GENESIS MICROCHIP INC /DE
Form 10-K
July 01, 2002

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark one)

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

For the fiscal year ended March 31, 2002

OR

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

Commission file number: 000-31376

GENESIS MICROCHIP INC.

(Exact name of registrant as specified in its charter)

DELAWARE	**77-0584301**
(State of incorporation)	**(IRS employer identification number)**
2150 GOLD STREET P.O. BOX 2150 ALVISO, CALIFORNIA	**95002**
(Address of principal executive offices)	**(Zip Code)**

(408) 262-6599
(Registrant s telephone number)

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

Common shares, $0.001 par value

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 x No ¨

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

The aggregate market value of shares of common stock held by non-affiliates at June 14, 2002 was approximately $277,214,000 based on the last reported sale price of our common stock on The Nasdaq National Market on that date of $9.02 per share. We had 31,365,777 shares of

common stock outstanding at June 14, 2002.

DOCUMENTS INCORPORATED BY REFERENCE

Part III incorporates by reference information from the Proxy Statement for the Registrant s 2002 Annual Meeting of Stockholders, which will be filed with the Securities and Exchange Commission within 120 days of the end of the fiscal year ended March 31, 2002.

Statement regarding forward-looking statements

This report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements relate to expectations concerning matters that are not historical facts. Words such as projects, believes, anticipates, plans, expects, intends and similar words and expressions are intended to identify forward-looking stater We believe that the expectations reflected in the forward-looking statements are reasonable but we cannot assure you that those expectations will prove to be correct. Important factors that could cause our actual results to differ materially from those expectations are disclosed in this report, including, without limitation, in the Risk Factors described in Item 7. All forward-looking statements are expressly qualified in their entirety by these factors and all related cautionary statements. We do not undertake any obligation to update any forward-looking statements.

Trademarks

Genesis with its logo® is our registered trademark, and Genesis Display Perfection, SmartSCAN, RealColor, Real Recovery, Ultra-Reliable DVI, Diamond Cinema, Platinum Cinema, Crystal Cinema, Faroudja, Nuon and DCDi by Faroudja are our trademarks. This report also refers to the trademarks of other companies.

PART I

Item 1. ***Business:***

Overview

We design, develop and market integrated circuits that receive and process digital video and graphic images. Our integrated circuits are typically located inside a display device and process incoming images for viewing on that display. We are currently targeting the flat-panel computer monitor, flat-panel television and progressive scan cathode ray tube, or CRT, television markets and other potential mass markets.

The transition from analog display systems, such as most televisions and computer monitors that use cathode ray tubes, to digital display systems that use a fixed matrix of pixels to represent an image, requires sophisticated digital image-processing solutions. Our products solve input, resolution, format and frame refresh rate conversion problems while maintaining critical image information and improving perceived image quality. Our products utilize patented algorithms and integrated circuit architectures as well as advanced integrated circuit design and system design expertise.

We began our business as a Canadian company in 1987, and changed our domicile to become a Delaware corporation in February 2002. Until 1999 we were focused primarily on developing digital image processing technologies. In May 1999 we acquired a private US corporation, Paradise Electronics, Inc., which, in addition to developing digital image processing technologies, was developing analog and mixed signal communications technologies. We have now combined analog and mixed signal technologies with digital image processing technologies into more comprehensive semiconductor solutions.

Recently, in February 2002, we acquired a public US corporation, Sage, Inc. In addition to bringing additional image processing and mixed signal technologies to address the flat panel monitor market, Sage was developing significant expertise in technologies addressing other emerging display applications. In March 2002 we acquired the technology assets of VM Labs, Inc. Those technologies include video decoding and audio technologies. We believe that these recent acquisitions will improve our product offerings into the flat panel monitor market and improve our ability to diversify our business into other emerging display markets, such as flat-panel television and progressive scan CRT television markets and other potential mass markets.

We operate through subsidiaries and offices in the United States, Canada, China, India, Japan, South Korea, and Taiwan. Our business is conducted globally, with the majority of our suppliers and customers located in

Japan, South Korea or Taiwan. For a geographical breakdown of our revenues and long-lived assets, see note 16 to our consolidated financial statements included in Item 8 of this report.

Markets and applications

Our primary targeted markets include the following:

Flat-Panel Computer Monitors. Flat panel computer monitors using liquid crystal displays, or LCDs, are increasingly replacing monitors that use CRTs. For the year ended March 31, 2002, the flat panel computer monitor market represented 88.8% of our total revenues. Companies whose flat-panel computer monitors incorporate our products include Benq, Compaq, Dell, Fujitsu, Hewlett-Packard, IBM, NEC, Philips, Samsung, Sony, ViewSonic and many other leading brands.

Consumer Digital Television. We are leveraging our technologies and continue to produce products for consumer digital television markets. These potential markets include home theater, DVD, flat panel and digital television and HDTV. We have secured a number of design wins with leading manufacturers in these markets.

Products

The following table shows our principal integrated circuit products at March 31, 2002:

Product Family	Description	Markets	Product Features	Initial Production Release (1)
gm5010 gm5020 gm5060	Analog and DVI interface LCD monitor controllers (for XGA to UXGA resolutions)	Multi-synchronous LCD monitors and other fixed-resolution pixelated displays	Integrated DVI receiver; analog-to-digital converter (ADC); Image scaler; RealColor color adjustment technology; advanced OSD controller	Q4 2000
gmZAN1 gmZAN2	Analog interface LCD monitor controllers (for XGA-resolution monitors)	LCD monitors and other fixed-resolution pixelated displays	Integrated analog-to-digital converter (ADC); Image scaler; OSD controller	Q2 2000
s900x	Analog interface LCD monitor controllers (for XGA-resolution monitors)	LCD monitors and other fixed-resolution pixelated displays	Integrated analog-to-digital converter (ADC); Image scaler; OSD controller; integrated LVDS transmitter	Acquired from Sage Q1 2002
JagASM Jag200	Analog and digital interface LCD monitor controllers (for SXGA to UXGA-resolution monitors)	Multi-synchronous LCD monitors and other fixed-resolution pixelated displays	Integrated analog-to-digital converter (JagASM); Image scaler; Picture in Picture controller; Advanced OSD controller;	Acquired from Sage Q1 2002
JagTx s9220 s9250	DVI interface LCD Monitor controllers for XGA and SXGA resolutions	LCD monitors and other fixed-resolution pixelated displays	Integrated DVI receiver, Image scaler; Color controls; OSD controller; LCD panel timing controller (s9250)	Acquired from Sage Q1 2002
s9050	Analog interface LCD monitor controllers (for XGA and SXGA resolution monitors)	LCD monitors and other fixed-resolution pixelated displays	Integrated analog to digital converters; Image scaler; Advanced OSD controller; Color controls; LCD panel timing controller	Acquired from Sage Q1 2002

Product Family	Description	Markets	Product Features	Initial Production Release (1)
s93xx	Analog and DVI interface LCD monitor controllers (for XGA and SXGA resolutions)	LCD monitors and other fixed-resolution pixelated displays	Integrated DVI receiver; analog-to-digital converters (ADC); Image scaler; advanced color control technology; Advanced OSD controller; LCD panel timing controller	Acquired from Sage Q1 2002
gm51xx	Dual interface Analog and DVI LCD monitor controllers (for XGA and SXGA-resolution monitors)	LCD monitors and other fixed-resolution pixelated displays	Integrated DVI receiver; analog-to-digital converters (ADC); Image scaling; advanced color controls; advanced OSD controller; LCD panel timing controller (select models)	Q4 2001
gm31xx	DVI interface LCD Monitor controllers for XGA and SXGA resolutions	LCD monitors and other fixed-resolution pixelated displays	Integrated DVI receiver; Image scaling; advanced color controls; advanced OSD controller; LCD panel timing controller (select models)	Q4 2001
gm21xx	Integrated Analog LCD monitor controllers (for XGA and SXGA-resolution monitors)	LCD monitors and other fixed-resolution pixelated displays	Integrated analog-to-digital converters (ADC); Image scaling; advanced color controls; advanced OSD controller; LCD panel timing controller (select models)	Q4 2001
gmVLX1A-X	Digital video processor	Home theater, PCTV, DVD, plasma panels, projection systems.	Genesis proprietary vertical-temporal de-interlacing filtering, advanced film mode, advanced scaling engine	Q1 1999
gm60xx	Digital TV video processors	CRT TV, Flat Panel TV, Video projectors	Motion adaptive de-interlacing; film mode control; Picture in Picture controller	Q1 2002
FLI22xx	Video format conversion and image enhancement processors	CRT TV, Flat Panel TV, DVD player, Video projectors	Motion adaptive de-interlacing; film mode control; noise reduction; image enhancement	Acquired from Sage Q1 2002
gm7030	Digital CRT interface controller	Digital CRT Displays	Integrated DVI interface; analog to digital converters; High-Bandwidth Digital Content Protection (HDCP); color controls; image format conversion; digital to analog converter	Q1 2002

(1) Calendar quarter. References in this report to fiscal year 2002 mean the fiscal year ended March 31, 2002.

Research and development

Our research and development efforts are performed within the following specialized groups:

Algorithm Development Group: focuses on developing high-quality image processing technologies and their implementation in silicon.

Product Development Group: focuses on developing standard semiconductor components to service our monitor and computer OEM customers and providing them with a complete turnkey solution, which reduces their time to market. In addition we develop semiconductor components to serve customers who are designing products for new market applications, such as flat-panel television and progressive scan CRT television markets and other potential mass markets.

System Engineering Group: produces evaluation boards and manufacture-ready reference designs that facilitate the integration of our products into the end products manufactured by our customers. In addition to producing reference designs for flat panel monitors, the systems engineering group focuses on the emerging market for flat panel televisions. New reference designs being produced have full television functionality, and are targeted at a range of television sets from 13-inch LCD TVs to high- end 60-inch plasma display panel, or PDP, displays. For flat panel monitors, new reference designs address the need for continued cost reduction.

Software Engineering Group: develops the software environment required for our products to work within target systems. Software is now embedded in many of our products. The other major role of software engineering is tool development. We provide sophisticated software tools to help our customers develop their applications and customize their software to improve the productivity of those engineers involved in the process of getting their products into production.

As of March 31, 2002, we had 230 full-time employees engaged in research and development. Expenditures for research and development, including non-cash stock-based compensation, were $21.8 million for the year ended March 31, 2002, $17.4 million for the year ended March 31, 2001 and $16.1 million for the year ended March 31, 2000.

Customers, sales and marketing

We sell and market our products directly to customers, through regional sales representatives and through distributors. Our sales and marketing personnel work closely with customers, industry leaders, sales representatives and our distributors to define features, performance, price and market timing of new products. In South Korea and Taiwan we sell our products though our local sales and technical support office. In North America we sell through technically trained sales representatives and distributors. In Europe, we sell our products through distributors. In Japan, we sell our products through both technically trained sales representatives and through distributors. Regardless of the sales channels used, we provide technical support and design assistance directly to our customers. We focus on developing long-term customer relationships with both system manufacturers and equipment manufacturers.

We provide direct service and support to our customers through our offices in the United States, Canada, Japan, Korea, China and Taiwan. Our sales representatives and our distributors also provide ongoing support and service on our behalf. We provide customer support through both on-site customer service and though remote support from our various facilities. We generally provide a one-year warranty for our integrated circuit products.

Our revenues are derived primarily from sales of our semiconductor components into the flat panel monitor market. For the year ended March 31, 2002, 88.8% of our revenues came from this market. As a result, we derive a substantial portion of our revenues from a limited number of products. For the year ended March 31, 2002 our gmZAN1 analog-only interface product contributed 45.4% of our revenues and our gm5020 dual-interface product contributed 29.8% of our revenues. Each of these semiconductor products is targeted at the flat panel monitor market.

Our sales are also derived from a limited number of customers, with our largest five customers accounting for 53% of total revenues in fiscal 2002, 31% of total revenues for fiscal 2001, and 34% during fiscal 2000.

For the year ended March 31, 2002, two customers, Samsung Electronics Co. and Top Victory Electronics Co., each accounted for more than 10% of our total revenues. For the year ended March 31, 2001, no customer accounted for more than 10% of our total revenues, and for the year ended March 31, 2000, one customer accounted for more than 10% of our total revenues. At March 31, 2002, no customer represented more than 10% of accounts receivable trade. At March 31, 2001, one customer represented 10% of accounts receivable trade. The loss of any significant customer could have a material adverse impact on our business.

We sell our products primarily outside of the United States. In the year ended March 31, 2002, 94.2% of our revenues were from sales to Japan, South Korea and Taiwan and 4.0% of our revenues were from customers in the United States.

Additional information on the concentration of our revenues by geography, customers and markets can be found in note 16 to our consolidated financial statements included in Item 8 of this report.

As of March 31, 2002, our sales and marketing force totaled 94 people. This included 12 field applications engineers whose role is to create reference designs and assist our customers to incorporate our integrated circuits into their products.

Manufacturing

Third parties with state-of-the-art fabrication equipment and technology manufacture our products. This approach enables us to focus on product design and development, minimizes capital expenditures and provides us with access to advanced manufacturing facilities. Currently, our products are being fabricated, assembled or tested by Advanced Semiconductor Engineering, International Semiconductor Engineering Labs, Silicon Precision Industries Ltd., ST Microelectronics, Taiwan Semiconductor Manufacturing Corporation and United Microelectronics Corporation.

As semiconductor manufacturing technologies advance, manufacturers typically retire their older manufacturing processes in favor of newer processes. When this occurs, the manufacturer generally provides notice to its customers of its intent to discontinue a process, and its customers will either retire the affected part or design a newer version of the part that can be manufactured on the more advanced process. Consequently, our products may become unavailable from their current manufacturers if the processes on which they are produced are discontinued. Our devices are mainly 0.25 micron technology and these geometries will likely be available for the next two to three years. We must manage the transition to new parts from existing parts. We have commitments from our suppliers to provide notice of any discontinuance of their manufacturing processes in order to assist us in managing these types of product transitions.

All of our products are sourced such that there we have only one supplier for any one device. Based on our current production volumes, this approach of single sourcing is reasonable. As our volumes grow, we intend to secure sufficient fabrication capacity and diversify our sources of supply. Any inability of a current supplier to provide adequate capacity would require us to obtain products from alternate sources. There is a considerable amount of time required to change wafer fabrication suppliers for any single product, and well as substantial costs to bring that supplier into volume production. Should a source of a product cease to be available, we believe that this would have a material adverse effect on our business, financial condition and results of operations. We have no guarantees of minimum capacity from our suppliers and are not liable for minimum purchase commitments.

Intellectual property and licenses

We protect our technology through a combination of patents, copyrights, trade secret laws, trademark registrations, confidentiality procedures and licensing arrangements. We have been issued 89 patents in the United States with an additional 40 patent applications pending. In addition to the United States, we apply for and have been granted patents in other jurisdictions, including Europe, Japan, Taiwan and Korea. We have been issued 43 foreign patents and have 65 foreign patents pending. Our patents relate to various aspects of algorithms, product design or architectures. To supplement our proprietary technology, we also license several patents from third parties.

Competition

The markets in which we operate are intensely competitive and are characterized by rapid technological change, evolving industry standards and declining average selling prices. We face competition from both large companies and start-up companies, including Macronix International Co., Media Reality Technologies,Inc., Ltd., Philips Semiconductors, a division of Philips Electronics NV, Pixelworks, Inc., Silicon Image, Inc., SmartASIC Inc., ST Microelectronics, Inc., Trident Microsystems Inc. and Trumpion Microelectronics, Inc. We believe that the principal competitive factors in our markets are:

product design features and performance,

product price,

the time to market of our products, and

the quality and speed of customer support.

Backlog

Our customers typically order products by way of purchase orders that may be canceled or rescheduled without significant penalty. These purchase orders are subject to price negotiations and to changes in quantities of products and delivery schedules in order to reflect changes in their requirements and manufacturing availability. Historically, most of our sales have been made pursuant to short lead-time orders. In addition, our actual shipments depend on the manufacturing capability of our suppliers and the availability of products from those suppliers. As a result of the foregoing factors, we do not believe the backlog at any given time is a meaningful indicator of our future revenues.

Employees

As of March 31, 2002, we employed a total of 408 full-time employees, including 230 in research and development, 94 in sales and marketing, 35 in manufacturing operations and 49 in finance and administration. We employ a number of temporary and part-time employees and consultants on a contract basis. Our employees are not represented by a collective bargaining organization. We believe that relations with our employees are satisfactory.

Item 2. ***Properties:***

We lease offices in Alviso, Milpitas and Sunnyvale, California; Thornhill, Ontario, Canada; Bangalore, India; Taipei, Taiwan; Seoul, Korea; Shenzen, China; and Tokyo, Japan. We believe our existing facilities are adequate to meet our needs for the immediate future and that future growth can be accomplished by leasing additional or alternative space on commercially reasonable terms. The facility that we lease in Milpitas, California was acquired in connection with the acquisition of Sage. That facility is not used for our current operations and has been vacated. Further information on our lease commitments can be found in notes 8 and 15 to our consolidated financial statements included in Item 8 of this report.

Item 3. ***Legal Proceedings:***

On March 14, 2002, we filed a patent infringement lawsuit against Media Reality Technologies, Inc. (MRT), SmartASIC Inc., and Trumpion Microelectronics, Inc. in the United States District Court for the Northern District of California. The complaint alleges that certain MRT, SmartASIC, and Trumpion products, which are sold as video/graphics display controllers, infringe various claims of one of our U.S. patents. This patent has also been issued in Japan and Korea and is pending in Taiwan. As part of this lawsuit, we are seeking monetary damages and a permanent injunction that bars MRT, SmartASIC and Trumpion from making, using, importing, offering to sell, or selling the allegedly infringing products in the United States.

On April 24, 2001, Silicon Image, Inc. filed a patent infringement lawsuit against Genesis in the United States District Court for the Eastern District of Virginia and simultaneously filed a complaint before the United States International Trade Commission in Washington, D.C. The complaint and suit allege that all of Genesis products that contain digital receivers infringe on various claims of one of their patents. Genesis believes the lawsuit and the complaint are baseless and without merit and we intend to vigorously defend against these claims. On December 7, 2001 Silicon Image, Inc. formally moved to withdraw its complaint before the United States International Trade Commission and have terminated these proceedings. The trial to be held in the United States District Court for the Eastern District of Virginia is scheduled to commence on January 20, 2003. The future financial impact of these claims is not yet determinable and no provision has been made in our consolidated financial statements for any future costs associated with these claims.

In addition to the two specific proceedings set out above, we are engaged in other legal proceedings that are not material in the aggregate.

Item 4. ***Submission of Matters To a Vote of Security Holders:***

On February 11, 2002, our shareholders approved a change in our domicile to Delaware from Nova Scotia, Canada. The change in domicile was a condition to closing our merger with Sage, Inc. The change in domicile was approved with 51 members (being 94.44% of those members present in person or by proxy) representing 13,630,729 shares (being 96.74% of those shares present in person or by proxy) voting in favor. Two members voted against the resolution (being 3.70% of those members present in person or by proxy) representing 39,847 shares (being 0.28% of those shares present in person or by proxy). One member (being 1.85% of those members present in person or by proxy) representing 418,891 shares (being 2.97% of those shares present in person or by proxy) abstained. The Supreme Court of Nova Scotia granted a final order approving an arrangement that effectively changed our domicile from Nova Scotia, Canada to Delaware. Our change in domicile was effective after the close of trading on February 13, 2002.

Also on February 11, 2002, our stockholders approved the issuance of our common stock to the stockholders of Sage, Inc. to complete our acquisition of Sage. That resolution was approved with 13,486,213 votes in favor of the proposal (being 98.67% of votes cast) and 181,209 votes against (being 1.33% of votes cast). There were also 422,045 votes abstaining. Our acquisition of Sage was completed on February 19, 2002.

PART II

Item 5. ***Market for Our Common Stock and Related Stockholder Matters:***

Market information

Our common stock has traded on the Nasdaq National Market under the symbol GNSS since February 8, 1999. Before that, from February 24, 1998 until February 5, 1999, it traded under the symbol GNSSF . We have not listed our stock on any other markets or exchanges. The following table shows the high and low closing prices for our common stock as reported by the Nasdaq National Market:

	High	Low
1999 Calendar year		
First Quarter	$ 35.00	$ 22.00
Second Quarter	$ 28.13	$ 16.25
Third Quarter	$ 30.69	$ 16.63
Fourth Quarter	$ 27.88	$ 15.00
2000 Calendar year		
First Quarter	$ 25.25	$ 14.88
Second Quarter	$ 21.00	$ 15.38
Third Quarter	$ 20.13	$ 16.63
Fourth Quarter	$ 18.25	$ 8.56
2001 Calendar year		
First Quarter	$ 18.88	$ 9.31
Second Quarter	$ 37.40	$ 8.38
Third Quarter	$ 36.00	$ 19.70
Fourth Quarter	$ 69.81	$ 26.70
2002 Calendar year		
First Quarter	$ 72.51	$ 23.49
Second Quarter (to June 14)	$ 28.40	$ 9.02

As of June 14, 2002, we had approximately 125 common stockholders of record and a substantially greater number of beneficial owners.

Dividend policy

We have never declared or paid dividends on our common stock. We intend to retain our earnings for use in our business and therefore we do not anticipate declaring or paying any cash dividends in the foreseeable future.

Recent sales of unregistered securities

On February 13, 2002, we changed our domicile to Delaware from Nova Scotia, Canada, pursuant to a plan of arrangement approved by the Supreme Court of Nova Scotia. Pursuant to the arrangement, each common share of our predecessor public company, Genesis Microchip Incorporated, a Nova Scotia company, was exchanged for one share of common stock of Genesis Microchip Inc., a Delaware corporation. The exchange was exempt from registration by virtue of Section 3(a)(10) of the Securities Act of 1933, as amended.

Item 6. ***Selected Consolidated Financial Data:***

Selected consolidated financial data for the last five years appear below (in thousands, except per share data):

	Years Ended March 31,			Ten Months Ended March 31,	Year ended May 31,
	2002	2001	2000	1999	1998
Statement of Operations Data:					
Revenues	$ 163,370	$ 63,627	$ 53,332	$ 37,738	$ 15,988
Cost of revenues	89,287	32,416	17,021	14,062	4,869
Gross profit	74,083	31,211	36,311	23,676	11,119
Operating expenses:					
Research and development	21,762	17,413	16,065	10,261	7,100
Selling, general and administrative	21,469	15,947	12,364	10,307	6,137
Amortization of acquired intangibles	1,032				
In-process research and development	4,700				
Restructuring	1,858				
Merger related costs			3,455		
Total operating expenses	50,821	33,360	31,844	20,568	13,237
Income (loss) from operations	23,262	(2,149)	4,427	3,108	(2,118)
Interest and other income	1,463	2,328	1,941	1,436	773
Income (loss) before income taxes	24,725	179	6,368	4,544	(1,345)
Provision for (recovery of) income taxes	6,729	(2,483)	360	(986	