

alba flim™

CONFOCAL
FLUORESCENCE
LIFETIME IMAGING



Alba FLIM – a confocal microscopy workstation supporting a wide range of imaging applications

Ready-to-Use & User-Friendly Software

Alba FLIM includes *Vista – FCS and Confocal Imaging Microscopy*, a comprehensive, user-friendly software package for acquiring FCS, FLIM, FRET, and RICS data. With Vista, Alba FLIM is capable of acquiring the following types of images:

- Fluorescence images
- Fluorescence lifetimes images
- DC, AC and phase images
- Polarization images
- Ratiometric images
- FRET efficiency images
- RICS

Fully Automated & Computer-Controlled

Alba FLIM is a fully automated, computer-controlled, dual-channel microscopy workstation for high-speed image acquisition providing the following measurement options:

- Fluorescence images
- Fluorescence lifetime (FLIM) images
- Förster Resonance Energy Transfer (FRET) efficiency images
- Raster imaging correlation spectroscopy (RICS)
- Steady-state polarization and ratiometric images
- Particle tracking

Key Features

- Dual-channel instrument
- Single- and multi-photon excitation
- Separate pinholes on each channel for elimination of optical aberrations
- Computer-controlled optimization of all major optical components
- Choice between scanning mirrors or piezo-controlled XYZ stage
- Frequency-domain based FLIM measurements for up to 10 times faster image acquisition as compared to time-domain
- Powered by Vista – FCS and Confocal Imaging Microscopy software
- Fully upgradable to Alba – Confocal Spectroscopy and Imaging Workstation

Alba FLIM features Vista, the software solution for FCS and Confocal Imaging Microscopy applications.





Software Specifications

Vista – FCS and Confocal Imaging Microscopy Software

Alba FLIM features Vista, a comprehensive, user-friendly software package for the acquisition and analysis of FLIM, FRET, FCS and RICS data. Vista features the following operation and measurement options:

2D Visualization and Operations

- Rotation
- Histogram based colocalization
- Zooming
- Scaling
- Arithmetic
- Smoothing

Measurements

- FRET and FLIM images
- Polarization and ratiometric images
- Kinetics
- Time-lapse recording
- RICS
- FCS (auto- and cross-correlation; PCH)
- Scanning FCS
- MCS (multichannel scaling)
- Particle tracking

Image Acquisition

Image Acquisition (Raster Scan)

Vista offers the user the flexibility to choose between the following image acquisition parameters:

- Pixels number: user selectable from 2 to 8192
- Max line frequency: 4 KHz (on 20 points)
- Min line frequency: 0.01 Hz
- Max frame rate 512x512: 2 sec
- Max frame rate 200x200: 0.4 sec
- Beam park
- Panning
- Field rotation: 2000 optical
- Field diameter: 18 mm

Scan Modes

Vista provides several options for kinetic studies (t, Xt, XYt, XZ, XYZ and XZt), and for optical sectioning (XZ, XYZ) of specimens.

Scan Modes

- 2 channels input
- 8 channels output

Image Formats

- Export to ImageJ, MetaMorph
- Plots can be saved and exported to gif, tiff, jpeg, png, bitmap and metafile formats

Instrument Specifications

Light Sources:

- Up to four single photon lasers housed in a laser launcher with laser intensity, shutters and single-mode fiber optic output. Wavelengths: 405, 436, 473, 488, 532, 543, 594, 635 and 690 nm
- Multi-photon excitation with computer-controlled beam expander, laser intensity and shutters.

Microscope: Inverted Nikon Ti-U microscope with lens revolver for objectives, dichroic automation, bottom and side ports, and automated focus control.

Optics:

Objectives:

- Air objectives with 20X, 40X, 60X magnification and 1.5-8.1 mm working distances
- Water objectives with 60X magnification and 0.22 mm working distance
- Oil objectives with 60X magnification, 1.4 NA and 0.21 mm working distance

Dichroic Filters:

- For single-photon excitation: 1-, 2-, 3-band filters
- For multi-photon excitation

Polarizer:

- Cube beam splitter, wavelength range: 450-1100 nm; extinction ratio: 10,000:1 at +/- 3 degrees

Confocal Pinholes:

- Separate pinholes for each emission channel

Scanning Options:

- Galvanometrically controlled mirrors
- Piezo controlled stage

Sample Holders: 8-, 96-, and 384-well plates, petri dishes and coverslips

Light Detectors: Photomultiplier tubes (PMTs) standard, upgradable with avalanche photodiodes (APDs)

Power Requirements: Universal power input of 110-240 V, 50/60 Hz, 400 VAC

Dimensions: 538 mm (L) x 563 mm (W) x 205 mm (H)

Weight: 27 Kg

Information & specifications are subject to change without notice.



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For more information and a complete list of accessories available for Alba FLIM please visit www.iss.com.