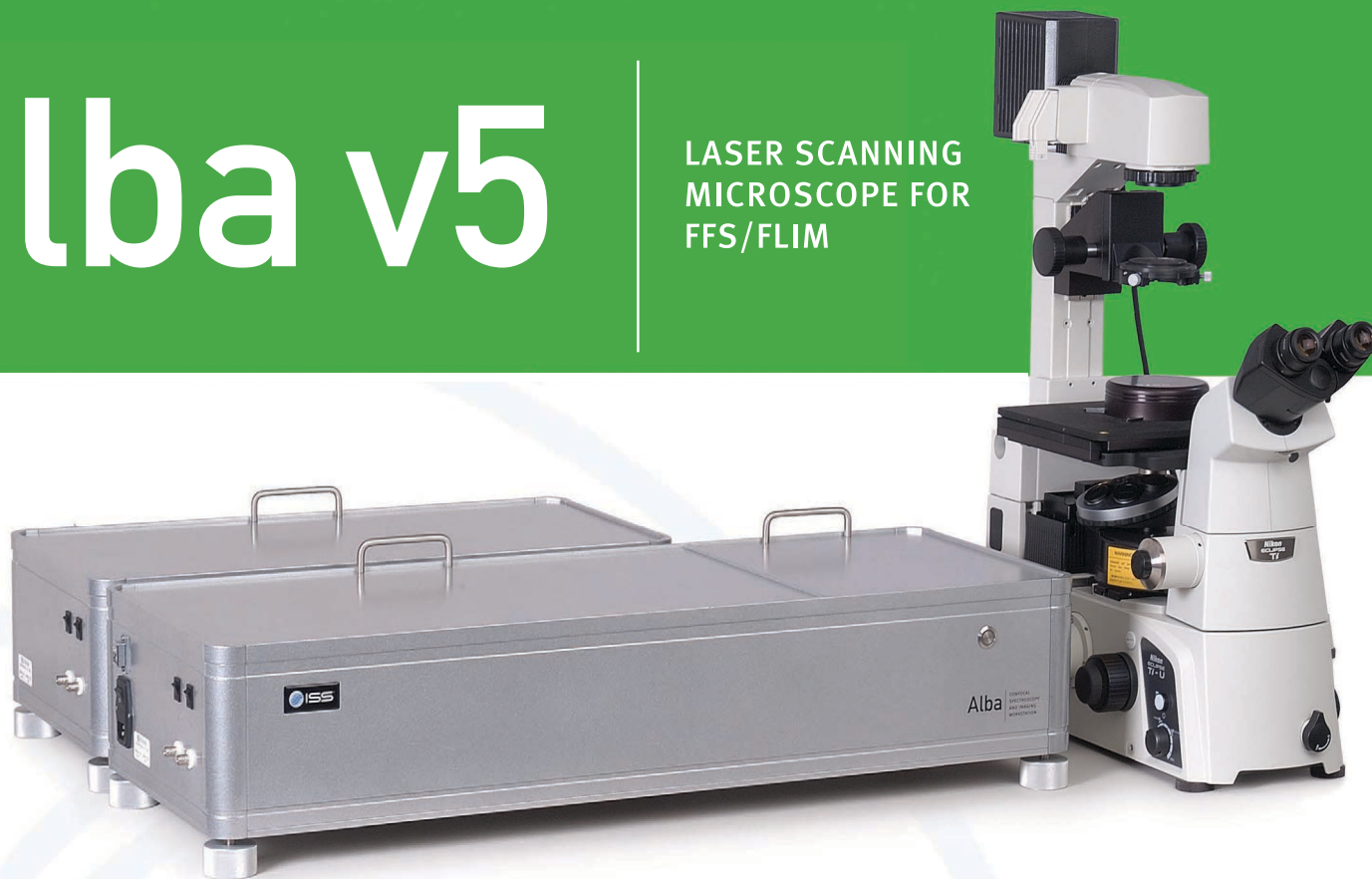


alba v5

LASER SCANNING
MICROSCOPE FOR
FFS/FLIM



Alba is a laser scanning microscope that incorporates several measurement modalities for experimental quantitative biology and material science applications requiring the single molecule detection sensitivity.

The measurement capabilities of the Alba v5 include:

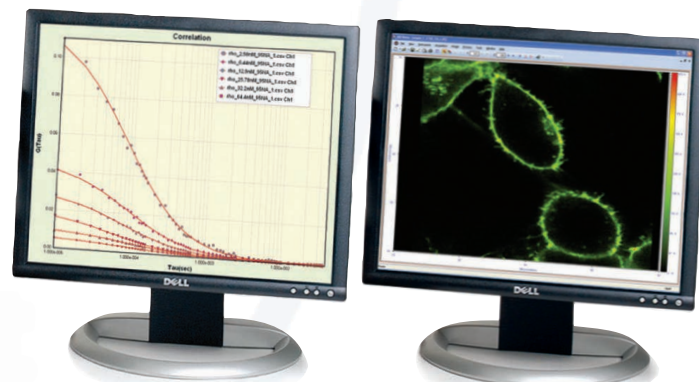
- FRET and FLIM images
- Polarization and ratiometric images
- Kinetics
- Time-lapse recording
- RICS (Raster Scan Image Correlation Spectroscopy)
- N&B (Number & Brightness)
- FCS and FCCS (Auto- and cross-correlation)
- PCHs (Photon Counting Histograms)
- Fluorescence Polarization FCS
- Scanning FCS
- Particle Tracking

User-Friendly Software

Alba includes *Vista Vision* - a comprehensive, user friendly software package for acquiring FCS, PCH, FLCS, FLIM, FRET and RICS data.

Key Features

- Digital Frequency-domain or Time-domain (TCSPC)
- Four-channel instrument
- Single- and multi-photon excitation
- Computer-controlled optimization of optical elements
- Imaging with galvo scanning mirrors or piezo-controlled XYZ stage
- Flexibility and Versatility





alba v5

Specifications

Software Specifications

Vista Vision – FCS and Confocal Imaging Microscopy Software
Alba features Vista Vision, a comprehensive, user-friendly software package for the acquisition and analysis of FLIM, FRET, FCS, FCCS and RICS data.

Image Acquisition

Image Acquisition (Raster Scan)

Vista Vision 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 256x256: 0.4 sec
- Beam park
- Panning
- Field rotation: 200o optical
- Field diameter: 18 mm

Scan Modes

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

Input/Output

- 2 channels input
- 5 channels output

Image Formats

- Export to ImageJ, MetaMorph
- Plots can be saved and exported to GIF, TIFF, JPEG, PNG, Bitmap and Metafile formats

Data Acquisition & Analysis

Data Acquisition Modes

Alba acquires data in either time mode (photons are counted during fixed, user-defined time intervals), or photon mode (time delay between photons is used to build histograms).

FFS Data Analysis

Vista Vision utilizes the following statistical functions for data analysis:

- Auto-correlation function, Cross-correlation function
- Photon Counting Histogram (PCH)
- A custom function can be used as a model

FLIM Data Analysis

- Minimization Technique
- Phasor plots

For more detailed information on Alba's capabilities please refer to Alba FLIM and Alba FCS product information.

Instrument Specifications

Light Sources:

- Up to six CW or pulsed single photon lasers housed in a laser launcher with laser intensity, shutters and single-mode fiber optic output. Wavelengths: 405, 440, 473, 488, 532, 543, 594, 635 and 690 nm
- Multi-photon excitation with computer-controlled beam expander, laser intensity and shutters.

Microscope:

Inverted or upright microscope (Nikon, Olympus, Zeiss, Leica)

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-, 3-4 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
- From 12.5 µm to 144 µm

Stage: Large distance movement (100x100x10 mm), stepper motor-controlled XYZ stage

Scanning Options:

- Galvanometrically-controlled mirrors
- Piezo-controlled stage

Sample Holders:

8-, 96-, and 384-well plates, petri dishes and coverslips

Light Detectors: 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.

For more information and a complete list of accessories for Alba v5 please visit www.iss.com

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