CONFOCAL MICROSCOPE

NCF950

NCF950 Specification	
Laser Unit	Laser 405 nm,488 nm,561 nm,640 nm
Detector	Wavelength: 400-750nm，Detector：4 PMT
Scanner	Maximum Pixel Size: 4096 Scanning speed: 2 fps（512 x 512），18 fps（256 x 256）， 0.5fps(1024×1024)，0.12fps(2048×2048)，0.03fps(4096×4096)
Scan Mode	X-Y, X-Y-Z, X-Y-T
Pinhole	Hexagon shape，Continuouslv Variable Transmission(CVT)
Confocal Field number	Square Inscribed in a φ18mm Circle
Image bit depth	12 bits
Compatible Microscopes	NIB950 Full Motorized Inverted Microscope
Optical System	NIS60 Infinite Optical System(F200)
Eyepiece	10×(25)，EP17.5mm，adjustable diopter -5～+5，Interface Φ30
Viewing Tube	Seidentopf Trinocular Tube, Inclined at 45°，Interpupilary Distance 47-78mm,Eyepiece Interface Φ30,Fixed Visibility; 1) Eyepiece/Camera Switch（100/0,50/50,0/100）；2) Visualization/Turn off Visualization/Bertrand lens Position Adjustable
Nosepiece	Motorized Sextuple Nosepiece(expansion slot),M25×0.75
Condenser	6-Position Motorized Control:NA0.55，WD26；Phase Contrast(10/20,40,60 optional),DIC（10X，20X/40X）optional.Empty Hole
Illumination	Transmitted Kohler Illumination,10W LED Illumination;
	Epi-Illumination: Wide-field Fiber Illumination; 6-Position Motorized Fluorescent Carousel(B，G，U standard outfit), Motorized Fluorescent Shutter
Intermediate	Manual 1X，1.5X、Confocal switching
Output Port	Splitting Ratio: Left:Eyepiece=100:0; Right:Eyepiece=100:0
Stage	Motorized Control:Moving Range 130 mm x 100 mm （325 mm x 144 mm） Maximum Speed: 25mm/s；Resolution: 0.1μm - Repeat Accuracy：3μm. Mechnical Adjustable Slice Clamp
Focusing System	Coaxial Coarse and Fine Adjustment,Stroke: Focus up 7 down 2;Coarse Stroke 2mm per Rotation, Fine Stroke 0.002mm per Rotation, Manual and Motorized Control, Minimun Stroke 0.01um under Motivated Control.
DIC Plate	10X，20X，40X Plate; Can be Inserted in Nosepiece Slot; Optional
Controller	Rocking Bar, Controller Box,USB Connection Cable
Computer	1. Windows 10 Pro 64 bit Operating System 2. CPU: Intel Core i7-8700, 6 Core, 12MB Cache, 3.20GHz, 4.6Ghz Turbo w/ HD Graphics 630 3. RAM: 16GB (2x8GB) 2666MHz DDR4 UDIMM Non-ECC 4. Hardware: 3.5"" 1TB 7200rpm SATA Hard Disk Drive 5. Video card: NVIDIA Quadro P620, 2GB, 4 mDP to DP Adapter 6. USB Interface: 6 Available USB Slots 7. Display: 24" Monitor Display that Supports 1920X1080 Resolution
Software	NOMIS Advanced C Display/Image Processing/Analysis 2D/3D/4D Analysis,Time-lapse Aanalysis,3D Volume Render/Orthogonal,Image Stitching,Multi-channel Color Confocal Image

Nexcope ®
Scientific research microscope

Simple, Efficient and Highly integrated

NCF950 laser confocal microscope is a high-end product in Novel Optics microscope series. . It is designed as an essential microscopy tool for laboratory scientific research, providing powerful and stable imaging capabilities and highly integrated motorization capabilities.

· Signal Detection

Efficient scanning head, detector and CVT motorized small hole, coupled with Yongxin's powerful optical system, provides fast, stable, high signal-to-noise(S/N) ratio confocal image.

· Multi-Channel Signal Detection

Integrated 4-channel light sources and detectors (405, 488, 561,640), combined with 4-channel fluorescence fusion technology to achieve real-time and multi-channel fusion observation and capture.

· Motorized Components

NCF950 provides a variety of motorized parts, including: motorized stage, motorized focusing, motorized nosepiece, motorized fluorescent carousel, motorized condenser and motorized brightness adjustment, operation mode allows physical button operation and software operation, and provides calling commands, which is convenient for users to control and develop by themselves.

NCF950 confocal system is an indispensable laboratory tool with its excellent optical imaging system and simple operation mode, coupled with highly integrated motorized components.
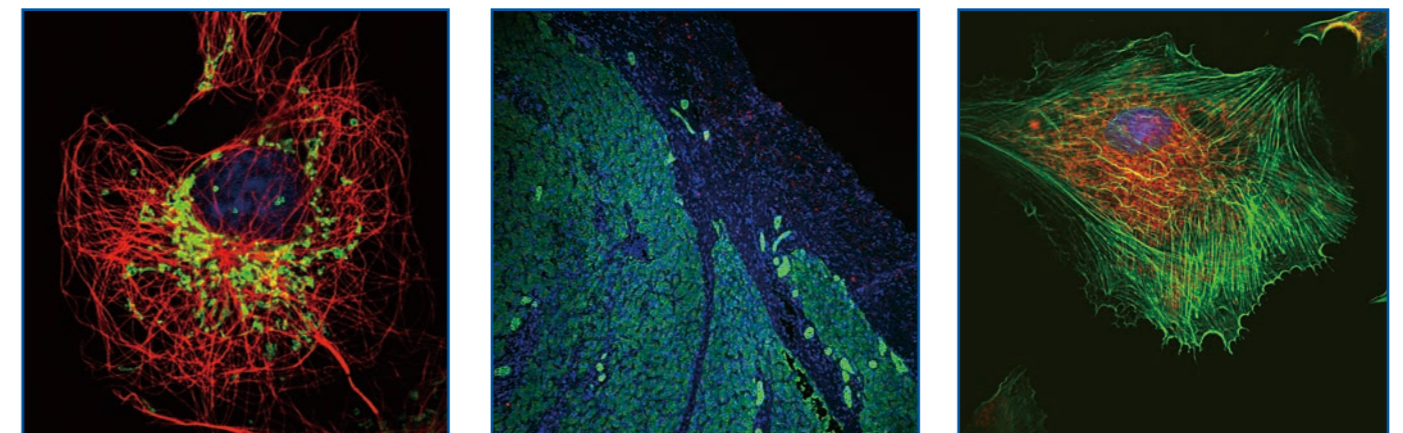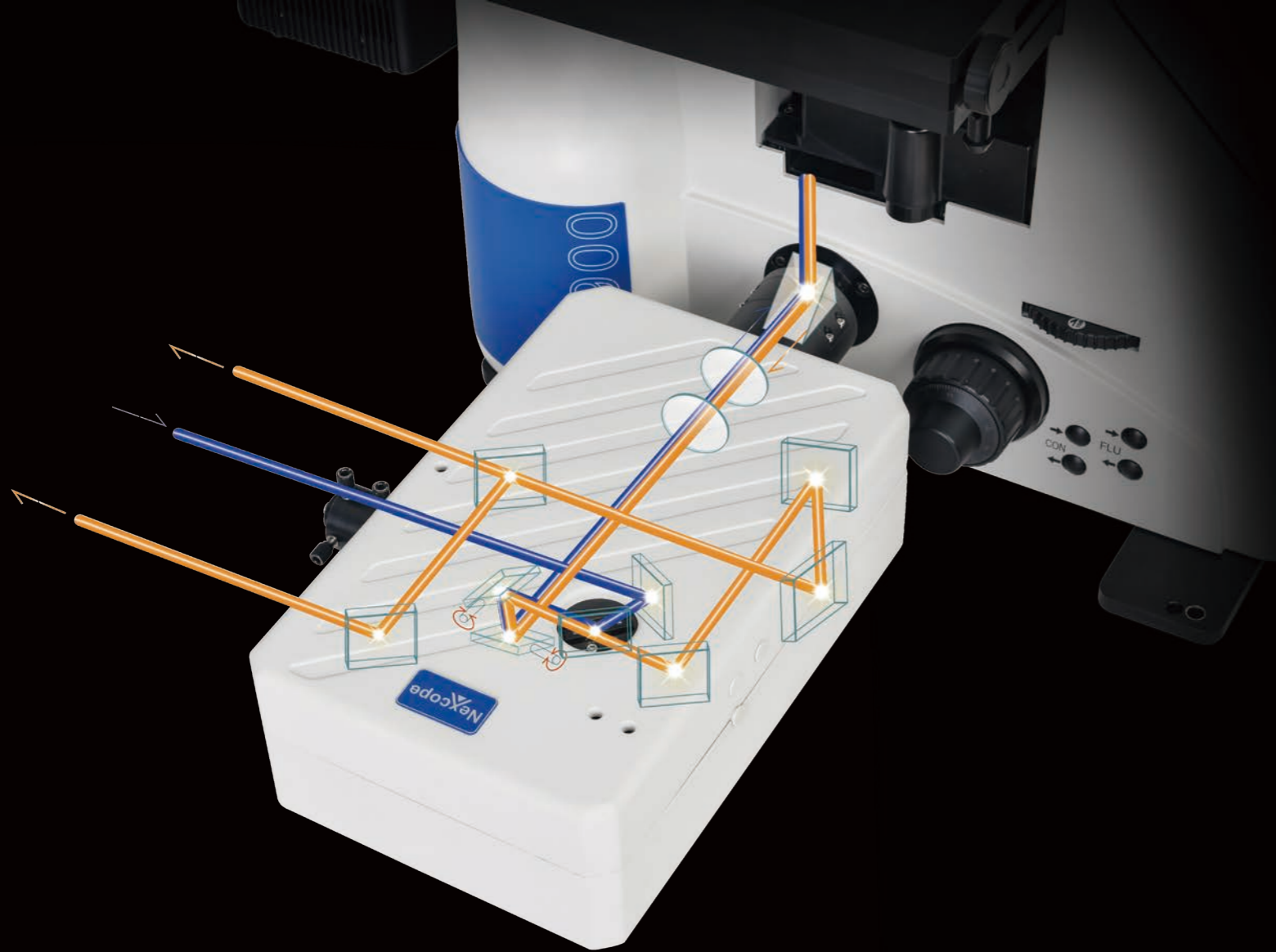
Interactive Operation

Convenient interactive mode and multiple control methods could meet different needs of users from beginners to professional users. Combined with the powerful features for software and hardware interactive automation of this product, it has greatly simplified the whole set experimental process, which could easily realize generation of three-dimensional structure and analysis functions such as time-lapse analysis of multiple regions etc. by using matched NOMIS Advanced C,
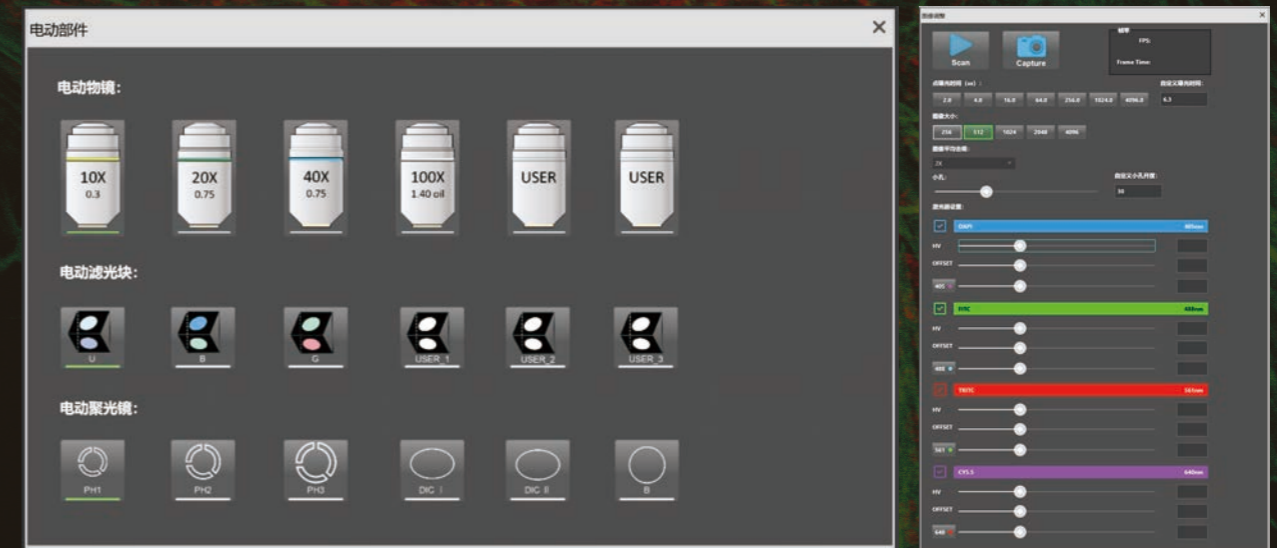
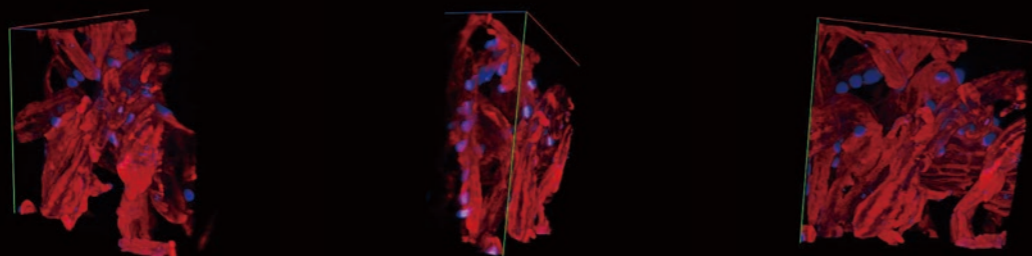# High signal-noise ratio, High resolution image

Obtaining high signal-noise ratio images based on high-sensitivity photomultiplier light (PMT) and stable laser light source. At the same time, the system adopts high-speed scanning galvanometer to realize real-time scanning up to 4096x4096 Resolution, the use of large numerical aperture objective (100 times, N.A = 1.45) ensures high-quality imaging resolution.

High-performance Objectives for Confocal Imaging

NIS60 Plan Apochromat Objective

These high NA objectives provide chromatic aberration correction over a wavelength ranging from ultraviolet to infrared. The transmission property of these lenses has been greatly enhanced through the use of Yongxin's exclusive Nano Multi-coating technology, which has provided high-quality imaging basis for confocal imaging.

Recommended Objectives

NIS60 Plan Apochromat 10X	NA 0.45, W.D. 4.0mm,cover glass thickness 0.17
NIS60 Plan Apochromat 20X	NA 0.75, W.D. 1.1mm,cover glass thickness 0.17
NIS60 Plan Apochromat 60X	NA 1.42, W.D. 0.14mm,cover glass thickness 0.17, Oil
NIS60 Plan Apochromat 100X	NA 1.45, W.D. 0.13mm,cover glass thickness 0.17, Oil

High-efficiency Scanner and Detector

The design of the standardized scanner ensures the stability and scalability of the system. Scanner integrates high-precision scanning galvanometer system and continuously variable speed hexagonal motorized holes to ensure low-noise, high-contrast and high-quality confocal images under each objective magnification. The newly developed scanning galvanometer control technology allows maximum 4096×4096 pixels.

Laser Unit and Detector

The system is equipped with four-color integrated lasers (405nm, 488nm, 561nm,640nm), single-port fiber output . With its compact design, it provides a space- saving solution for confocal system. Internal integrated AOTF module could realize fast and efficient wavelength and power selection.

In terms of signal detection, with four PMT (photomultiplier tube) detectors, It could achieve detection of fluorescent signals with high-sensitivity. Four-channel detection signals process image fluorescent staining and synthesizing automatically according to the wavelength stimulated by laser. Which could realize simultaneous multi-channel detection and display.
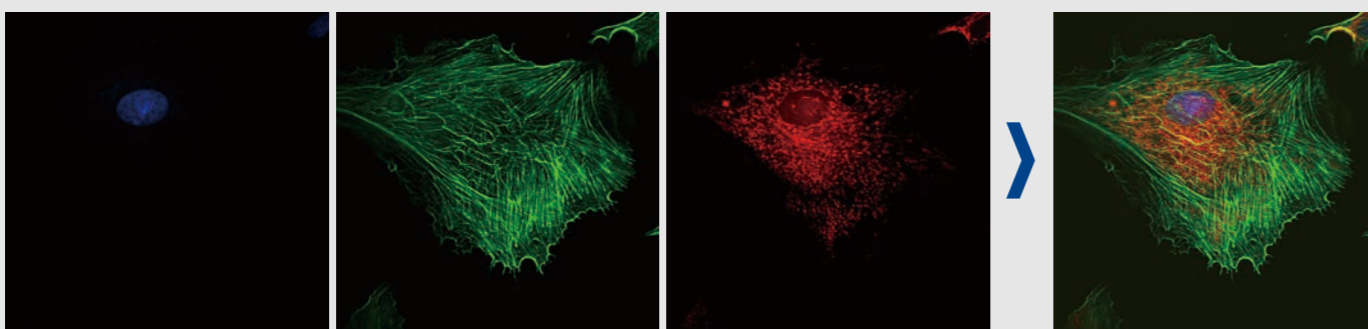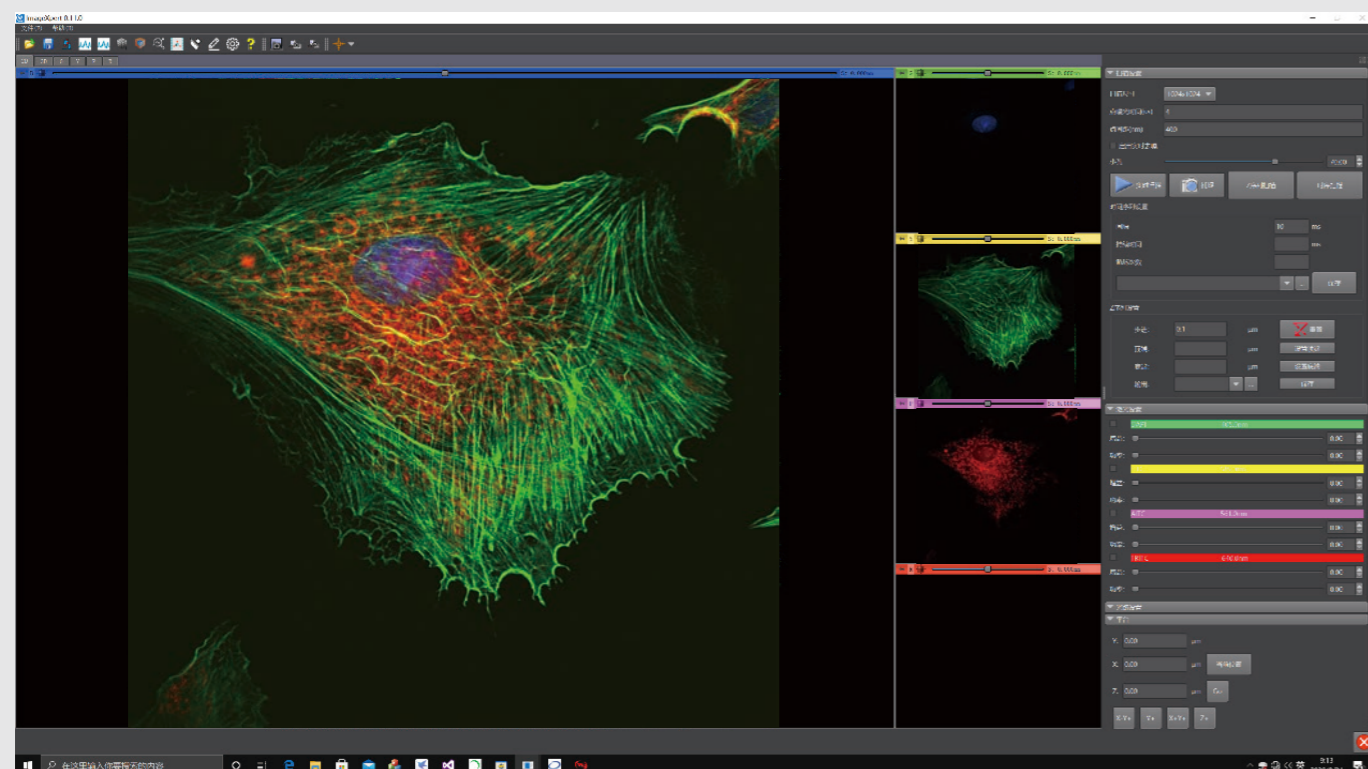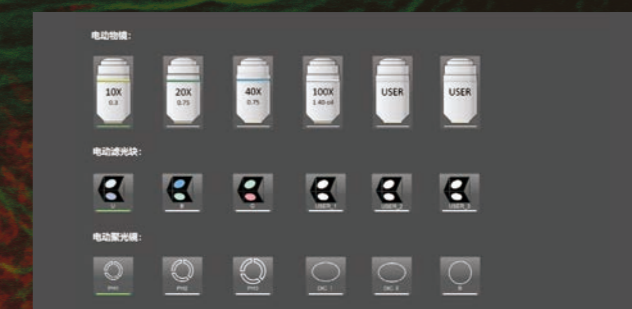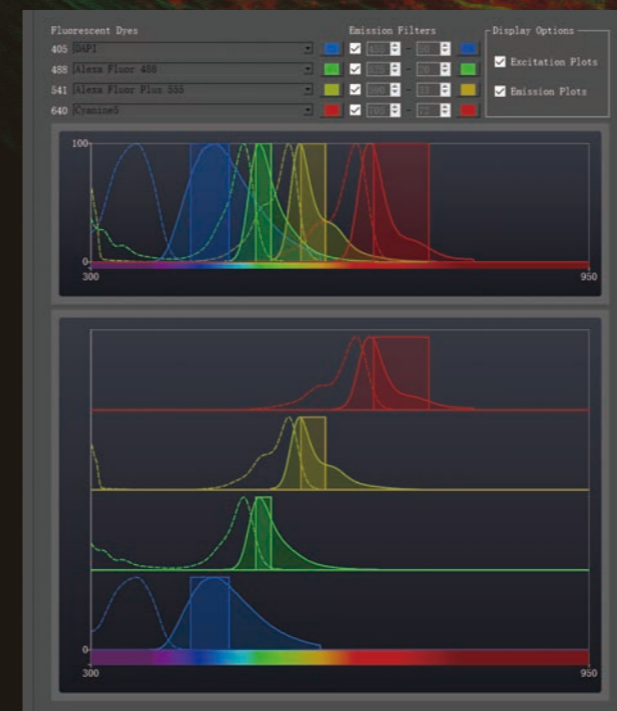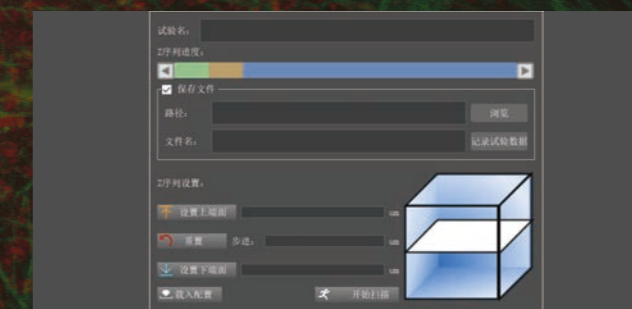
■ XY Axis(stage) Control
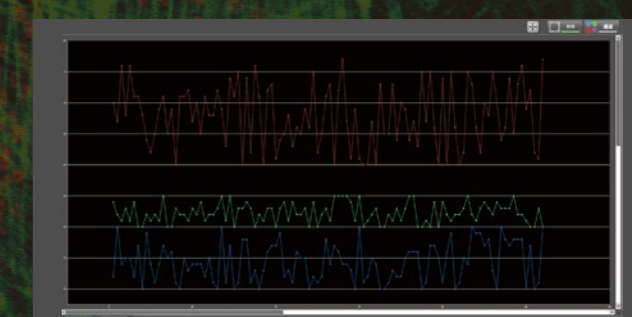
■ Objective, Filter cubes, Condenser control

■ Fluorescent Dyes Library

■ Z Sequential Scanning

■ Time Series Analysis

NOMIS Advanced C

■ High resolution images can be generated with a single click operation, The software will automatically calculate size of the small hole according to objective numerical aperture, exposure value and scanning range, so as to obtain the image with the optimum signal-to-noise(S/N) ratio.

■ At same time, noise reduction algorithm can remove the background noise in real time and improve image quality. Multi-channel images can be collected and synthesized simultaneously, which is convenient for customers to realize real-time observation of multiple stains.

■ By setting top position, bottom position and movement interval, the NCF950 motorized Z axis can realize automatic Z-Stack acquisition and generate 3D model.

■ Providing various microscope motorized control interfaces: motorized objective carousel, motorized fluorescent filter unit, motorized condenser turntable.

■ Motorized stage control and motorized focusing mechanism could locate the Region of Interest(ROI) immediately through the software and record the position so that the user will be able to return to the recorded position quickly.

High-speed Motorized Control, Photograph and Image analysis

NOMIS Advanced C could perform integrated control for microscopes, cameras, motorized accessories etc. and realize automatic control and image analysis processing. The interface is intuitive and easy to understand, which is convenient for parameter setting and reset.