

Wyvern™ 500 Series

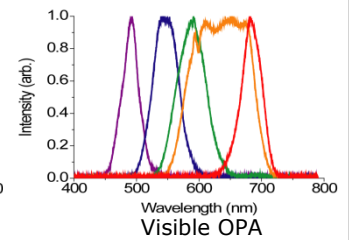
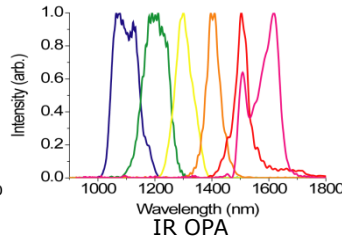
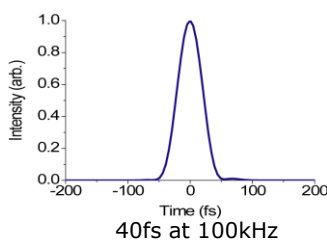
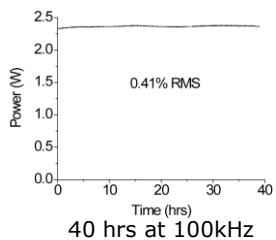
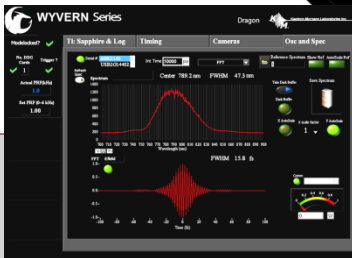
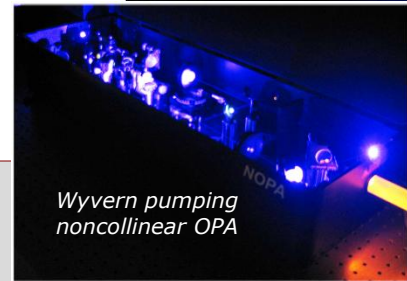
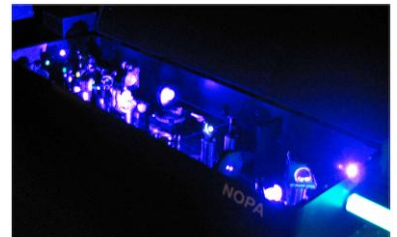
Ti:sapphire regenerative ultrafast laser amplifiers

Industry Leading... Computer controlled, variable Repetition Rate

- *Pulse energy: 9μJ – 750μJ*
- *Repetition rates: 10kHz up to 200kHz*
- *Pulse duration: <45fs*
- *Unprecedented average power from a single-stage amplifier*



*KMLabs Patented
Cryogenic 1st Stage*



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.™

USA: 1855 South 57th Court, Boulder, CO 80301 □ Tel: 303-544-9068 □ Fax: 419-821-2284 □ www.kmlabs.com

China: 86 10 82800851
Japan: 81 3(3686)4711

France: 33 (0) 1 41906180
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-500			
	W500-50	W500-100	W500-150	W500-200
Repetition Rate:	10 thru 50kHz	20 thru 100kHz	50 thru 150kHz	100 thru 200kHz
	Computer Controlled Tuning across entire range	Computer Controlled Tuning across entire range	Computer Controlled Tuning across entire range	Computer Controlled Tuning across entire range
Energy at 200kHz:				9, 18 or 27uJ
Energy at 150kHz:			15, 30 or 40uJ	20, 40 or 55uJ
Energy at 100kHz:		25, 50 or 65uJ	40, 80 or 100uJ	45, 90 or 130uJ
Energy at 50kHz:	60, 120 or 150uJ	80, 160 or 200uJ	100, 200 or 250uJ	
Energy at 30kHz:	120, 240 or 350uJ	140, 280 or 350uJ		
Energy at 20kHz:	190, 380 or 550uJ	210, 420 or 630uJ		
Energy at 10kHz:	250, 500 or 750uJ			
Pulse Duration: ^{1, 2}	< 45 fs			
Beam Quality:	$M^2 < 1.3$			
Pre-pulse contrast on ns scale:	> 250:1			
Post-pulse contrast on ns scale: ³	> 100:1			
Polarization:	Horizontal			
Power instability: ⁴	< 1% RMS			
Long term instability (8hrs):	< 1%RMS			
Beam Diameter (1e ²):	~8mm			

¹ Longer pulse options available, up to 130 fs.

² Shorter Pulse options coming soon.

³ Higher Contrast options available.

⁴ 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™ 500 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™ 500 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



Kapteyn-Murnane Laboratories, Inc.™

USA: 1855 South 57th Court, Boulder, CO 80301 □ Tel: 303-544-9068 □ Fax: 419-821-2284 □ www.kmlabs.com

China: 86 10 82800851

France: 33 (0) 1 41906180

Germany/Austria: 081 91 985199 0

India: 91 22 27801176

Japan: 81 3(3686)4711

Singapore: (65) 6746 8068

South Korea: 042 823 5300

UK: 44 01295 672500