NEWPORT CORP
Form 10-K
March 17, 2005
Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, DC 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 January 1, 2005

OR

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

For the transition period from _____ to_____

Commission File Number: 000-01649

NEWPORT CORPORATION

(Exact name of registrant as specified in its charter)

Nevada	**94-0849175**
(State or other jurisdiction of incorporation or organization)	*(IRS Employer Identification No.)*

1791 Deere Avenue, Irvine, California 92606

(Address of principal executive offices) (Zip Code)

Registrant s telephone number, including area code: (949) 863-3144

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act: Common Stock, Par Value $0.1167 per share

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 x

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

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Exchange Act). Yes x No ¨

As of January 31, 2005, 43,044,265 shares of the registrant s sole class of common stock were outstanding. As of January 31, 2005, the aggregate market value of the common stock held by non-affiliates of the registrant was approximately $676 million, calculated based upon the closing price of our common stock as reported by the Nasdaq Stock Market on July 2, 2004.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant s Proxy Statement for its Annual Meeting of Stockholders to be held on May 18, 2005 are incorporated by reference into Part III of this Annual Report on Form 10-K.

Table of Contents

TABLE OF CONTENTS

Table of Contents

This Annual Report on Form 10-K contains certain 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 and we intend that such forward-looking statements be subject to the safe harbors created thereby. For this purpose, any statements contained in this Annual Report on Form 10-K except for historical information may be deemed to be forward-looking statements. Without limiting the generality of the foregoing, words such as may, will, expect, believe, anticipate intend, could, estimate, or continue or the negative or other variations thereof or comparable terminology are intended to identify forward-looking statements. In addition, any statements that refer to projections of our future financial performance, trends in our businesses, or other characterizations of future events or circumstances are forward-looking statements.

The forward-looking statements included herein are based on current expectations and involve a number of risks and uncertainties, all of which are difficult or impossible to predict accurately and many of which are beyond our control. As such, our actual results may differ significantly from those expressed in any forward-looking statements. Factors that may cause or contribute to such differences include, but are not limited to, those discussed in more detail in Item 1 (Business) of Part I and Item 7 (Management s Discussion and Analysis of Financial Condition and Results of Operations) of Part II of this Annual Report on Form 10-K. Readers should carefully review these risks, as well as the additional risks described in other documents we file from time to time with the Securities and Exchange Commission. In light of the significant risks and uncertainties inherent in the forward-looking information included herein, the inclusion of such information should not be regarded as a representation by us or any other person that such results will be achieved, and readers are cautioned not to place undue reliance on such forward-looking information. We undertake no obligation to revise the forward-looking statements contained herein to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

PART I

ITEM 1. BUSINESS

General Description of Business

We are a global supplier of advanced technology products and systems to a wide range of industries, including microelectronics manufacturing, scientific research, aerospace and defense/security, life and health sciences and communications.

In July 2004, we acquired all of the issued and outstanding capital stock of Spectra-Physics, Inc. and certain related entities (collectively, Spectra-Physics). Spectra-Physics manufactures high-power solid-state, gas and dye lasers, high-power laser diodes, and ultrafast laser systems, as well as photonics instruments and components, including light sources, monochromators, spectroscopy instrumentation, optical filters, ruled and holographic diffraction gratings and crystals. We have incorporated Spectra-Physics laser and laser-related technology business into our new Lasers Division, and we have combined Spectra-Physics photonics businesses with our former Industrial and Scientific Technologies Division to create our new Photonics and Precision Technologies Division.

As a result of the Spectra-Physics acquisition, we now provide a significantly expanded product portfolio to our newly-aligned target customer end markets: scientific research, aerospace and defense/security; microelectronics (which is comprised primarily of semiconductor capital equipment customers); life and health sciences; and all other end markets (which includes general industrial and fiber optic communications customers). This extensive portfolio enables us to offer our customers an end-to-end resource for products that make, manage and measure light. We provide:

high-power solid-state, gas and dye lasers and laser technology used in a wide array of applications, including scientific research, industrial and microelectronics manufacturing and life and health sciences;

components and integrated subsystems to manufacturers of semiconductor processing equipment, biomedical instrumentation and medical devices;

Table of Contents

advanced automated assembly and test systems for manufacturers of communications and electronics devices; and

a broad array of high-precision systems, components and instruments to commercial, academic and government customers worldwide.

Our products leverage our expertise in laser technology, photonics instrumentation, precision robotics and automation, sub-micron positioning systems, vibration isolation, and optical subsystems and are designed to enhance the capabilities and productivity of our customers manufacturing, engineering and research applications.

For over three decades we have serviced the needs of research laboratories for precision equipment. Since 1991, we have acquired a series of companies to expand our product offerings, technology base and geographic presence. Through these acquisitions and our internal development efforts, we have evolved from a provider of discrete components and instruments for research applications to a company that manufactures both components and integrated systems for research and commercial applications. In particular, during 2001, we acquired Kensington Laboratories, Inc. (KLI), a manufacturer of high-precision robotic and motion control equipment primarily for the semiconductor equipment industry, and during 2002 we acquired Micro Robotics Systems, Inc. (MRSI), a manufacturer of high-precision, fully-automated assembly and dispensing systems for back-end packaging applications in the semiconductor, microwave communications and fiber optic communications markets. The acquisition of Spectra-Physics significantly increased the scope of our expertise and product offerings in our target customer end markets, and approximately doubled our size with respect to revenue, number of employees and facilities. We will continue to pursue acquisitions of companies, technologies and complementary product lines that we believe will provide us with key technologies, give us access to new markets or otherwise further our strategic objectives. Conversely, from time to time we review our different businesses, including our acquired companies, to ensure that they are key to our strategic plans, and close or divest businesses that we determine are no longer of strategic importance. See Management s Discussion and Analysis of Financial Condition and Results of Operations Overview below, and Note 2 of the Notes to Consolidated Financial Statements beginning on page F-13 of this Annual Report on Form 10-K.

Products and Services

We develop and sell a broad range of lasers, components, instruments, subsystems and systems to markets where high-precision, efficient manufacturing, test, measurement and assembly are critical. Our products are used in mission-critical applications in industries including microelectronics manufacturing, aerospace and defense/security, life and health sciences and fiber optic device manufacturing. We also provide high-performance lasers, components, instruments and subsystems to commercial, academic and governmental research institutions worldwide. We develop, manufacture and market our products within three distinct business segments: Lasers, Photonics and Precision Technologies and Advanced Packaging and Automation Systems.

Lasers Division

Our Lasers Division offers a broad array of laser technology products and services with diverse applications to OEM and end-user customers in the scientific research, microelectronics, life and health sciences and industrial manufacturing markets. Our lasers and laser-based systems include ultrafast lasers and amplifiers, diode-pumped solid-state lasers, diode lasers, high-energy pulsed lasers, tunable lasers, air-cooled ion lasers, water-cooled ion lasers and nitrogen lasers. We have established close relationships with OEM customers involved in microelectronics, life and health sciences, analytical instrumentation and industrial manufacturing. In addition to supplying our existing lasers and laser systems to these customers, we also work closely with our OEM and industrial customers to develop laser and laser system designs optimized for their product and technology roadmaps. In addition to our OEM services, we offer a full a range of laser technology solutions and accessories to our end-user customers, from complex laser systems to gas and diode lasers.

Table of Contents

Markets and Applications

The breadth of our laser technology addresses a wide range of applications. These include scientific research, microelectronics, life and health sciences, image recording and graphics, aerospace and defense/security, industrial manufacturing, marking and engraving.

Scientific Research. We are one of the world s leading suppliers of scientific lasers, with a forty-year history of working closely with the research community to pioneer new applications and technologies. Today, as a leader in ultrafast laser technology, we continue to break new ground in a variety of scientific research areas, including spectroscopy, ultrafast phenomena, multiphoton microscopy, terahertz imaging, optical coherence tomography, laser induced fluorescence, light detection and ranging, nonlinear optics, particle imaging velocimetry and laser cooling.

Microelectronics. Laser technology addresses a wide range of vital applications in the semiconductor and microelectronics market, from front-end yield management to back-end advanced packaging. Laser technology is also a key enabler of achievement of the industry roadmap of smaller feature sizes with increased functionalities. Our air-cooled ion, solid-state and ultrafast lasers are used in data storage, wafer inspection, semiconductor metrology, dynamic random access memory (DRAM) and static random access memory (SRAM) repair, lithography, wafer and component marking, resistor trimming, printed circuit board and flat panel display manufacturing applications.

Life and Health Sciences. Laser technology is widely used in the life and health sciences market, and we provide products for use in both biomedical diagnostic and analytical instrumentation and medical cosmetic and therapeutic applications. Our solid-state, ultrafast, gas and high-energy pulsed lasers are used in applications such as multiphoton and confocal microscopy, flow cytometry, matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF), laser microdissection, DNA microarrays and blood analysis to enable advancements in the fields of molecular biology, proteomics and drug discovery. Cosmetic and therapeutic applications are typically addressed with our diode lasers and include hair removal and a variety of dermatological and dental procedures.

Image Recording and Graphics. Our laser technology offers cost-effective light sources for image recording and graphics. Our product applications include pre-press, on-press, ultra-high speed printing, photo finishing, film subtitling and holography.

Aerospace and Defense/Security. Our Lasers Division has been providing rugged, reliable and precise products to the United States military and other government branches for more than forty years. Our laser products are used in target recognition and acquisition, light detection and ranging (LIDAR), range-finding, missile guidance and advanced weapons development. In addition, our forensic green continuous wave laser offers crime scene investigators and security experts an essential tool to uncover evidence in the laboratory or in the field, by illuminating fingerprints and other biomaterial.

Industrial Manufacturing, Marking and Engraving. Lasers are widely used in a number of industrial manufacturing applications. Our products are used in the areas of rapid prototyping, micromachining, heat-treating, welding and soldering, cutting, illumination, drilling and printing. We also offer laser solutions for high-precision marking and engraving.

Table of Contents

Products

The following table summarizes some of our laser and laser-based system product offerings by product category, and includes representative applications for each category:

Category	Products	Representative Applications
Ultrafast Lasers & Systems	Mai Tai® one box femtosecond Ti:sapphire lasers	Femtosecond spectroscopy
	Tsunami® ultrafast Ti:sapphire lasers	Materials processing
	Opal® femtosecond optical parametric oscillator (OPO)	Multiphoton microscopy
	Spitfire® Pro ultrafast Ti:sapphire amplifier	Optical coherence tomography
	Eclipse ultrafast amplifier	Semiconductor metrology
	Optical parametric amplifier systemsdd	Terahertz imaging
		Time-resolved photoluminescence
Diode Pumped Solid State Q-Switched Lasers	BL series low power Q-switched lasers	Diamond processing
	V-Xtreme® Q-switched neodymium yttrium aluminum garnet (Nd:YAG) lasers	Laser zone texturing
	Navigator I and II Q-switched lasers	Memory repair
	HIPPO diode pumped solid state Q-switched lasers	Microelectronics material processing
		Rapid prototyping

	DisQ-Mark® thin-disk lasers	
		Resistor trimming
	Empower series pulsed green lasers	
		Sapphire scribing
		Silicon micromachining
		Solar cell scribing and cutting
		Wafer marking
		Pump source for Ti:sapphire lasers
Diode Pumped Solid State Continuous Wave (CW) and Quasi-CW Lasers	MG series CW solid state green lasers	Film subtitling
	ZLM modulated CW lasers	Flow cytometry
	3900S CW tunable Ti:sapphire lasers	Image recording
	Millennia® Pro i/s CW lasers	Materials processing
	Vanguard quasi-CW solid state lasers	Raman imaging
		Semiconductor wafer inspection and metrology
		Spectroscopy

Table of Contents

Category	Products	Representative Applications
Diode Lasers (Semiconductor)	Open heatsink diode laser bars	Graphics and printing
	Multi-bar modules	Hair removal
	Fiber-coupled diode laser bars	Material heat treatment and processing
	Fiber-coupled single emitter diodes	Medical therapeutic and cosmetic procedures
	Open heatsink single emitter diodes	Pump source for solid state lasers
	Integra industrial diode laser systems	Soldering and welding
High Energy Pulsed Nd:YAG & Tunable Lasers	Pro series pulsed Nd:YAG lasers	Flat-panel display manufacturing
	PIV series Nd:YAG lasers	Laser ablation
	INDI series compact Nd:YAG lasers	Laser cleaning
	LAB Series Nd:YAG lasers	LIDAR
	MOPO® Series High Energy optical parametric oscillator (OPO)	Mass spectrometry
	Sirah dye lasers	Particle imaging velocimetry combustion diagnostics
		Plastic and ceramic components marking
		Remote sensing

		Spectroscopy
Air-Cooled Ion Lasers	117 frequency-stabilized helium neon lasers	Confocal microscopy
	161 air-cooled ion lasers	DNA sequencing
	163 Advantage lasers	Flow cytometry
	163-FBR coupled Advantage lasers	Graphic arts and photo-processing
	177 air-cooled ion lasers	Laser doppler anemometry
	Solano air-cooled ion systems	Particle analysis
		Raman spectroscopy
		Semiconductor wafer inspection
		Spectroscopy

Table of Contents

Category	Products	Representative Applications
Water-Cooled Ion Lasers	BeamLok® argon ion, krypton and mixed gas laser systems	Confocal microscopy
	Stabilite® mixed gas ion lasers	Flow cytometry
		Laser-doppler velocimetry
		Laser light entertainment
		Light scattering
		Lithography
		Holography
		Spectroscopy
Nitrogen Lasers	337-Si OEM nitrogen lasers	Fluorescence immunoassay
	Dye lasers	Fluorescence microscopy
	VSL-337 series nitrogen lasers	Laser microdissection
		Matrix-assisted laser desorption/ionization
		Spectroscopy

Photonics and Precision Technologies Division

Our Photonics and Precision Technologies Division s products and systems are used across a wide range of markets in applications that range from basic research and development activities to high-precision manufacturing. In addition, we sell subsystems to third parties that integrate our products into larger systems, particularly for semiconductor manufacturing and life and health sciences applications. With the acquisition of Spectra-Physics, we added the Oriel line of photonics instruments and components, including light sources, monochromators and spectroscopy instrumentation, as well as thin-film optical filters, ruled and holographic diffraction gratings and crystals. The division also offers automated and manually operated equipment used to assemble and test fiber optic telecommunications and data communications devices, addressing applications from pre-test to assembly and packaging to final device testing.

Our photonics and precision products address markets including semiconductor capital equipment, scientific research, aerospace and defense/security, life and health sciences and communications. We believe that purchasers of our Photonics and Precision Technologies Division s products develop an appreciation for the quality of our products which makes them more likely to buy integrated, automated systems from us as their needs for production and test systems grow. In addition to the products that are developed and manufactured by this division, we also distribute certain products that are developed and manufactured by third parties on a private label basis. This allows us to select best-in-breed products in these product lines, and to maximize the efficiency of our research and development efforts.

Table of Contents

The following table summarizes some of our Photonics and Precision Technologies Division s product offerings by product category, and includes representative applications for each category:

Category	Products	Representative Applications
Photonics Instruments and Systems	Power meters	Measurement of optical power for free space and fiber-directed laser light
	Laser diode instruments	Current drivers and temperature controllers for maintaining stability of laser diodes
	Light sources	Characterization of light emitted by lasers, light emitting diodes and broadband light sources
	Optical spectrum analyzers	Testing and characterization of optical fibers and passive fiber optic components
	Photonics test systems	Chemical composition analysis
	Optical detectors	Colorimetry
	Spectrometers and spectrographs	Manual to fully automated assembly and packaging of fiber optic components, using welding, soldering and epoxy attachment techniques
	Monochromators	
	Ultrafast laser pulse measurement systems	
	Fiber alignment and attachment systems	
Precision Micro- Positioning Devices, Systems and Subsystems	Precision air bearing stages	Precision positioning of semiconductor wafers for metrology and fabrication
	Motion systems	Sample sorting and sequencing for DNA research
	Linear and rotational stages	

Vertical translation stages	High-precision positioning and motion control apparatus for manufacturing and test applications
Multi-axis positioning systems	Tracking and targeting test systems for aerospace and defense/security applications
Actuators	Precision alignment in fiber optic, telecommunication and laser device assembly
Simple and programmable motion controllers for linear stepping and direct current (DC) motors and piezo devices	Laser system alignment and beam steering for inspection, laser processing and communications
Manual fiber optic positioners	

Table of Contents

Category	Products	Representative Applications
Vibration Isolation Systems and Subsystems	Optical benches and support systems	Isolated platform for semiconductor lithography equipment
	Workstations	Foundation platforms for laser systems
	Active and passive isolation systems	Reduction of impact of external forces on high-precision research, manufacturing test and assembly systems
	Honeycomb, granite and rigid structures	
	Elastomeric mounts	Scanning electron microscope/atomic force microscope base isolation
		Workstation platforms for fiber optic device fabrication
Optics and Optical Hardware	Lenses	Components for research and product development activities
	Mirrors	Analytical instrumentation for life and health sciences
	Prisms and windows	Laser systems
	Thin-film filters and coatings	Deep ultraviolet illumination optics for semiconductor lithography
	Filters and attenuators	Semiconductor wafer and mask inspection
	Collimators	Manual, high-precision alignment of optical instruments
	Ultrafast laser optics	Electro-optical research
	Beamsplitters and polarization optics	

Ruled and holographic diffraction gratings

- Echelles

- Reflection

- Transmission

- Plano

- Concave

Optical mounts

Bases and brackets

Posts and rod systems

Laser-to-fiber couplers

Educational kits

Electro-optic sensors and imaging systems for defense/security applications

Optical measurement and communications systems

Spectroscopy

Ultrafast laser, terahertz imaging and laser fusion research

Table of Contents

Category	Products	Representative Applications
Opto-Mechanical Subassemblies and Subsystems	Laser beam delivery and imaging assemblies	Semiconductor wafer defect inspection
	Integrated electro-optic-mechanical subsystems	Semiconductor mask patterning
	Objective lens systems	Optical coherence tomography for non-invasive diagnostics
	Refractive beam shaper assemblies	Thin film measurement of semiconductor wafers
	Fast steering mirrors	Laser beam stabilization for industrial metrology applications
	Laser beam attenuators	
		High-speed cell sorting for genomic research
		Analytical instrumentation for life and health sciences
		Light detection and ranging
		Optical data storage
Crystals	Optical crystals	X-ray imaging for security, industrial and medical applications
	Scintillation crystals	Infrared spectroscopy (FTIR) for quality assurance
	Crystal imaging arrays	X-ray detection such as steel thickness gauging
	Electro optics	Optical and acoustic applications including frequency doubling, optical modulators and Q switches

Subassemblies

We offer subassemblies that are a value-added combination of standard and custom products drawn from our lasers, precision components, optics, motion control and vibration isolation product lines. We combine these items with additional engineering to create more highly integrated products to meet customer needs. These products are often subsystems of our OEM customers products. We believe that this subassembly capability gives us a significant competitive advantage by differentiating us from competitors that offer a more limited product selection. We have used our capabilities in this area to develop and supply subassemblies to customers in a number of industries, most notably semiconductor equipment and life and health sciences. These products range from low level subassemblies to complete finished products.

Fiber Optic Device Engineering Services

Our experience in fiber optic device assembly, packaging and testing technology provides us with the expertise in the processes and technologies necessary to build high-precision fiber optic components. We apply this expertise to assist our customers in designing device packaging, developing manufacturing processes, developing and producing tooling and programming customized process automation software. These services help customers significantly reduce the development cycle for their products and improve the productivity, yields and quality of their manufacturing processes. In addition to helping customers become more productive, these services assist us in establishing a long-term relationship with our customers and allow us to identify additional opportunities for new products. We also offer device manufacturing and packaging services to enable customers to design and test new

Table of Contents

products. We believe that the extent of our capabilities and services in this area provides us with a key competitive advantage over other capital equipment suppliers to this market.

Advanced Packaging and Automation Systems Division

Within the semiconductor industry, the manufacturing of integrated circuits is often divided into two areas front-end wafer processing and back-end packaging. Our Advanced Packaging and Automation Systems Division offers a broad array of automation subsystem products for semiconductor front-end wafer processing applications, and also supplies complete turnkey systems for advanced back-end packaging applications. These high-performance products provide our customers with the speed, accuracy, repeatability and dependability required for high-throughput production environments.

Semiconductor Front-End Technologies

Our Advanced Packaging and Automation Systems Division offers a variety of products for front-end semiconductor process applications, including automated wafer handling subsystems such as atmospheric robots, load ports and wafer alignment stations, as well as a family of equipment front end modules (EFEMs), which are an integrated combination of our subsystem products.

Atmospheric Wafer Handling Robots. We sell a full range of atmospheric robots that automate the handling of semiconductor wafers in the ultra-clean environment of a process or inspection tool. We hold a number of issued and pending patents on state-of-the-art edge-gripping robotic end effectors that are critical to enabling semiconductor equipment manufacturers to efficiently and reliably handle 300-millimeter wafers without contacting the backside of the wafer, an important technique in reducing particle contamination and the resultant yield losses. Our wafer handling robots also feature our patented automated teaching technology, which allows the robot to be programmed more accurately and more consistently, reducing setup time. All of our 300-millimeter wafer handling robots incorporate our patented optical sensing technology in the end effector to maximize the accuracy of the robot while simplifying the setup and calibration process.

Load Ports. Our automatic door opener system (ADO) is a load port for 300-millimeter wafers that serves as the physical interface between a process or inspection tool and the fabrication environment, allowing wafers to be efficiently and reliably loaded into the tool while maintaining an ultra-clean environment. The ADO is easy to install, conforms to industry standards, and is compatible with popular wafer transport pods, known in the industry as front-opening universal pods, or FOUPs. We hold a number of issued and pending patents on various features of this technology, including our latchkey opening mechanism, our wafer scanning mechanism and our alignment technique. The ADO provides throughput performance that is among the highest in the industry under Class 1 clean room conditions.

Wafer Alignment Stations. Our edge-gripping wafer prealigner is a patented design based on our innovative edge-grip wafer handling technology. This product enables our customers to rapidly and precisely align 300-millimeter wafers prior to insertion into the process or inspection module of the capital equipment, without contacting the backside of the wafer. This reduces losses due to particle contami