

Noctua

High-speed, full-spectrum SRS imaging
in one integrated platform

refined-lasers.com

- ✓ Multicolor SRS & CARS imaging
- ✓ Full-spectrum Raman coverage
- ✓ Millisecond spectral tuning
- ✓ TPEF & SHG integrated
- ✓ Fully aligned imaging system
- ✓ Compact & air-cooled
- ✓ Fully integrated microscope
- ✓ Automated scanning & detection
- ✓ Comprehensive imaging software



Noctua delivers seamless all-in-one SRS imaging with an integrated laser, scanning microscope and control system. With automated acquisition and intuitive software, it provides an easy and accessible way to bring high-performance SRS technology into your lab.

With full Raman spectral access, millisecond tuning and integrated SHG and TPEF, Noctua is ideal for molecular pathology, biomarker discovery and live-cell studies. Compared to conventional systems, it offers a streamlined, user-friendly alternative without the cost and complexity.

Product Specifications Noctua

Laser

Specification	Pump	Stokes
Covered wavenumbers	700 - 3100 cm ⁻¹ with step size of 0.1 cm ⁻¹	
Associated tuning range	approx. 780 - 980 nm	approx. 1027 - 1055 nm
Tuning speed	< 200 ms	
Max. average power on sample	40mW	160mW
Typical pulse duration	6 - 12 ps	2 - 3 ps
Spectral resolution	< 12 cm ⁻¹	
Repetition rate	~40.5 MHz	
Modulation	20 MHz, 50% duty cycle	
Noise performance	3 dB above shot-noise limit (with optional balanced detector at 1–100 mW optical power on detector.)	

Hardware

Laser head (pump laser integrated)	49x83x20 cm ³
Controller dimension	43x45x13 cm ³
Cooling	Air-cooled
Weight (w/o microscope)	48 kg
Standard umbilical length	1.8m
Power supply	100–240 VAC, 50/60 Hz

Imaging

Field of view	up to 700µm x 700µm	Typical specifications; performance depends on selected configuration.
Magnification	20x, 40x or 60x	
Mosaic field of view	up to 100 x 60 mm	
Lateral resolution	down to 0.5 µm	
Axial resolution	down to 1.8 µm	
Pixel dwell time	down to 0.8 µs, typical 10µs	
Exemplary scan speed	~1 fps @ 256 × 256 px and 10µs	
Additional imaging modalities	TPEF, SHG (epi)	
Acquisition modes	Z-stack, time-lapse, live imaging	



Availability Notice: Due to region-specific IP regulations and restrictions, Noctua is not available in all areas worldwide. Not available in the USA.



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