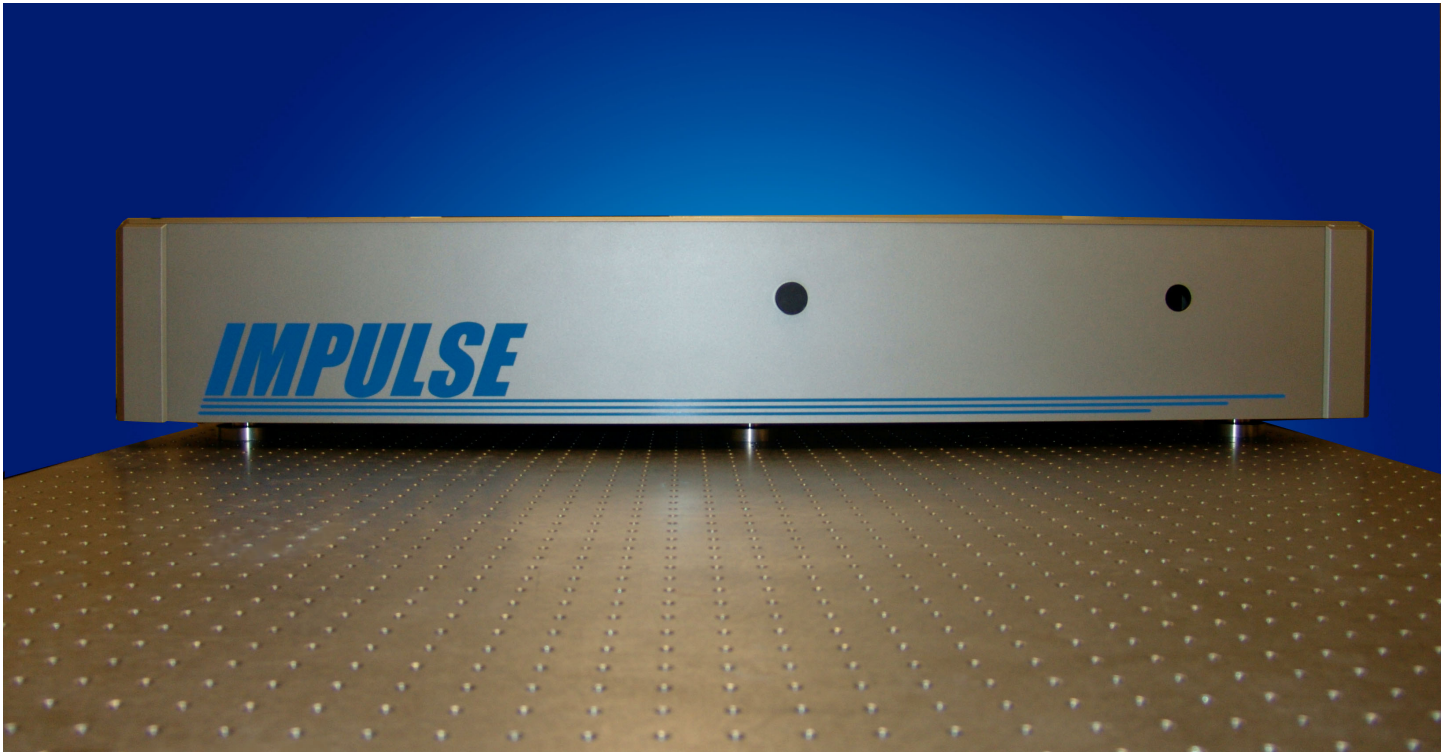


IMPULSE™ >20-Watts Average-Power Ultrashort-Pulse Laser



- **Direct diode-pumped Yb-fiber oscillator/amplifier design**
- **All-diode pumped, all-solid state construction**
- **Robust, one-box design**
- **>20 Watts Average Power**
- **Repetition rate variable from Single-Shot to 25 MHz**
- **High beam quality**
- **Low noise, cw-pumped**
- **High stability and longevity**
- **Computer control**
- **Ideal for:**
 - **Micromachining**
 - **Photopolymerization**
 - **Direct-write waveguides**
 - **High S/N pump/probe**
 - **OPA/NOPA pumping**

IMPULSE is an all-diode & direct-diode-pumped (A&DDP) Yb-doped fiber oscillator/amplifier system capable of producing variable pulse energies up to 10 microjoules at repetition rates between single shot and 2 MHz (up to 20 Watts average power output at 2 MHz.) The repetition rate is further adjustable up to 25 MHz at a constant 20 Watt average power output (i.e. reduced pulse energy above 2 MHz.) This average power is more than an order-of-magnitude higher than has traditionally been available in a one-box ultrashort pulse laser design. **IMPULSE** is based on a revolutionary new concept in mode-locked oscillator/amplifier technology.¹ The use of a Yb-doped fiber-oscillator/fiber-amplifier design combines the low noise performance associated with solid state operation with the high spatial mode quality of fiber lasers. **IMPULSE** is a compact, robust source of femtosecond pulses with the ease-of-operation, stability and reliability you would expect from a fiber source. Optional accessories include multi-photon photopolymerization and waveguide writing workstations, harmonic generators, and OPA/NOPA wavelength converters for high S/N, rapid data acquisition in pump/probe experiments.

¹Pat. Pending.

Performance Parameters²:

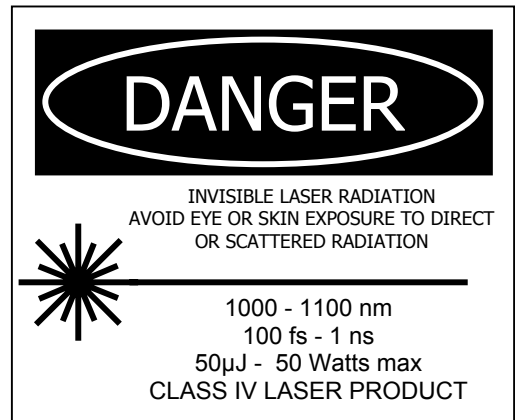
- Repetition rate: user variable from Single-Shot to 25 MHz
- Pulse energy: user variable between 1 nJ and 10 μ J (> 0.8 μ J @ 25 MHz, > 10 μ J @ < 2 MHz)
- Average power output: > 20 Watts @ \geq 2 MHz repetition rate
- Pulse width: <250 femtoseconds
- Transverse mode: TEM₀₀, M² < 1.2
- Noise: < 1% rms
- Center Wavelength: 1.03 microns

- Electrical: 110 VAC, 20 Amps.

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).

²Preliminary Specifications. Subject to change without notice. Contact Clark-MXR at sales@cmxr.com for further details



Version 02.18.05
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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