



A1R MP

Multiphoton confocal microscope

Excitation	
Input/output Port	3 laser input ports 3 signal output ports
Laser for <u>Confocal</u> Microscopy /reflexion	Laser diode 405 nm
Compatible Laser	Solid-state laser 488 nm, 561/594 nm, G-HeNe laser 543 nm, Laser diode 638/640 nm
Modulation	Method: AOM (Acousto-Optical Modulator) device
Laser Unit	3-laser module EX
Laser for Multiphoton Microscopy	Mai Tai HP/eHP DeepSee (Newport Corp.)
Modulation	Method: AOM (Acousto-Optical Modulator) device Control: power control, return mask, ROI exposure control
Incident Optics	700-1000 nm, auto alignment
Detection	
NDD for Multiphoton Microscopy	Episcopic NDD GaAsP x4
Wavelength	400-650 nm
Visible Detector	4 PMT descanned Spectral detector (32 Channels)
Unmixing	Channel unmixing
Image Bit Depth	4096 gray intensity levels (12 bit)
Scanning Head	
Scanning	FOV: Square inscribed in a $\varnothing 18$ mm circle Standard image acquisition Scanner: non-resonant scanner x2 Pixel size: max. 4096 x 4096 pixels Scanning speed Standard Mode: 2 fps (512 x 512 pixels, bi-direction), max. 24 fps (512 x 32 pixels bi-direction) Fast Mode: 10fps (512 x 512 pixels, bi-direction), max. 130fps (512 x 32 pixels, bi-direction)*2 Zoom: 1-1000x continuously variable Scanning mode: X-Y, X-T, X-Z, XY rotation, Free line High-speed image acquisition Scanner: resonant scanner (X-axis, resonance frequency 7.8 kHz), non-resonant scanner (Y-axis) Pixel size: max. 512 x 512 pixels Scanning speed: 30 fps (512 x 512 pixels) to 420 fps (512 x 32 pixels), 15,600 lines/sec (line speed)

	Zoom: 7 steps (1x, 1.5x, 2x, 3x, 4x, 6x, 8x) Scanning mode: X-Y, X-T, X-Z Acquisition method: Standard image acquisition, High-speed image acquisition, Simultaneous photo activation and image acquisition
Wavelength Detection Range	400 nm-750 nm (400 nm-650 nm with multiphoton microscopy)
Number of Channels	32 channels
Spectral Image Acquisition Speed	4 fps (256 x 256 pixels), 1000 lps
Wavelength Resolution	80nm (2.5 nm), 192nm (6 nm), 320nm (10 nm) Wavelength range variable in 0.25 nm steps
Unmixing	High-speed unmixing, Precision unmixing
Z Step	FN1 stepping motor: 0.05 μ m
Option	High-speed piezo objective-positioning system (for FN1/Ni-E)
Software : NIS Elements	
Display/Image Generation	2D analysis, 3D volume rendering/orthogonal, 4D analysis, spectral unmixing
Image Format	JP2, JPG, TIFF, BMP, GIF, PNG, ND2, JFF, JTF, AVI, ICS/IDS
Application	FRAP, FLIP, FRET, photo activation, three-dimensional time-lapse imaging, time-lapse imaging, colocalization
OS	Microsoft Windows® 7 Professional 64-bit (English version)
Data Transfer	Dedicated data transfer I/F