

FEATURES

Motion Designer Animated Tutorials
Latest Software Releases
Motion Control and Positioning Library

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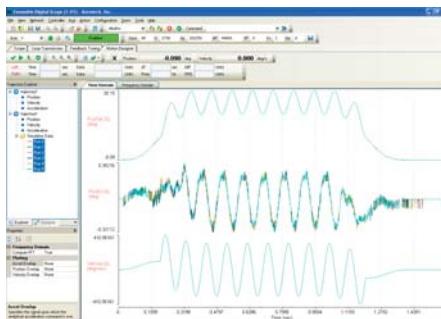
Motion Designer Animated Tutorials Live on the Aerotech Website

The screenshot shows the Aerotech website's Motion Designer section. At the top, it says "Motion Designer: An Integrated, Easy to Use Graphical Trajectory Generation, Data Analysis, and Enhanced Mach". Below this, there is a list of seven animated tutorials: "Motion Designer Overview", "Creating A New Trajectory", "Using Iterative Learning Control", "Importing A Trajectory", "Exporting A Program", "Creating A Multi-Axis Trajectory", and "Measuring The Frequency Response". The page also features a search bar, a navigation menu, and a sidebar with links to various Aerotech products and services.

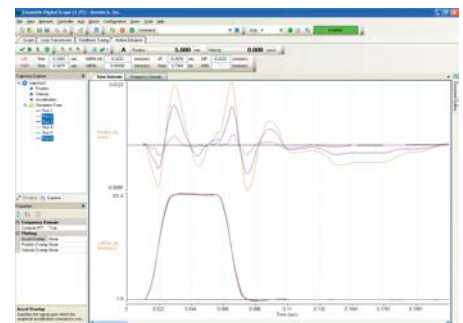
The Motion Designer section of the Aerotech website now includes seven animated tutorials.

Motion Designer is Aerotech's latest contribution to the motion control industry, and it provides Aerotech customers with a quick, accurate, and easy method to generate motion profiles. We've produced seven animated tutorials to help you get started using Motion Designer, and they are available at any time on the Aerotech website.

In many instances, an exact motion profile must be generated to simulate a dynamic environment for sensor or component testing. Inertial navigation devices such as gyros or accelerometers, tracking or beam-steering gimbals, as well as crash



Overlap data collected from multiple runs of a trajectory.



Iterative learning control reduces following error and cycle time, thereby increasing machine throughput. In this example, peak position error has been reduced by 85% and settling time by 80%.

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sensors and roll-over sensors, are meant to measure angular or linear motion events. To properly test these devices, they must be put through motion trajectories that simulate real world applications, which is no trivial task.

Simplified Motion Programming

Aerotech's Motion Designer is an easy to use software GUI for generating or importing motion trajectories, and running and then evaluating the trajectory. These functions typically require hours of programming and debugging to implement. Based on Aerotech's award-winning motion controllers, Motion Designer simplifies motion profile programming while providing important additional capabilities.

Motion Designer allows customers the ability to fabricate and run a simulated trajectory by generating position, velocity, acceleration, and time profile points, and download them to the motion controller. It has a number of waveform tools for easy waveform generation, even allowing multiple waveforms to be linked or blended together.

Please go [HERE](#) to read more about Motion Designer, go [HERE](#) to view our animated Motion Designer tutorials, or go [HERE](#) to discuss your motion application with an Aerotech Application Engineer.

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
A3200 Digital Automation Platform	Version 2.21.002	Nmotion® SMC Libraries and Utilities, Ncontrol® Software Developers Kit, Nview® HMI, Windows Help Files
Soloist Single-Axis Controller	Version 2.09.002	Development Tools, Libraries, Help Files, and Manuals
Ensemble Multi-Axis Controller	Version 2.00.002	Development Tools, Libraries, Help Files, and Manuals
U600 HMI	Version 6.00.136	Windows® HMI
U600 SDK	Version 6.00.136	U600 Software Developers Kit
U600 LIB	Version 6.00.136	Windows® Help File, U600 Libraries and Utilities
U500 PC-Bus-Based Controller	Version 5.22	Windows® HMI and Windows® Help File
U511 Stand-Alone Controller	Version 5.22	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

Linear Motor Basics

Linear motors continue to increase in industrial applications. This article provides an overview of the linear motor types available. Read the full article [HERE](#).

How to Select and Install Air Bearing Stages

High-precision test, measurement, and manufacturing operations often require smooth, frictionless, low-maintenance motion control systems. An excellent choice for a complete motion subsystem is a linear or rotary stage that uses an air bearing for guidance, coupled to a direct-drive motor, a high-resolution position encoder, and a digital controller. Read the full article [HERE](#).

Micropositioning Meets Mechatronics

Compared to traditional methods, the mechatronic design approach is more of a holistic approach to product design, where the tradeoffs between different functional components (software, hardware, user interface, etc.) are carefully considered for their impact on overall performance. Read the full article [HERE](#).

Motion Control Requirements for Hermetic Seam Welding

A discussion of the motion control platform in regard to hermetic seam welding of sophisticated electronic devices implanted in the human body. Read the full article [HERE](#).

Digitizing a Century of Astronomical Images

Aerotech's ABL9000 air-bearing stage is put to use to efficiently digitize more than 500,000 photonegatives. For more information on this article, click [HERE](#).

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](#).

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](#).

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

ISA, the International Society for Measurement and Control
<http://www.isa.org>

IEC
<http://www.iec.ch>

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<http://www.iso.org>