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NOVA MEASURING INSTRUMENTS TO ACQUIRE HYPERNEX

Acquisition Leverages Nova's Existing Channels to Expand into Rapidly Growing X-ray Diffraction Metrology

Rehovoth, Israel – April 25, 2006 - Nova Measuring Instruments, Ltd. (Nasdaq: NVMI), the market leader in integrated metrology and process control for the semiconductor industry, today announced that it has entered into an Asset Purchase Agreement with privately-held HyperNex, Inc. and its shareholders to acquire substantially all the assets of HyperNex for up to 1.8 million shares of Nova and the assumption of specified liabilities, including certain liabilities accruing after the closing which relate to contracts assumed by Nova. Based on the closing price of Nova's ordinary shares on April 21st, 2006 the transaction is valued at approximately $4.5 million. The closing of the acquisition is subject to customary closing conditions, including the completion of legal due diligence and amending certain agreements with third parties.

Formerly a wholly-owned subsidiary of ATMI, Inc., HyperNex has developed and manufactures a unique wide-angle X-Ray Diffraction ("XRD") stand-alone metrology system for advanced semiconductor fabs. Its XRD tool has very high throughput compared to other tools presently in the market. It utilizes patented technology and has been used in production since 2004. HyperNex is uniquely positioned to capitalize on the growing demand for characterizing microstructures based on multiple parameter capabilities, enabling control of the quality of thin metal layers such as copper, tungsten, seed and barrier layers at the 65nm node, 45nm and below.

Assuming the transaction closes during May as anticipated, HyperNex could account for about 10% of Nova's revenue in 2006, and the transaction is expected to be accretive to full-year earnings on a pro-forma basis (excluding non-recurring acquisition-related charges).

Commenting on the transaction, Dr. Giora Dishon, President and CEO, said "HyperNex is an excellent fit with Nova. It will strengthen our offering in the high-end stand-alone metrology market and expands our array of process control solutions. HyperNex's X-Ray-based process control capabilities complement our Spectrophotometry and Scatterometry based solutions, which will enable us to provide complete metrology solutions for critical steps such as gate structures and copper interconnect."

Dave Kurtz, CEO and Founder of HyperNex, said "We are proud of the progress we have made in developing the market for XRD technology for use in high volume manufacturing of semiconductor devices. We already have excellent relationships with leading IC manufacturers and we are enjoying a high degree of interest from several more. Given Nova's strong position in the market, we believe that together we will be able to leverage their infrastructure and expertise to create an attractive growth engine and achieve a leading position in the field of characterization of very thin conducting films."

"HyperNex has an outstanding team, an XRD technology that is field-proven in a high volume production environment and is ready for a widespread deployment in the global semiconductor market," continued Dr. Dishon. "Our leading position in the integrated metrology market and HyperNex's unique technology is a great combination. This acquisition will allow us to utilize and leverage our global sales and marketing capabilities, channel relationships and a strong worldwide support organization, as well as capitalize on our excellent technological infrastructure in software and algorithms along with our manufacturing and engineering expertise."

About HyperNex

HyperNex, Inc., headquartered in State College, Pennsylvania, develops, manufactures and markets automated rapid wide angle X-Ray Diffraction measurement systems for semiconductor process control. HyperNex is a pioneer and worldwide leader in providing quantitative crystallographic information critical to the optimization of yield and performance of polycrystalline materials in semiconductor device manufacturing. The company's website is www.hypernexinc.com.

About Nova

Nova Measuring Instruments Ltd. Develops, designs and produces integrated process control systems in the semiconductor manufacturing industry. Nova provides a broad range of integrated process control solutions that link between different semiconductor processes and process equipment. The Company's website is www.nova.co.il.

This press release contains forward-looking statements within the meaning of safe harbor provisions of the Private Securities Litigation Reform Act of 1995 relating to future events or our future performance, such as statements regarding expected revenue contributions of HyperNex and the impact the transaction is expected to have on our product offerings. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied in those forward-looking statements. These risks and other factors include but are not limited to: unforeseen conditions which could prevent us or HyperNex from satisfying conditions to closing, our ability to successfully complete our acquisition and integration of HyperNex, our ability to leverage our existing channels to expand into the market for X-Ray diffraction metrology, changes in customer demands for our products, new product offerings from our competitors, changes in or an inability to execute our business strategy, unanticipated manufacturing or supply problems, changes in tax requirements and changes in customer demand for our products. We cannot guarantee future results, levels of activity, performance or achievements.

The matters discussed in this press release also involve risks and uncertainties summarized under the heading ``Risk Factors'' in Nova's Annual Report on Form 20-F for the year ended December 31, 2004 filed with the Securities and Exchange Commission on June 28, 2005. These factors are updated from time to time through the filing of reports and registration statements with the Securities and Exchange Commission. Nova Measuring Instruments Ltd. does not assume any obligation to update the forward-looking information contained in this press release.

EXHIBIT 99.2

Summary of Certain Material Terms of the Asset Purchase Agreement
Among Nova Measuring Instruments Ltd., HyperNex, Inc. and its Shareholders

On April 24, 2006, Nova Measuring Instruments, Ltd. ("Nova") entered into an Asset Purchase Agreement with HyperNex, Inc. ("HyperNex") and its shareholders providing for Nova's acquisition of substantially all the assets of HyperNex and Nova's assumption of certain specified liabilities, including certain liabilities accruing after the closing relating to contracts assumed by Nova.

Under the terms of the Asset Purchase Agreement, Nova will issue up to 1.8 million ordinary shares as follows: at the closing of the acquisition transaction, Nova will issue 883,350 ordinary shares to HyperNex and 286,650 ordinary shares to HyperNex employees; and 15 months after closing, subject to certain contingencies, including potential indemnity claims that may be made by Nova, Nova will issue up to an additional 475,650 ordinary shares to HyperNex and an additional 154,350 ordinary shares to the employees. The total number of shares issuable 15 months after the closing is also subject to downward adjustment in the event that HyperNex's net worth is less than the target net worth set forth in the Asset Purchase Agreement. The Asset Purchase Agreement also provides the recipients of Nova's ordinary shares with certain limited piggy-back registration rights with respect to the Nova ordinary shares they receive. These piggy-back registration rights are subject to certain customary carve-outs and limitations as well as other limitations set forth in the Asset Purchase Agreement.

The Asset Purchase Agreement also provides that in connection with the closing, each HyperNex employee receiving shares will enter into a restricted stock agreement with respect to the Nova ordinary shares received and to be received by the employee, an employment agreement and a non-compete agreement. In addition, so long as either HyperNex or its shareholders own at least 8% of Nova's outstanding capital stock, they will be entitled to appoint an observer to Nova's Board of Directors.

The Asset Purchase Agreement contains customary representations, warranties and covenants and generally provides that the parties' respective liabilities for breaches of the representations and warranties will not exceed 35% of the stock issued under the Asset Purchase Agreement or its monetary value at closing, or 100% of the stock or its monetary value at closing in the case of breaches of certain representations and warranties and certain knowing breaches. Under certain circumstances, a party's liability for a knowing breach of a representation or a warranty may also be unlimited. The transaction is also subject to certain closing conditions, including the completion of legal due diligence by Nova to its satisfaction and the negotiation and execution of amendments to certain agreements with third parties. Under certain specified circumstances, the Asset Purchase Agreement may be terminated by Nova or HyperNex prior to the consummation of the transactions described in the agreement.

The forgoing summary does not purport to be complete and is qualified in its entirety by reference to the Asset Purchase Agreement, a copy of which will be filed as an Exhibit to Nova's Annual Report of Form 20-F for 2005. Except for its status as a contractual document between the parties with respect to the transactions described therein, the Asset Purchase Agreement is not intended to provide factual information about the parties. The representations and warranties contained in the Asset Purchase Agreement were made only for the purposes of the Asset Purchase Agreement and as of specific dates, were solely for the benefit of the parties to the Asset Purchase Agreement, and may be subject to limitations agreed to by the parties, including being qualified by disclosures between the parties. These representations and warranties may have been made for the purpose of allocating contractual risk between the parties to the Asset Purchase Agreement instead of establishing matters set forth in the representations and warranties as facts, and may be subject to standards of materiality applicable to the parties that differ from those applicable to investors. Accordingly, they should not be relied upon by investors or any other person not a party to the Asset Purchase Agreement as statements of factual information.