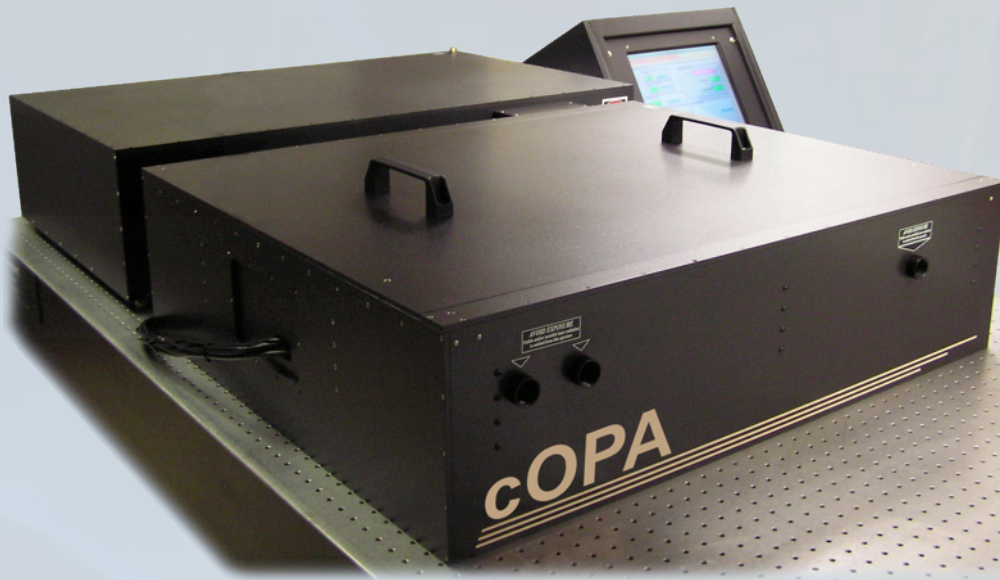


# Model cOPA™ Fully-Integrated Tunable Ultrafast Source for Microscopy Applications



- All diode and direct diode-pumped
- No intermediate laser-pumped laser needed to pump either oscillator or amplifier stage, thereby improving reliability and performance, reducing cost-of-ownership
- All solid-state construction
- Entire optical system occupies one enclosure to minimize drift
- Computer-control of all major functions via controller touch screen
- Remote control and monitoring via Apple iPhone/iPod App<sup>1</sup>
- One year warranty on entire system including nonlinear crystals

The Model cOPA™ is a unique, three-beam source of ultrashort pulses at MHz repetition rate that operates in the 1-micron wavelength range. It is an ideal source for high repetition rate, 4-wave mixing experiments, such as 3D multimodal imaging microscopy in cells and tissue. All three beams are synchronized to less than 10 femtoseconds. Two beams are independently tunable. At more than 100 nJ/pulse, the Model cOPA™ provides enough energy to perform multi-modal micro-spectroscopy followed by ablative sectioning of tissue samples.

The Model cOPA™ consists of two synchronized optical parametric amplifiers (OPAs) in one enclosure pumped by our Model IMPULSE™ MHz repetition rate, fiber-laser oscillator/ amplifier system<sup>2</sup>. Each OPA is independently tunable from 700 to 950 nm in the signal range and from 1130 to 1300 nm in the idler range. Residual 1030 nm pump light of > 1 μJ is available from a separate output port. Motorized drives for electronic tuning are included. An optional wavelength extension is available providing tunability from 1125 nm to 1950 nm.

## Specifications

Tuning Range:

700-950 nm (Signal)      1130-1300 nm (Idler)      (>100 nJ/pulse throughout signal range)

Pulse Energy:

>100 nJ (Signal)      >80 nJ at peak (Idler)      (Over entire signal tuning range)

Bandwidth:

<150  $\text{cm}^{-1}$  (200  $\text{cm}^{-1}$  to 250  $\text{cm}^{-1}$  available at higher power output)

Repetition rate:

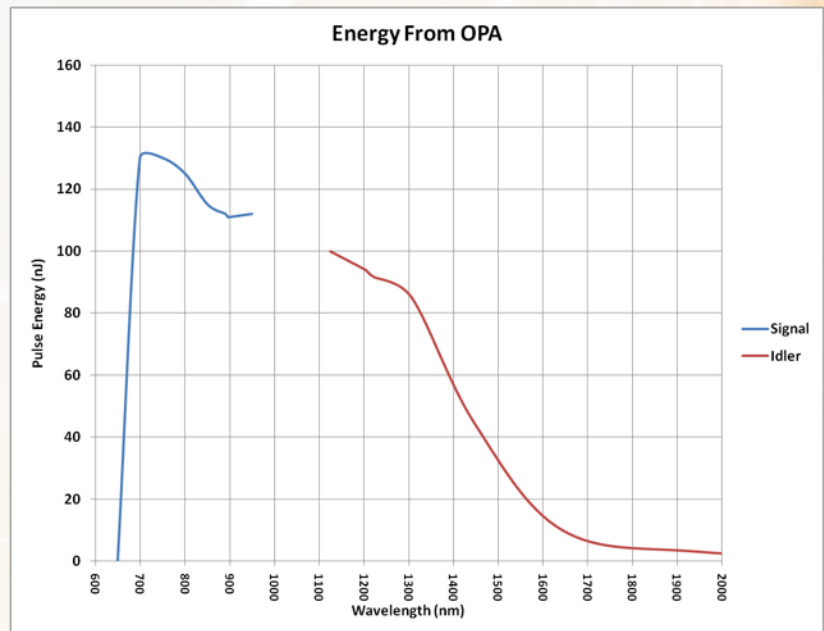
1 MHz

Compressibility:

<1.5 x transform limit

Pulse Energy Noise:

<1% rms for  $f > 2$  Hz



## Warranty

One-year warranty on entire system including nonlinear crystals.

Please contact us for more information.

<sup>1</sup>iPhone and iPod are Trademarks of Apple Inc.

<sup>2</sup>Please see our brochure for Model IMPULSE fiber laser.

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For more details, please visit our web site at <http://www.cmxr.com>.



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Wikipedia: <http://en.wikipedia.org/wiki/Clark-MXR>