

June 2021

Calmar Laser Enabling Test and Measurement Applications in Frontier Technologies

Greetings!!

Sorry we didn't get to see everyone face-to-face last week during OFC 2021 but we hope you enjoyed all the exciting new technology announcements and product launches. There's certainly been a lot of progress in advanced packaging, embedded optics, silicon photonics, signal processing and more as we gear up for 800G data centers to support 5G networks.

These new developments are putting increased demands on test and measurement equipment, so we want to share what we are doing to keep up.

Mendocino Femtosecond Optical Source with Low Jitter GHz Trigger

We now have a full range of low power benchtop Mendocino ultrafast fiber lasers with output wavelengths of 780, 850, 1310 and 1550 nm and pulse widths of < 0.3 ps. With GHz synchronization signals and timing jitter as low as 200 fs, these sources are perfect for telecommunication component testing, high speed transceiver conformance testing and photodiode characterization.

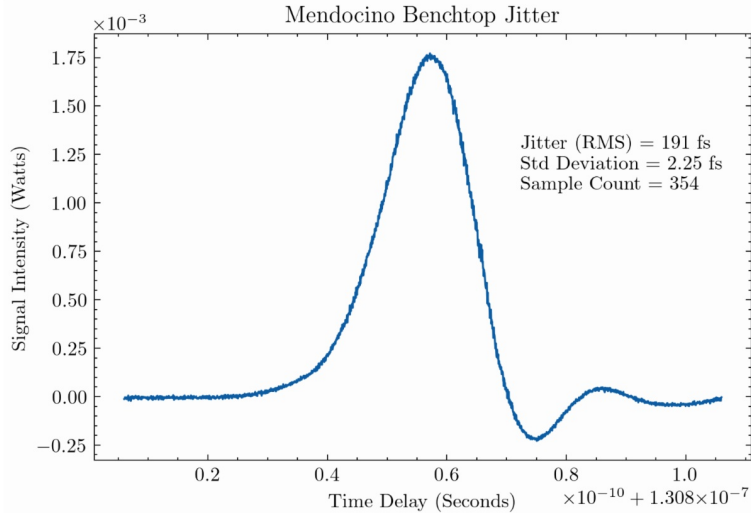
Mendocino Femtosecond Laser Ultra-Low Jitter Triggering Source



Applications

- Telecom component testing
- Silicon IC testing
- Materials characterization
- Optical metrology
- Biophotonics
- Seed source

New Features and Levels of Performance



Mendocino 1310 nm Benchtop System with < 200 fs Low Timing Jitter for the 10 GHz Trigger Signal

Plug-and-Play Coronado Erbium-doped Fiber Amplifier

For those of you simply wanting a convenient way to boost pulsed signal levels in the C-band (1530 to 1565 nm), we now offer the Coronado erbium-doped optical fiber amplifier in both benchtop and module versions. Optimized for short pulses, these systems offer high gain (saturated power levels up to 37 dBm) and low noise (down to 5 dB) with long term dependable performance. Pigtail fiber connections allow convenient system integration with both polarization-maintaining (PM) or non-PM options.



Coronado EDFA Benchtop

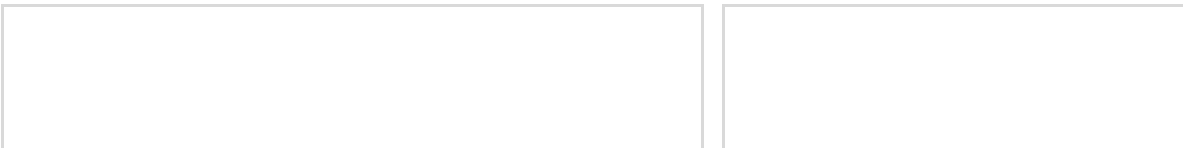


Coronado EDFA Module

Lighting the Way to 6G

Even as 5G is rolling out, researchers are exploring options for 6G wireless communication technologies and one of the leading candidates is the terahertz band, a spectral region extending from 0.1 THz to 30 THz where electric and magnetic fields oscillate at trillions of cycles per second. This represents largely uncharted territory from a materials characterization perspective and while we don't offer a direct source for test and measurement our ultrafast fiber lasers can be used to provide reliable terahertz sources (see *Laser Focus World*, 57, 4 2021, reference 6).

The TeraPulse Lx system from TeraView (Cambridge, UK) is a turnkey benchtop terahertz spectrometer and imaging system that enables both reflection and transmission measurements for the characterization of materials in the terahertz region. It features a compact 780-nm femtosecond Mendocino laser in conjunction with a proprietary laser-gated photoconductive emitter to generate a terahertz source over a bandwidth of 60 GHz to typically 6 THz with industry-leading signal-to-noise performance of > 95 dB (for more information, contact enquiries@teraview.com).





TeraPulse Lx



Mendocino Driving Engine

Please contact us if you have any questions or have interest in a customized solution for a specific application. Hopefully, we will see you in person next year in San Diego for OFC 2022.

For our Japanese friends attending the Laser Expo at OPIE '21, please stop by the High-Tech Corporation (C-30) and I-wave Corporation (H-29) booths where you will find our latest products on display.

Regards,

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About Calmar Laser

Calmar Laser is a US-based, ISO 9001:2008 developer and manufacturer of innovative ultrafast fiber laser and fiber amplifier solutions for OEM, B2B industrial, medical and scientific applications. Since 1996, Calmar has served universities and research institutions with leading-edge ultrafast fiber laser platforms. Our compact, robust designs have also enabled long term partnerships with customers in the fields of advanced high-speed test and measurement, optical communications, biomedicine, component characterization, semiconductor metrology, ophthalmology, and micromachining. Today, Calmar continues the tradition of technology leadership with its unique range of ultrafast fiber laser platforms designed for simple, hands-off, reliable operation. For more information about Calmar Laser, visit the Company's Web site at www.calmarlaser.com for product updates.