

# ALTAIR SERIES



<180 FS PULSES / QCW / 80 MHz REPETITION RATE

## HIGH-POWER, HIGH REPETITION RATE FEMTOSECOND LASER FOR BIOIMAGING

ALTAIR produces high average power with ultrashort femtosecond pulses (<180 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  $\mu\text{m}$  wavelengths offers many benefits for bioimaging : lower scattering, deeper penetration.

### CORE SPECIFICATIONS

- / High repetition rate : 80 MHz
- / High power : from 1W to 20W
- / < 180 fs

### USABILITY

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

### APPLICATIONS

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

### CUSTOMER CARE

- / 24-month warranty
- / Worldwide technical support
- / Laser customization

# TECHNICAL SPECIFICATIONS\*

	ALTAIR IR-1	ALTAIR IR-5	ALTAIR IR-10	ALTAIR IR-20
AVERAGE POWER	1W	5W	10W	20W
WAVELENGTH	1040 nm (OTHER OPTIONAL)			
PULSE DURATION	< 180 fs (OTHER OPTIONAL)			
REPETITION RATE	80 MHz (OTHER OPTIONAL)			
M <sup>2</sup>	< 1.2			
BEAM WAIST DIAMETER	1 mm			
BEAM POINTING STABILITY	< 25 μrad/°C			
ELLIPTICITY	> 0.9			
WARM-UP TIME	< 5 min			
POWER STABILITY	< 1% RMS			
RMS NOISE	< 1%			
POLARIZATION	linear, > 100:1			

## ELECTRICAL

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

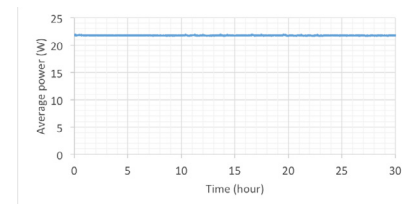
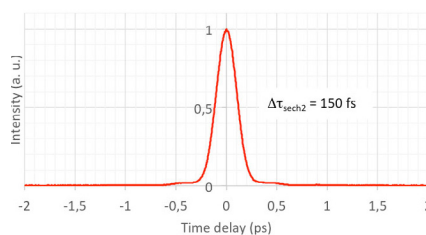
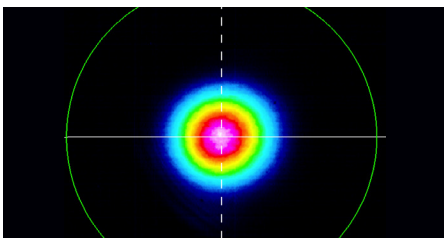
## MECHANICAL

LASER HEAD DIMENSIONS & WEIGHT	397 x 339 x 131 mm <sup>3</sup> – 13 kg
LASER CONTROLLER DIMENSIONS & WEIGHT	19"/3U rack – 7,5 kg
STANDARD UMBILICAL LENGTH	3 m
TECHNICAL DRAWINGS FOR DOWNLOAD	<a href="#">ALTAIR IR</a> / <a href="#">ALTAIR 920 NM</a>
COOLING	Air cooled


## OPTIONS

GDD	Group Delay Dispersion pre-compensation (variable down to -90 000fs <sup>2</sup> )
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	920 nm, 520 nm...
CUSTOM PULSE REPETITION FREQUENCY	40 MHz
EXTERNAL AOM	For power modulation
CUSTOM PULSE DURATION	< 150 fs

## PERFORMANCE



### BEAM PROFILE


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### AUTOCORRELATION TRACE

### AVERAGE POWER STABILITY

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



**CAUTION**  
 CLASS 4 VISIBLE & INVISIBLE LASER  
 RADIATION WHEN OPEN  
 AVOID EYE OR SKIN EXPOSURE TO  
 DIRECT OR SCATTERED RADIATION