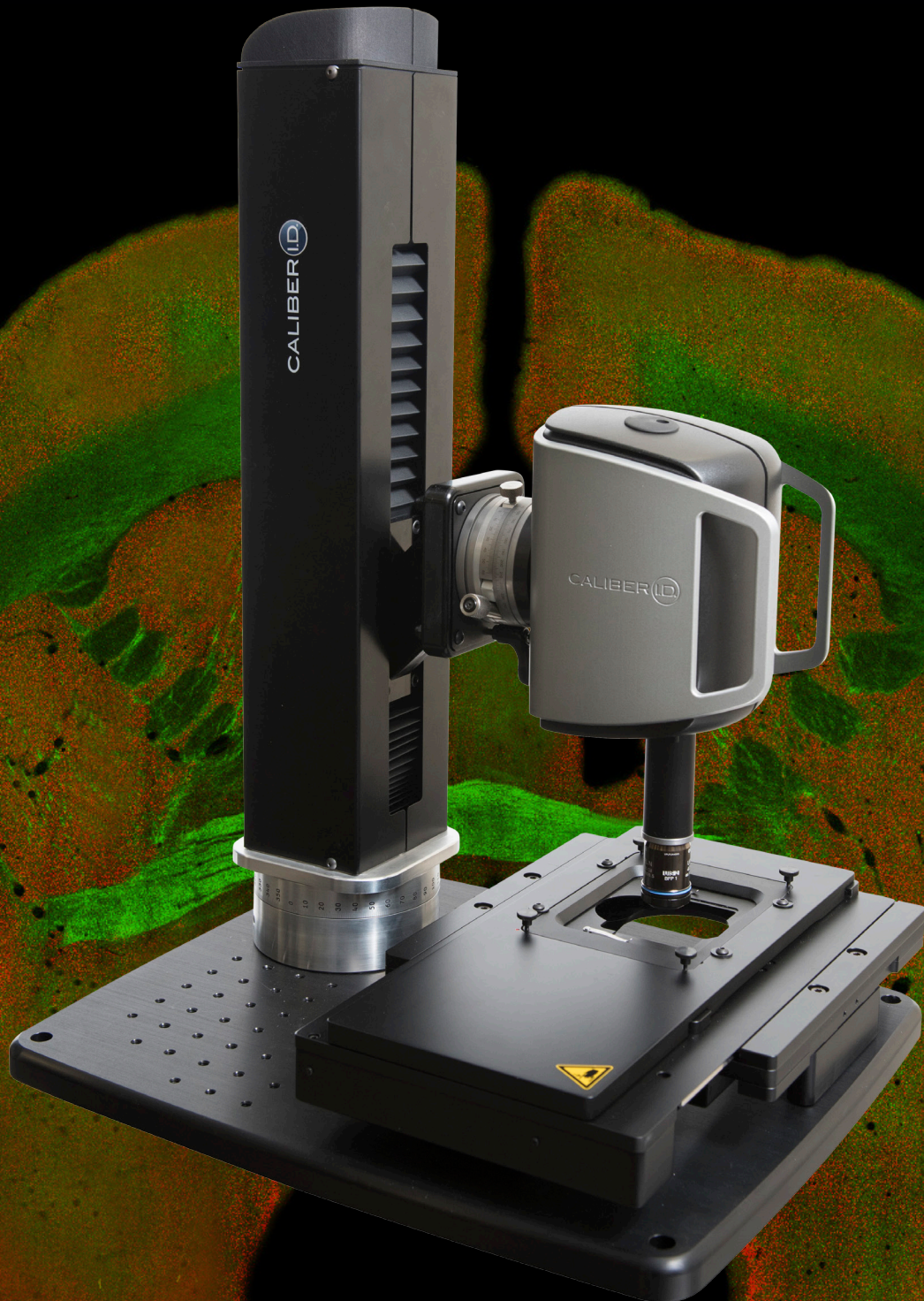


# CALIBER ID RS-G4

CONFOCAL IMAGING SOLUTIONS



CALIBER I.D.

# Experience Unprecedented Speed, Flexibility and Precision

The global leader in imaging innovation, Caliber I.D. introduces its latest breakthrough in confocal microscopy, the RS-G4. With applications in neuroscience, developmental biology, pathology and translational research, this high-performing system was developed exclusively for the research scientist.

The RS-G4 provides your lab the ultimate in efficiency, slashing image acquisition time while delivering unprecedented capabilities in scanning flexibility and image clarity.

## Applications

### Neuroscience

Quickly scan large, fixed brain sections and store them for analysis or review of regions of interest.

### Developmental Biology

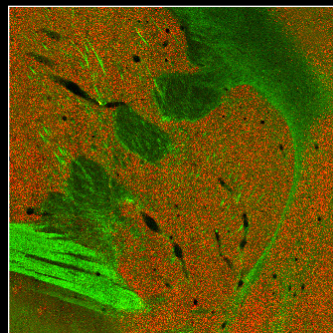
Acquire clear confocal images in animal development, from a few cells to juvenile adult. It's also capable of micro- and macro-imaging.

### Pathology

Experience advanced ex-vivo tissue-scanning capabilities that provide confocal details in reflectance and fluorescence.

### Translational Research

View with exacting precision everything from micron cellular activity to millimeter views of macro details.

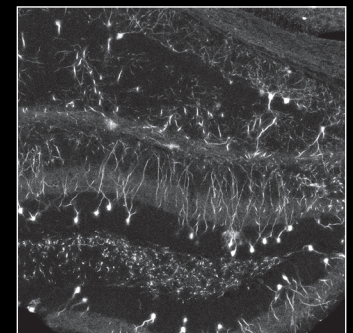
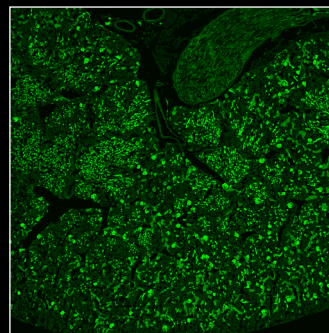


1

## Improve lab efficiency

Enhance your lab's performance by capturing more samples in less time using the RS-G4. With its high-speed resonance scanner and scanning stage, the RS-G4 **substantially cuts image-acquisition** compared to conventional confocal imaging systems – with no compromise in quality.

Caliber's proprietary image-stitching algorithms enhance the RS-G4's capabilities even further. You'll acquire and assemble large-format, high-resolution mosaic images at unparalleled speeds.



2

## Capture images with critical precision

With **360-degree rotation capability**, the RS-G4's compact high-speed scan head makes it easy to find the precise angle for imaging – an essential feature for larger tissue and embryonic samples. This flexible scan head can also be used for both scanning and fixed stages, depending on your needs.

This flexibility allows in-vivo small animal imaging, providing confocal detail at a cellular level with both reflectance and fluorescence excitation.

## Perfect image clarity and accuracy

The combination of the RS-G4 system's hardware and software provides images of outstanding clarity and accuracy. Your strip mosaics are collected and matched with Caliber I.D.'s proprietary **image-stitching technology** that uses a pixel-level algorithm to stitch multiple fields of view into perfectly aligned images with seamless frame-to-frame clarity.

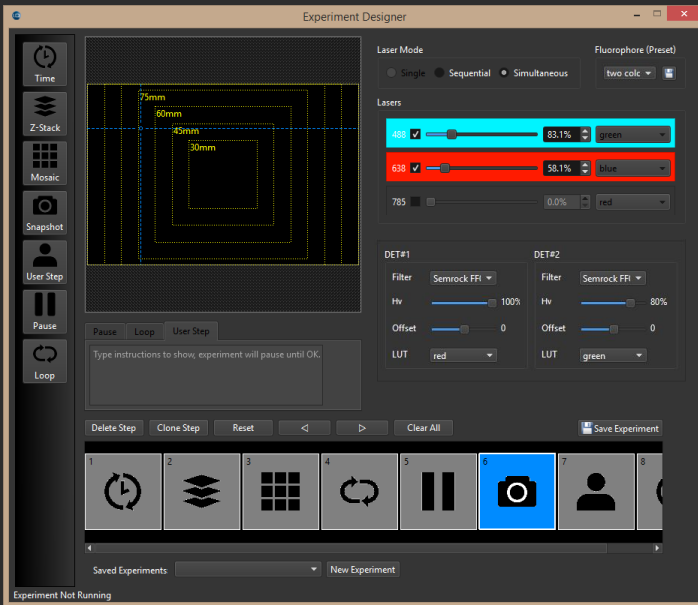
<sup>1</sup> Marmoset Brain – Coronal section of marmoset brain, stained for rabies virus in green and neuronal sonata in red, 20 x 20 mm area scan. Capture time for simultaneous imaging of both 488 and 635 nm channels equaled 4 minutes. Image courtesy of University of Pittsburgh Center for Biologic Imaging - A. Rose, P. Strick and S. Watkins.

<sup>2</sup> Mouse Brain – Neurons activated during stress test. Image courtesy of Boston Children's Hospital – D. Ehlinger and K. Commons.

# RS-G4 Software Suite

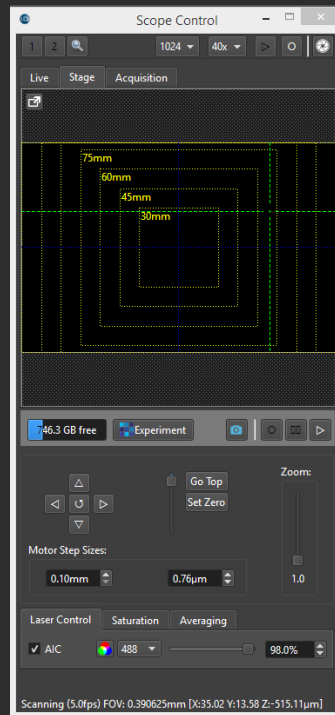
Featuring Caliber I.D.'s proprietary technology for high-precision image stitching, this multi-dimensional imaging software makes it easy to capture exactly what you need from your specimen – in less time.

Using a Windows®-based storage structure, the RS-G4's powerful software maximizes workflow while offering robust acquisition tools to capture and store acquired images.



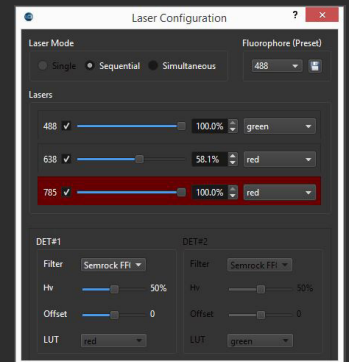
## Experimental Mode

Allows user to customize acquisition parameters to experiment utilizing all available scope controls (time, wavelength, x-y position, z stack, multi-point).



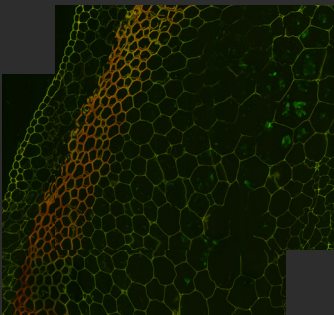
## Scope Control

Complete control over all microscope functionality for fine tuning acquisition settings before running a longer experiment.



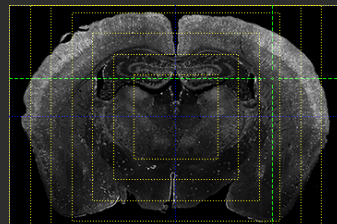
## Multi-Channel Image Capture

Offers single channel, sequential and simultaneous capture based on the fluorophore requirements.



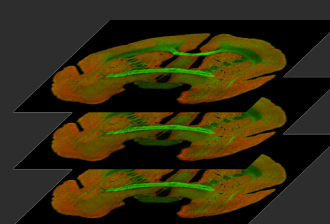
## Image Stitching

Seamless stitching of mosaic images with pixel-level algorithm calculating optimal match of adjacent frames.



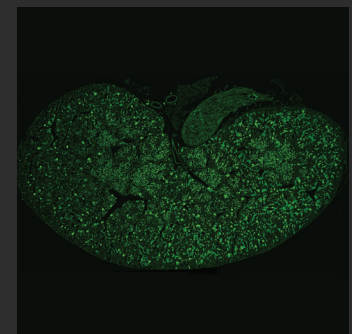
## Multi-point Imaging

With scanning stage, the system will record user-defined, field-of-view snapshots, simultaneous or sequential imaging.



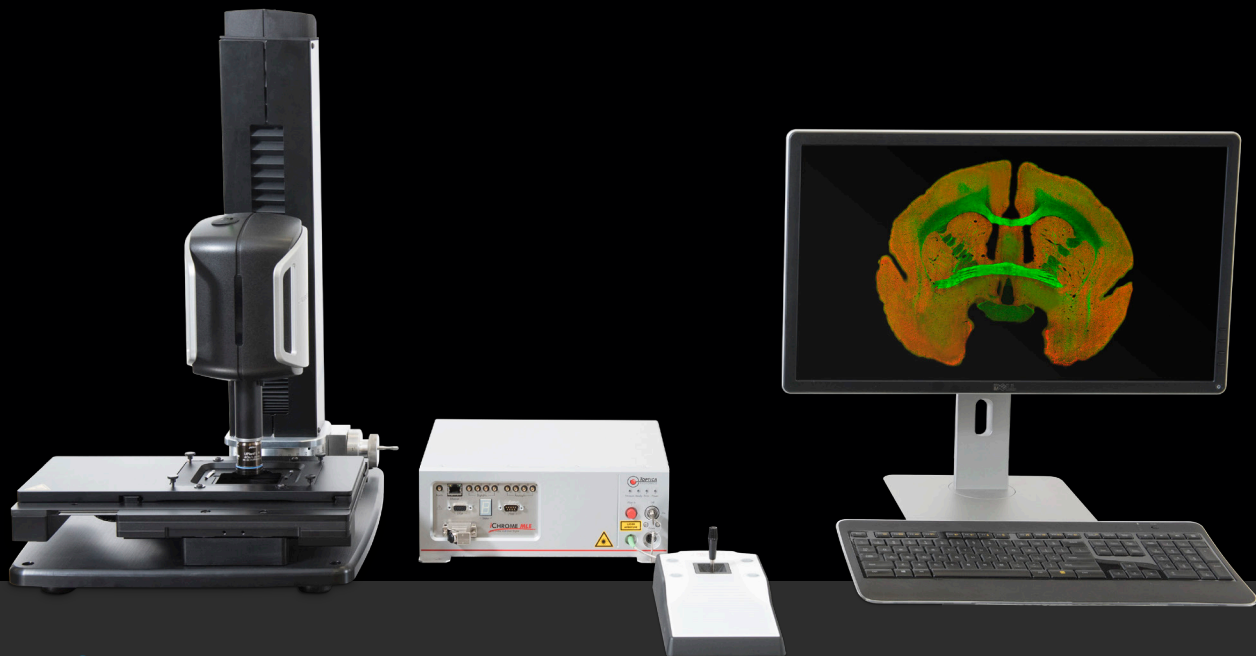
## Z-Series

Fast accurate Z-stacks in both single field of view and also mosaic (macro) stacks available.



## Large area scan

High-speed mosaic imaging from a few adjacent fields to full stage area of 120 x 80 mm.



## Product Specifications

Operating Wavelength/ Laser Operating Power	405 nm – 100 mW 488 nm – 100 mW 561 nm – 100 mW 640 nm – 70 mW 785 nm – 90 mW
Frame Rate	Variable (5–25 fps)
Minimum X, Y and Z Step Size	x-y min is 0.5 $\mu\text{m}$ , z-step 0.76 $\mu\text{m}$
Precision of Steps	+/- 0.1 $\mu\text{m}$ for x-y, 0.38 $\mu\text{m}$ for z
Detectors	Two PMTs
Wavelength Range	400–850 nm
Zoom (Optical)	Continuous 1 to 4x
Depth of Imaging	200 $\mu\text{m}$ (40x oil/1.3)*
Single Frame FOV	325 $\mu\text{m}$ x 325 $\mu\text{m}$ (40x oil/1.3)
Mapped Field	120 x 80 mm
Z-Stack Range	Up to 6 mm (objective dependent)
Image Digitization	8 bit displayed; 16 bit stored
Displayed Image Resolution	1024 x 1024 pixels
Monitor	27 in, 2560 x 1440 pixels (WQHD) 16:9

**Software/Workstation Requirements** Caliber ID Research Software – Windows® 8 workstation

**Computer** Windows® 8 Pro 64-bit, Intel® Quad Core™ i5 Mid tower PC

**Software - OS Requirements** Microsoft® Windows® 8 workstation. Computer must be purchased with system - NOT user supplied.

**Electrical Requirements** 110–230 VAC, 50–60 Hz.

**Operating Temperature** 55°F to 85°F (13°C to 30°C)

**Operating Humidity** Non-condensing

**Physical Dimensions**

	Scan Head Only	
Length	18.08 in	6.32 in
Width	15.35 in	5.13 in
Height	22 in	11.55 in
Weight	58 lbs	4.3 lbs

\*Contingent upon opacity of sample

Caliber Imaging & Diagnostics, Inc.  
100 Burt Road, Suite 203 Andover, MA  
01810 USA  
Tel: (+1) 585-239-9800  
www.caliberid.com

**CALIBER I.D.**

05719 Rev. A 9/8/16