

UOC Series

ULTRAFAST OPTICAL CLOCKS

PriTel's UOC Series of Ultrafast Optical Clocks are easy-to-use actively-mode-locked fiber lasers that provide high pulse-repetition frequencies and high average output powers for 1550 nm time-division-multiplexed communications R&D.

An internal micro-computer monitors the optical pulses and maintains mode-locking. After initial setup, the UOC requires no supervision.

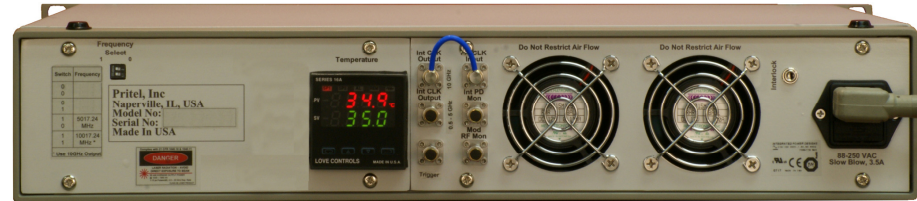
The **Quick-Change Pulswidth** feature is standard on all UOC models, enabling the user to change the operating pulswidth of the UOC within minutes just by replacing a self-aligning cartridge.

A kit of all four standard cartridges is available at a discount. Please inquire about cartridges for special pulswidths.

UOC model with Secondary optical outputs



UOC model with Internal RF Clock & PD Monitor



SPECIFICATIONS

UOC

Pulse repetition rate	0.5, 1, 2.5, 0.5-10, 0.5-20, 40 GHz, tunable
Average output power	> 20 mW @ 1.6 ps, 10 GHz
Peak power	Typical = 1 W @ 10 GHz
Secondary output average power	> 0.5 mW
Two auxiliary outputs average power	> 0.1 mW
Sideband suppression	> 70 dB @ 10 GHz
Temporal Pulswidth FWHM	<1.6 ps 1 ps -15 ps with optional BPF filter cartridges
Optical spectral width FWHM @ 1.6 ps	1.7 nm
Wavelength band	1530 nm – 1565 nm
Polarization Maintaining Fiber with PER (dB)	22 dB
Amplitude noise	< 1%
Timing jitter	< 50 fs (limited by external RF clock)
External RF input power	< 0 dBm @ 10 GHz
Phase locking control	Embedded microcontroller

Optical

Gain medium	Er-doped silica fiber
Pump source	Diode laser
Connectors	PM-FC/APC key along slow axis (default)

Environmental

Operating temperature	+15 to 30°C
Storage temperature	-20 to 50°C

Electrical/ Mechanical

Operating Voltage	85-264 VAC at 47-63 Hz
Power consumption	<250 W
Dimensions (2U)	9 cm x 48 cm x 38 cm
Weight	15 kg

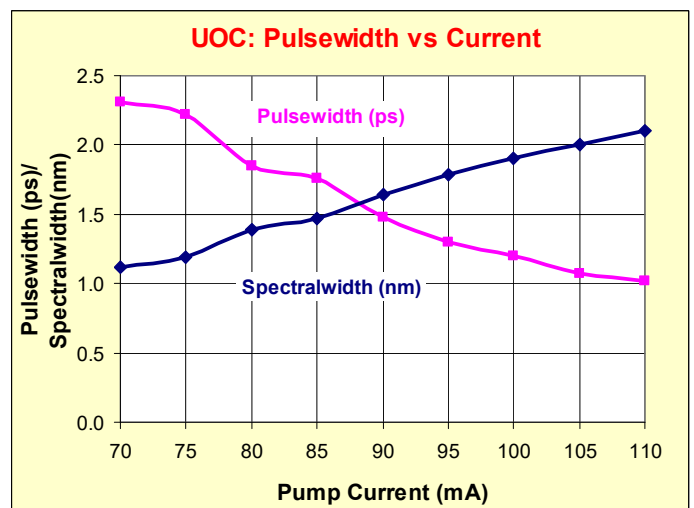
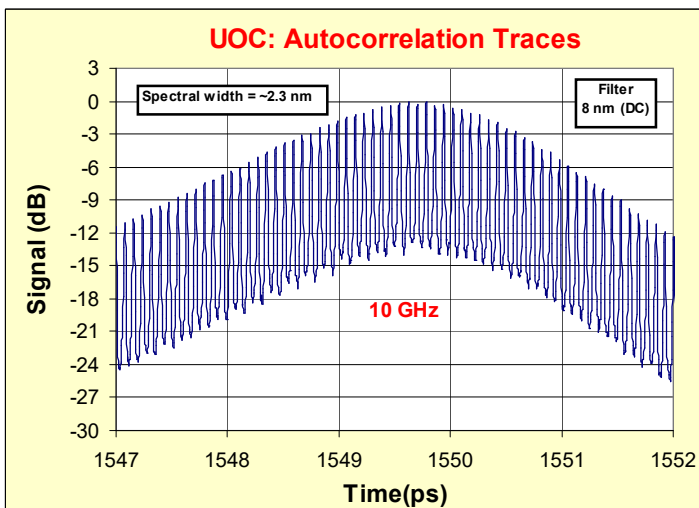
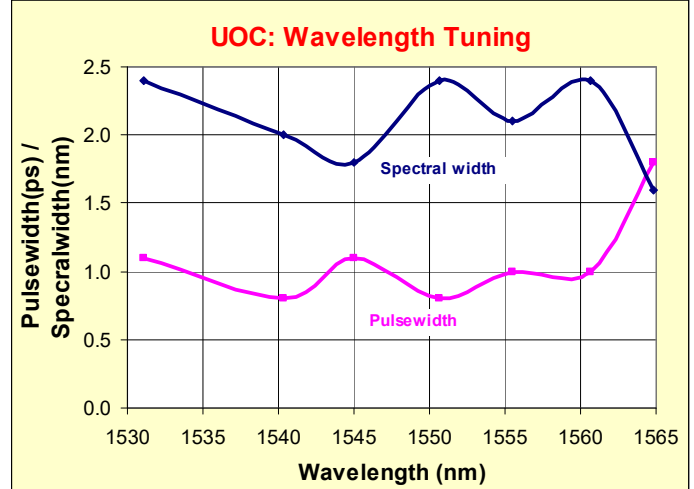
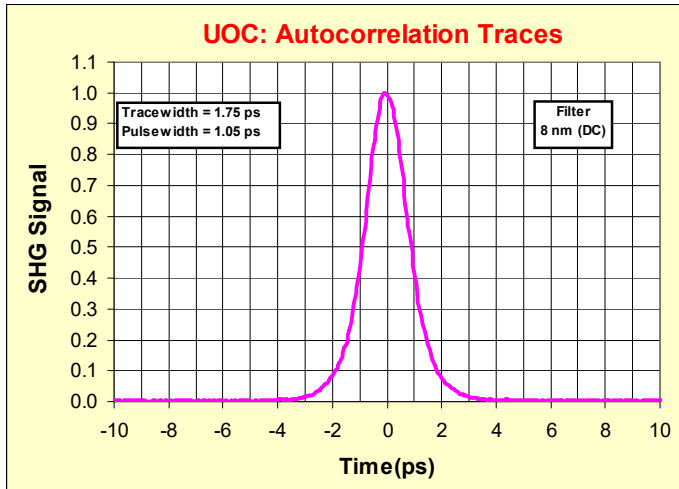
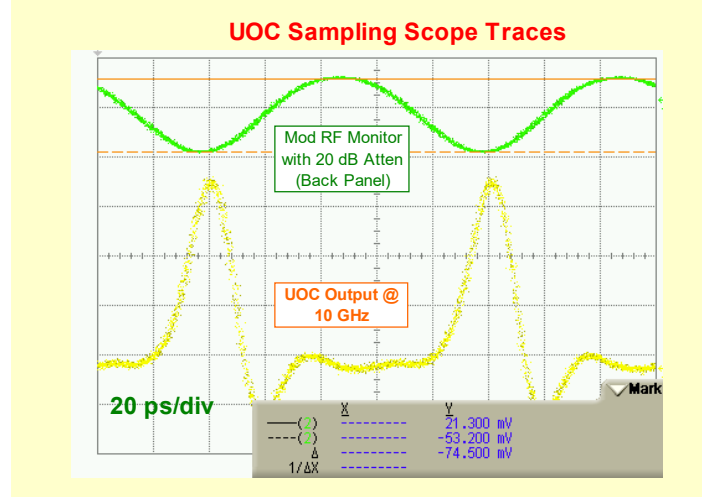
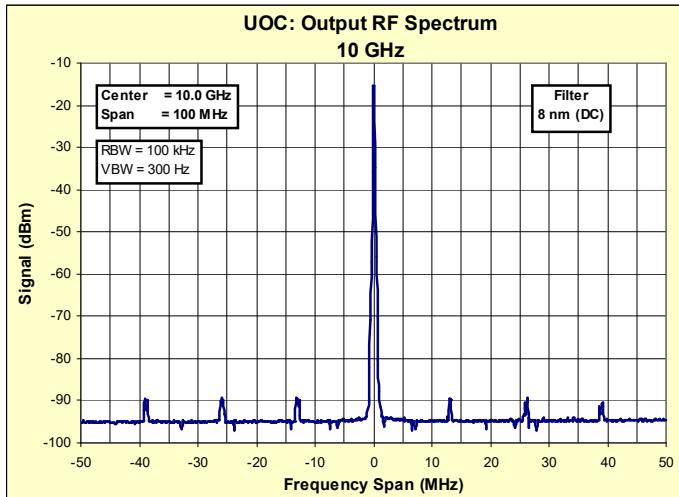
The UOC Series provides front-panel wavelength tuning, clock synchronization, and three secondary optical outputs for monitoring system performance by a photodiode, optical spectrum analyzer, or power meter.

PriTel, Inc.

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Typical Performance of PriTel's UOC Ultrafast Optical Clocks



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