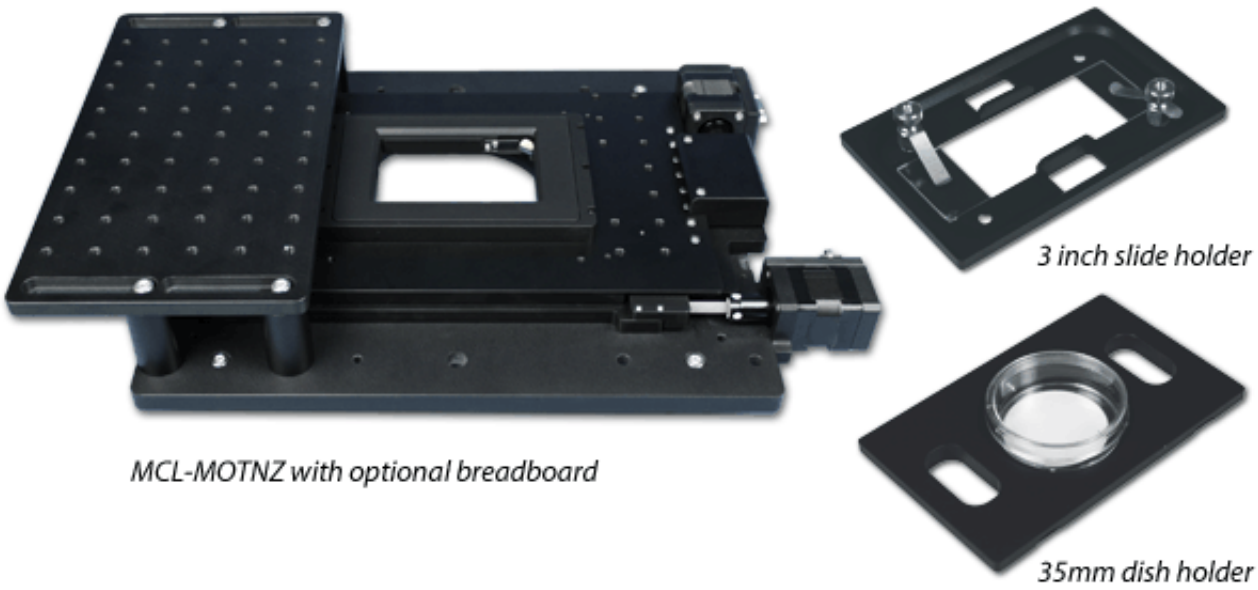
MAD CITY LABS INC.

Low Cost Microscopy Solutions January 2015

Mad City Labs recently introduced two new, low cost microscopy solutions. The **MCL-MOTNZ** motorized XY stage with piezo Z and **MCL-MANNZ** manual XY stage with piezo Z are compatible with major third party microscopy and instrumentation control software including LabVIEW, Nikon Elements, Metamorph, µManager, SlideBook, and Image-Pro.



MCL-MOTNZ with optional breadboard

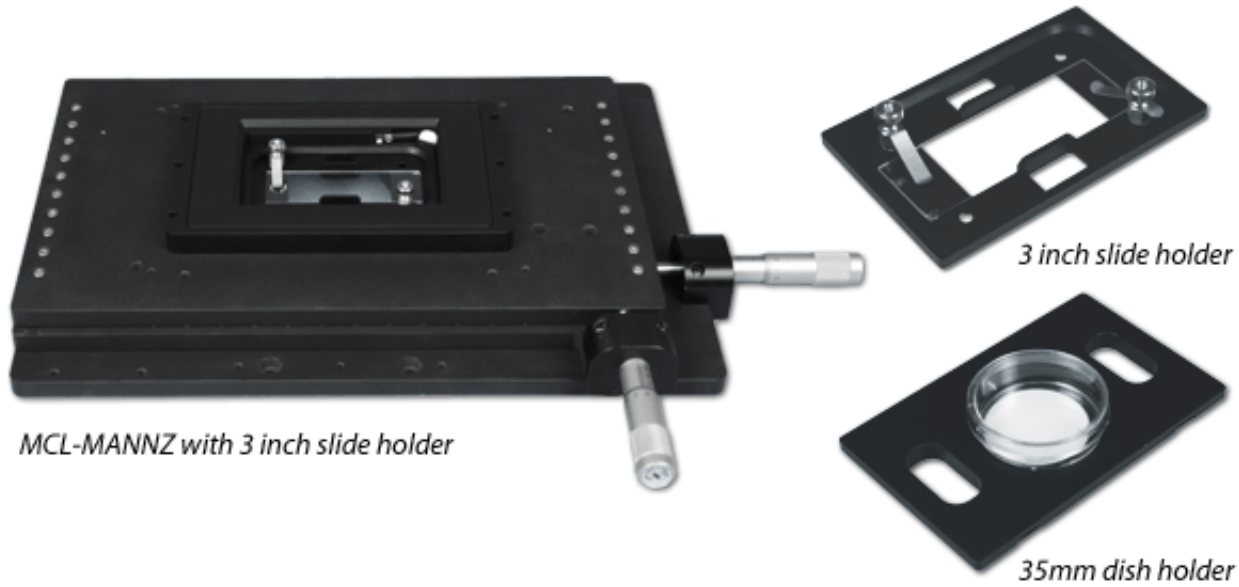
The **MCL-MOTNZ** is a value priced positioning system for use with inverted optical microscopes. The MCL-MOTNZ combines a stepper motor XY linear motion stage with a closed loop, high resolution, Z-axis nanopositioning system. The micropositioning stage provides 25 mm of travel per axis with a minimum step size of 95 nm. The use of high precision components and our proprietary intelligent control technique results in an ultra-stable microscope platform with excellent native precision without the addition of costly encoders. The innovative sample holder design together with the ultra-low profile of the piezo Z stage makes sample exchange and sample loading quick and straightforward.

The MCL-MOTNZ z-axis nanopositioner has a travel range of 200 microns and integrates into the nano-qualified microstage. Internal position sensors utilizing proprietary **PicoQ® technology** provide absolute, repeatable position measurement with sub-nanometer resolution under closed loop control.

The MCL-MOTNZ system includes our compact series of USB 2.0 enabled Nano-Drive®C and Micro-Drive™C controllers. These controllers are fully compatible with user written LabVIEW software and are

provided with a basic LabVIEW motion control routine for positioning in all axes. Optional wireless joystick control is also available.

The MCL-MOTNZ is the complete nanometer positioning system for single molecule spectroscopy and high resolution microscopy applications. The MCL-MOTNZ is compatible with Olympus IX Series, Nikon TE/Ti Series, Leica DMI Series, and Zeiss Axiovert/Axio Observer Series. MCL-MOTNZ systems are also compatible with other configurations and direct mounting to optical tables.



MCL-MANNZ with 3 inch slide holder

The **MCL-MANNZ** is an integrated micro-nanopositioning system for use with inverted optical microscopes. Easy to operate and affordable, the MCL-MANNZ combines a manual micrometer driven, two axis, linear motion stage with a high resolution, z-axis nanopositioner. A stable blocking force of 10 N built into each axis of the coarse positioning stage provides a secure base for precision nanopositioning. The overall design of the MCL-MANNZ ensures that the sample height remains within the proper focal range of the microscope. The innovative sample holder design together with the ultra-low profile of the piezo Z stage makes sample exchange and sample loading quick and straightforward.

The z-axis nanopositioner has a range of motion of 200 microns. Internal position sensors utilizing proprietary **PicoQ® technology** provide absolute, repeatable position measurement.

The MCL-MANNZ system includes the compact version of the Nano-Drive® controller and it is compatible with user written LabVIEW software.

Standard MCL-MANNZ systems are offered for the following inverted microscopes: Olympus IX Series, Nikon TE/Ti Series, Leica DMI Series, and Zeiss Axiovert/Axio Observer Series. MCL-MANNZ systems designed to fit other setups, including direct mounting to optical tables, may also be requested.

MCL-MOTNZ Brochure

MCL-MANNZ Brochure

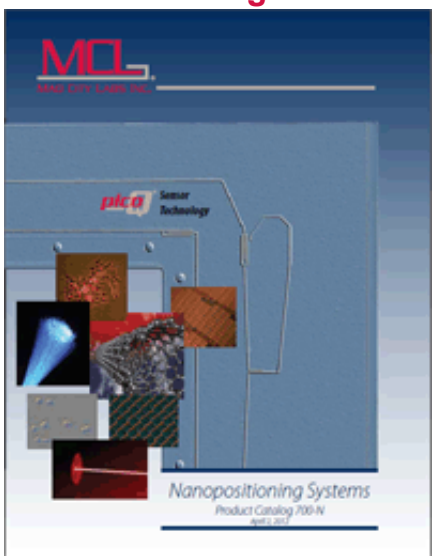
SPIE BiOS and Photonics West in San Francisco, CA, Booth 8532/532

February 7-8 and February 10-12, Mad City Labs will show low cost microscopy solutions including the **MCL-MOTNZ** and **MCL-MANNZ**, **Nano-MET series** of high performance metrology nanopositioners, **MMP Series** multi-axis stepper motor stages, and more. Stop by to see us in Booth 8532 (BiOS) and 532 (Photonics West).

Biophysical Society Annual Meeting in Baltimore, MD, Booth 244

February 8-10, Mad City Labs will show microscopy solutions including the **RM21™ high stability microscope platform**, **Micro-Mirror TIRF System**, **Nano-Cyte® 3D stabilization for single molecule localization**, and more.

Product Catalog



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