility when the leasehold improvements are completed, which is scheduled for July 2001. We expect that these facilities will meet our needs for the foreseeable future on reasonable terms.

**Item 3. Legal Proceedings**

As of June 29, 2001, we were not party to any legal proceeding.

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

No matters were submitted to a vote of the stockholders' during the fiscal year ended March 31, 2001.

## PART II

### Item 5. Market For the Registrant's Common Equity and Related Stockholder Matters

Sage, Inc.'s Common Stock began trading on the NASDAQ National Market System under the symbol "SAGI" on November 11, 1999. Prior to such time, there was no public market for the Common Stock of Sage. The following table sets forth for the periods indicated the high and low sale prices per share for Sage's Common Stock as reported on the NASDAQ National Market.

	<u>High</u>	<u>Low</u>
<b>Fiscal year ended March 31, 2000:</b>		
Third quarter (from November 11, 1999) . . . . .	\$28.500	\$18.438
Fourth quarter . . . . .	\$47.000	\$19.250
<b>Fiscal year ended March 31, 2001:</b>		
First quarter . . . . .	\$22.500	\$ 7.625
Second quarter . . . . .	\$13.000	\$ 7.500
Third quarter . . . . .	\$21.172	\$ 6.750
Fourth quarter . . . . .	\$17.750	\$ 5.750

No cash dividends have been declared or paid and Sage has no present intention to declare or pay cash dividends.

The number of stockholders of record as of June 18, 2001 was 202.

In November 1999, Sage completed an initial public offering of 3,450,000 shares of Common Stock at an initial offering price of \$12.00 per share, raising \$37.2 million, net of underwriting commission and related expenses. As of March 31, 2001, these proceeds were chiefly invested in short-term investments.

On June 7, 2000, shareholders of Sage and Faroudja approved the Merger Agreement between the companies, under which shareholders of Faroudja received 0.285 shares of Sage Common Stock for every share held in a purchase transaction valued at \$154.7 million based on the price of Sage stock on the date the proposal was originally announced. None of the expenses incurred in the acquisition, nor the cash acquired with the acquisition, were paid directly or indirectly to the directors, officers, general partners of the issuer or their associates, (ii) persons owning 10% or more of any class of securities of the issuer or (iii) affiliates of the issuer.



**Item 6. Selected Financial Data**

**Summary Consolidated Financial Data**  
**(in thousands, except per share data)**  
**Fiscal years ended March 31**

	<u>2001</u>	<u>2000</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>
<b>Consolidated Statement of Operations Data:</b>					
Revenues . . . . .	\$ 31,399	\$17,881	\$ 7,132	\$ 1,495	\$1,758
Gross profit (loss) . . . . .	14,501	7,855	2,218	(144)	622
Loss from operations . . . . .	(124,013)	(5,517)	(4,862)	(2,686)	(701)
Net loss . . . . .	<u>\$(121,081)</u>	<u>\$(4,595)</u>	<u>\$(4,751)</u>	<u>\$(2,775)</u>	<u>\$(708)</u>
Net loss per share:					
Basic and diluted . . . . .	<u>\$ (9.48)</u>	<u>\$ (1.04)</u>	<u>\$ (2.00)</u>	<u>\$ (1.08)</u>	<u>\$(0.32)</u>
Number of shares:					
Basic and diluted . . . . .	12,776	4,414	2,381	2,578	2,246
<b>Balance Sheet Data:</b>					
Cash and cash equivalents . . . . .	\$ 22,344	\$20,157	\$ 2,473	\$ 380	\$ 908
Short term marketable securities . . . . .	\$ 19,040	\$18,779	\$ —	\$ —	\$ —
Working capital . . . . .	\$ 49,333	\$40,097	\$ 1,471	\$(1,440)	\$ 357
Total assets . . . . .	\$ 72,570	\$45,411	\$ 4,293	\$ 1,309	\$1,692
Shareholders' equity (deficit) . . . . .	\$ 65,959	\$41,277	\$ 1,903	\$ (972)	\$ 538

The numbers of shares and net loss per share have been adjusted throughout this table to reflect a three-for-one reverse split which was effected in November 1999 in conjunction with the initial public offering. The net loss for the fiscal year ended March 31, 2001 includes non-cash charges of \$119.1 million, which primarily represents impairment and amortization charges relating to the acquisition of Faroudja. The net loss for the fiscal year ended March 31, 2001 and 2000 includes charges of \$7.2 million and \$2.5 million, respectively, for in-process technology. The net loss per share is calculated based on the weighted number of shares outstanding during the period. As Sage reported losses for all periods concerned, the results per share would be anti-dilutive and, accordingly, only basic loss per share is reported in this summary. No cash dividends have been paid since inception.

## Quarterly Results of Operation

The following table sets forth certain unaudited selected quarterly results of operations data for the eight quarters ended March 31, 2001, as well as such data expressed as a percentage of revenues. This data has been derived from unaudited consolidated financial statements that, in the opinion of management, include all adjustments, consisting only of normal recurring adjustments, necessary for the fair presentation of such information for the periods presented. Such statements of operations data should be read in conjunction with the annual consolidated financial statements, and the related notes thereto appearing elsewhere in this Form 10-K.

	Mar. 31, 2001	Dec. 31, 2000	Sep. 30, 2000	Jun. 30, 2000	Mar. 31, 2000	Dec. 31, 1999	Sep. 30, 1999	Jun. 30, 1999
Consolidated Statement of Operations:								
Revenues . . . . .	\$ 6,673	\$ 9,652	\$ 8,598	\$ 6,476	\$5,594	\$4,827	\$ 3,685	\$3,775
Cost of revenues . . . . .	3,745	5,425	4,370	3,358	2,877	2,612	2,094	2,443
Gross profit (loss) . . . . .	2,928	4,227	4,228	3,118	2,717	2,215	1,591	1,332
Operating expenses:								
Research and development . . . . .	2,428	2,016	2,253	1,439	1,263	1,039	1,090	715
Charge for in-process technology . . . . .	—	—	—	7,200	—	—	2,500	—
Selling, general and administration . . . . .	3,277	3,134	3,099	2,636	2,048	1,722	1,297	1,058
Amortization and impairment of intangibles . . . . .	97,400	5,937	5,937	1,501	—	—	—	—
Stock compensation expense related to options . . . . .	47	58	64	88	127	147	165	202
Total operating expenses . . . . .	103,152	11,145	11,353	12,864	3,438	2,908	5,052	1,975
Loss from operations . . . . .	(100,224)	(6,918)	(7,125)	(9,746)	(721)	(693)	(3,461)	(643)
Interest income (expense), net . . . . .	804	591	884	653	573	266	57	26
Net loss . . . . .	<u>\$ (99,420)</u>	<u>\$ (6,327)</u>	<u>\$ (6,241)</u>	<u>\$ (9,093)</u>	<u>\$ (148)</u>	<u>\$ (427)</u>	<u>\$ (3,404)</u>	<u>\$ (617)</u>
As a Percentage of Revenues:								
Revenues . . . . .	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of revenues . . . . .	56.1	56.2	50.8	51.9	51.4	54.1	56.8	64.7
Gross profit (loss) . . . . .	43.9	43.8	49.2	48.1	48.6	45.9	43.2	35.3
Operating expenses:								
Research and development . . . . .	36.4	20.9	26.2	22.2	22.6	21.5	29.6	18.9
Charge for in-process technology . . . . .	—	—	—	111.2	—	—	67.8	—
Selling, general and administration . . . . .	49.1	32.5	36.0	40.7	36.6	35.7	35.2	28.0
Amortization and impairment of intangibles . . . . .	1459.6	61.5	69.1	23.2	—	—	—	—
Stock compensation expense related to options . . . . .	0.7	0.6	0.7	1.4	2.3	3.0	4.5	5.4
Total operating expenses . . . . .	1545.8	115.5	132.0	198.7	61.5	60.2	137.1	52.3
Loss from operations . . . . .	(1501.9)	(71.7)	(82.8)	(150.6)	(12.9)	(14.3)	(93.9)	(17.0)
Interest income (expense), net . . . . .	12.0	6.1	10.3	10.1	10.2	5.5	1.5	0.7
Net loss . . . . .	<u>(1489.9)%</u>	<u>(65.6)%</u>	<u>(72.5)%</u>	<u>(140.5)%</u>	<u>(2.7)%</u>	<u>(8.8)%</u>	<u>(92.4)%</u>	<u>(16.3)%</u>

## **Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations**

You should read the following discussion and analysis in conjunction with Sage's consolidated financial statements included in Part IV of this Form 10-K. This discussion contains forward-looking statements relating to future events and Sage's future financial performance and actual results could differ significantly from those discussed. Factors that could cause or contribute to such differences include those set forth in the section entitled "Other Factors Affecting Our Business."

### **Overview**

Sage designs, develops and markets high performance digital display processors used for digital displays and video processing. Flat panel displays and other emerging digital display devices have substantial advantages over their traditional analog counterparts, and markets for these products are beginning to grow rapidly. Display signals are characterized by several important attributes: resolution, frame refresh rate, scanning format and color depth. Combinations of these characteristics are called modes, and there are over 100 different modes used today to display images on PCs and televisions. These modes must be recognized and processed to produce a high quality image on a display. Display manufacturers seek display processing solutions that can function effectively with the large number of existing and emerging signal modes, ensure the compatibility of new displays with the large installed base of PCs and provide consumers with plug and play capability.

Sage offers state-of-the-art digital display processors that provide, highly integrated analog-to-digital conversion, signal reformatting and color processing capabilities. Our solutions are compatible with all commercially available display signal modes and display types and are designed with a common architecture, configurable software and modular components that can be easily and rapidly incorporated into digital display devices. We sell our processing solutions to leading display manufacturers, including Compal Electronics, Fujitsu, NEC, Samsung, Sanyo, Sony and Toshiba.

Since our inception, Sage has focused primarily on the design and sale of high performance display processor ICs and will continue to do so as this is a high-growth volume market serving major mass-market manufacturers of displays and televisions. However, we also have systems business supplying system solutions to other market channels, and as of the year ended March 31, 2001, such system sales actually represented 48.9% of our total revenue. These systems sales are comprised of box level products, which we sell into the home theater market through a wide network of dealers and installers and board level products, each including a display processor IC, which we sell into the embedded display market through a network of distributors and OEM customers. We expect our IC business will grow rapidly, while our system business remains static or even declines over time resulting in ICs accounting for a growing majority of total revenue over the next few years. Our box products, sold under the Faroudja brand name, provide a powerful high-quality marketing umbrella which serves to shelter and promote a quality image for all our video processing products, including video processing ICs that may be developed and offered to the market. Because system products typically have lower margins than ICs we expect the change in future sales mix to have a beneficial impact on our gross margin. Even though system activities are not our primary focus, we intend to continue to offer products into the markets for the foreseeable future. Our system products provide us with a certain amount of brand name recognition, and a level of systems expertise that enables our major customers to develop and customize their product offerings.

Sage recognizes revenue at the time we ship products to our customers who generally have a short lead-time and maintain relatively limited inventory. In the case of systems products sold through distributors who may have limited return rights, we do not recognize revenue until we have received evidence that they have sold the inventory to their end customer.

Since November 1996, Sage has introduced a succession of new display processor ICs, starting with the Cheetah family and now featuring the Jaguar family. The architecture of these ICs has progressed

from a .6 micron, through .5 and .35 micron to .25 micron and we are currently planning our first .18-micron products. Our IC product development road map is driven by (i) introduction of latest design processes to reduce cost and improve performance; (ii) increasing levels of feature integration such as integrated analog to digital conversion and digital receiver so as to lower total system cost to our customer while increasing our average selling price; (iii) addition of incremental features such as AutoSet which simplifies end user calibration, Active Color Management which allows a manufacturer to ensure consistent color appearance on panels sourced from different vendors, and Picture in Picture (PiP) Auto detect to locate and optimize the color and brightness of video window and background screen, and (iv) customization of our various technology and IP cores to produce a wider range of ICs with optimized price and performance levels for different market segments. Whereas at the beginning of fiscal year 1999 we offered only one IC, the Cheetah 2, we now offer a series of fourteen different ICs or variants, targeted at analog or digital interface monitors, low or high resolution screens, and monitors (PC) or consumer products (televisions, DVDs and projectors).

Currently, we purchase packaged, assembled and tested semiconductor products. However, we are assuming greater responsibility over this process for our next generations of display processors by separately subcontracting for the production of wafers, the assembly of the completed semiconductor, and their testing. While this transition to a new manufacturing model will expose us to greater responsibilities for semiconductor yields and the coordination of the assembly and testing process, we believe that our gross margins should improve and that the transition should result in our having greater control over the manufacturing process.

In November 1999, Sage completed an initial public offering of 3,450,000 shares of Common Stock at an initial offering price of \$12.00 per share, raising \$37.2 million, net of underwriting commission and related expenses.

On February 18, 2000, Sage and Faroudja agreed to merge in a transaction that was accounted for as a purchase. Faroudja is a developer and provider of home theater systems that incorporate their proprietary decoding, de-interlacing and video enhancement technologies. The total purchase price of \$154.7 million included the issuance of Sage Common Stock valued at \$133.9 million, the assumption of Faroudja stock options and warrants valued at \$16.8 million, and direct transaction costs of approximately \$4.0 million. On June 7, 2000, shareholders of Sage and Faroudja approved the Merger Agreement between the companies, under which shareholders of Faroudja received 0.285 shares of Sage Common Stock for every share held. As a result of the products and technology acquired in this transaction, we have significantly strengthened our position in the consumer display market with system level products targeted at the home theater and broadcast markets, and have already developed the first of a new range of IC products to serve the growing television, DVD and internet appliance markets.

## Results of Operations

The following table set forth for the periods indicated the percentage of net revenues represented by certain items in our Statements of Operations.

	Year Ended March 31,		
	2001	2000	1999
Consolidated Statement of Operations Data:			
Revenues:			
ICs .....	51.1%	55.8%	48.2%
Systems .....	48.9	44.2	51.8
Total revenues .....	100.0	100.0	100.0
Cost of revenues:			
ICs .....	26.2	24.7	20.2
Systems .....	25.0	31.4	48.7
Amortization of intangible assets .....	2.6	—	—
Total cost of revenues .....	53.8	56.1	68.9
Gross margin (loss) .....	46.2	43.9	31.1
Operating expenses:			
Research and development .....	25.9	23.0	31.8
Charge for in-process technology .....	22.9	14.0	—
Selling, general and administration .....	38.7	34.2	45.1
Amortization and impairment of intangible assets .....	352.8	—	—
Stock compensation expense related to options .....	0.8	3.6	22.4
Total operating expenses .....	441.1	74.8	99.3
Loss from operations .....	(394.9)	(30.9)	(68.2)
Interest income (expense), net .....	9.3	5.2	1.6
Net loss .....	(385.6)%	(25.7)%	(66.6)%

## Results of Operations for the Year Ended March 31, 2001 and 2000

**Revenue.** Revenue increased 76% to \$31.4 million in fiscal year 2001 from \$17.9 million in fiscal year 2000, including \$8.9 million incremental revenue arising from the acquisition of Faroudja. The increase in net revenue is due partly to increases in new customers as well as the introduction of new products. In addition, the increase also reflects incremental revenues from our acquisition of Faroudja. In the quarter ended March 31, 2001, sales declined sequentially by 30% reflecting a slowdown in the US economy.

IC revenue increased 60% to \$16.0 million in fiscal year 2001 from \$10.0 million in fiscal year 2000. The increase in IC revenue is due to a 97% increases in units sold to new and existing customers offset by lower average selling prices (ASP). The decline in the ASP reflects an increasing proportion of mature products such as the Cheetah 4 and the Jaguar D IC. Sales of ICs, which incorporate combined Sage-Faroudja technology, accounted for \$0.6 million of IC revenue. Revenues from one customer, NEC accounted for 27% of total IC product sales and 14% of total sales.

System revenues increased 97% to \$15.4 million in fiscal year 2001 from \$7.9 million in fiscal year 2000. System revenues include revenues from box and board level products. The increase in system revenues represent the net of a moderate decrease in board level sales of approximately \$0.8 million offset by \$8.3 million incremental revenue generated from the box level products acquired with the

Faroudja acquisition. Revenues from one customer, the Morey Corporation accounted for 13% of total system product sales and 6% of total company sales.

Sage's future profitability and rate of growth, if any, will be directly affected by increased price competition, a maturing IC market and increasingly higher revenue base from which to grow. Our growth rate and revenue depend significantly on renewals of existing orders as well as expanding our customer base. If our renewal rate or our pace of new customers slows, our net revenues and operating results would be adversely affected. While DisplaySearch, the industry analyst, reports that the flat panel market grew from 4.2 million units to 6.6 million units in calendar year 2000, and is projected to grow further to 14.5 million units in calendar year 2001, any shortfall in this growth would adversely affect our sales potential.

International revenue accounted for approximately 57% and 77% of revenue for fiscal years 2001 and 2000, respectively. Currently our greatest concentration of international sales is to customers in Japan. In fiscal years 2001 and 2000, sales to Japan represented 28% and 50% of total revenue, respectively. The decrease in international revenue as a percentage of total revenue from fiscal years 2000 to 2001 was due to combination of the incremental box level product sales principally in the US and a slow down in overseas demand due to softening market conditions. Other risks inherent in international revenue include the impact of longer payment cycles, greater difficulty in accounts receivable collection, unexpected changes in regulatory requirements, tariffs and other trade barriers, uncertainties relative to regional economic circumstance, political instability in emerging markets and difficulties staffing and managing foreign operations.

*Cost of Revenue.* Cost of net revenue increased 70% to \$16.9 million in fiscal year 2001 from \$10.0 million in fiscal year 2000 including \$3.7 million of incremental cost of revenue from the Faroudja acquisition. The increase in cost of net revenues from fiscal years 2000 to 2001 was primarily due to the increase in sales volume.

Cost of IC revenue consists primarily of the cost of display processor ICs purchased from independent foundry suppliers. Cost of IC revenues increased 86% to \$8.2 million in fiscal year 2001 from \$4.4 million in fiscal year 2000. The increase in IC cost of revenue from fiscal years 2000 to 2001 was primarily due to a 97% increase in volume of IC shipments. As a percentage of IC revenue, cost of IC revenue was 51% in fiscal year 2001 and 44% in fiscal year 2000. The increase in cost of IC revenue from fiscal years 2000 to 2001 as a percentage of IC revenue is due to the erosion of ASPs for mature IC products and the increase in costs experienced during part of fiscal year 2001 when independent foundries increased prices to take advantage of limited capacity.

Cost of system revenue consists principally of the cost of assembly and test of box level products from purchased and prefabricated subassemblies, and the purchase price of board level products purchased from independent suppliers. The cost of system revenue increased 39% to \$7.8 million in 2001 from \$5.6 million in fiscal year 2000. The increase in system cost of revenue from fiscal years 2000 to 2001 was primarily due incremental system revenue arising from the acquisition of Faroudja in fiscal year 2001.

*Gross margin.* Our overall gross margin was 46.2% and 43.9% for fiscal years 2001 and 2000, respectively. The increase in gross margin of 2.3% for fiscal year 2001 was due principally to increases in volume shipments of higher margin product and the allocation of fixed overhead costs over a larger volume of products produced, offset by lower experienced ASPs of our mature products as described above and increases in the cost for our Cheetah 4 and Jaguar D ICs.

As the percent of IC sales increases in relation to system sales, and as the level of integration within our IC products rises, we expect an increase in our weighted average gross margin.



*Research and development.* Our research and development expenses consist primarily of compensation and personnel related expenses, engineering and design tools, and the costs for purchased materials, designs and tooling which can fluctuate significantly from period to period as a result of our product development cycles. Our research and development expenses were \$8.1 million and \$4.1 million for fiscal years 2001 and 2000, respectively. Research and development expenses represented 26% and 23% of revenues for fiscal years 2001 and 2000, respectively. The increase in spending on purchased materials, designs and tooling is attributable to the development of the new range of Jaguar and FLI IC products and the Native Rate Series of systems products introduced in the second half of fiscal year 2001. Sage anticipate that research and development expenses will continue to increase in absolute dollars, but may fluctuate as a percentage of net revenue as we increase product development efforts in connection with our next generation of semiconductors, and exploit the acquired Faroudja technology.

Sage believe that our ability to maintain our competitiveness and increase market share will depend in large part upon our ability to enhance existing products, develop and acquire new products and develop and integrate acquired products. The market for ICs is characterized by rapid technological change, and is highly competitive with respect to timely product introductions. The timing and amount of research and development expenses may vary significantly based upon the number of new products and significant upgrades under development and products acquired during a given period.

*Charge for in-process technology.* Sage's in-process technology charges were \$7.2 million and \$2.5 million for fiscal years 2001 and 2000, respectively. In June 2000, shareholders of Sage and Faroudja approved the Merger Agreement between the companies in a purchase transaction valued at \$154.7 million. We are incorporating Faroudja technologies into our proprietary display processing solutions to create video solutions for the mass television market by combining Faroudja's decoding, deinterlacing and image algorithms with our own image processing and IC design technology. The acquired in-process technology was valued at \$7.2 million, and we recorded an expense of this amount during 2001. Our successful development of the product is uncertain due to the challenges of integrating our technology with the Faroudja technology. If we fail to successfully develop the product on a timely basis, the introduction of new products could be prevented or delayed and ultimately decrease our ability to compete for new business. Such failure would negatively impact our future revenues and net income. The \$2.5 million charge for fiscal year 2000 represents in-process technology related to a joint development agreement between Sage and Faroudja entered into prior to the acquisition.

*Selling, general and administration.* Selling, general and administrative expenses include salaries, in-house commissions, commissions to independent sales distributors and representatives, travel, trade shows, advertising and other promotional expenses. Selling, general and administration expenses increased 98% to \$12.1 million in fiscal year 2001 from \$6.1 million in fiscal year 2000. The increase in selling, general and administration expenses was principally related to the incremental costs of Faroudja arising from the acquisition, the costs associated with the introduction of new products, including the Jaguar and the FLI family of ICs, and the cost of promoting and developing new customers. As a percentage of revenue, selling, general and administration expenses represented 39% and 34% of revenues for fiscal years 2001 and 2000, respectively. We anticipate that selling, general and administrative expenses will continue to increase in absolute dollars, but will decline as a percentage of net revenue.

*Amortization and impairment of intangible assets.* Intangible assets consist of goodwill, technology and other intangible assets acquired in the purchase of Faroudja. Sage amortized \$20.1 million of intangible assets in fiscal year 2001 of which \$0.8 million was charged to cost of goods sold and \$19.3 million was charged to operating expense.

During the fourth quarter ended March 31, 2001, management performed an impairment assessment of the identifiable intangible assets, including goodwill, recorded upon the acquisition for stock of Faroudja. The assessment was performed primarily due to two reasons. First, due to changed business conditions, including negative outlooks for rates of growth, Sage now expects significantly lower revenues and lower profitability from the acquired operations. Second, there has been a significant decline in Sage's stock price since measurement date of this acquisition and the recorded balance of goodwill and other intangible assets significantly exceeded Sage's market capitalization prior to the impairment charge.

As a result of this review, management recorded a \$91.5 million impairment charge to reduce goodwill. The charge was determined based upon estimated discounted cash flows using a discount rate of 15 percent. The assumptions supporting cash flows including the discount rate were determined using management's best estimates.

*Stock compensation.* Sage expensed approximately \$257,000 and \$641,000 in fiscal years 2001 and 2000, respectively. Stock compensation expenses relate to options granted below the perceived fair market value prior to Sage's initial public offering and represent the difference between the deemed fair market value of our common stock on the date of grant and the exercise price of stock options on the date of grant.

*Interest and other income and (expense), net.* Net interest and other income amounted to \$2.9 million for the year ended March 31, 2001 compared to \$922,000 for the year ended March 31, 2000. This significant increase results from the investment of the proceeds of the IPO in November 1999 and the incremental cash acquired from the Faroudja acquisition in June 2000 being deposited into interest bearing accounts.

*Provision for income taxes.* Sage incurred operating losses in fiscal years 2001 and 2000, and therefore made no provision for income tax in these fiscal years. As of March 31, 2001, Sage had approximately \$15 million in net operating losses, which are available to offset future taxable income and expire between 2011 and 2021.

## **Results of Operations for the Fiscal Years Ended March 31, 2000 and 1999**

*Revenue.* Revenue increased 152% to \$17.9 million in fiscal year 2000 from \$7.1 million in 1999. The increase in net revenue from 1999 to fiscal year 2000 is due to increases in new customer purchases as well as continued acceptance of our products and extension of our product range.

IC revenue increased 194% to \$10.0 million in fiscal year 2000 from \$3.4 million in 1999. The increase in IC revenue from fiscals 1999 to 2000 was due to the introduction of the Cheetah 4 IC and the start of commercial shipments to new customer.

System revenues increased 111% to \$7.9 million in fiscal year 2000 from \$3.7 million in 1999. System revenues represent revenues from board level products and other components. The increase in system revenue from fiscals 1999 to 2000 is due to increases in shipments to new OEM customers.

International revenue accounted for approximately 77% and 70% of revenue for fiscal years 2000 and 1999, respectively. Our greatest concentration of international sales in fiscal year 2000 were to customers in Japan. In fiscal year 2000, sales to Japan represented 50% of total revenue.

*Cost of Revenue.* Cost of net revenue increased 104% to \$10 million in fiscal year 2000 from \$4.9 million in 1999. The increase in cost of revenues from fiscal 1999 to 2000 was primarily due to the increase in net sales volume.

Cost of IC revenue consists primarily of the cost of display processor ICs purchased from independent suppliers. Cost of IC revenues increased 214% to \$4.4 million in fiscal year 2000 from

\$1.4 million in 1999. The increase in IC cost of revenue from fiscals 1999 to 2000 was primarily due to an increase in IC sales volume. As a percentage of IC revenue, cost of IC revenue was 44% in fiscal year 2000 and 42% in 1999. The increase in cost of IC revenue from fiscals 1999 to 2000 as a percentage of IC revenue is due to the erosion of ASPs for mature IC products.

Cost of system revenue consists principally of the purchase price of board products purchased from independent suppliers. Costs of system revenue increased 60% to \$5.6 million in fiscal year 2000 from \$3.5 million in 1999. The increase in system cost of revenue from 1999 to fiscal year 2000 was primarily due to the increase in system sales volume.

*Gross margin.* Our overall gross margin was 43.9% and 31.1% for fiscal years 2000 and 1999, respectively. This increase in gross margin fiscal year 2000 was due to favorable product mix variances in favor of higher margin ICs, and a higher sales volume over which to spread fixed costs.

*Research and development.* Our research and development expenses consist primarily of compensation and personnel related expenses, engineering and design tools, and the costs for purchased materials, designs and tooling which can fluctuate significantly from period to period as a result of our product development cycles. Our research and development expenses increased 78% to \$4.1 million in fiscal year 2000 from \$2.3 million in fiscal year 1999. The increase in spending on purchased materials, designs and tooling was for the development of the Cheetah 4 and Jaguar family of IC products. Research and development expenses represented 23% and 32% of revenues for fiscal years 2000 and 1999, respectively.

*Charge for in-process technology.* Our in-process technology charges were \$2.5 million for fiscal year 2000. The \$2.5 million charge for fiscal year 2000 represents in-process technology related to a joint development agreement between Sage and Faroudja for a limited exclusive license of certain Faroudja decoding, deinterlacing and image enhancement technologies that were to be used in products that were under development.

*Selling, general and administration.* Selling, general and administrative expenses include salaries, in-house commissions, commissions to independent sales distributors and representatives, travel, trade shows, advertising and other promotional expenses. Selling, general and administration expenses increased 91% to \$6.1 million in fiscal year 2000 from \$3.2 million in 1999. The increase in selling, general and administration expenses was principally related to the costs associated with transitioning from a privately held company to a publicly held company, and the introduction of the Cheetah 3 and Cheetah 4 display processors. Selling, general and administration expenses represented 34% and 45% of revenues in 2000 and 1999, respectively.

*Stock compensation.* Sage expensed approximately \$600,000 and \$1.6 million in fiscal years 2000 and 1999, respectively. Stock compensation expenses relate to options granted below the perceived fair market value prior to Sage's initial public offering and represents the difference between the deemed fair market value of our common stock on the date of grant and the exercise price of stock options on the date of grant.

*Interest and other income and (expense), net.* Net interest and other income amounted to \$922,000 and \$111,000 in fiscal years 2000 and 1999, respectively. The increase was the result of the investment of the proceeds of the IPO in November 1999 into interest bearing accounts.

*Provision for income taxes.* Sage incurred operating losses in fiscal years 2000 and 1999, and therefore made no provision for income tax in these fiscal years. As of March 31, 2000, Sage had approximately \$6.1 million in net operating losses, which are available to offset future taxable income expiring between 2010 and 2020.

## **Liquidity and Capital Resources**

Since inception, we have satisfied our liquidity requirements principally through the issuance and sale of private equity securities, totaling approximately \$17.7 million, and an initial public offering in November 1999, which raised approximately \$37.2 million, net of fees and expenses. We also acquired \$18.7 incremental cash as a result of our acquisition of Faroudja in June 2000. During the twelve months ended March 31, 2001, we used \$11.3 million, for operating activities, primarily due to operating losses and increased working capital requirements relating to sales increases and merger activities. We used \$5.8 million of cash on investments in short-term marketable securities, capital investments for engineering tools, and deposits and extended leasehold improvements associated with our new facility in Milpitas.

As a result of the growth of IC sales volume in the twelve months ended March 31, 2001 and the increasing number of IC inventory lines, the incremental inventory acquired with the Faroudja business, and the impact of a slow down in the US economy in the March quarter of 2001, we experienced an increase in inventory from \$1.1 million at March 31, 2000 to \$6.9 million at March 31, 2001. We expect a continuing increase in inventory as a result of our ownership of wafer and assembly work-in-process arising from the change in our IC purchasing process, and the growing number of products offered in our IC range.

As of March 31, 2001, we had \$22.3 million in cash and cash equivalents and \$19.0 in short-term marketable securities. In addition, we had a \$5.0 million credit facility under which no borrowings had been made. We believe that our existing cash resources and credit facility will be sufficient to meet our capital requirements through the next twelve months. We may need to raise additional equity or debt financing in the future, although we are not currently negotiating for additional financing nor do we have any plans to obtain additional financing. Our future capital requirements will depend on many factors, including the rate of revenue growth, profitability, timing and extent of spending to support research and development programs, facilities expansion of about \$750,000 in India, expansion of selling and marketing and administrative activities, timing or introductions of new products and product enhancements and market acceptance of our products. Further, we cannot assure you that additional equity or debt financing, if required, will be available on acceptable terms, or at all. If we are unable to obtain additional capital, we may be required to reduce the scope of our planned product development, selling and marketing activities, which could harm our business, financial condition and results of operations. In the event that we do raise additional equity financing, existing investors could be further diluted.

From time to time, we may evaluate acquisitions of businesses, products or technologies that complement our business. Although we have no current plans in this regard, any transactions, if consummated, may consume a portion of our working capital or require the issuance of equity securities that may result in further dilution to existing stockholders.

## **Item 7a. Quantitative and Qualitative Disclosure about Market Risk**

### **Investment Risk**

Sage's cash equivalents and short-term investments are exposed to financial market risk due to fluctuation in interest rates, which may affect our interest income and the fair market value of our investments. We manage the exposure to financial market risk by performing ongoing evaluations of our investment portfolio and presently invest in certificates of deposit issued by banks and investment-grade government and corporate debt and equity securities. These securities are highly liquid and generally mature within 12 months from our purchase date. Due to the short maturities of our investments, the carrying value should approximate the fair value. In addition, we do not use our investments for trading or other speculative purposes. We have performed an analysis to assess the potential effect of reasonably possible near-term changes in interest rates. The effect of any change in

foreign currency exchange rates is not expected to be material to our results of operations, cash flows or financial condition. Due to the short duration of our investment portfolio, an immediate 10% change in interest rates would not have a material effect on the fair market value of our portfolio. Therefore, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of such a change.

#### **Foreign Currency Exchange Risk**

Sage is an international company, selling products globally and, in particular, in Japan, Taiwan and Korea. Although we transact our business in U.S. dollars, we cannot assure you that future fluctuations in the value of the U.S. dollar would not affect the competitiveness of our products, gross profits realized, and results of operations. Further, we incur expenses in India, Japan, Taiwan and other countries that are denominated in currencies other than U.S. dollars. We cannot estimate the effect that an immediate 10% change in foreign currency exchange rates would have on our future operating results or cash flows as a direct result of changes in exchange rates. However, we do not believe that we currently have any significant direct foreign currency exchange rate risk and have not hedged exposures denominated in foreign currencies or any other derivative financial instruments.

#### **Inflation**

The impact of inflation on Sage's business has not been material for the fiscal years ended March 31, 2001, 2000 and 1999.

Quantitative and qualitative disclosure about market risks is set forth under Item 7, "Managements' Discussion and Analysis of Financial Condition and Results of Operations."

#### **Item 8. Financial Statements and Supplementary Data**

Our financial statements and supplementary data required by this item are set forth in the pages indicated at Item 14(a). The quarterly operating result have been included at Item 6, "Selected Financial Data."

#### **Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure**

Not applicable.

### **PART III**

#### **Item 10. Directors And Executive Officers Of The Registrant**

The information regarding Directors appearing under the caption “Election of Directors” in Sage’s Definitive Proxy Statement to be issued in connection with the Annual Meeting of Stockholders to be held in August 2001 (the “2001 Proxy Statement”) is incorporated herein by reference, since such Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the end of Sage’s fiscal year pursuant to Regulation 14A. Information required by this item as to the executive officers of Sage is included, as Item 4A of Part I of this Annual Report on Form 10-K as permitted by Instruction 3 to Item 401(b) of Regulation S-K. Information required by Item 405 of Regulation S-K is set forth in the 2001 Proxy Statement under the heading “Section 16(a) Beneficial Ownership Reporting Compliance,” which information is incorporated herein by reference.

#### **Item 11. Executive Compensation**

The information required by this item is incorporated herein by reference to “Executive Compensation” in the 2001 Proxy Statement, since such Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the end of Sage’s fiscal year pursuant to Regulation 14A.

#### **Item 12. Security Ownership Of Certain Beneficial Owners And Management**

The information required by this item is incorporated herein by reference to “Stock Ownership of Principal Holders and Management” in the 2001 Proxy Statement, since such Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the end of Sage’s fiscal year pursuant to Regulation 14A.

#### **Item 13. Certain Relationships And Related Transactions**

To the extent applicable the information required by this item is incorporated herein by reference to “Compensation Committee Interlocks and Insider Participation” and “Certain Transactions” in the 2001 Proxy Statement, since such Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the end of Sage’s fiscal year pursuant to Regulation 14A.



## PART IV

### Item 14. Exhibits, Financial Statement Schedules and Form 8-K Reports

#### (a)(1) Financial Statements:

	<u>Page Number</u>
Report of Independent Accountants . . . . .	42
Consolidated Balance Sheets, March 31, 2001 and 2000 . . . . .	43
Consolidated Statements of Operations for Years Ended March 31, 2001, 2000 and 1999 . . . . .	44
Consolidated Statements of Stockholders' Equity for Years Ended March 31, 2001, 2000 and 1999 . . . . .	45
Consolidated Statements of Cash Flows for Years Ended March 31, 2001, 2000 and 1999 . . . . .	46
Notes to Consolidated Financial Statements . . . . .	47

#### (a)(2) Financial Statement Schedules:

Schedules have been omitted because they are not applicable or are not required or because the required information is included in the Consolidated Financial Statements or Notes thereto.

#### (a)(3) Exhibits:

See Index to Exhibits on page 55. The exhibits listed on the accompanying Index of Exhibits are filed or incorporated by reference as part of this report.

#### (b) Reports on Form 8-K:

None

## **Report of Independent Accountants**

To the Board of Directors and Stockholders of Sage, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of stockholders' equity and of cash flows present fairly, in all material respects, the financial position of Sage, Inc. and its subsidiaries at March 31, 2001 and 2000, and the results of their operations and their cash flows for each of the three years in the period ended March 31, 2001, in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of Sage's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States of America which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

PricewaterhouseCoopers LLP  
San Jose, California  
April 26, 2001

**SAGE, INC.**  
**CONSOLIDATED BALANCE SHEETS**  
(in thousands)

	March 31,	
	2001	2000
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents . . . . .	\$ 22,344	\$20,157
Short-term marketable securities . . . . .	19,040	18,779
Accounts receivable, net . . . . .	6,479	3,398
Inventories . . . . .	6,861	1,132
Prepaid expenses and other assets . . . . .	1,220	765
Total current assets . . . . .	55,944	44,231
Property and equipment, net of accumulated depreciation . . . . .	4,440	1,180
Lease deposits . . . . .	1,906	—
Goodwill and other intangible assets, net . . . . .	10,280	—
Total assets . . . . .	<u>\$ 72,570</u>	<u>\$45,411</u>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable . . . . .	\$ 3,312	\$ 1,755
Accrued expenses and other liabilities . . . . .	3,299	2,379
Total current liabilities . . . . .	6,611	4,134
Stockholders' equity:		
Common stock, \$0.01 par value; 50,000,000 shares authorized; 13,925,000 and 10,467,000 shares issued and outstanding . . . . .	139	105
Additional paid-in capital . . . . .	200,844	54,889
Notes receivable from stockholders . . . . .	(558)	(75)
Deferred stock compensation related to stock options and restricted stock . . . .	(115)	(372)
Accumulated deficit . . . . .	(134,351)	(13,270)
Total stockholders' equity . . . . .	65,959	41,277
Total liabilities and stockholders' equity . . . . .	<u>\$ 72,570</u>	<u>\$45,411</u>

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

**SAGE, INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(in thousands, except per share data)

	Year Ended March 31,		
	2001	2000	1999
Revenues:			
ICs . . . . .	\$ 16,039	\$ 9,978	\$ 3,436
Systems . . . . .	15,360	7,903	3,696
Total revenues . . . . .	31,399	17,881	7,132
Cost of revenues:			
ICs . . . . .	8,224	4,425	1,440
Systems . . . . .	7,861	5,601	3,474
Amortization of intangible assets . . . . .	813	—	—
Total cost of revenues . . . . .	16,898	10,026	4,914
Gross profit . . . . .	14,501	7,855	2,218
Operating expenses:			
Research and development excluding stock compensation of \$103, \$256 and \$638 . . . . .	8,136	4,107	2,270
Charge for in-process technology . . . . .	7,200	2,500	—
Selling, general and administration, excluding stock compensation of \$154, \$385 and \$958 . . . . .	12,148	6,124	3,214
Amortization and impairment of intangible assets . . . . .	110,773	—	—
Stock compensation . . . . .	257	641	1,596
Total operating expenses . . . . .	138,514	13,372	7,080
Loss from operations . . . . .	(124,013)	(5,517)	(4,862)
Interest income, net . . . . .	2,932	922	111
Net loss . . . . .	<u>\$(121,081)</u>	<u>\$(4,595)</u>	<u>\$(4,751)</u>
Net loss per share:			
Basic and diluted . . . . .	<u>\$ (9.48)</u>	<u>\$ (1.04)</u>	<u>\$ (2.00)</u>
Shares used in computing net loss per share:			
Basic and diluted . . . . .	<u>12,776</u>	<u>4,414</u>	<u>2,381</u>

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

**SAGE, INC.**  
**CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY**  
(in thousands)

	Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Notes Receivable from Stockholders	Deferred Compensation Related to Stock Options	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount					
<b>Balance at March 31, 1998</b> . . . . .	1,029	11	2,602	26	2,915	—	—	(3,924)	(972)
Issuance of common stock upon exercise of stock options . . . . .	—	—	571	6	323	(113)	—	—	216
Issuance of common stock for consulting services, net . . . . .	—	—	3	—	8	—	—	—	8
Issuance of preferred stock . . . . .	1,535	15	—	—	5,791	—	—	—	5,806
Deferred compensation related to restrictions placed in common stock . . . . .	—	—	—	—	393	—	(393)	—	—
Deferred compensation related to stock option grants . . . . .	—	—	—	—	2,216	—	(2,216)	—	—
Amortization of deferred compensation related to stock options and restricted stock . . . . .	—	—	—	—	—	—	1,596	—	1,596
Net loss . . . . .	—	—	—	—	—	—	—	(4,751)	(4,751)
<b>Balance at March 31, 1999</b> . . . . .	2,564	26	3,176	32	11,646	(113)	(1,013)	(8,675)	1,903
Exercise of preferred stock warrants . . . . .	6	—	—	—	35	—	—	—	35
Issuance of preferred stock, net of issuance cost of \$52 . . . . .	493	5	—	—	2,897	—	—	—	2,902
Issuance of preferred stock warrants . . . . .	—	—	—	—	4	—	—	—	4
Issuance of common stock upon exercise of stock options . . . . .	—	—	161	1	100	—	—	—	101
Issuance of common stock in connection with license agreement . . . . .	—	—	375	4	2,996	—	—	—	3,000
Issuance of common stock in connection with Initial Public Offering, net of issuance cost of \$4,152 . . . . .	—	—	3,450	35	37,213	—	—	—	37,248
Conversion of Preferred stock to common stock in connection with Initial Public Offering . . . . .	(3,063)	(31)	3,183	32	(1)	—	—	—	—
Conversion of warrants to common stock in connection with Initial Public Offering . . . . .	—	—	123	1	(1)	—	—	—	—
Repayment of notes receivable . . . . .	—	—	—	—	—	38	—	—	38
Amortization of deferred compensation related to stock options and restricted stock . . . . .	—	—	—	—	—	—	641	—	641
Net loss . . . . .	—	—	—	—	—	—	—	(4,595)	(4,595)
<b>Balance at March 31, 2000</b> . . . . .	—	—	10,468	105	54,889	(75)	(372)	(13,270)	41,277
Issuance of common stock upon exercise of stock options . . . . .	—	—	276	3	1,107	—	—	—	1,110
Issuance of common stock in connection with acquisition of Faroudja . . . . .	—	—	3,181	31	144,848	—	—	—	144,879
Issuance of promissory note to shareholder . . . . .	—	—	—	—	—	(500)	—	—	(500)
Repayment of shareholder receivable . . . . .	—	—	—	—	—	17	—	—	17
Amortization of deferred stock based compensation . . . . .	—	—	—	—	—	—	257	—	257
Net loss . . . . .	—	—	—	—	—	—	—	(121,081)	(121,081)
<b>Balance at March 31, 2001</b> . . . . .	—	—	13,925	\$ 139	\$200,844	\$(558)	\$ (115)	\$(134,351)	\$ 65,959

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

**SAGE, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(in thousands)

	Year Ended March 31,		
	2001	2000	1999
Cash flows from operating activities:			
Net loss	\$(121,081)	\$ (4,595)	\$(4,751)
Adjustments to reconcile net loss to net cash used in operating activities:			
Charge for in-process technology	7,200	2,500	—
Depreciation and amortization, except intangible assets	1,194	439	250
Amortization of intangible assets	20,123	—	—
Impairment of intangible assets	91,463	—	—
Stock compensation	257	641	1,596
Warrant expense	—	4	4
Changes in assets and liabilities:			
Accounts receivable	(1,360)	(2,594)	(574)
Inventories	(4,100)	(720)	(344)
Prepaid expenses and other assets	(266)	(593)	17
Accounts payable	1,053	1,117	314
Accrued expenses and other liabilities	(5,819)	627	303
Net cash used in operating activities	<u>(11,336)</u>	<u>(3,174)</u>	<u>(3,185)</u>
Cash flows from investing activities:			
Purchase of marketable securities, net	(261)	(18,779)	—
Acquisition of property and equipment	(3,600)	(1,187)	(214)
Payment of lease deposits	(1,906)	—	—
Net cash acquired with Faroudja	<u>18,663</u>	<u>—</u>	<u>—</u>
Net cash provided by (used in) investing activities	<u>12,896</u>	<u>(19,966)</u>	<u>(214)</u>
Cash flows from financing activities:			
Shareholder receivables	(483)	38	—
Proceeds from issuance (repayments) of notes payable	—	—	(190)
Net proceeds from issuance of common stock upon exercise of stock options	1,110	101	224
Net proceeds from issuance of common stock in connection with license agreement	—	500	—
Net proceeds from issuance of common stock in connection of Initial Public Offering	—	37,248	—
Net proceeds from issuance of preferred stock	<u>—</u>	<u>2,937</u>	<u>5,458</u>
Net cash provided by financing activities	<u>627</u>	<u>40,824</u>	<u>5,492</u>
Net increase in cash and cash equivalents	2,187	17,684	2,093
Cash and cash equivalents at beginning of year	<u>20,157</u>	<u>2,473</u>	<u>380</u>
Cash and cash equivalents at end of year	<u>\$ 22,344</u>	<u>\$ 20,157</u>	<u>\$ 2,473</u>
Noncash investing and financing activities:			
Issuance of convertible preferred stock in lieu of debt repayments	\$ —	\$ —	\$ 318
Issuance of common and preferred stock in exchange for notes receivable	\$ —	\$ —	\$ 113
Issuance of common stock in connection with acquisition of Faroudja	<u>\$ 144,879</u>	<u>\$ —</u>	<u>\$ —</u>
Current assets, excluding cash acquired in connection with acquisition of Faroudja	\$ 3,519	\$ —	\$ —
Current liabilities acquired in connection with acquisition of Faroudja	<u>\$ 3,245</u>	<u>\$ —</u>	<u>\$ —</u>

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



**SAGE, INC.**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Note 1—Organization and business**

Sage, Inc., a Delaware corporation, and its wholly owned subsidiaries, Sage Design Systems (India) Pvt., Ltd. and Faroudja, Inc., provide digital display and video processors, enabling superior picture quality for a variety of consumer technology and PC-display products ranging from web appliances to TVs and flat panel monitors. Leveraging Faroudja technology from its acquisition of Faroudja Inc. in June 2000, Sage is developing products that bring the home theater experience to the mass consumer and PC-display market through digitally enhanced television, projection displays, DVD players and internet appliances. Sage believes that its systems-on-a-chip technology provides highly integrated mixed signal and system functionality with higher picture quality than lower-quality processors at a similar component cost.

**Note 2—Summary of significant accounting policies:**

**Basis of presentation**

The accompanying consolidated financial statements include the accounts of Sage and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated. Certain reclassifications have been made to prior year's financial statements to conform to the current year's presentation. These reclassifications had no effect on the prior years' stockholders' equity or results of operations.

**Use of estimates**

The preparation of the financial statements in conformity with generally accepted accounting principles in the United States of America requires management to make estimates and assumptions that affect the reported amounts. Significant estimates include those required in the valuation of intangible assets acquired in purchase combinations including amounts accounted for as in-process research and development, allowance for doubtful accounts, sales returns and allowances, and valuation allowances for deferred tax assets. Actual results could differ from those estimates.

**Foreign exchange**

The functional currency of Sage is the U.S. dollar and the functional currency of its overseas subsidiary is the Indian rupee. Transactions in currencies other than the functional currency are measured and recorded in the functional currency using the exchange rate in effect at the date of the transaction. All gains and losses arising from foreign currency transactions are included in the determination of net income in the year in which they occur. Such gains and losses were not material for the years ended March 31, 2001, 2000 and 1999.

The financial statements of our overseas subsidiary are translated into U.S. dollars for consolidation as follows: assets and liabilities at the exchange rate as of the balance sheet date, shareholders' equity at the historical rates of exchange, and income and expense amounts at the relevant average monthly exchange rates during the year. Translation differences are reported net of taxes as a component of accumulated other comprehensive income (loss) in the financial statements. Translation differences were not material for the fiscal years ended March 31, 2001, 2000 and 1999.

**Cash and cash equivalents**

Sage considers all highly liquid debt instruments with maturities or remaining maturities of three months or less at the date of purchase to be cash equivalents.

**Marketable securities**

All marketable securities are classified as available-for-sale securities. Available-for-sale securities are carried at fair value in accordance with Statement of Financial Accounting Standards No. 115 (SFAS 115). Short-term marketable securities are those with maturities greater than 90 days but less than one year. Long-term marketable securities have original maturities greater than one year. Realized gains and losses on sales of all such investments are reported in earnings and computed using the specific identification cost method. Unrealized gains and losses on marketable securities are reported net of related taxes as a component of accumulated other comprehensive income (loss). Unrealized gains (losses) were not material for the fiscal years ended March 31, 2001, 2000 and 1999.

**Inventories**

Inventories are stated at the lower of cost, determined on first-in, first-out (referred to as FIFO) basis, or market value and include material and related manufacturing overhead.

**Property and equipment**

Property and equipment are presented at cost less accumulated depreciation and amortization. Depreciation and amortization of property and equipment is computed using the straight-line method over the estimated useful lives of the related assets (3 years). Leasehold improvements are amortized on a straight-line basis over the life of the lease or the estimated useful life of the asset, whichever is shorter. Repairs and maintenance expenditures, which are not considered improvements and do not extend the useful life of fixed assets, are expensed as incurred. The cost and related accumulated depreciation applicable to fixed assets sold or no longer in service are eliminated from the accounts and any gain or loss is included in operations.

**Intangible Assets**

Intangible assets include goodwill, purchased technology and other intangible assets, are carried at cost less accumulated amortization. Sage amortizes goodwill and other identifiable intangibles on a straight-line basis over their estimated useful lives. The range of estimated useful lives on our identifiable intangibles is three to seven years.

Sage assesses the impairment of identifiable intangibles and related goodwill in accordance with the provisions of Statement of Financial Accounting Standards No. 121 (SFAS 121), "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed of." Sage also assesses the impairment of enterprise level goodwill in accordance with the provision of Accounting Principles Board Opinion No. 17 (APB 17), Intangible Assets. An impairment review is performed whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors Sage considers important which could trigger an impairment review include, but are not limited to, significant under performance relative to expected historical or projected future operating results, significant changes in the manner of use of the acquired assets or the strategy for our overall business, significant negative industry or economic trends, a significant decline in our stock price for a sustained period, and our market capitalization relative to net book value. When Sage determines that the carrying value of goodwill may not be recoverable based upon the existence of one or more of the above indicators of impairment, Sage measures any impairment based on a projected discounted cash flow method using a discount rate commensurate with the risk inherent in our current business model.

**Fair value of financial instruments**

For certain of Sage's financial instruments, including cash and cash equivalents, marketable securities, accounts receivable, accounts payable and accrued expenses, the carrying amounts approximate fair value due to their short maturities.

**Revenue recognition**

Sage's revenue is derived from two primary sources (i) IC revenue, which includes display and image semi-conductive integrated circuits and firmware and (ii) systems revenue, which includes box level and printed circuit board level products using our display and image ICs and firmware.

Except for shipments to distributors with limited rights of return, all revenue is recognized when persuasive evidence of an arrangement exists (generally a purchase order or a license agreement), product has been delivered, the fee is fixed and determinable, and collection of the resulting account receivable is probable. Revenue from shipments to distributors with limited right of return is deferred until the distributor resells the inventories to end customers.

**Research and development**

Research and development expenditures are charged to operations as incurred.

**Stock-based compensation**

Sage accounts for stock-based compensation arrangements in accordance with the provisions of Accounting Principles Board's Opinion No. 25 (APB 25), "Accounting for Stock Issued to Employees" and complies with the disclosure provisions of Statement of Financial Accounting Standard No. 123 (SFAS 123), "Accounting for Stock-Based Compensation." Under APB 25 and subject to certain

conditions, deferred compensation is recognized based on the excess, if any, of the estimated fair market value of Sage's stock on the date of grant and the amount an employee must pay to acquire the stock. Deferred compensation is amortized over the vesting period on an accelerated basis using the model presented in paragraph 24 of FASB Interpretation No. 28. Accordingly, the percentages of the deferred compensation amortized in the first, second, third and fourth years following the option grant date are 52%, 27%, 15% and 6%, respectively.

#### **Income taxes**

Sage accounts for income taxes under the asset and liability approach whereby the expected future tax consequences of temporary differences between the book and tax basis of assets and liabilities are recognized as deferred tax assets and liabilities. A valuation allowance is established for any deferred tax assets for which realization is uncertain.

#### **Comprehensive income**

In the fiscal year ended March 31, 1999, Sage adopted Statement of Financial Accounting Standard No. 130 (SFAS 130), "Reporting Comprehensive Income." Comprehensive income is defined as the change in equity of a company during a period from transactions and other events and circumstances excluding transactions resulting from investment by owners and distribution to owners. For the years ended March 31, 2001, 2000 and 1999, the comprehensive loss did not differ significantly from the net loss.

#### **Basic and diluted net loss per share**

Basic net loss per share is computed in accordance with Statement of Financial Accounting Standard No. 128 (SFAS 128), "Earnings Per Share," by dividing net income available to common stockholders by the weighted average number of shares of common stock outstanding during the period. Diluted net loss per share is calculated using the weighted average number of outstanding shares of common stock plus dilutive common stock equivalents. Shares of common stock that are subject to Sage's right to repurchase are excluded from the basic and diluted net loss per share computations. Options and warrants to purchase shares, and convertible preferred stock outstanding were not included in the computation of diluted net loss per share, as their effect was anti-dilutive for the periods presented. Therefore, both the basic and diluted net loss per share computations resulted in the same number and there were no reconciling items.

#### **Recent Accounting pronouncements:**

In June 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133 (SFAS 133) "Accounting for Derivative Instruments and Hedging Activities." SFAS 133 establishes accounting and reporting standards for derivative instruments and for hedging activities and is effective for all fiscal years beginning after June 15, 2000. Sage has determined that due to its limited use of derivative instruments, the adoption of SFAS 133 does not have a significant effect on Sage's results of operations or its financial position.

In December 1999, the Securities and Exchange Commission issued Staff Accounting Bulletin No. 101 (SAB 101), "Revenue Recognition in Financial Statements." SAB 101 provides guidance for revenue recognition under certain circumstances. The adoption of SAB 101 did not have a material impact on Sage's results of operations or its financial position.

In March 2000, the Financial Accounting Standards Board issued FASB Interpretation No. 44, "Accounting for Certain Transactions Involving Stock Compensation, an interpretation of APB Opinion No. 25. The Interpretation is intended to clarify certain problems that have arisen in practice since the issuance of APB 25. The adoption of FASB Interpretation No. 44 did not have a material impact on Sage's results of operations or its financial position.

#### **Note 3—Mergers and Acquisitions (in thousands):**

On February 18, 2000 Sage and Faroudja, Inc. agreed to merge in a transaction to be accounted for as a purchase. The total purchase price of \$154.7 million included the issuance of Sage Common Stock valued at \$133.9 million, the assumption of Faroudja stock options and warrants valued at \$16.8 million and estimated direct transaction costs of \$4.0 million. On June 7, 2000, shareholders of

Sage and Faroudja approved the Merger Agreement between the companies, under which shareholders of Faroudja received 0.285 shares of Sage Common Stock for every share held.

Based in part on the results of our independent appraisal, the allocation of the purchase price to the assets acquired was as follows (in thousands):

	<u>Amount</u>	<u>Annual Amortization</u>	<u>Useful Life</u>
Purchase price allocation:			
Purchase price . . . . .	\$154,718	\$24,745	N/A
Less: tangible assets acquired, net . . . . .	<u>25,652</u>	<u>N/A</u>	<u>N/A</u>
Total intangible assets acquired . . . . .	129,066	24,745	N/A
Less: in-process technology . . . . .	<u>7,200</u>	<u>N/A</u>	<u>N/A</u>
Allocable intangible assets acquired . . . . .	<u>\$121,866</u>	<u>\$24,745</u>	<u>N/A</u>
Allocation of acquired intangible assets:			
Developed technology . . . . .	\$ 5,000	\$ 1,000	5 years
Trademark and trade name . . . . .	2,500	500	5 years
Assembled workforce . . . . .	940	188	5 years
Customer list . . . . .	2,800	933	3 years
Goodwill . . . . .	<u>110,626</u>	<u>22,124</u>	<u>5 years</u>
Total allocated acquired intangible assets . . . . .	<u>\$121,866</u>	<u>\$24,745</u>	

The table below reflects the unaudited pro-forma combined results of Sage and Faroudja, as if the merger had taken place at the beginning of fiscal years ended March 31, 2001, 2000 and 1999. The pro-forma information includes certain adjustments including the elimination of intercompany transactions, and non-cash charges for amortization and impairment of intangibles amounting to \$123.7 million, \$23.0 million and \$16.9 million for the fiscal years ended March 31, 2001, 2000 and 1999, respectively. The pro-forma information excludes the charges for in-process technology of \$7.2 million and \$2.5 million for fiscal years 2001 and 2000, respectively, as these are one time charges. The pro-forma information does not necessarily reflect the actual results that would have occurred nor is it necessarily indicative of future results of operations of the combined companies.

	<u>Years ended March 31,</u>		
	<u>2001</u>	<u>2000</u>	<u>1999</u>
Net sales . . . . .	\$ 33,066	\$31,841	\$18,478
Net loss . . . . .	(114,808)	(25,324)	(33,166)
Net loss per share:			
Basic and diluted . . . . .	\$ (8.54)	\$ (2.40)	\$ (4.12)
Weighted average shares outstanding:			
Basic and diluted . . . . .	13,441	10,563	8,057

During the fourth quarter ended March 31, 2001, management performed an impairment assessment of the identifiable intangible assets, including goodwill, recorded upon the acquisition for stock of Faroudja. The assessment was performed primarily due to two reasons. First, due to changed business conditions, including negative outlooks for rates of growth, Sage now expects significantly lower revenues and lower profitability from the acquired operations. Second, there has been a significant decline in Sage's stock price since measurement date of the acquisition and the recorded balance of goodwill and other intangible assets significantly exceeded Sage's market capitalization prior to the impairment charge.

As a result of this review, management recorded a \$91.5 million impairment charge to reduce goodwill. The charge was determined based upon estimated discounted cash flows using a discount rate of 15 percent. The assumptions supporting cash flows including the discount rate were determined using management's best estimates.

**Note 4—Marketable Securities (in thousands):**

Marketable securities at March 31, 2001 and 2000 represent available-for-sale-securities recorded at amortized cost, which approximate fair value. Marketable securities are summarized as follows (in thousands):

	<b>Years Ended March 31,</b>	
	<b>2001</b>	<b>2000</b>
U.S. government debt securities . . . . .	\$ 5,172	\$ 973
Municipal debt securities . . . . .	2,700	—
Corporate debt securities . . . . .	8,700	11,270
Equity securities . . . . .	2,468	6,536
Total available-for-sale-securities . . . . .	<u>\$19,040</u>	<u>\$18,779</u>

At March 31, 2001 and 2000, all marketable debt securities had scheduled maturities of less than twelve months. Marketable debt securities having maturities of less than three months are classified as cash equivalents.

**Note 5—Balance Sheet Detail (in thousands):**

	<b>March 31,</b>	
	<b>2001</b>	<b>2000</b>
Accounts receivable:		
Accounts receivable . . . . .	\$7,279	\$3,490
Less: allowance for doubtful accounts . . . . .	(800)	(92)
Total . . . . .	<u>\$6,479</u>	<u>\$3,398</u>
	<b>March 31,</b>	
	<b>2001</b>	<b>2000</b>
Inventories:		
Finished goods . . . . .	\$6,301	\$1,768
Work in process . . . . .	1,569	58
Raw materials . . . . .	1,400	306
Subtotal . . . . .	9,270	2,132
Less: inventory reserve . . . . .	(2,409)	(1,000)
Total . . . . .	<u>\$6,861</u>	<u>\$1,132</u>
	<b>March 31,</b>	
	<b>2001</b>	<b>2000</b>
Property and equipment:		
Equipment, computers, software . . . . .	\$ 7,300	\$1,894
Furnitures and fixtures . . . . .	968	35
Leasehold improvement . . . . .	1,797	114
Subtotal . . . . .	10,065	2,043
Less: accumulated depreciation and amortization . . . . .	(5,625)	(863)
Total . . . . .	<u>\$ 4,440</u>	<u>\$1,180</u>
	<b>March 31,</b>	
	<b>2001</b>	<b>2000</b>
Intangible assets:		
Goodwill and other intangible assets . . . . .	\$121,866	\$ —
Less: impairment . . . . .	(91,463)	—
amortization . . . . .	(20,123)	—
Total . . . . .	<u>\$ 10,280</u>	<u>\$ —</u>

	March 31,	
	2001	2000
Accrued expenses and other liabilities:		
Accrued compensation costs . . . . .	\$ 672	318
Deferred rents . . . . .	593	—
Payable on development projects . . . . .	—	680
Other accruals . . . . .	2,034	1,381
Total . . . . .	<u>\$ 3,299</u>	<u>\$2,379</u>

**Note 6—Line of Credit:**

As of March 31, 2001, Sage had a credit facility with a bank, which allowed Sage to borrow up to \$5,000,000 at an interest rate of 0.25% plus prime rate (8.25% per annum on March 31, 2001). The credit facility expires on December 31, 2001 and is secured by all of Sage's assets. Sage expects to extend the facility for another twelve-month term. As of March 31, 2001, Sage did not have any borrowings outstanding under the credit facility. The line of credit requires Sage to achieve certain financial ratios and operating results. At March 31, 2001, Sage was in compliance with the covenants.

**Note 7—Income Taxes (in thousands):**

There was no income tax provision for the years ended March 31, 2001, 2000 or 1999 because operations resulted in pre-tax losses. As of March 31, 2001, Sage had net operating loss carryforwards of approximately \$15 million for federal income tax purposes. These losses are available to reduce taxable income and expire from 2011 through 2021. Because of certain changes in the ownership of Sage, there is a limitation on the use of certain net operating loss carryforwards of approximately \$800,000 per year pursuant to Section 382 of the Internal Revenue Code.

Deferred tax assets at March 31, 2001, 2000 and 1999 relate primarily to net operating losses, inventory reserves, accruals, and basis differentials in certain assets. A valuation allowance has been provided in an amount equal to these assets due to the uncertainty of their realization.

The following is an analysis of Sage's deferred tax assets (in thousands):

	March 31,		
	2001	2000	1999
Net operating loss carryforward . . . . .	\$5,788	\$2,250	\$1,895
Inventory reserve . . . . .	981	400	360
Accrued liabilities not currently deductible . . . . .	788	970	665
Fixed and other assets . . . . .	1,514	950	—
	9,071	4,570	2,920
Deferred tax assets valuation allowance . . . . .	(9,071)	(4,570)	(2,920)
Total . . . . .	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

**Note 8—Net Loss Per Share (in thousands):**

The following table sets forth the computations of basic and diluted net loss per share for the periods indicated. On October 1, 1999, Sage implemented a three-for-one reverse stock split. Shares and per share amounts have been retroactively re-stated for all periods presented prior to that date.



Fully diluted loss per share is not reported separately as the result would be anti-dilutive. The amounts are as follows (in thousands):

	Year Ended March 31,		
	2001	2000	1999
Numerator:			
Net loss . . . . .	<u>\$(121,081)</u>	<u>\$(4,595)</u>	<u>\$(4,751)</u>
Denominator:			
Weighted average common stock shares			
outstanding . . . . .	12,838	4,706	2,842
Less weighted average restricted common stock			
shares subject to Sage's repurchase option . . . . .	<u>(62)</u>	<u>(292)</u>	<u>(461)</u>
Shares used in computing basic and diluted net loss			
per share . . . . .	<u>12,776</u>	<u>4,414</u>	<u>2,381</u>
Basic and diluted net loss per share . . . . .	<u>\$ (9.48)</u>	<u>\$ (1.04)</u>	<u>\$ (2.00)</u>

**Note 9—Stockholders' Equity:**

**Common Stock**

In November 1999, Sage completed an initial public offering of 3,450,000 shares of common stock at an initial offering price of \$12.00 per share, raising \$37.2 million, net of underwriting commission and related expenses.

On June 7, 2000, shareholders of Sage and Faroudja approved the Merger Agreement between the companies, under which shareholders of Faroudja received 3,181,278 shares of Sage common stock.

As of March 31, 2001 Sage is authorized to issue up to 50,000,000 shares of common stock. Of the shares authorized, 3,493,204 shares of common stock are currently reserved for issuance under the Sage's employee stock option plan.

**Restricted Common Stock**

Certain shares of common stock were sold to the founders and other investors under the terms of a restricted stock purchase agreement in May 1998. These agreements contain provisions for the repurchase of unvested shares by Sage from individuals who terminate employment prior to full vesting. The common stock repurchases right lapses over a four-year period.

As a condition to the issuance of Series D preferred stock in May 1998, certain founders entered into stock restriction agreements with Sage pursuant to which 1.37 million of the outstanding common shares were restricted and were made subject to monthly vesting (over a 4 year period beginning when the shares were originally issued and ending in April 2000) based on the founders continued employment with Sage. Under the terms of the restricted stock agreement, Sage had the right to repurchase the unvested shares at the original issuance price in the event the founder ceases to be an employee of Sage. Sage recorded deferred stock compensation amounting to \$393,000 for the shares covered under the restricted stock agreement. The deferred amount is recognized as compensation expense over the vesting period on an accelerated basis. During the fiscal years ended March 31, 2001 and 2000 such compensation expense included in stock compensation in the statement of operations amounted to \$7,969 and \$106,274, respectively.

As of March 31, 2001, Sage had a total of 62,495 shares of common stock subject to repurchase rights.

**Convertible Preferred Stock**

Between October 1996 and May 1999, Sage issued five rounds of preferred stock at prices ranging from \$0.57 to \$6.00 per share, aggregating approximately \$14.6 million in gross proceeds. In November 1999, in conjunction with the initial public offering, all shares of preferred stock and related warrants were converted to common stock.

**Warrants**

Warrants to subscribe for preferred stock were issued in connection with the issuance of the 8% unsecured redeemable notes, the Series D preferred stock, and a credit facility, respectively. All warrants were converted into common stock at the time of the initial public offering.

In connection with the initial set-up of the credit facility in June 1998, Sage issued six year warrants to subscribe for 25,000 shares of Series D preferred stock at an exercise price of \$3.861 per share to the bank in connection with the credit facility received. The warrants were valued at \$30,000, which was included as interest expense. The warrants were converted into common stock at the time of the initial public offering in November 1999.

**Note 10—Stock Options (in thousands, except for price data):**

Under the Stock Plan, nonqualified and incentive stock options may be granted at prices not less than 85% and 100%, respectively, of the fair market value at the date of grant, as determined by the board of directors. However, the option price granted to a person who owns stock greater than 10% of the total combined voting power of all classes of stock of Sage shall not be less than 110% of the fair market value on the date of grant. Options granted under the Stock Plan vest over five years or at such rate as may be determined by the board of directors. The options are exercisable during the period the participant has the same relationship with Sage as an employee, consultant or outside director as the participant had when the option was granted and within 90 days after the termination of the relationship, but not longer than ten years after the date the option is granted.

In May 1998 the board of directors re-priced all outstanding option grants with an exercise price in excess of \$0.57 per share. The number of re-priced stock options was 966,320.

Plan activities for the years ended March 31, 1999, 2000 and 2001 are as follows (in thousands, except price data):

	Shares Available For Grant	Options Outstanding		Weighted Average Exercise Price
		Number Of Shares	Price Per Share	
Balance at March 31, 1998 . . . . .	248	1,110	\$ 0.57-\$3.00	\$ 1.98
Increase in option pool, net . . . . .	166	—	—	—
Options granted . . . . .	(1,272)	1,272	\$ 0.57-\$9.00	\$ 0.69
Options exercised . . . . .	—	(571)	\$ 0.57-\$3.60	\$ 0.57
Options canceled . . . . .	966	(966)	\$ 0.57-\$9.00	\$ 1.11
Balance at March 31, 1999 . . . . .	108	845	\$ 0.57-\$9.00	\$ 0.75
Increase in option pool . . . . .	713	—	—	—
Options granted . . . . .	(799)	799	\$ 1.95-\$29.50	\$14.11
Options exercised . . . . .	—	(169)	\$ 0.57-\$1.05	\$ 0.62
Options canceled . . . . .	128	(128)	\$0.57-\$19.188	\$ 5.74
Balance at March 31, 2000 . . . . .	150	1,347	\$ 0.57-\$29.50	\$ 4.01
Increase in option pool . . . . .	2,209	—	—	—
Options granted . . . . .	(2,137)	2,137	\$ 4.07-\$33.33	\$10.90
Options exercised . . . . .	—	(214)	\$ 0.57-\$13.44	\$ 3.08
Options canceled . . . . .	330	(330)	\$ 0.57-\$29.50	\$12.87
Balance at March 31, 2001 . . . . .	552	2,940	\$ 0.57-\$29.50	\$10.02

The following table summarizes information about stock options outstanding at March 31, 2001 ((in thousands, except price data):

Options Outstanding				Options Exercisable	
Exercise Price	Number of Options Outstanding	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price	Number of Options Exercisable	Weighted Average Exercisable Price
Up to \$5.00	468	6.78 - 9.19	\$ 0.94	345	\$ 0.93
\$5.00 to \$9.99	1,204	8.11 - 9.19	\$ 7.64	289	\$ 7.84
\$10.00 to \$14.99	951	9.19 - 9.72	\$13.32	467	\$12.23
\$15.00 to \$19.99	202	8.75 - 9.19	\$19.87	59	\$19.83
\$20.00 to \$24.99	21	8.79 - 9.19	\$22.85	8	\$23.30
\$25.00 to \$29.99	94	8.84 - 9.19	\$28.41	55	\$27.64

**Stock-based compensation (in thousands):**

For the fiscal year ended March 31, 1999, Sage recognized deferred compensation of \$2,216,000 related to options repriced or deemed to have been granted below fair market value. The estimates of the fair value of common stock used to calculate deferred compensation ranged from \$2.40 per share in April 1998 to \$4.26 per share in March 1999. In addition, Sage recorded deferred compensation of \$393,000 related to restrictions placed on common shares of founders. Deferred compensation is being amortized on an accelerated basis over the vesting period, generally four years. The amortization of deferred compensation for the fiscal years ended March 31, 2001, 2000 and 1999 amounted to \$257,000, \$641,000 and \$1,596,000 respectively.

The stock-based compensation from stock options and restricted stock for the three years ended March 31, 2001 was allocated across the relevant functional expense categories in the statement of operations as follows (in thousands):

	Year Ended March 31,		
	2001	2000	1999
Research and development . . . . .	\$103	\$256	\$ 638
Selling, general and administration . . . . .	154	385	958
	<u>\$257</u>	<u>\$641</u>	<u>\$1,596</u>

Had compensation costs for Sage's stock-based compensation plans been determined based on the fair value at the grant dates for awards under those plans consistent with the method prescribed by SFAS 123, the effect on fiscal year 1999 net results would have been immaterial; the effect on fiscal year 2000 net results would have been to increase the net loss to \$7,104,000 and the net loss per share to \$1.61; and the effect on fiscal year 2001 net results would have been to increase the net loss to \$126,955,000 and the net loss per share to \$9.94. The fair value of each option grant during the fiscal years ended March 31, 1999, 2000 and 2001 was estimated on the date of grant using the Black-Scholes method with the following assumptions: dividend yield of 0, risk-free interest rate of 4.96%, 7.10%, and 5.0% respectively, a weighted average expected option term of five years, and a volatility factor of 0 prior to the IPO and from 78% to 95% after the IPO. The weighted average fair value per share under SFAS 123 of options granted during the fiscal years 1999, 2000 and 2001 were \$1.71, \$9.06, and \$8.14 respectively.

**Note 11—1999 Employee Stock Purchase Plan:**

Sage's 1999 Employee Stock Purchase Plan qualifies as an "employee stock purchase plan" under Section 423 of the Code and provides Sage's employees with an opportunity to purchase common stock through payroll deductions. Under the 1999 Employee Stock Purchase Plan, Sage's board of directors or a committee designated by the board from time to time shall grant to eligible employees the right to participate in an offering of common stock under the employee stock purchase plan during certain offering periods. Sage expects that on the first day of each offer period, a participating employee will be granted purchase rights, which are a form of option to be automatically exercised on the forthcoming exercise dates within the offer period during which deductions will be made from the pay of the participants. When a purchase right is exercised, the participant's withheld salary will be used to purchase shares of Sage's common stock. The price per share at which shares of common stock in Sage are to be purchased under the 1999 Employee Stock Purchase Plan during any offering period will be the lesser of:

- 85% of the fair market value of Sage's common stock on the date of the grant of the option (the commencement of the offer period); or
- 85% of the fair market value of Sage's common stock on the exercise date.

All of Sage's employees whose customary employment is for more than five months in any calendar year and more than 20 hours per week are eligible to participate. Employees subject to the rules or laws of a foreign jurisdiction that prohibit or make impractical the participation of such individuals in the plan are not eligible to participate. Certain additional limitations on the amount of common stock, which may be purchased during any calendar year, are imposed by the Code. The 1999 Employee Stock Purchase Plan is administered by board of directors or a committee designated by the board, which shall have the authority to administer the employee stock purchase plan and to resolve all questions relating to its administration. Under the terms of the plan, 500,000 shares of common stock have been reserved and 55,518 shares of common stock have been purchased as of March 31, 2001.

**Note 12—Employee Benefits Plan:**

Sage has a salary savings plan, which qualifies under Section 401(k) of the Internal Revenue Code. Under the plan, participating employees may defer up to 15% of their pretax salary, but not more than statutory limits. There were no matching contributions for the years ended March 31, 1999 and 2000. Following the acquisition and merger with Faroudja in June of 2000, Sage introduced an employer matching contribution of 50% for the first 6% contributed by an employee. In the year ended March 31, 2001, Sage contributed approximately \$112,293 in employer matching funds to the Section 401(k) plan.

**Note 13—Certain Risks and Significant Customers:**

Our product revenues are concentrated in the semiconductor industry that is highly competitive and rapidly changing. Significant technological changes in the industry or customer requirements, or the emergence of competitive products with new capabilities or technologies could adversely affect operating results. Also, a majority of our revenue is derived from sales to OEM customers, distributors and resellers. Significant changes in operations, buying behavior or financial stability of our channel partners could adversely affect operating results. In addition, a significant portion of our revenue and results of operations is derived from international sales and distributors. Fluctuations of the U.S. dollar against foreign currencies, changes in local regulatory or economic conditions, piracy or significant dislocations in local distribution channels could adversely affect operating results.

Certain of Sage's products contain critical processes and components supplied by a single or a limited number of third parties. Any significant shortage of fab capacity or components, or the failure

of the third party supplier to maintain or enhance these products could materially adversely affect the Company's results of operations.

Sage maintains the majority of cash balances and all of its short-term investments with six financial institutions. Sage invests with high credit quality financial institutions and, by policy, limits the amount of credit exposure to any one financial institution. Sage has significant accounts receivable from several major distributors and from customers across a broad demographic base. Management of the Company performs ongoing credit evaluations of its customers and maintains allowances for doubtful accounts. To date, Sage has not experienced any material bad debt write-off.

One customer represented 14% of total revenues for fiscal year 2001. Two customers represented 29% and 10% of revenues for fiscal year 2000. One customer represented 49% of revenues for the fiscal year 1999.

**Note 14—Segment and Geographic Information (in thousands):**

Sage manages its operations in two segments, integrated circuits (IC) and systems (home theatre boxes and printed circuit boards). Sage does not report operating expenses, depreciation and amortization, interest expense, capital expenditures or identifiable net assets by segment. All segment revenues are generated from external customers. Segment information is as follows (in thousands):

	Year Ended March 31,		
	2001	2000	1999
Revenues:			
ICs . . . . .	\$16,039	\$ 9,978	\$3,436
Systems . . . . .	15,360	7,903	3,696
Total revenue . . . . .	<u>\$31,399</u>	<u>\$17,881</u>	<u>\$7,132</u>
Cost of revenues:			
ICs . . . . .	\$ 8,224	\$ 4,425	\$1,440
Systems . . . . .	7,861	5,601	3,474
Amortization of intangible assets . . . . .	813	—	—
Total revenue . . . . .	<u>\$16,898</u>	<u>\$10,026</u>	<u>\$4,914</u>
Gross profit:			
ICs . . . . .	\$ 7,815	\$ 5,553	\$1,996
Systems . . . . .	7,499	2,302	222
Amortization of intangible assets . . . . .	(813)	—	—
Total gross profit . . . . .	<u>\$14,501</u>	<u>\$ 7,855</u>	<u>\$2,218</u>



Sage sells its products primarily in the United States and to the Asia Pacific region. Revenues by geographic location based on the country of the customer were as follows (in thousands). Net revenue information by geographic area is as follows (in thousands):

	Year Ended March 31,		
	2001	2000	1999
United States . . . . .	\$13,406	\$ 4,100	\$2,131
Japan . . . . .	8,830	8,978	—
Taiwan . . . . .	2,868	543	3,535
Korea . . . . .	1,247	1,231	1,365
Rest of the world . . . . .	5,048	3,029	101
Total . . . . .	<u>\$31,399</u>	<u>\$17,881</u>	<u>\$7,132</u>

Substantially all long-lived assets are maintained in the United States.

**Note 15—Commitments:**

**Operating Leases (in thousands)**

Sage leases its operating facilities under non-cancelable operating leases, which expire at various times ranging from the year 2003 through 2012. For years ended March 31 future minimum payments under non-cancelable operating leases are as follows (in thousands):

	Total
2002 . . . . .	\$ 1,750
2003 . . . . .	1,791
2004 . . . . .	1,730
2005 . . . . .	1,670
2006 . . . . .	1,715
2007 and thereafter . . . . .	\$ 10,964
Total . . . . .	<u>\$ 19,620</u>

Rent expense for the years ended December 31, 2001, 2000 and 1999 amounted to \$728,000, \$237,000 and \$150,000, respectively. Future rental income to be received under non-cancelable subleases, which expire September 2003, amount to approximately \$3.1 million as of March 31, 2001.

**Contracts**

Sage has entered or is planning to enter into various short-term construction and construction service contracts in connection with the build out of its new leased facility in Bangalore, India. Sage estimates these contract costs to be about \$485,000. Construction began in April 2001 and is scheduled to be completed in late July 2001. Further, Sage has entered into purchase commitments for approximately \$300,000 of capital assets for local area network and communications equipment, computer workstations and furniture and fixtures associated with the new facility

**Note 16—Litigation:**

From time to time Sage is subject to legal proceedings and claims with respect to such matters as patents, product liabilities, and other actions arising out of the normal course of business. Sage does not believe that there is currently any litigation matter outstanding which could have a material adverse effect on its operations and financial condition.

**Note 17—Related party transactions:**

At March 31, 2001, Sage had \$500,000 of outstanding shareholder receivables from an officer of the corporation. The terms for the loan were 6 months with principal and interest at 6.65% per annum compounded quarterly due in May 2001. The loan was secured by a pledge of 100,000 shares of Sage common stock.

**Note 18—Subsequent Events (unaudited)****Preferred Shares Rights Agreement**

On May 22, 2001, pursuant to a Preferred Shares Rights Agreement between Sage and Mellon Investor Services, LLC, as Rights agent, the Board of Directors of Sage announced that it had declared a dividend distribution of one preferred share purchase right (a “Right”) on each outstanding share of Sage’s Common Stock. Each Right will entitle stockholders to buy one one-hundredth of a share of the Company’s Series A Preferred Stock at an exercise price of \$70.00. The Rights will become exercisable following the tenth day after a person or group announces the acquisition of 20% or more of Sage’s Common Stock or announces commencement of a tender or exchange offer, the consummation of which would result in ownership by the person or group of 20% or more of the Common Stock of Sage. Sage will be entitled to redeem the Rights at \$0.001 per Right at any time on or before the tenth day following acquisition by a person or group of 20% or more of Sage’s Common Stock. The dividend distribution was made on June 1, 2001, payable to the stockholders of record on June 8, 2001. The Rights will expire on June 1, 2011.

**Related Party Transactions**

The related party loan referred to in Note 17 above was repaid in June 2001.

## SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized on June 29, 2001.

SAGE, INC.

By: /s/ CHANDRASHEKAR REDDY  
Chandrashekar Reddy  
*Chairman, President and Chief Executive Officer*

## POWER OF ATTORNEY

Know all men by these presents, that each person whose signature appears below constitutes and appoints Chandra Reddy and Simon P Westbrook, jointly and severally, his attorneys-in-fact, each with the power of substitution for him in any and all capacities, to sign any amendments to this report, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ CHANDRASHEKAR REDDY</u> Chandrashekar Reddy	(Director, Chairman, President and Chief Executive Officer)	June 28, 2001
<u>/s/ SIMON WESTBROOK</u> Simon Westbrook	(Vice President—Finance) (Principal Financial and Accounting Officer)	June 28, 2001
<u>/s/ DAMODAR REDDY</u> Damodar Reddy	(Director)	June 28, 2001
<u>/s/ MICHAEL GUMPORT</u> Michael Gumport	(Director)	June 28, 2001
<u>/s/ KENNETH TAI</u> Kenneth Tai	(Director)	June 28, 2001
<u>/s/ GLENN MARSCHEL</u> Glenn Marschel	(Director)	June 28, 2001

Exhibit Number	Exhibit Title
2.1**	Agreement and Plan of Merger and Reorganization dated as of February 18, 2000 by and between Sage, Faroudja, Inc. and Finland Merger Sub, Inc.
3.1*	Certificate of Incorporation of Sage
3.2*	Bylaws of Sage
3.5	Certificate of Designation of Series A Deferred Stock
4.1*	Reference is made to Exhibit 3.1
4.2*	Series D Investors' Rights Agreement dated May 1, 1998 with certain Investors
4.3*	Series E Investors' Rights Agreement dated May 1, 1999 with certain Investors
4.4*	Faroudja Laboratories, Inc. Investors' Rights Agreement dated July 27, 1999
4.5*	Form of Stock Certificate of Sage
4.6****	Rights Agreement between Sage and Mellon Investor Services, LLC dated June 1, 2001
10.1*	Form of Indemnification Agreement between Sage and each of its Officers and Directors
10.2**	Amended and Restated 1997 Stock Plan
10.3***	1999 Employee Stock Purchase Plan, as amended
10.4*	Faroudja Laboratories, Inc. Joint Development and License Agreement dated July 27, 1997
10.5*	Master Distributor Agreement with Avnet, Inc.
10.6*	Authorized Reseller Agreement with Reptron Electronics, Inc.
10.7*	Authorized Reseller Agreement with Jaco Electronics, Inc.
10.8*	Hardware Distribution Agreement with Bell Microproducts, Inc.
10.9*	Form of Representative Agreement
10.10*	Credit Agreement with General Bank
10.11	Form of Executive Officer's Severance Agreement
21.1*	List of Subsidiaries
23.2	Consent of PricewaterhouseCoopers LLP

\* Incorporated by reference to Sage's Registration Statement on Form S-1, File No. 333-86173.

\*\* Incorporated by reference to Sage's Registration Statement on Form S-4, File No. 333-34812.

\*\*\* Incorporated by reference to Sage's Registration Statement on Form S-8, File No. 333-92811.

\*\*\*\* Incorporated by reference to Sage's Registration Statement on Form S-8A, File No. 001-16529.