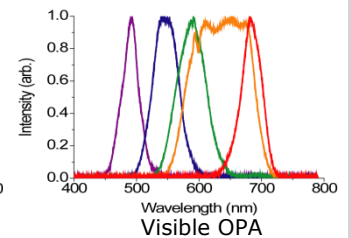
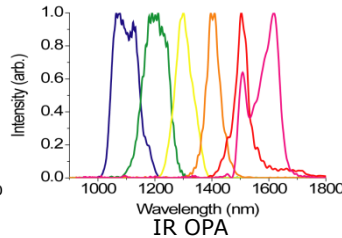
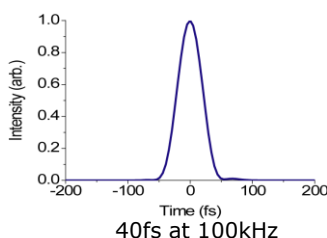
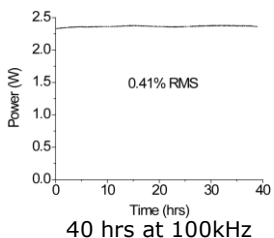
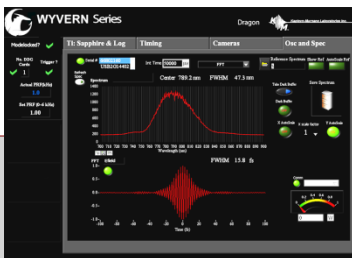
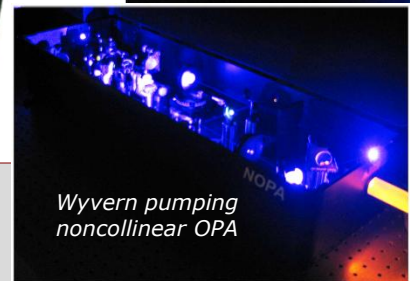
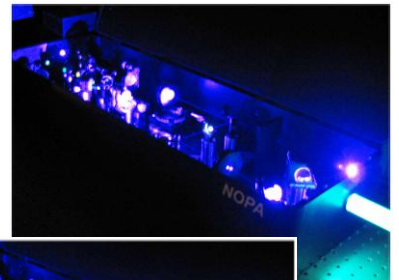


# Wyvern™ 50 Series

*Ti:sapphire regenerative ultrafast laser amplifiers*

**Industry Leading... Computer controlled, variable Repetition Rate**

- *Pulse energy: 8μJ – 140μJ*
- *Repetition rates: 10kHz up to 150kHz*
- *Pulse duration: <50fs*
- *Unprecedented average power from a single-stage amplifier*



*Wyvern-OPA and Wyvern-NOPA operate in the μJ 100kHz regime*

**Ultrafast Imaging • Spectroscopy (THz, nonlinear, molecular, surface) •  
Materials Processing • Lithographic Metrology • Mask Inspection**

Kapteyn–Murnane Laboratories, Inc.™

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Singapore: (65) 6746 8068

Germany/Austria: 081 91 985199 0  
South Korea: 042 823 5300

India: 91 22 27801176  
UK: 44 01295 672500

High Rep Rate Regenerative Amplifier	Wyvern-50		
	W50-50	W50-100	W50-150
Repetition Rate:	<b>10 thru 50kHz</b>	<b>20 thru 100kHz</b>	<b>50 thru 150kHz</b>
	Computer Controlled Tuning across entire range	Computer Controlled Tuning across entire range	Computer Controlled Tuning across entire range
Energy at 150kHz:			8uJ
Energy at 100kHz:		10uJ	12uJ
Energy at 50kHz:	25uJ	35uJ	40uJ
Energy at 30kHz:	40uJ	60uJ	
Energy at 20kHz:	80uJ	80uJ	
Energy at 10kHz:	140uJ		
Pulse Duration: <sup>1, 2</sup>	< 50 fs		
Beam Quality:	$M^2 < 1.3$		
Pre-pulse contrast on ns scale:	> 250:1		
Post-pulse contrast on ns scale: <sup>3</sup>	> 100:1		
Polarization:	Horizontal		
Power instability: <sup>4</sup>	< 1% RMS		
Long term instability (8hrs):	< 1% RMS		
Beam Diameter (1e <sup>2</sup> ):	~8mm		

<sup>1</sup> Longer pulse options available, up to 130 fs.

<sup>2</sup> Shorter Pulse options coming soon.

<sup>3</sup> Higher Contrast options available.

<sup>4</sup> Power instability <1% RMS options available.

The Wyvern™ is a complete, single-box system, housing the Ti:sapphire laser oscillator, regenerative amplifier and oscillator pump laser within a single enclosure. The Wyvern's™ short pulses, high energy and excellent spatial profile are exceptionally well-suited to nonlinear optics applications, e.g. allowing efficient white light production.

The Wyvern™ 50 Series offers industry leading "hands-off" computer-controlled tuning of repetition rate for the operating ranges described and simple and rapid alignment to provide the widest range of rep-rates in the industry today.

Surpassing ultrafast providers in the industry today... the Wyvern™ 50 does not require the added cost of re-alignment by a factory authorized service technician when a change in Rep-Rate is needed to reach success with your project.

**... Don't settle for anything less**



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