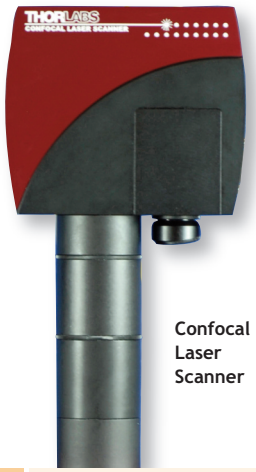
THORLABS

Imaging Systems



Confocal Laser Scanner

Laser Scanning Confocal Microscopy

Confocal Laser Scanning Microscopy is a high-resolution optical imaging technique capable of acquiring in-focus images from selected depths. Unlike wide-field fluorescence microscopy, confocal laser scanning uses only single point illumination to scan across the sample. A pinhole aperture is used to eliminate out-of focus fluorescence, leading to higher resolution and the ability to produce in-focus images of relatively thick samples. The new Thorlabs Confocal Laser Scanner System is a true point scanning laser confocal, affordably designed for customers who wish to extend their current microscopy capabilities to confocal imaging.

The compact modular design of Thorlabs' Confocal Laser Scanner provides for easy configuration flexibility. At the heart of this module is the confocal scan head, which uses a resonant-galvanometer scanner pair for fast image acquisition, allowing for variable imaging speeds of up to 100 fps at 128 x 128 pixel resolution (30 fps @ 512 x 512 pixel resolution).

The Confocal Laser Scanner Base Fluorescence System (CLS-FS) includes an electronics control unit, an expandable dual PMT module, a 16-position pinhole wheel, a two-channel laser source, and the ThorImageLS™ acquisition software and computer workstation. The versatile design of the system allows users of virtually any optical microscope to easily obtain high-resolution, optically sectioned images.

System Components

- Confocal Laser Scanner (Includes ThorImageLS™ Software and Computer)
- 16-Position Motorized Pinhole Wheel
- 2-Channel Fiber-Coupled Laser Diode Source (488 nm and 635 nm Lasers Included)

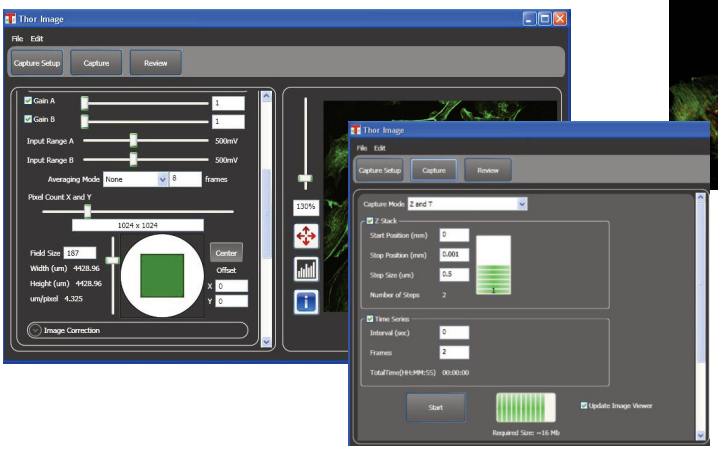
Features

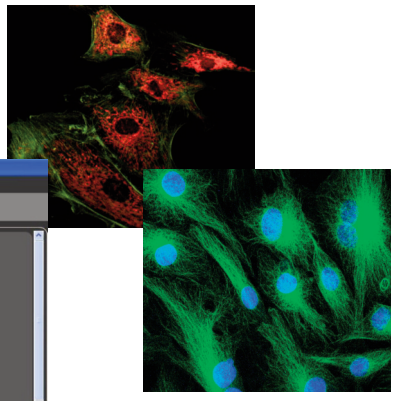
- Compact Modular Design
- Easy-to-Use Video-Rate Image Acquisition
- Adapters Available for Most Inverted and Upright Microscopes (Sold Separately)
- 16-Position Motorized Pinhole Wheel
- Fiber-Coupled Input/Output
- Easy Access Drop-In Filter Cube

Software Features

- Variable Scan Zoom
- Uni- and Bi-Directional Scan Modes
- TIFF, JPEG, and AVI File Outputs
- Image Animation Playback
- Software-Controlled Hardware Settings

ThorImageLS™ Software





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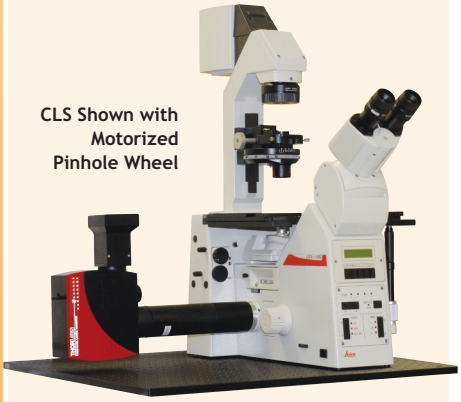
Inverted Microscope Adapters



CLS Shown with Motorized Pinhole Wheel

*Available Z Stepper Motor (Sold Separately)

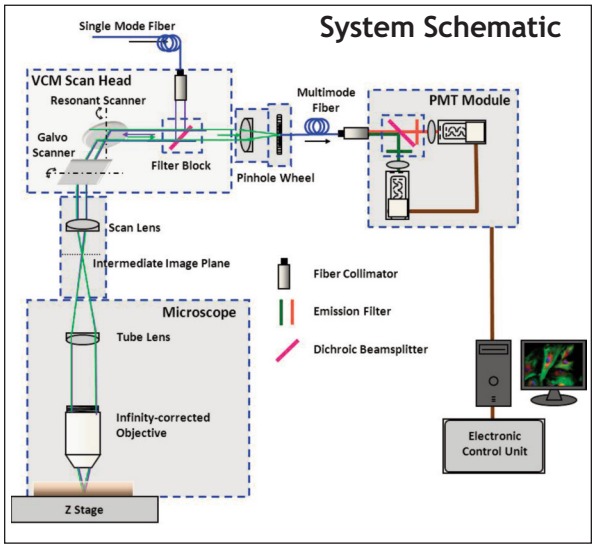
Thorlabs' Upright Stand with MLS203

Upright Microscope Adapters

Thorlabs' Confocal Laser Scanner system allows for both fluorescence or reflectance imaging with a simple switch of the dichroic filter in the filter block. The base PMT module comes equipped with matching multi-alkaline photodetectors and a changeable filter cube. High-sensitivity gallium arsenide phosphide (GaAsP) photodetectors are also available. The easily accessible filter cube comes standard with two emission filters (525 ± 50 nm bandpass and 650 nm longpass). The optical elements of the system are chromatically corrected from 400 - 750 nm.

For optimum confocal performance, the Confocal Laser Scanner uses a single mode fiber input carrying all the selected wavelengths to eliminate misregistration. The two-channel laser diode source included in the system provides output at 488 nm and 635 nm. Additional wavelengths are available upon request.

System Schematic



Pricing

ITEM #	PRICE*	DESCRIPTION
CLS-FS	$65,000.00	Confocal Laser Scanner Base Fluorescence System

For other currencies, please visit www.thorlabs.com

Specifications

IMAGING UNIT	
Central Wavelength	Source Dependent
Transmission Range	400 nm - 750 nm
Diffraction-Limited FOV	FN25 (486 - 750 nm) FN23 (400 - 700 nm)
Output Power	Source Dependent (~2 mW)
Lateral Resolution	Diffraction Limited
Imaging Speed	100 fps @ 128 x 128 30 fps @ 512 x 512 2 fps @ 4000 x 4000 (Bi-Directional Scan)
ELECTRONIC CONTROL UNIT	
Supply Voltage	100 - 240 VAC, 50 - 60 Hz
Storage Temperature	20 - 50 °C
Operating Temperature	15 - 40 °C
Control Unit Dimensions	12.0" (L) x 3.5" (W) x 17" (H)
DATA ACQUISITION ELECTRONICS	
Analog Input	2 Channels, 14 Bits, 125 MS/s

For more information, please email ImagingSales@thorlabs.com

Complementary Products