New Scale News

Your update on ingeniously small motion systems **April 2011**

In this issue

Welcome to this issue of New Scale News, your update on miniature motion technology and applications.

This month we focus on defense and security applications of small, precise micromechatronics modules - from targeting and guidance systems to portable analytical instruments for biological and chemical hazards.

Defense is just one application for these tiny modules - the ability to precisely move a mirror, lens, grating or other component is spurring advanced products in medical, machine vision, biometrics and many other markets. These are truly exciting times for an exciting technology!

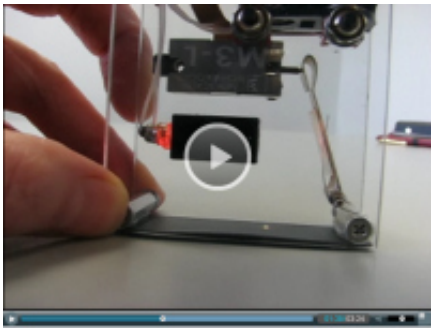
Please enjoy - and as always, we hope you'll share your comments and questions.

~ New video: how to use the M3-L micro motion module for laser targeting, RF tuning, and photonics tuning

This new video demonstrates the use of the M3-L closed-loop linear motion module for laser beam control applications, photonics tuning, and tuning of high-powered RF and microwave circuits.

Applications include laser targeting systems, analytical instruments such as spectrometers and flow cytometers, point of care and table-top medical diagnostics devices, and fiber optic communications.

OEMs use the M3-L to make these systems smaller and more precise.



View the video (3:24)

View the video
Get M3-L product details and specifications

~ Application focus: defense and security

Tiny, high-precision actuators and micro-mechatronic modules are enabling a wide range of next-generation defense and security systems. These include:

- **Biometric detection from a distance.** Miniature focus modules in cameras for facial scanning and iris scanning enable a much greater variation in the distance from target subject to the camera for biometric identification. Applications include keeping the line moving at airport security points. Other biometric applications include hands-off instrument control using eye tracking as the user interface, and IR cameras. Learn more about biometrics applications.

- **Active tuning for extended communications bandwidth.** Miniature linear motion modules are used to create smaller, high-power RF and microwave tuning circuits for field-tunable base station transmitters and receivers, delivering extended communication bandwidth. Target applications include spectral tuning systems and software defined radio. Learn more about tuning applications.
- **Biological and chemical detection.** Field-portable spectroscopy and flow cytometry systems use miniature actuators to control gratings for precision wavelength selection, while keeping the systems small and lightweight with lower power use.
- **Missile and munitions controls.** Custom rotary actuators offer high torque, high speed and high precision in extremely thin packages. The non-magnetic actuators will not interfere with magnetometer (GPS) navigation systems. See the proof of concept.

Other defense and security applications include **laser targeting, active stabilization, UAV / UAB controls** and **fiber alignment.** Piezo actuators and closed-loop modules enable systems that are small, lightweight, low power... and extremely precise.

Learn more about M3 modules, piezo actuators and motors for defense and security applications

~ Customer News: M3-F adds focus to USB 2.0 smart camera

Imaging Diagnostics (www.imagine2D.com), a leading provider of embedded imaging solutions for machine vision, has integrated New Scale's miniature M3-F focus module into its Camelot USB 2.0 smart camera.

"The M3-F focus module enabled us to very quickly develop an auto-focus USB 2.0 smart camera that is a drop-in replacement for our fixed-focus camera," said Ofer Leizerovich, president of Imaging Diagnostics. "With this innovative technology from New Scale, we've been able to help our customer achieve a very significant time-to-market advantage for their new, higher-performance commercial imaging system."

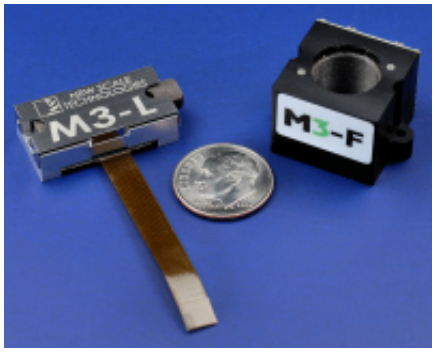
The custom smart camera has a 5MP sensor and embedded DSP for high processing and data transfer capabilities at the price of a regular industrial USB 2.0 camera system.

Custom USB 2.0 smart camera from Imaging Diagnostics uses New Scale's M3-F focus module

Learn more about Imaging Diagnostics' use of the M3-F module

~ New Scale snaps up another "Golden Mousetrap"

New Scale's **M3 Micro Mechatronic Modules** won a 2011 "Golden Mousetrap" award for engineering innovation and creativity in product design from *Design News*. The miniature high-precision linear motion system was awarded Best Product honors in Automation and Control. Other winners in this category were Siemens Industry and Bosch Rexroth.



Design News editors recognized the M3 Module as being smaller, more precise and easier to integrate than traditional electromagnetic motor systems. M3 modules have 0.5 micron position resolution and a footprint of 12x30 mm or smaller with no external control electronics needed. They operate on 3.3V input with low power consumption for long battery life in hand-held devices.

This is New Scale's second Golden Mousetrap award: the piezoelectric SQUIGGLE micro motor won top honors in 2007.

Read the New Scale news release
Check out the other 2011 "Golden Mousetrap" winners on DesignNews.com

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