TERADYNE, INC
Form 10-K
March 01, 2010

# UNITED STATES

# SECURITIES AND EXCHANGE COMMISSION

**WASHINGTON, D.C. 20549**

# FORM 10-K

**ANNUAL REPORT**

**PURSUANT TO SECTIONS 13 OR 15(d)**

**OF THE SECURITIES EXCHANGE ACT OF 1934**

(MARK ONE)

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

For the fiscal year ended December 31, 2009

OR

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

Commission file number 001-06462

# TERADYNE, INC.

**(Exact Name of Registrant as Specified in Its Charter)**

| **MASSACHUSETTS** | **04-2272148** |
|---|---|
| **(State or Other Jurisdiction of Incorporation or Organization)** | **(I.R.S. Employer Identification Number)** |
| **600 RIVERPARK DRIVE** | |
| **NORTH READING, MASSACHUSETTS** | **01864** |

**(Address of Principal Executive Offices)** **(Zip Code)**

**Registrant s telephone number, including area code: (978) 370-2700**

**Securities registered pursuant to Section 12(b) of the Act:**

| **Title of Each Class** | **Name of Each Exchange on Which Registered** |
|---|---|
| Common Stock, par value $0.125 per share | New York Stock Exchange |

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No ¨

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ¨ No x

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 whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (232.405 of this chapter) during the proceeding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ¨ No ¨

* The registrant has not yet been phased in to the interactive data requirements.

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 in any amendment to this Form 10-K. x

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act (check one):

Large accelerated filer x Accelerated filer ¨ Non-accelerated filer ¨ Smaller reporting company ¨

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

The aggregate market value of the voting stock held by non-affiliates of the registrant as of July 5, 2009 was approximately $1.2 billion based upon the closing price of the registrant s Common Stock on the New York Stock Exchange on that date.

The number of shares outstanding of the registrant s only class of Common Stock as of February 22, 2010 was 177,237,096 shares.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the registrant s proxy statement in connection with its 2010 annual meeting of shareholders are incorporated by reference into Part III.

**TERADYNE, INC.**

**FORM 10-K**

**PART I**

**Item 1:** ***Business***

Teradyne, Inc. (the Company or Teradyne ) was founded in 1960 and is a leading global supplier of automatic test equipment.

We design, develop, manufacture and sell automatic test systems and solutions used to test complex electronics in the consumer electronics, automotive, computing, telecommunications, and aerospace and defense industries. Our automatic test equipment products and services include:

- semiconductor test ( Semiconductor Test ) systems, and
- military/aerospace ( Mil/Aero ) test instrumentation and systems, hard disk drive test ( HDD ) systems, circuit-board test and inspection ( Commercial Board Test ) systems, and automotive diagnostic and test ( Diagnostic Solutions ) systems (collectively these products represent Systems Test Group ).

We have a broad customer base which includes integrated device manufacturers ( IDMs ), outsourced sub-assembly and test providers ( OSATs ), wafer foundries, fabless companies that design, but contract with others for the manufacture of integrated circuits ( ICs ), manufacturers of circuit boards, automotive companies, HDD manufacturers, aerospace and military contractors as well as the United States Department of Defense.

In 2009, we entered the High Speed dynamic random access memory ( DRAM ) testing market with our UltraFlex-M product. High speed DRAM memory devices are used for high-end graphics applications in personal computer and gaming consoles.

In 2009, we also entered the market for hard disk drive test systems with our Neptune product. The Neptune product line currently is used to test 2.5 inch hard disk drives for laptops, netbooks and consumer electronic storage devices.

In 2008, we acquired Nextest Systems Corporation ( Nextest ) and Eagle Test Systems, Inc. ( Eagle Test ) to expand our product portfolio of automated test equipment for the semiconductor industry. Nextest develops systems to test integrated circuits such as microcontrollers, image sensors, smart cards and field programmable logic devices for the flash memory, flash card and flash memory based system-on-a-chip ( SOC ) markets. Eagle Test develops systems to test analog, mixed-signal and radio frequency semiconductors used in digital cameras, MP3 players, cellular telephones, video/multimedia products, automotive electronics and notebook and desktop computers. Nextest and Eagle Test are included within our Semiconductor Test segment.

In 2007, we purchased in-process enabling test technology and hired certain engineers from MOSAID Technologies Inc.

**Investor Information**

We are a Massachusetts corporation incorporated on September 23, 1960. We are subject to the informational requirements of the Exchange Act. We file periodic reports, proxy statements and other information with the Securities and Exchange Commission ( SEC ). Such reports, proxy statements and other information may be obtained by visiting the Public Reference Room of the SEC at 100 F Street, N.E., Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an internet site (http://www.sec.gov) that contains reports, proxy and information statements and other information regarding issuers that file electronically.

You can access financial and other information, including the charters of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee, our Corporate Governance Guidelines and Standards of Business Conduct, by clicking the Investors link on our web site at www.teradyne.com. We make available, free of charge, copies of our filings with the SEC, including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act through our web site as soon as reasonably practicable after filing such material electronically or otherwise furnishing it to the SEC.

**Products**

***Semiconductor Test***

We design, manufacture, sell and support Semiconductor Test products and services on a world wide basis. The test systems we provide are used both for wafer level and device package testing. These chips are used in automotive, communications, consumer, computer and electronic game applications, among others. Semiconductor devices span a broad range of functionality, from very simple low-cost devices such as appliance microcontrollers, operational amplifiers or voltage regulators to complex digital signal processors, microprocessors, high-density as well as high speed memory devices. Semiconductor Test products and services are sold to IDMs that integrate the fabrication of silicon wafers into their business, Fabless companies that outsource the manufacturing of silicon wafers, Foundries that cater to the processing and manufacturing of silicon wafers, and OSATs that provide test and assembly services for the final packaged devices to both Fabless companies and IDMs. Fabless companies perform the design of integrated circuits without manufacturing capabilities, and use Foundries for wafer manufacturing and OSATs for test and assembly. These customers obtain the overall benefit of comprehensively testing devices and reducing the total costs associated with testing by using our Semiconductor Test systems to:

improve and control product quality;

measure and improve product performance;

reduce time to market; and

increase production yields.

Our FLEX Test Platform architecture advances our core technologies to produce test equipment that is designed for high efficiency multi-site testing. Multi-site testing involves the simultaneous testing of many devices and functions in parallel. Leading semiconductor manufacturers are using multi-site testing to significantly improve their Cost of Test economics. The FLEX Test Platform architecture addresses customer requirements through the following key capabilities:

1) A high efficiency multi-site architecture that eliminates tester overhead such as instrument setup, synchronization and data movement, and signal processing;

2) The IG-XL software operating system which provides fast program development, including instant conversion from single to multi-site test; and

3) Broad technology coverage by instruments designed to cover the range of test parameters, coupled with a Universal Slot test head design that allows easy test system reconfiguration to address changing test needs.

FLEX Test Platform purchases are being made by IDMs, OSATs and Fabless customers. The FLEX Test Platform has become a widely used test solution at OSATs and test houses by providing versatile testers that can handle the widest range of devices, allowing OSATs to leverage their capital investments. The broad consumer, automotive and broadband markets have historically driven most of the device volume growth in the semiconductor industry. These markets include cell phones, set top boxes, HDTVs, game controllers, computer

graphics, and automotive controllers to name a few. These end use markets are continuing to be drivers for the FLEX Test Platform family of products because they require a wide range of technologies and instrument coverage. The FLEX Test Platform has an installed base of more than 2,100 customer systems to date and it continues to grow. The introduction of the UltraFLEX-M tester in 2009 extends the FLEX Test Platform into the High Speed DRAM testing market.

Our J750 test system shares the IG-XL software environment with the family of FLEX Test Platform systems. The J750 is designed to address the highest volume semiconductor devices such as microcontrollers that are central to the functionality of almost every consumer electronics product, from small appliances to automotive engine controllers. J750 test systems combine compact packaging, high throughput and ease of production test. These benefits are possible due to the high level of integration in the design. We extended the J750 platform technology to create the IP750 Image Sensor test system. The IP750 is focused on testing image sensor devices used in digital cameras and other imaging products. The J750 platform has an installed base of over 2,900 systems and it continues to grow.

We have continued to invest in the J750 platform with a set of J750Ex instrumentation that was released in 2007, with additional instrument releases in 2008. These instruments bring new capabilities to existing market segments and expand the J750 platform to critical new devices that include high end microcontrollers and the latest generation of cameras. These new J750Ex instruments are designed to be compatible with our customers existing hardware and software investments and deliver industry leading parallel test economics while providing customers with flexibility to address next generation functional requirements.

Our acquisition of Nextest in January of 2008 expanded our product offerings to include the Magnum test platform. The Magnum products address the requirements of mass production test of memory devices such as flash memory and DRAM. Flash and DRAM memory are widely used core building blocks in modern electronic products finding wide application in consumer, industrial, and computing equipment. Magnum II is the newest member of the family. With test rates up to 800 megabits per second and a versatile architecture designed for maximal throughput, Magnum II tests flash and DRAM devices, an important advantage for large memory producers that manufacture both types of memory. The Magnum platform has an installed base of over 700 systems and it continues to grow.

Our acquisition of Eagle Test in November of 2008 expanded our product offerings to include the ETS platform. The ETS platform is used by semiconductor manufacturers and assembly and test subcontractors, primarily in the low pin count analog/mixed signal discrete markets that cover more cost sensitive applications. Eagle Test s proprietary SmartPin technology enables multiple semiconductor devices to be tested simultaneously, or in parallel, on an individual test system, permitting greater test throughput. Semiconductors tested by Eagle Test s systems are incorporated into a wide range of products in historically high-growth markets, including digital cameras, MP3 players, cellular telephones, video/multimedia products, automotive electronics, computer peripherals, and notebook and desktop computers. The ETS platform has an installed base of over 1,900 systems and it continues to grow.

***Systems Test Group***

Our Systems Test Group segment is comprised of four business units: Mil/Aero, Hard Disk Drive, Commercial Board Test and Diagnostic Solutions.

***Mil/Aero***

Our expertise in the test and diagnosis of printed circuit boards ( PCB ) and subsystems has proven to be essential in supporting the ever-demanding military, defense and aerospace markets. Our test solutions for these markets include high-performance systems, instruments and software solutions that manufacturers and repair depots depend on to ensure the readiness of commercial and military electronic systems.

New programs from tactical aircraft to missile systems, as well as widespread enhancement programs, continue to fuel the demand for high performance test systems. We are a leading provider of test instrumentation and systems with performance well suited to the demands of military/aerospace electronics manufacturers and repair depots worldwide. Success in this market is illustrated by our penetration into major Department of Defense programs across all U.S. military service branches and many allied military services worldwide.

***Hard Disk Drive***

Leveraging our expertise in functional test and semiconductor test, we introduced the Neptune product line in 2009. This product is targeted at the high growth 2.5 inch hard disk drive market.

The storage growth for laptops, netbooks and consumer electronics combined with the growth in storage density is driving the need for high density test solutions for the 2.5 inch HDD segment. The Neptune product line addresses the challenges of high throughput automated manufacturing environments while at the same time meeting the performance requirements for next generation HDDs. Our products are targeted at the HDD manufacturers and used as part of the manufacturing and test process of drives.

***Commercial Board Test***

We produce a variety of test and inspection systems sold to many of the industry s leading PCB original equipment manufacturers ( OEMs ) and subcontract manufacturers ( Subcons ) around the world. Because today s PCBs and electronic assemblies handle more functionality than ever before, they contain highly integrated circuits and more complex components that operate faster, use lower voltages and are more susceptible to assembly problems. Our assembly test and inspection systems combine the advanced diagnostic hardware and operating software needed to ensure product quality, sustain high manufacturing yield, verify functional operation, diagnose faults and effectively reduce manufacturing costs. Our products are sold to the electronics manufacturers of cell phones, servers, computers, Internet switches, automobiles and military avionics systems worldwide.

*In-Circuit Test Systems*

We manufacture in-circuit test ( ICT ) systems that are used to assess electrical interconnections, verify interoperation and find faulty circuits on fully assembled and soldered PCBs. Fast, accurate and cost-effective diagnostic capabilities are hallmark features of our ICT systems, including the TestStation and Spectrum product families used in a variety of in-line, high-volume PCB test applications. These systems are also used in sample test environments for prototype testing and early-stage PCB design and development. Supporting technologies such as our patented SafeTest technology allow TestStation users to safely troubleshoot the low-voltage components and interconnects commonly found in battery-powered portable consumer electronics and low-power commercial equipment. In addition to standard ICT equipment, we offer combinational test platforms and handler-ready in-line test systems for high-volume board manufacturing.

*Imaging Inspection Systems*

We manufacture automated x-ray inspection ( AXI ) machines that are used to test PCB assemblies. These machines use patented technologies to quickly and automatically inspect the solder joints of the components on the board. Using x-rays allows our XStation MX to inspect joints that are on either side of the PCB assembly, or that are hidden by the component packages themselves. The XStation MX uses ClearVue , a patented three-dimensional X-Ray imaging technique, to more accurately detect subtle defects and manufacturing flaws, even as board complexities grow.

***Diagnostic Solutions***

We provide electronic test and diagnostic systems to the automotive OEMs and their major subcontractors. The systems are used throughout the vehicle s lifecycle from design through manufacture to after sale service and consist of highly integrated software and hardware components. As the number and complexity of electronic systems and embedded software proliferate in vehicles, the ability to manufacture and service those vehicles becomes increasingly dependent on electronic diagnostic equipment. Our Diagnostic Solutions products fall into two categories:

*OEM Service Diagnostics*

OEM dealer service technicians use our systems to find faults in vehicles in use by their customers, and to reduce OEM warranty costs. Historically, the focus has been on fixing faults in the service bay, but is now growing to include the programming of vehicle software.

*Vehicle Configuration and Test Solutions*

Our VCATS products are used on automotive and major automotive subassembly production lines. These products connect to the vehicle to test and program or configure the electronic systems on vehicles. These vehicle electronic systems include engine control modules and subsystems such as braking, navigation and climate control. Our VCATS products are also able to link to an OEM s manufacturing control system in order to provide statistical quality reports to operators and management.

Both VCATS and OEM Service Diagnostics products utilize our GRADE-X authoring software enabling the manufacturing and service phases of vehicle development. Diagnostics for electronic modules and systems used on vehicles of our customers can be developed and written using the GRADE-X authoring software. The actual diagnosis of a customer s vehicle occurs in the OEM dealer s service bay utilizing a runtime portion of the software to facilitate the service and repair of the vehicle.

***Discontinued Operations***

On August 1, 2007, our Broadband Test Division business was sold to Tollgrade Communications, Inc. This business provided test systems for testing lines and qualifying lines for DSL telephone networks. On November 30, 2005, our Connection Systems business was sold to Amphenol Corporation. This business designed and manufactured high-performance connection systems including backplane systems, printed circuit boards and high-speed, high-density connectors. Connection Systems and Broadband Test Division have been reflected as discontinued operations in the accompanying financial statements.

***Summary of Net Revenue by Reportable Segment***

Our two reportable segments accounted for the following percentages of consolidated net revenue for each of last three years:

| | 2009 | 2008 | 2007 |
|---|---|---|---|
| Semiconductor Test | 67% | 81% | 80% |
| Systems Test Group | 33 | 19 | 20 |
| Total | 100% | 100% | 100% |

**Sales and Distribution**

Prices for our systems can reach $2 million or more. In fiscal year 2009, revenues from Western Digital Corporation accounted for more than 10% of total revenue. Western Digital Corporation is a customer of our

Systems Test Group. In 2008 and 2007, no single customer accounted for more than 10% of our consolidated net revenue. In each of the years 2009, 2008 and 2007, our three largest customers in aggregate accounted for 26%, 14% and 16% of our consolidated net revenue, respectively.

Direct sales to United States government agencies accounted for 4%, 2% and 5% of our consolidated net revenue in 2009, 2008 and 2007, respectively. Approximately 12%, 11% and 23% of Systems Test Group s revenue in 2009, 2008 and 2007, respectively, was to United States government agencies and 18%, 27% and 16% of Systems Test Group s revenue in 2009, 2008 and 2007, respectively, was to government contractor customers.

We have sales and service offices located throughout North America, Asia and Europe, as our customers outside the United States are located primarily in these geographic areas. We sell in these areas predominantly through a direct sales force. Our manufacturing activities are primarily conducted through subcontractors and outsourced contract manufacturers with a significant operation concentrated in China.

Sales to customers outside the United States accounted for 74%, 78% and 77% of our consolidated net revenue in 2009, 2008 and 2007, respectively. Sales to customers located in Taiwan were 14%, 18% and 13% of consolidated net revenue in 2009, 2008 and 2007, respectively. Sales to customers located in Malaysia were 11%, 6% and 7% of our consolidated net revenue in 2009, 2008 and 2007 respectively. Sales to customers located in Europe were 10%, 10% and 12% of our consolidated net revenue in 2009, 2008 and 2007, respectively. Sales to customers located in South East Asia were 10%, 10% and 8% of our consolidated net revenue in 2009, 2008 and 2007, respectively. Sales are attributed to geographic areas based on the location of the customer site.

See also Item 1A: Risk Factors and Note R: Operating Segment and Geographic Information in Notes to Consolidated Financial Statements.

**Competition**

We face significant competition throughout the world in each of our reportable segments. Competitors in the Semiconductor Test segment include, among others, Advantest Corporation, Verigy Inc. and LTX Credence Corporation. Competitors in the Systems Test Group include, among others, Agilent Technologies, Inc. and Xyratex Ltd. Some of our competitors have substantially greater financial and other resources to pursue engineering, manufacturing, marketing and distribution of their products. We also face competition from internal suppliers at several of our customers. Some of our competitors have introduced or announced new products with certain performance characteristics which may be considered equal or superior to those we currently offer. We expect our competitors to continue to improve the performance of their current products and to introduce new products or new technologies that provide improved cost of ownership and performance characteristics. See also Item 1A: Risk Factors.

**Backlog**

At December 31, 2009 and 2008, our backlog of unfilled orders in our two reportable segments was as follows:

| | 2009 | 2008 |
|---|---|---|
| | (in millions) | |
| Semiconductor Test | $ 276.8 | $ 129.4 |
| Systems Test Group | 95.2 | 106.9 |
| | $ 372.0 | $ 236.3 |

Of the backlog at December 31, 2009, approximately 99% of the Semiconductor Test backlog and 85% of Systems Test Group backlog is expected to be delivered in 2010.

Customers may delay delivery of products or cancel orders suddenly and without significant notice, subject to possible cancellation penalties. Due to possible customer changes in delivery schedules and cancellation of orders, our backlog at any particular date is not necessarily indicative of the actual sales for any succeeding period. Delays in delivery schedules and/or cancellations of backlog during any particular period could have a material adverse effect on our business, financial condition and results of operations.

**Raw Materials**

Our products contain electronic and mechanical components that are provided by a wide range of suppliers. Certain of these components are standard products, while others are manufactured to our specifications. We can experience occasional delays in obtaining timely delivery of certain items. While the majority of our components are available from multiple suppliers, certain items are obtained from sole sources. We may experience a temporary adverse impact if any of our sole source suppliers delays or ceases to deliver products.

**Intellectual Property and Licenses**

The development of our products, both hardware and software, is based in significant part on proprietary information, our brands and technology. We protect our rights in proprietary information, brands and technology through various methods, such as:

- patents;
- copyrights;
- trademarks;
- trade secrets;
- standards of business conduct and related business practices; and
- technology license agreements, software license agreements, non-disclosure agreements, employment agreements, and other agreements.

However, these protections might not be effective in all circumstances. Competitors might independently develop similar technology or exploit our proprietary information and our brands in countries where we lack enforceable intellectual property rights or where enforcement of such rights through the legal system provides an insufficient deterrent. Also, intellectual property protections can lapse or be invalidated through appropriate legal processes. We do not believe that any single piece of intellectual property or proprietary rights is essential to our business.

**Employees**

As of December 31, 2009, we employed approximately 2,900 people. Since the inception of our business, we have experienced no work stoppages or other labor disturbances. We have no collective bargaining contracts.

**Engineering and Development Activities**

The highly technical nature of our products requires a large and continuing engineering and development effort. Engineering and development expenditures for the years ended December 31, 2009, 2008 and 2007 were $164.8 million, $216.5 million, and $204.3 million, respectively. These expenditures amounted to approximately 20%, 20%, and 19% of consolidated net revenue in 2009, 2008, and 2007, respectively.

**Environmental Affairs**

We are subject to various federal, state, and local government laws and regulations relating to the protection of employee health and safety and the environment. We accrue for all known environmental liabilities when it becomes probable that we will incur cleanup costs and those costs can reasonably be estimated. The amounts accrued do not cover sites that are in the preliminary stages of investigation. Estimated environmental costs are not expected to materially affect the financial position or results of our operations in future periods. However, estimates of future costs are subject to change due to protracted cleanup periods and changing environmental remediation laws and regulations.

**OUR EXECUTIVE OFFICERS**

Pursuant to General Instruction G(3) of Form 10-K, the following table is included in Part I of this Annual Report on Form 10-K in lieu of being included in the Proxy Statement for the Annual Meeting of Shareholders. The table sets forth the names of all of our executive officers and certain other information relating to their positions held with Teradyne and other business experience. Our executive officers do not have a specific term of office but rather serve at the discretion of the Board of Directors.

| Executive Officer | Age | Position | Business Experience For The Past 5 Years |
|---|---|---|---|
| Michael A. Bradley | 61 | Chief Executive Officer and President | Chief Executive Officer since 2004; President of Teradyne since 2003; President of Semiconductor Test from 2001 to 2003. |
| Gregory R. Beecher | 52 | Vice President, Chief Financial Officer and Treasurer | Vice President and Chief Financial Officer of Teradyne since 2001 and Treasurer of Teradyne from 2003 to 2005 and since 2006. |
| Charles J. Gray | 48 | Vice President, General Counsel and Secretary | Vice President, General Counsel and Secretary of Teradyne since April 2009; Vice President and General Counsel of Sonus Networks, Inc. from 2002 to 2008. |
| Jeffrey R. Hotchkiss | 62 | President of Systems Test Group | President of Systems Test Group since 2007; President of Assembly Test Systems from 2004 to 2007, and President of Diagnostic Solutions from 2005 to 2007. |
| Mark E. Jagiela | 49 | President of Semiconductor Test | President of Semiconductor Test since 2003; Vice President of Teradyne since 2001. |

**Item 1A: *Risk Factors***
**Risks Associated with Our Business**

The risks described below are not the only risks that we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or operating results.

***Our business is impacted by worldwide economic cycles, which are difficult to predict.***

Capital equipment providers in the electronics and semiconductor industries, such as Teradyne, have, in the past, been negatively impacted by sudden slowdowns in the global economies, and resulting reductions in customer capital investments. The duration of slowdowns in customer capital investments are difficult to predict.

The global economy and financial markets experienced disruption in 2009, including, among other things, extreme volatility in security prices, severely diminished liquidity and credit availability, rating downgrades of certain investments and declining valuations of others. Governments have taken historic actions intended to address extreme market conditions that include severely restricted credit. There may be a further deterioration in financial markets and confidence in major economies. We are unable to predict the likely duration and severity of the current disruptions in financial markets, credit availability, and adverse economic conditions throughout the world. These economic developments affect businesses such as ours and those of our customers and vendors in a number of ways that could result in unfavorable consequences to us. Further disruption and deterioration in economic conditions may reduce customer purchases of our products, thereby reducing our revenues and earnings. In addition, such adverse decline in economic conditions may, among other things, result in increased price competition for our products, increased risk of excess and obsolete inventories, increased risk in the collectability of our accounts receivable from our customers, increased risk in potential reserves for doubtful accounts and write-offs of accounts receivable, and higher operating costs as a percentage of revenues. In 2009

and 2008, we took actions to address the effects of the economic crisis, including implementing cost control and reduction measures. It is possible that we may need to take further cost control and reduction measures. We cannot predict whether these measures will be sufficient to offset certain of the negative trends that might affect our business.

***Our business is dependent on the current and anticipated market for electronics, which historically has been highly cyclical.***

Our business and results of operations depend in significant part upon capital expenditures of manufacturers of semiconductors and other electronics, which in turn depend upon the current and anticipated market demand for those products. As evidenced by our current business and results of operations, the market demand for electronics is impacted by economic slowdowns. Historically, the electronics and semiconductor industry has been highly cyclical with recurring periods of over-supply, which often have had a severe negative effect on demand for test equipment, including systems we manufacture and market. We believe that the markets for newer generations of electronic products such as those that we manufacture and market will also be subject to similar fluctuations. We are dependent on the timing of orders from our customers, and the deferral or cancellation of previous customer orders could have an adverse effect on our results of operations. We cannot ensure that the level of revenues or new orders for a calendar quarter will be sustained in subsequent quarters. In addition, any factor adversely affecting the electronics industry or particular segments within the electronics industry may adversely affect our business, financial condition and operating results.

***We are subject to intense competition.***

We face significant competition throughout the world in each of our reportable segments. Some of our competitors have substantial financial and other resources to pursue engineering, manufacturing, marketing and distribution of their products. We also face competition from internal suppliers at several of our customers. Some of our competitors have introduced or announced new products with certain performance characteristics which may be considered equal or superior to those we currently offer. We expect our competitors to continue to improve the performance of their current products and to introduce new products or new technologies that provide improved cost of ownership and performance characteristics. New product introductions by competitors could cause a decline in revenues or loss of market acceptance of our products. Moreover, increased competitive pressure could lead to intensified price based competition, which could materially adversely affect our business, financial condition and results of operations.

***Our operating results are likely to fluctuate significantly.***

Our operating results are affected by a wide variety of factors that could materially adversely affect revenues and profitability. The following factors are expected to impact future operations:

- the worldwide economic slowdown and continued disruption in the global financial markets;
- competitive pressures on selling prices;
- our ability to introduce, and the market acceptance of, new products;
- changes in product revenue mix resulting from changes in customer demand;
- the level of orders received which can be shipped in a quarter because of the tendency of customers to wait until late in a quarter to commit to purchase due to capital expenditure approvals and constraints occurring at the end of a quarter, or the hope of obtaining more favorable pricing from a competitor seeking the business;
- engineering and development investments relating to new product introductions, and the expansion of manufacturing, outsourcing and engineering operations in Asia;

provisions for excess and obsolete inventory relating to the lack of demand for and the discontinuance of products;

impairment charges for certain long-lived and intangible assets and goodwill;

parallel or multi-site testing could lead to a decrease in the ultimate size of the market for our products; and

the ability of our suppliers and subcontractors to meet product quality or delivery requirements needed to satisfy customer orders for our products, especially if product demand continues to increase.

As a result of the foregoing and other factors, we have experienced and may continue to experience material fluctuations in future operating results on a quarterly or annual basis which could materially and adversely affect our business, financial condition, operating results and stock price.

***We are subject to risks of operating internationally.***

A significant portion of our total revenue is derived from customers outside the United States. Our international sales and operations are subject to significant risks and difficulties, including:

unexpected changes in legal and regulatory requirements affecting international markets;

changes in tariffs and exchange rates;

social, political and economic instability, acts of terrorism and international conflicts;

difficulties in protecting intellectual property;

difficulties in accounts receivable collection;

cultural differences in the conduct of business;

difficulties in staffing and managing international operations; and

compliance with customs regulations.

In addition, an increasing portion of our products and the products we purchase from our suppliers are sourced or manufactured in foreign locations, including China, and a large portion of the devices our products test are fabricated and tested by foundries and subcontractors in Taiwan, Singapore, China and other parts of Asia. As a result, we are subject to a number of economic and other risks, particularly during times of political or financial instability in these regions. Disruption of manufacturing or supply sources in these international locations could materially adversely impact our ability to fill customer orders and potentially result in lost business.

***If we fail to develop new technologies to adapt to our customers needs and if our customers fail to accept our new products, our revenues will be adversely affected.***

We believe that our technological position depends primarily on the technical competence and creative ability of our engineers. In a rapidly evolving market, such as ours, the development of new technologies, commercialization of those technologies into products and market

acceptance and customer demand for those products are critical to our success. Successful product development, introduction and acceptance depend upon a number of factors, including:

- new product selection;
- ability to meet customer requirements;
- development of competitive products by competitors;

timely and efficient completion of product design;

timely and efficient implementation of manufacturing and manufacturing processes;

timely remediation of product performance issues, if any, identified during testing;

assembly processes and product performance at customer locations;

differentiation of our products from our competitors products;

management of customer expectations concerning product capabilities and product life cycles;

ability to attract and retain technical talent; and

innovation that does not infringe on the intellectual property rights of third parties.

***If our suppliers do not meet product or delivery requirements, we could have reduced revenues and earnings.***

Certain components, including semiconductor chips, may be in short supply from time to time because of high industry demand or the inability of some vendors to consistently meet our quality or delivery requirements. Approximately 30% of material purchases require some custom work where having multiple suppliers would be cost prohibitive. If any of our suppliers were to cancel contracts or commitments or fail to meet the quality or delivery requirements needed to satisfy customer orders for our products, we could lose time-sensitive customer orders and have significantly decreased revenues and earnings, which would have a material adverse effect on our business, results of operations and financial condition. In addition, we rely on contract manufacturers for certain subsystems used in our products, and our ability to meet customer orders for those products depends upon the timeliness and quality of the work performed by these subcontractors, over whom we do not exercise any control.

To a certain extent, we are dependant upon the ability of our suppliers and contractors to help meet increased product or delivery requirements. Many of our suppliers implemented cost reduction strategies to address the slowdowns in the market. In the second half of 2009, several of our suppliers had material shortages which increased the lead times for certain of our products. We implemented programs to minimize the impact of these shortages. However, it may be difficult for certain suppliers to meet delivery requirements in a period of rapid growth, therefore impacting our ability to meet our customers demands.

We rely on the financial strength of our suppliers. There can be no assurance that the loss of suppliers either as a result of financial viability, bankruptcy or otherwise will not have a material adverse effect on our business, results of operations or financial condition.

***Our operations may be adversely impacted if our outsourced contract manufacturers or service providers fail to perform.***

We depend on Flextronics International Ltd. ( Flextronics ) to manufacture and test our FLEX and J750 family of products from its facility in China. If for any reason Flextronics cannot provide us with these products in a timely fashion, or at all, we may not be able to sell these products to our customers until we enter a similar arrangement with an alternative contract manufacturer. If we experience a problem with our supply of products from Flextronics, it may take us significant time to either manufacture the product or find an alternate contract manufacturer, which could result in substantial expense and disruption to our business.

We have also outsourced a number of our general and administrative functions, including information technology, to reputable service providers, many of which are in foreign countries, sometimes impacting communication with them because of language and time difficulties. Their presence in foreign countries also increases the risk they could be exposed to political risk. Additionally, there may be difficulties encountered in coordinating the outsourced operations with existing functions and operations. If we fail in successfully

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coordinating and managing the outsourced service providers, it may cause an adverse effect on our operations which could result in a decline in our stock price.

***We may not fully realize the benefits of our acquisition of Nextest, Eagle Test, and other businesses that we may acquire or strategic alliances that we may form in the future.***

In January 2008, we acquired Nextest, and in November 2008, we acquired Eagle Test. We may continue to acquire additional businesses, form strategic alliances or create joint ventures with third parties that we believe will complement or augment our existing businesses. We may not be able to realize the expected synergies and cost savings from the integration with our existing operations of Nextest, Eagle Test and other businesses or technologies that we may acquire. In addition, the integration process for our acquisitions may be complex, costly and time consuming and include unanticipated issues, expenses and liabilities. We may have difficulty in developing, manufacturing and marketing the products of a newly acquired company in a manner that enhances the performance of our combined businesses or product lines and allows us to realize value from expected synergies. Following an acquisition, we may not achieve the revenue or net income levels that justify the acquisition. Acquisitions may also result in one-time charges (such as acquisition-related expenses, write-offs or restructuring charges) or in the future, impairment of goodwill, that adversely affect our operating results. Additionally, we may fund acquisitions of new businesses, strategic alliances or joint ventures by utilizing our cash, raising debt, issuing shares of our common stock, or by other means.

***We have increased our indebtedness.***

On April 6, 2009, we completed a registered underwritten offering of $190.0 million aggregate principal amount of 4.50% Convertible Senior Notes (the Notes ) due March 15, 2014 and received net proceeds of approximately $163.0 million. We used approximately $123.3 million of the net proceeds of this offering to repay all amounts outstanding under our revolving credit facility. Although we are no longer subject to the restrictive covenants under the revolving credit facility, we have incurred approximately $190.0 million principal amount of new indebtedness that the holders of the Notes may require us to repurchase upon the occurrence of certain fundamental changes involving the Company. In addition, on March 31, 2009, our wholly-owned subsidiary in Japan, Teradyne K.K., incurred approximately $10.0 million in indebtedness that we guaranteed. The level of our indebtedness, among other things, could:

- make it difficult to make payments on our other obligations;
- make it difficult to obtain any necessary future financing for working capital, capital expenditures, debt service requirements or other purposes;
- require the dedication of a substantial portion of any cash flow from operations to service for indebtedness, thereby reducing the amount of cash flow available for other purposes, including capital expenditures; and
- limit our flexibility in planning for, or reacting to, changes in our business and the industries in which we compete.

***Our convertible note hedge and warrant transactions could impact the value of our stock.***

Concurrent with the offering of the Notes, we entered into a convertible note hedge transaction with Goldman, Sachs & Co. (the hedge counterparty ) with a strike price equal to the initial conversion price of the Notes. The convertible note hedges cover, subject to customary antidilution adjustments, approximately 34,703,196 shares of our common stock.

Separately and concurrent with the pricing of the Notes, we entered into a warrant transaction with the hedge counterparty with a strike price of $7.6650 per share, which is 75% higher than the closing price of our common stock on March 31, 2009. The warrants will be net share settled and cover, subject to customary

antidilution adjustments, approximately 31,963,470 shares of our common stock. On April 1, 2009, the hedge counterparty exercised its option to purchase warrants covering, subject to customary antidilution adjustments, an additional 2,739,726 shares of our common stock. However, we will not be obligated to deliver to the hedge counterparty more than 34,526,500 shares of common stock upon exercise of the warrants (which amount represents less than 19.99% of our outstanding shares of common stock as of March 31, 2009, without giving effect to any shares of common stock issuable pursuant to the warrant transaction), subject to customary antidilution adjustments.

The convertible note hedges are expected to reduce the potential dilution to our common stock upon any conversion of the Notes. However, the warrant transaction could separately have a dilutive effect to the extent that the market value per share of our common stock exceeds the applicable strike price of the warrant. The net cost of the convertible note hedge transaction to us, after being partially offset by the proceeds from the sale of the warrants, was approximately $21.7 million.

In connection with establishing its initial hedge of these convertible note hedge and warrant transactions, the hedge counterparty has entered into various derivative transactions with respect to our common stock and/or purchase shares of our common stock or other securities, including the Notes, concurrent with, or shortly after, the pricing of the Notes. In addition, the hedge counterparty may modify its hedge positions by entering into or unwinding various derivative transactions with respect to our common stock or by selling our common stock or other securities, including the Notes, in secondary market transactions (and may do so during any observation period related to the conversion of the Notes). These activities could adversely impact the value of our common stock and the Notes.

***We may not be able to pay our debt and other obligations.***

If our cash flow is inadequate to meet our obligations, we could face substantial liquidity problems. If we are unable to generate sufficient cash flow or otherwise obtain funds necessary to make required payments on the Notes or certain of our other obligations, we would be in default under the terms thereof, which would permit the holders of those obligations to accelerate their maturity and also could cause defaults under future indebtedness we may incur. Any such default could have a material adverse effect on our business, prospects, financial position and operating results. In addition, we cannot be certain that we would be able to repay amounts due in respect of the Notes if those obligations were to be accelerated following the occurrence of any other event of default as defined in the instruments creating those obligations, or if the holders of the Notes require us to repurchase the Notes upon the occurrence of a fundamental change involving us. Moreover, we cannot be certain that we will have sufficient funds or will be able to arrange for financing to pay the principal amount due on the Notes at maturity.

***We have taken measures to address slowdowns in the market for our products, which could have long-term negative effects on our business or impact our ability to adequately address a rapid increase in customer demand.***

We have taken measures to address slowdowns in the market for our products. These measures include shifting more of our operations to lower cost regions, outsourcing manufacturing processes, divesting of certain businesses, implementing material cost reduction programs, reducing the number of our employees, and reducing planned capital expenditures and expense budgets. We cannot ensure that the measures we have taken will not impair our ability to effectively develop and market products, to remain competitive in the industries in which we compete, to operate effectively, to operate profitably during slowdowns or to effectively meet a rapid increase in customer demand. These measures may have long-term negative effects on our business by reducing our pool of technical talent, decreasing or slowing improvements in our products, making it more difficult to hire and retain talented individuals and to quickly respond to customers or competitors in an upward cycle.

***We may incur significant liabilities if we fail to comply with environmental regulations.***

We are subject to both domestic and international environmental regulations and statutory strict liability relating to the use, storage, discharge, site cleanup and disposal of hazardous chemicals used in our manufacturing processes. If we fail to comply with present and future regulations, or are required to perform site remediation, we could be subject to future liabilities or cost, including penalties or the suspension of production. Present and future regulations may also:

- restrict our ability to expand facilities;
- restrict our ability to ship certain products into the European Union or elsewhere;
- require us to modify our operations logistics;
- require us to acquire costly equipment; or
- require us to incur other significant costs and expenses.

Pursuant to present regulations and agreements, we are conducting groundwater and subsurface assessment and monitoring and are implementing remediation and corrective action plans for facilities located in California, Massachusetts and New Hampshire which are no longer conducting manufacturing operations. As of December 31, 2009, we have not incurred material costs as result of the monitoring and remediation steps taken at the California, Massachusetts and New Hampshire sites.

On January 27, 2003, the European Union adopted the following directives: (i) the directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (the RoHS Directive ); and (ii) the directive on Waste Electrical and Electronic Equipment (the WEEE Directive ). The WEEE Directive became effective August 13, 2005 and the RoHS Directive became effective on July 6, 2006. Both the RoHS Directive and the WEEE Directive alter the form and manner in which electronic equipment is imported, sold and handled in the European Union. Other jurisdictions, such as China, have followed the European Union s lead in enacting legislation with respect to hazardous substances and waste removal. Ensuring compliance with the RoHS Directive, the WEEE Directive and similar legislation in other jurisdictions, and integrating compliance activities with our suppliers and customers could result in additional costs and disruption to operations and logistics and thus, could have a negative impact on our business, operations and financial condition.

***We currently are and in the future may be subject to litigation that could have an adverse effect on our business.***

From time to time, we may be subject to litigation or other administrative and governmental proceedings that could require significant management time and resources and cause us to incur expenses and, in the event of an adverse decision, pay damages in an amount that could have a material adverse effect on our financial position or results of operations.

***Third parties may claim we are infringing their intellectual property and we could suffer significant litigation costs, licensing expenses or be prevented from selling our products.***

We have been sued for patent infringement in the past and receive notifications from time to time that we may be in violation of patents held by others. An assertion of patent infringement against us, if successful, could have a material adverse effect on our ability to sell our product or it could force us to seek a license to the intellectual property rights of others or alter such products so that they no longer infringe the intellectual property rights of others. A license could be very expensive to obtain or may not be available at all. Similarly, changing our products or processes to avoid infringing the rights of others may be costly or impractical. Additionally, patent litigation could require a significant use of management resources and involve a lengthy and expensive defense, even if we eventually prevail. If we do not prevail, we might be forced to pay significant damages, obtain licenses, modify our products, or stop making our products; each of which could have a material adverse effect on our financial condition and operating results.

***We may incur higher tax rates than we expect and may have exposure to additional international tax liabilities and costs.***

We are subject to paying income taxes in the United States and various other countries where we operate. Our effective tax rate is dependent on where our earnings are generated and the tax regulations and the interpretation and judgment of administrative tax or revenue entities in the United States and such other countries. We have pursued a global tax strategy which could adversely be affected by our failure to expand operations or earnings in certain countries, the mix of earnings and tax rates in the countries where we operate, changes to tax laws or an adverse tax ruling by administrative entities. We are also subject to tax audits in the countries where we operate. Any material assessment resulting from an audit from an administrative tax or revenue entity could also negatively affect our financial results.

As a multinational corporation, we are subject to income taxes as well as non-income based taxes, in both the United States and various foreign jurisdictions. In certain foreign jurisdictions, we qualify for tax incentives based on our ability to meet, on a continuing basis, various tests relating to our employment levels, research and development expenditures and other qualification requirements in a particular foreign jurisdiction. While we intend to operate in such a manner to maintain and maximize our tax incentives, no assurance can be given that we have so qualified or that we will so qualify for any particular year or jurisdiction. If we fail to qualify and to remain qualified for certain foreign tax incentives, we may be subject to further taxation or an increase in our effective tax rate which would adversely impact our financial results. In addition, we may incur additional costs, including headcount expenses, in order to obtain or maintain a foreign tax incentive in a particular foreign jurisdiction.

***We have significant guarantees and indemnification obligations.***

From time to time we make guarantees to customers regarding the performance of our products and guarantee certain indebtedness, performance obligations or lease commitments of our subsidiary and affiliate companies. We also have agreed to provide indemnification to our officers, directors, employees and agents, to the extent permitted by law, arising from certain events or occurrences while the officer, director, employee or agent, is or was serving at our request in such capacity. If we become liable under any of these obligations, it could materially and adversely affect our business, financial condition and operating results. For additional information see Note J: Commitments and Contingencies Guarantees and Indemnification Obligations in Notes to Consolidated Financial Statements.

***If we are unable to protect our intellectual property ( IP ), we may lose a valuable asset or may incur costly litigation to protect our rights.***

We protect the technology that is incorporated in our products in several ways, including through patent, copyright, and trade secret protection and by contractual agreement. However, even with these protections, our IP may still be challenged, invalidated or subject to other infringement actions. While we believe that our IP has value in the aggregate, no single element of our IP is in itself essential. If a significant portion of our IP is invalidated or ineffective, our business could be materially adversely affected.

***Our business may suffer if we are unable to attract and retain key employees.***

Competition for employees with skills we require is intense in the high technology industry. Our success will depend on our ability to attract and retain key technical employees. The loss of one or more key or other employees, a decrease in our inability to attract additional qualified employees, or the delay in hiring key personnel could each have a material adverse effect on our business, results of operations or financial condition.

***We may have additional pension funding obligations as a result of the weak performance of financial markets and its effect on plan assets.***