

## Applications

- Synchrotron locking
- Frequency Conversion into the UV and mid-IR
- Pumping OPOs
- Materials Research
- Femtochemistry
- Spectroscopy
- THz generation
- Ultrafast Imaging
- Pump-probe experiments

## Features

- Average powers up to >1.4 W
- Maximum pulse energy >15 nJ
- Configurable repetition rates from 75 - 102 MHz
- Configurable power
- Computer control of the center wavelength and bandwidth of the oscillator spectrum
- Computer controlled pulse duration
- Excellent beam quality:  $M^2$  typically < 1.2
- One-box configuration with integrated pumps
- Graphical, intuitive software control with integrated diagnostics
- Custom configurations available

## Repetition rate locked ultrafast ti:sapphire oscillator



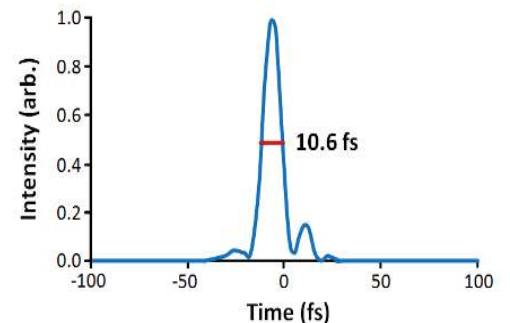
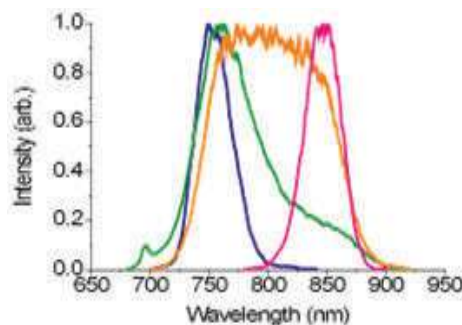
The Halcyon™ series is KMLabs' family of repetition-rate locked, tunable ultrashort-pulsed Ti:sapphire-based oscillators. It is a fully engineered and integrated commercial source based on a single rugged opto-mechanical platform.

Tailor the laser output to the optimum for your experiment.

### Halcyon™ Unique Features

- Low jitter, <150 fs, locking to your RF reference signal\*
- Customer-specified reference frequency: 75 MHz - 4 GHz
- Ultrashort sub-12 fs pulses, up to 1.4 W average power
- Easy-to-use, computer-controlled interface

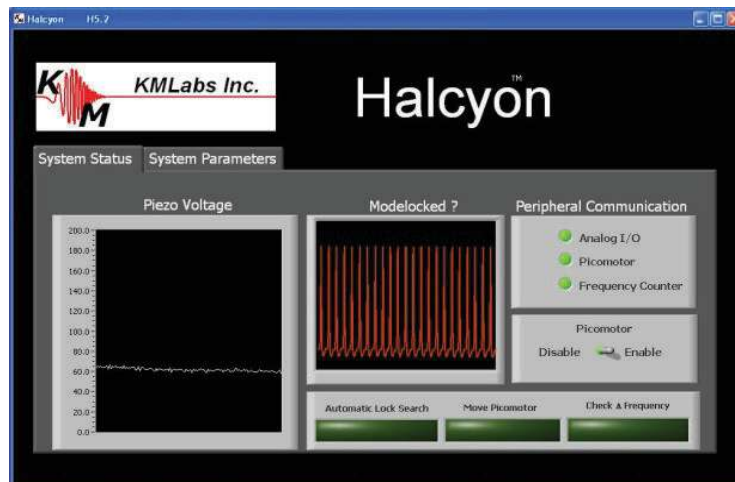
### Halcyon™ Tunability and Pulse Duration



## Halcyon™ Product Family

The Halcyon™ product family is the repetition rate locked version of our Griffin oscillator. It provides tunable wavelength, bandwidth and pulse duration.

	Halcyon-5	Halcyon-10
<b>Average Power [Energy at 95 MHz rep rate]</b>	550 mW [5.8 nJ]	1.4 W [15 nJ]
<b>Minimum Pulse Duration</b>	< 12 fs (fixed center wavelength) < 15 fs (780 – 810 nm) < 25 fs (750 – 840 nm)	≤ 25 fs, 800nm
<b>Maximum Pulse Duration</b>	> 40 fs	> 60 fs
<b>Maximum Bandwidth at 800nm</b>	> 70 nm FWHM	> 40 nm FWHM
<b>Minimum Bandwidth at 800nm</b>	< 25 nm FWHM	< 15 nm FWHM
<b>Repetition Rate</b>	75 MHz – 102 MHz Customer-specified sub-harmonic of reference signal	
<b>Pump Laser</b>	Integrated 5W pump	Integrated 10W pump
<b>Power Stability</b>	< 1% RMS over 8 hrs after 0.5h warmup	
<b>Reference Signal</b>	75 MHz – 4 GHz, customer supplied	
<b>Jitter</b>	< 150 fs rms *Requires low noise 2.5 GHz – 4 GHz reference signal	
<b>Optical Assembly Dimensions</b>	83cm L x 41cm W Water-cooled baseplate	



Halcyon™ software interface