

New Scale News

Your update on ingeniously small motion systems

November 2011

Greetings!

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

This month we explain why and how to add automated focus to your micro camera for biometric detection, medical diagnostics, machine vision and more.

Please enjoy - and as always, we hope you'll [share your comments](#) and questions.

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~ Adding automated focus to biometric, medical and industrial micro cameras

We all are familiar with the consumer digital cameras that are in our pockets, mobile phones and personal computers. Thanks to incredible advances in microelectronics, CMOS image sensors and optics, most of us have a very good camera within reach most of the time.

Now these tiny cameras are inspiring product engineers in non-consumer applications – such as biometric identification, medical and diagnostic devices, and machine vision – to make even greater products. In fact, markets for these new applications are projected to grow faster than consumer camera markets over the next few years.

In this [article](#) we discuss sensor and lens requirements, compare the M3-F focus module to voice coil motors and stepper motors, and talk about image processing, digital signal processing and other system considerations. [Read on....](#)

[or watch the video \(9 minutes\)](#)



[watch the video](#)



[download the PDF](#)

~ Benefits of New Scale's miniature M3-F focus modules are proven

The benefits of New Scale's miniature M3-F focus modules have been proven in next-generation machine vision, biometric ID and medical systems. These precision piezoelectric lens motion modules are now in production in camera systems from leading OEMs in key markets, and more than 50 additional OEMs have completed qualification of camera systems to begin production in 2011- 2012.

[Read more about the M3-F in commercial camera systems](#)



~ Partner Profile

Sunex for high-performance lenses, optical engineering know-how



Sunex delivers high-performance lenses and optical-engineering know-how to a number of New Scale OEM customers. Working closely with New Scale, Sunex optical engineers help OEMs specify the right lens and successfully integrate the M3-F focus module into their optical system design.

Based on the target application and performance requirements, Sunex helps OEMs define their lens needs, navigate image sensor selection, and understand parameters such as field of view, EFL, F/# and more. They understand the M3-F motion solution and work with OEMs to ensure optimal system performance.

Sunex provides both custom and standard lenses in high-quality plastic, glass and glass/plastic hybrid materials. **Learn more about Sunex lenses at www.optics-online.com.**

~ M3-L linear micro motion module in volume production

New Scale has ramped up production of the miniature M3-L linear motion system to meet OEM demand. Developer's kits are available in the online store with lead time from stock to 2 weeks. The compact, high-precision motion modules have proven extremely popular for:

- Precision tuning of photonics, RF and microwave systems
- Defense applications including laser beam steering and targeting, UAV and UGV flight controls
- Field-portable systems for biomedical and chemical detection and analysis
- Medical applications including micro surgical devices and point-of-care systems



[See the applications video](#)

[Learn more about the M3-L](#)

[Get an M3-L developer's kit](#)

~ Upcoming events: Vision 2011, Photonics West 2012

Vision 2011 | Nov. 8-10 | Stuttgart

New Scale engineers will be visiting OEM customers at Vision 2011 - [email us](#) if you'd like to arrange a meeting.

Among the imaging systems innovators who will be showing M3-F focus-enabled cameras at Vision 2011 is Imaging Diagnostics, with its new [Auto Focusing Camelot camera](#). Visit Imaging Diagnostics at Hall 6 Booth 6B41.



NEW Auto Focusing Camelot

Increase accuracy and flexibility in your vision applications with ID's new Auto Focusing Camelot Cameras.

- ✓ Choose from commercially available M12 lenses
- ✓ High resolution 5Mp sensor
- ✓ Available with USB or IP interface
- ✓ Superior image quality
- ✓ Unlimited repeatability
- ✓ Manual/Auto Focus option

Camera Features

- ✓ Analog BF548 up to 600MHz
- ✓ 64 MB Ram on-board
- ✓ 16 MB Flash on-board
- ✓ 6 Programmable PWM Timers
- ✓ 9 Programmable GPIOs

Image Features

- ✓ 8-12 bit image capture
- ✓ Image Processing on the DSP
- ✓ AGC, AWB on the DSP
- ✓ Custom FOV and Sub Sampling

www.Imagine2D.com

Photonics West 2012 | January 24-26 | San Francisco

Make plans now to visit New Scale at #5310, North Hall, to check out our M3-F demo camera system and our M3-L linear motion module.

We'll also be doing a product demo

2:30 pm on Wednesday, Jan. 25 in the North Hall D, Demo Area 2

Miniature camera solution: elements of a high-resolution, autofocus system for biometrics, medical and more

The elements of a complete high-res mini camera system are brought together by New Scale (precision lens motion), Sunex (lenses) and D3 (focus algorithms, system design) using >5MP sensors and TI DSP.

~ Contact us

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