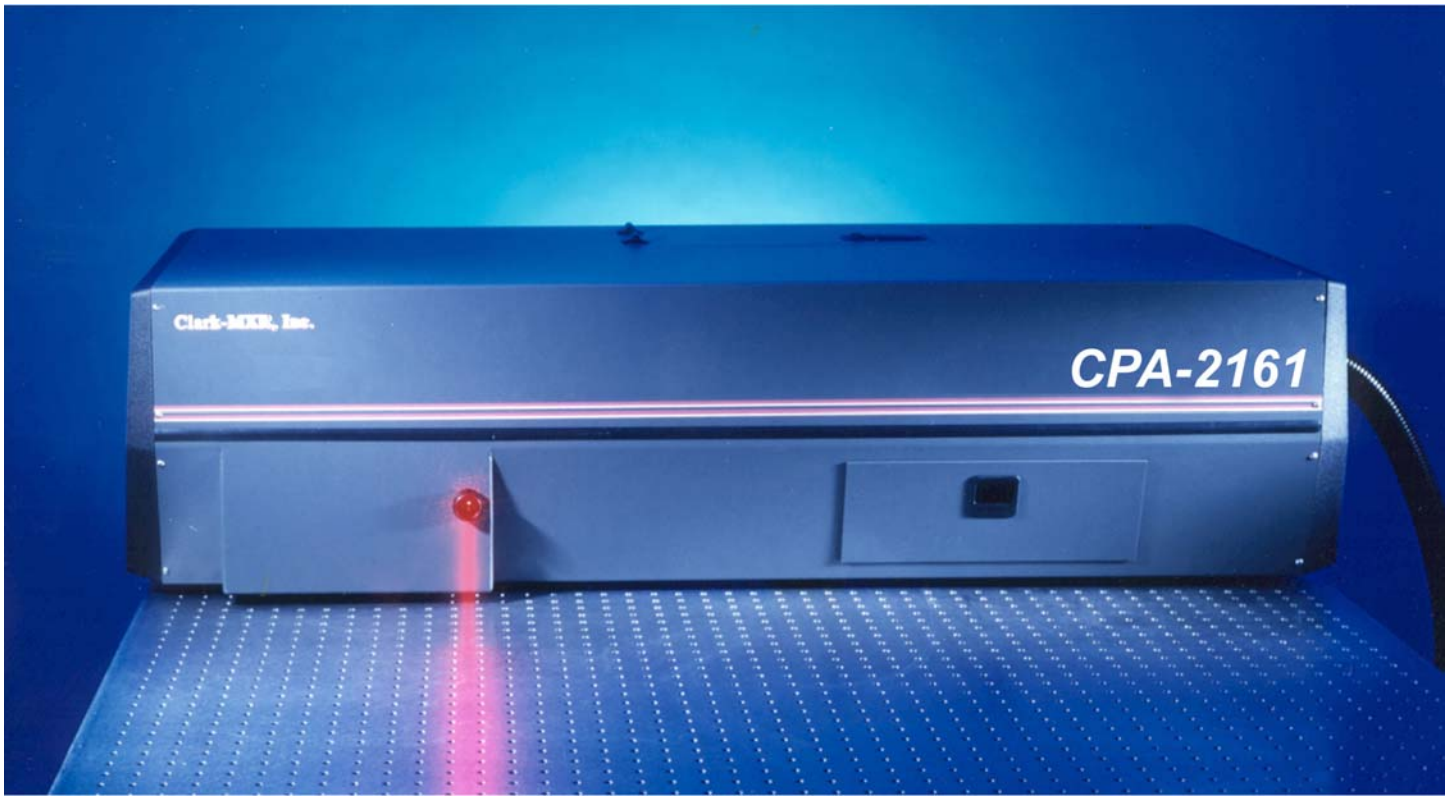
Model CPA-2161 Multi-kHz Amplified Ti:Sapphire Laser System



- Complete computer control
- Fully-integrated system including
  - Telecom diode-pumped fiber oscillator with 20 year MTTF and 5-year warranty
  - Pulse stretcher
  - Regenerative amplifier
  - KHz Nd:YAG pump laser
  - Pulse compressor
  - Built-in diagnostics
  - Active hydrothermal stabilization
- User-chosen rep rate between 3 kHz and 6 kHz
- Smallest footprint in the industry
- Drift-free, NO TWEAK™ performance
- Transportable amplified laser system
- Ideal for pumping OPA's
- Ideal for ultrafast micromachining

The CPA-2161 has a customer-selected repetition rate between 3 kHz to 6kHz and has been designed to optimize spatial mode quality and throughput in micromachining. Our field-proven CPA-Series Regenerative Amplifiers redefine user-friendliness in the only fully integrated system on the market today - with complete control of important functions via the included touch-screen controller or from any Windows®-based computer with a network connection.[3] The embedded software provides computer control of laser performance parameters such as power output, pump power, timing, and selection of single pulse or groups of multiple pulses. Optional computer control over pulsewidth is also available. A suite of diagnostics is included to monitor laser performance. The simple, intuitive, user-friendly interface provides both status information and control from external devices. A software development kit is also available for interfacing with your existing application-specific, custom software.

The system includes everything you need to generate high peak power femtosecond pulses in one box [i.e. seed laser and its associated diode laser pump, pulse stretcher,Ti:Sapphire regenerative amplifier and its associated pump laser, and pulse compressor]. It is fully compatible with our NOPA®, TOPAS, IR-OPA optical parametric amplifiers (OPAs) and STORC Harmonic Generators. For pump-probe experiments requiring two or more synchronized and independently-tunable colors, the CPA-Series output beam can split to pump as many as four NOPAs that are synchronized to less than 1 femtosecond timing jitter.[1]

Performance Parameters:

Femtosecond Version:

Pulse energy:	> 0.85 mJ at 3 kHz, constant average power of 2.5 Watts between 3 kHz and 6 kHz.
Pulsewidth:	<150 fs
TBWP:	<1.4 x transform limit ($sech^2$)

General:

Wavelength:	775 nm
Transverse mode:	TEM_{00}
M^2:	1.2 $^+/_-$ 0.1
Rep. Rate:	User-chosen, factory set between 3 kHz and 6 kHz
Polarization:	Linear, horizontal
Energy stability:	< 1% rms (10 Hz – 3 kHz)
Beam diameter:	4 – 6 mm
Beam divergence:	< 100 microradians

Physical Dimensions:

Laser head:	48” L x 20” W x 12” H
Power supply:	28” H x 23” W x 38” D

Utility Requirements:

Electric:	110 VAC, 60 or 50 Hz, 10 A and 208 VAC, 60 or 50 Hz, 40 A
Water:	Tap water, 4 gpm, <75^{o}F, 30-50 psi

[1]Contact Clark-MXR at sales@cmxr.com for further details.

Warranty

Oscillator parts, including the diode laser, are warranted for 40,000 hours or five (5) years, whichever comes first. For details, contact our sales department (sales@cmxr.com).

This product protected under US patent numbers:
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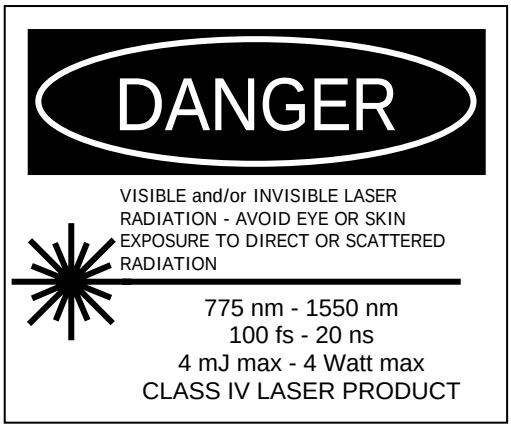
5,572,358
5,592,327
5,594,256



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Due to space limitations, only basic information and specification parameters are listed on this sheet.
For more details, please visit our web site at http://www.cmxr.com.

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