

## Quality of Excellence, presented by Sintec Optronics

### 1. High power fibre coupled diode laser



#### Features:

- Easy to integrate into production;
- Fiber coupled output powers up to 4500W
- Flexible architecture, easily scalable
- Internal water flow monitoring
- Industrial grade fully interlocked fiber
- Long lifetime
- User friendly operation
- Portable and compact
- Reliable and efficient
- Minimal service requirements

#### Applications:

- Plastic welding
- Cladding
- Brazing
- Hardening and heat treatment
- Pumping fiber and other solid state lasers



#### Features:

- Turnkey systems that are easily integrated into your production processes
- Fiber coupled output powers up to 250W
- Air or tap water cooled
- Wavelength stabilization
- Long lifetime
- User friendly operation
- Portable, compact
- Reliable, efficient
- Minimal service requirements

#### Applications:

##### Industrial

- Plastics welding
- Soldering
- Thin foil cutting
- Pumping fiber and other solid state lasers

##### Medical

- Medical device materials processing
- Laser tissue welding
- Cancer cell heat treatment

### 2. Ultrafast pulse laser



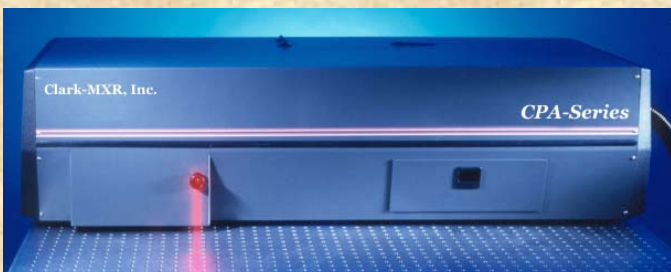
#### High-Average-Power Femtosecond Laser

- Direct diode-pumped Yb-fiber oscillator/amplifier design
- All-diode-pumped, all-solid-state construction
- >20 watts average power
- Repetition rate user-selectable from 200kHz to 25MHz
- High beam quality
- Low noise, cw-pumped
- High stability and longevity
- Ideal for: Micromachining, Photopolymerization, Direct-write waveguides, High S/N pump/probe, OPA/NOPA pumping



#### Tunable Ultrafast Source for Microscopy Applications

- Tuning Range: 700-950nm (Signal) 1130-1300nm (Idler) (>100nJ/pulse throughout signal range)
- Pulse Energy: >100nJ (Signal) >80nJ at peak (Idler) (Over entire signal tuning range)
- Bandwidth: <150cm<sup>-1</sup> (200cm<sup>-1</sup> to 250cm<sup>-1</sup> available at higher power output)
- Repetition rate: 1MHz
- Compressibility: <1.5 x transform limit
- Pulse Energy Noise: <1%rms for f>2Hz



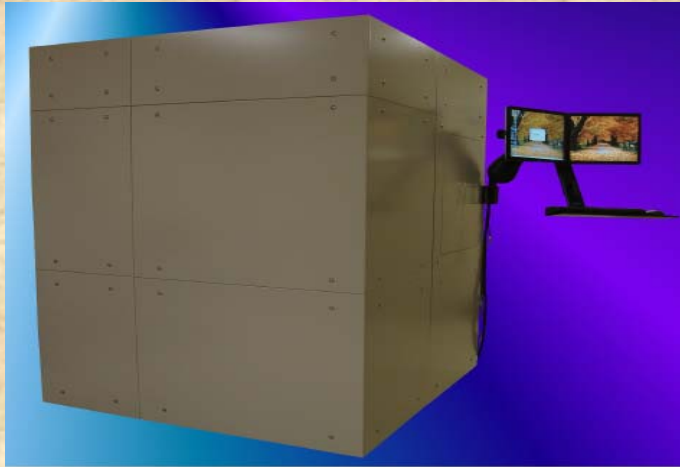
#### Ti:Sapphire Ultrashort Pulse Laser

- Pulsewidth: <150fs
- Wavelength: 775nm
- TBWP: <1.4 x transform limit (sech<sup>2</sup>)
- Polarization: Linear, horizontal
- Aspect Ratio: 100:1
- Transverse mode: TEM<sub>00</sub>
- Beam diameter (FWHM): 4 – 6mm
- Beam divergence: <100 microradians
- Ideal for: Pumping OPA (NOPA, TOPAS), Nonlinear spectroscopy, Micromachining



### Non-Collinear Optical Parametric Amplifier

- Pulwidth: <40fs (deconvolved)
- Repetition Rate: 1MHz (other repetition rates available as options)
- Tuning range: 650nm to 950nm and 1100nm to >1300nm (other tuning ranges available options)
- Pulse energy: >250nJ/pulse at peak of tuning range
- Noise: <1%rms for f >2Hz
- Polarization: Linear, horizontal



### UMW-Series Ultrafast Micromachining Workstation

#### Positioning System:

X, Y Axis		Z Axis	
Max. Travel:	300mm	Max Travel:	100mm
Repeatability:	0.5µm	Repeatability:	1.0µm
Accuracy:	1.0µm	Accuracy:	+/-1µm
Orthogonality:	5arc sec	Max. Velocity:	5cm/sec
Max. Velocity	5cm/sec		

#### Vision System:

Zoom Lens: 12X  
 Resolution: 3µm  
 Field of View: 4mm  
 Lighting: LED Ring and Coaxial Light  
 Inspection System: Pattern recognition, edge location, part rotation, part measurement

#### Laser:

Model CPA-2101 & CPA-2110.



### ShapeShifter™ Ultrashort Pulse Nonlinear Spectrometer

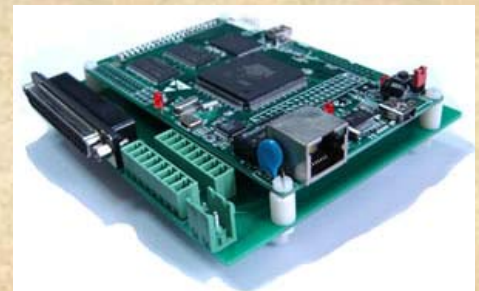
- Transient Absorption Spectroscopy (TA)
- Pump-Dump-Probe Spectroscopy
- Coherent Anti-Stokes Raman Spectroscopy (CARS)
- Femtosecond Stimulated Raman Spectroscopy (fsSRS)
- 4-Wave Mixing Spectroscopy
- Surface-Specific Vibrational Sum Frequency Generation Spectroscopy (Vib-SFG)
- Two Photon Fluorescence Spectroscopy (TPF/TPEF)
- Fluorescence Lifetime Imaging Microscopy (FLIM)
- Photoluminescence Spectroscopy
- Second Harmonic Generation Spectroscopy (SHG)
- Third Harmonic Generation Spectroscopy (THG)
- Laser Induced Breakdown Spectroscopy (LIBS)
- Heat-Affected-Zone-Free, Embrittlement-Free Ablation (Micromachining)

### 3. ETH Series Card and Software:

Usually a PCI slot card is used in marking control system with a PC or industrial computer. ETH6608 card, which is a standalone model with Ethernet communication port to PC, allows the capability of more devices configuration, and is more compatible solution in laser marking or engraving applications.

#### Applications:

- 1. Industrial control
- 2. Automation
- 3. Measurement device
- 4. Laser device



### 4. Special Offer:

- Galvo 6880 @\$745,
- lamp ST9762 @\$170,
- Q-switch QS041-10G-IN2 @\$520,
- f-theta lens STSL-10.6-175-249 @\$280,
- And more <http://www.SintecOptronics.com/SpecialOffer.asp>

**News:** Sintec Optronics has successfully attended the Exhibition Laser World of Photonics INDIA 2012.

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