

FRET / Ratio Imaging Module

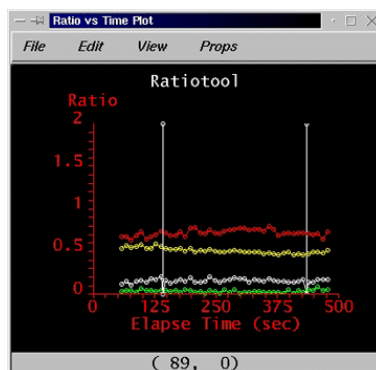
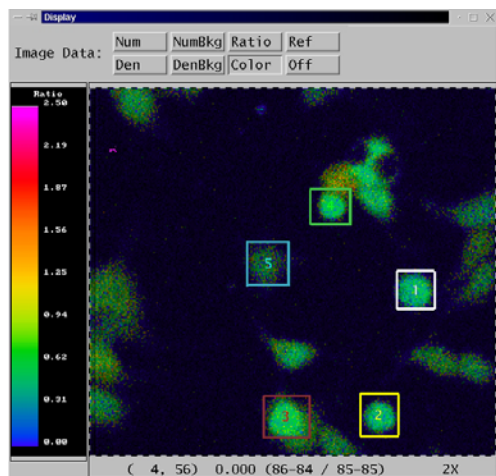
For:

ISee PC Imaging Software

ISee MAC Imaging Software

ISee SGI Imaging Software

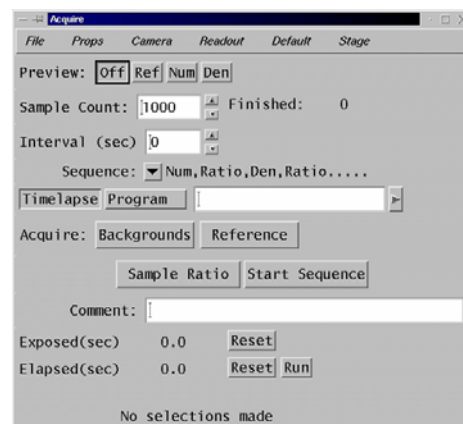
ISee's RatioTool Software Module is a full featured, excitation / emission, image-ratioing, software module that is a standard component of ISee Analytical Imaging Software. The versatility of the RatioTool Module allows the user to vary the image inputs and outputs up to a 1024 x 512 square pixel image with acquisition speeds of up to 30 frames per second.



FRET/Ratio Imaging Module includes:

- Camera / Hardware Setup and Control
 - Define Multiple ROIs within an Image
 - Analyze Processed Images and ROIs
 - Define Calibrations and Set Calibration Modes
 - Input Event Markers
 - Create Data Output Tables in ASCII Format

Integrated hardware controls are incorporated into the RatioTool Module that allow the user to setup and control a wide range of cameras and hardware devices from a single, easy to use, interface.



ISee's FRET - RatioTool Module includes:

Video Acquisition Module

CCD Cameras and Analog Tube Cameras

- NTSC and PAL Standards
- Composite and S-Video Inputs
- Real Time Acquisition to Hard Drive
- Frame Averaging and Summing
- Background Subtraction
- Gating Controls for On Chip Accumulation
- Movie Acquisition

Digital Image Acquisition Module

Hamamatsu

Photometrics

Princeton Instruments

- 16-bit Image Acquisition, Display, and Processing
- Image Display with Pan, Roam, and Zoom
- Independent Parallel and Serial Binning
- Multiple excitation acquisition modes
- Numerator, Denominator, Reference
- Monitoring of Accumulated Exposure Time
- User Selectable
- Read Out Region
- Binning Factor
- Exposure Time
- Image Sizes up to 4K by 4K by 48-bits
- Focus Mode Display
- External Trigger
- Ratio Pairs
- User Defined Time Lapse Mode
- Selectable Camera Lag Compensation

Hardware Control Module

Motorized Single and Dual Filter Wheels

- Ludl
- Sutter

Monochromators

- TILL
- PTI
- Acton

High Speed Optical Changers

- Sutter DG-4

Automated Microscopes

- Zeiss
- Leica

Motorized XY Stages & Z Focus Units

- Ludl

Liquid Tunable Emission Filters

- CRI

Motorized Theta Rotatable Stages

Laser Ablation Systems

- Photonics

Ratio Image Processing

- Selectable threshold, ratio, and concentration range
- All processing & computations at 16-bit precision
- Interactive editor for calibration data
- Data Presentation utilizing standard curve-fitting algorithms with user-definable parameters for:
 - Kd
 - Rmin
 - Rmax

Ratio Image Analysis

- Multiple, user defined analysis regions
- Stripchart time plot of individual regions
- Shading correction of ratio images
- Automated ROI / cell identification
- Journal analysis saved in ASCII format
- Simplified post-processing of data

Ratio Image Display

- Individual wavelength display includes:
 - Numerator
 - Denominator
 - Ratio
 - Reference
 - Composite
- Pre- and user defined lookup tables

Ratio Image Archival

- Selectable regions from 1 x 1 to the size of the chip
- Selectable save mode for storing data includes:
 - Ratio
 - Reference
 - Raw numerator & denominator
 - Background corrected numerator & denominator
 - Any combination of the above