

## FEATURES

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## TRADESHOWS

### Westec

Los Angeles Convention Center

Los Angeles, CA

Booth 5528

March 26-29, 2007

<http://www.sme.org/westec>

### Aerospace Testing Expo 2007 Europe

New Munich Trade Fair Centre

Munich, Germany

Stand 1831

March 27-29, 2007

<http://www.aerospacetesting-expo.com/europe/index.html>

### Defense & Security

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April 10-12, 2007

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## Next Generation Nanotranslators Feature Higher Acceleration and Velocity, and Improved Load Capacity

Aerotech's Nanotranslation Crossed-Roller (ANT-LX) stages combine high speed, accuracy, resolution, repeatability, and reliability into an ultra-compact package. As an evolution of the popular ANT direct-drive stage family, the ANT-LX series exhibits enhanced motion performance over Aerotech's first generation ANT series. Product improvements such as 5 g acceleration, 500 mm/s velocity, enhanced load capacity, and standardized, universal base mounting patterns allow the use of this flexible stage family in an even wider range of configurations than its predecessors.



*Ultra-compact footprint and enhanced performance define the ANT-LX nanotranslator series.*

### Noncontact Direct-Drive

All of the original ANT series' direct-drive advantages have been preserved in the LX family. Only noncontact direct-drive technology offers the robust, accurate, and high-speed positioning necessary for mass production of precision devices. This direct-drive technology is high-performance, non-cogging, noncontact, high-speed, high-resolution, and high-accuracy, and the use of crossed-roller bearing elements allows even higher precision, smaller incremental moves to be accomplished reliably and repeatably. This unique drive and bearing combination, packaged in an extremely small-profile footprint, offers tangible advantages in many applications such as fiber alignment, optical delay element actuation, and scanning processing demanding smooth motion.

### Flexible System Design

The ANT-LX family has universal mounting and tabletop patterns that allow for easy system integration. Two, three, or more axes can be easily combined for flexible system designs and multi-axis configurations. Both 25 mm and 50 mm travel versions are available and can be integrated without the need for interface plates, preserving low-profile system designs.

## ANT-LX Benefits

- Available in X, XY, XYZ, and other combinations
- 2.5 nm linear resolution with Automation 3200
- Turnkey drive and control electronics
- Noncontact, non-cogging, direct-drive
- Ultra-quiet linear servo drives
- High speed, real-time axis calibration

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## System Characteristics

Outstanding accuracy, position repeatability, and in-position stability require high system resolution. The ANT-LX stage series industry-leading 2.5 nm or better closed-loop resolution provides this high level of performance. Advanced, real-time axis calibration systems allow the highest level of system accuracy. High-speed, 40 MHz electronic circuitry enables extremely fast positioning, over 500 mm per second, even at 2.5 nanometer resolution. Excellent in-position stability, assisted by high-quality, no-creep linear bearings, enables virtually maintenance-free operation over the life of the product. Aerotech's direct-drive technology has no hysteresis or backlash, enabling accurate and repeatable nanometer-scale motion.

[CLICK HERE](#) to discuss your application with an Aerotech Application Engineer.

[CLICK HERE](#) to view a description, specifications, 2D and 3D CADs, and ordering information on the ANT-LX series.

## Latest Software Releases

This section lists the latest revisions of Aerotech software, providing a handy method of checking to see that your Aerotech software, and hence your Aerotech system, is working at peak efficiency. All Aerotech software is available for instant download from our website — just click the software title! An entry in **red** means the software has been updated since our last newsletter.

Software	Version	Description
<a href="#">A3200 Digital Automation Platform</a>	<b>Version 2.18</b>	Nmotion® SMC Libraries and Utilities, Ncontrol® Software Developers Kit, Nview® HMI, Windows Help Files
<a href="#">U600 HMI</a>	Version 6.00.136	Windows® HMI
<a href="#">U600 SDK</a>	Version 6.00.136	U600 Software Developers Kit
<a href="#">U600 LIB</a>	Version 6.00.136	Windows® Help File, U600 Libraries and Utilities
<a href="#">U500 PC-Bus-Based Controller</a>	Version 5.22	Windows® HMI and Windows® Help File
<a href="#">U511 Stand-Alone Controller</a>	Version 5.22	Interface Software and Windows® Help File
<a href="#">Soloist Single Axis Controller</a>	Version 2.04	Interface Software and Windows® Help File

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## Motion Control and Positioning Library

This resource provides a short summary and a link to articles, tutorials, white papers, and other materials that discuss problems and solutions involving motion control and positioning equipment and systems.

## Articles

### **Two-Photon Polymerization: A New Approach to Micromachining**

Femtosecond lasers enable microfabrication with resolution beyond the diffraction limit. Read the full article [HERE](#).

### **Aerotech Pushes Mechatronics Envelope with Motion Systems**

An interview with Dr. Robert Novotnak discussing how mechatronics is employed in high-precision motion control. Read the full interview [HERE](#).

### **Precise Triggering of External Events Based on Axis Position**

An axis-based trigger in the controller can significantly improve part quality, reduce cycle time, and eliminate processing problems. This article discusses Aerotech's unique PSO (Position Synchronized Output) option. Read the full article [HERE](#).

### **Linear Motors Application Guide**

A tutorial guide to the history, design, and application of linear motors. Get the PDF [HERE](#).

### **Air Bearings Aid Assembly of Flat Panel Displays**

Many manufacturing processes for flat panel displays (FPDs) require precision motion control for feature generation and inspection. Aerostatic bearings are an excellent choice for many of these processes. Read the full article [HERE](#).

### **Kinematics and Precision Stages Drive Laser Welding**

Real-time kinematics coupled with direct-drive positioning systems provide the highest performance solution for laser seam-welding applications. Read the full article [HERE](#).

### **Applications Dictate Gimbal Selection**

The choice between [direct-drive](#) and [gear-driven](#) gimbals and optical mounts presents an opportunity for a comparison of the pros and cons for each. Read the full article [HERE](#).

### **Search the Aerotech Article Archive**

## Standards Organizations

### **1394 Trade Association**

<http://www.1394ta.org>

### **ISA, the International Society for Measurement and Control**

<http://www.isa.org>

### **IEC**

<http://www.iec.ch>

### **ISO**

<http://www.iso.org>