ALTAIR produces high average power with ultrashort femtosecond pulses (<160 fs) at high repetition rate (80 MHz standard, others optional) in an ultra compact and robust format. ALTAIR is a fiber laser providing high stability and excellent beam quality.

Integrating state of the art high-power fully packaged fiber amplifiers and pulse management, ALTAIR offers remarkable pulse quality at high average power with no maintenance required.

ALTAIR is ideally suited for multi-photon microscopy applications. The 1 μm wavelengths offers many benefits for bioimaging: lower scattering, deeper penetration.

<160 FS PULSES / QCW / 80 MHz REPETITION RATE

HIGH-POWER, HIGH REPETITION RATE FEMTOSECOND LASER FOR BIOIMAGING

CORE SPECIFICATIONS
/ High repetition rate: 80 MHz
/ High power: from 1W to 20W / < 160 fs

USABILITY
/ Compact, robust and air-cooled fiber laser
/ Plug’n play: < 5 min set up, sync. out
/ Intuitive user interface

APPLICATIONS
/ Multiphoton / Two-photon microscopy
/ Neuroscience
/ Optogenetics

CUSTOMER CARE
/ 24-month warranty
/ Worldwide technical support
/ Laser customization
# TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>ALTAIR IR-1</th>
<th>ALTAIR IR-5</th>
<th>ALTAIR IR-10</th>
<th>ALTAIR IR-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AVERAGE POWER</strong></td>
<td>1W</td>
<td>5W</td>
<td>10W</td>
<td>20W</td>
</tr>
<tr>
<td><strong>WAVELENGTH</strong></td>
<td></td>
<td>1040 nm (other optional)</td>
<td></td>
<td></td>
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<tr>
<td><strong>PULSE DURATION</strong></td>
<td></td>
<td>&lt; 160 fs (other optional)</td>
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<td></td>
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<tr>
<td><strong>REPETITION RATE</strong></td>
<td></td>
<td>80 MHz (other optional)</td>
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<td></td>
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<tr>
<td><strong>$M^2$</strong></td>
<td></td>
<td>&lt; 1.2</td>
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<tr>
<td><strong>BEAM WAIST DIAMETER</strong></td>
<td></td>
<td>1 mm</td>
<td></td>
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<tr>
<td><strong>BEAM POINTINGGB STABILITY</strong></td>
<td></td>
<td>&lt; 25 µrad/°C</td>
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<tr>
<td><strong>ELLIPITICITY</strong></td>
<td></td>
<td>&gt; 0.9</td>
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<tr>
<td><strong>WARM-UP TIME</strong></td>
<td></td>
<td>&lt; 5 min</td>
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<tr>
<td><strong>POWER STABILITY</strong></td>
<td></td>
<td>&lt; 1% RMS</td>
<td></td>
<td></td>
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<tr>
<td><strong>RMS NOISE</strong></td>
<td></td>
<td>&lt; 1%</td>
<td></td>
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<tr>
<td><strong>POLARIZATION</strong></td>
<td></td>
<td>linear, &gt; 100:1</td>
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</tr>
</tbody>
</table>

## ELECTRICAL

- **EXTERNAL INTERFACES**: High speed external synchronisation (Sync. Out), communication through USB, RS 232, TCP/IP
- **SOFTWARE INTERFACES**: Intuitive GUI, Serial communication protocol
- **POWER CONSUMPTION**: 100 to 240 VAC, < 400 W

## MECHANICAL

- **LASER HEAD DIMENSIONS & WEIGHT**: 397 x 339 x 131 mm$^3$ – 13 kg
- **LASER CONTROLLER DIMENSIONS & WEIGHT**: 19”/3U rack – 7.5 kg
- **STANDARD UMILBILICAL LENGTH**: 3 m
- **TECHNICAL DRAWINGS FOR DOWNLOAD**: [ALTAIR IR]
- **COOLING**: Air cooled

## OPTIONS

- **GDD**: Group Delay Dispersion pre-compensation (variable down to -90 000 fs$^2$)
- **F-SYNC**: Fine-tuning PRF synchronization +/- 1 MHz around a fixed central frequency. Can synchronize with any 3rd party master device. Electronic setting.
- **CUSTOM PRIMARY WAVELENGTH**: 1030 nm, 1055 nm, 1064 nm...
- **ADDITIONAL WAVELENGTH**: 520 nm...
- **CUSTOM PULSE REPETITION FREQUENCY**: 40 MHz
- **EXTERNAL AOM**: For power modulation
- **CUSTOM PULSE DURATION**: Upon request

## PERFORMANCE

- **BEAM PROFILE**
- **AUTOCORRELATION TRACE**
- **AVERAGE POWER STABILITY**

*This information is subject to modifications without prior notice.*

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