

OCEAN FX SPECTROMETER FOR OEM APPLICATIONS

We pledge our partnership, expertise and resources to help transform your OEM product idea into reality.

Contact us at

+1 727.733.2447 (U.S.)

+31 26.319.0500 (Europe)

+86 21-6295-6600 (Asia)

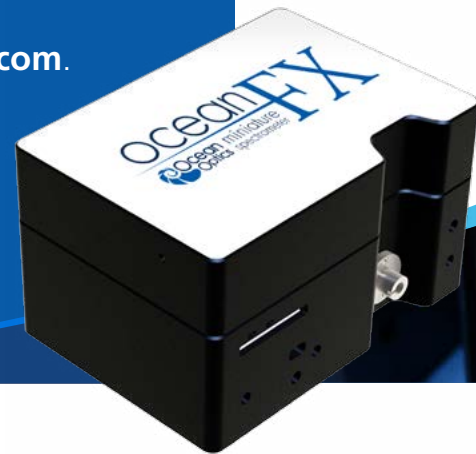
or via email at

info@oceanoptics.com.

The **Ocean FX** is a modular spectrometer, allowing you to source the device at the component, subsystem or system level, depending on your need and stage of product development. **Ocean FX** fills a niche where high speed acquisition, robust communications protocols, and onboard processing are needed.

Ocean Optics spectrometers, multispectral sensors, light sources and accessories are compact, portable and low in power consumption, enabling rapid time to market for your ideas, on a scalable platform.

To learn more about OEM opportunities for **Ocean FX** and other products, email us today at oem@oceanoptics.com.



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Ocean Optics World HQ
8060 Bryan Dairy Road
Largo, FL 33777 USA
Phone: +1 727-733-2447
Email: info@oceanoptics.com

SUPER-FAST **OCEAN FX™** SPECTROMETER

Get More Spectral Data in Less Time

Spectrometers | Accessories | Subsystems | Complete Solutions



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OCEAN FX PROVIDES HIGH ACQUISITION SPEED

The **Ocean FX** is a versatile spectrometer distinguished by acquisition speed up to 4,500 scans per second, onboard processing for improved SNR and reduced data transfer time, and robust communications via USB, SPI, Gigabit Ethernet and Wi-Fi. **Ocean FX** is an excellent choice for high-speed process applications, measurement of fast events, and reaction monitoring.

ADVANTAGES OF OCEAN FX

- Acquisition speed of up to 4,500 spectra collected per second
- CMOS detector (200-1100 nm) with great UV response
- Onboard averaging of up to 5,000 spectra
- Onboard buffering (up to 50,000 spectra stored)
- Wired Gigabit Ethernet, Wi-Fi, SPI and USB
- Thermally stable optical bench and indicator LED for convenience

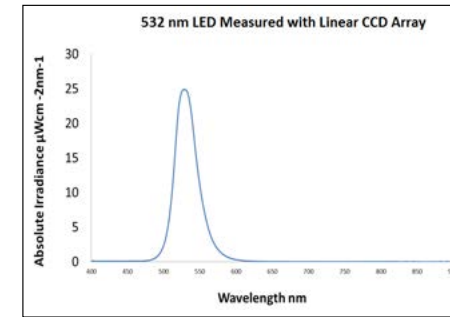


Ocean FX is available in application-ready, custom and OEM spectrometer configurations. The spectrometer can be integrated into other devices as a component, subassembly or turnkey solution.

OCEAN FX SPECIFICATIONS

Spectral range:	200-1100 nm (configurable within this range)
Entrance slits:	Interchangeable 5, 10, 25, 50, 100 or 200 μm width slits
Input fiber connector:	SMA 905 or FC/PC
Acquisition (scan) rate:	4,500 scans per second (maximum; varies by performance of operating system and computer)
Integration time:	10 μs -10 s
Optical resolution:	Configuration dependent; 0.8 nm (FWHM) w/600 line/mm grating and 5 μm slit
SNR (single scan):	290:1
Dynamic range (single scan):	5000:1
Onboard buffering:	Up to 50,000 spectra
Thermal stability:	~ 0.11 pixels/ $^{\circ}\text{C}$
Onboard averaging:	Up to 5,000 spectra

WHERE TO USE THE OCEAN FX SPECTROMETER



Measurement of High Intensity Sources and Plasmas

Challenge: Applications with high-intensity light levels can saturate detectors and force adjustments to spectrometer operation that lessen system dynamic range.

Solution: By integrating over periods as brief as 10 μs , Ocean FX capably manages saturation intensity. Also, because of its rapid acquisition rate, Ocean FX collects more spectral information over shorter periods of time, contributing to better results.

Applications: High-intensity LED and light source measurement; laser characterization; spectral analysis of explosions (formulations, blast fireball); plasma monitoring



Measurement of Rapid Events

Challenge: Spectral analysis of rapidly occurring events such as high frequency laser output can be difficult to capture accurately.

Solution: Ocean FX acquires spectra with such speed that very fast events can be measured confidently and otherwise undetected spectral effects made evident.

Applications: Measurement of single pulses of lasers, even at kHz repetition rates; flicker and fast color cycling in lighting



Measurement of Fast Reaction Kinetics

Challenge: Monitoring short-lived chemical reactions for life sciences, pharma and biomedical R&D requires rapid, continuous measurements.

Solution: Ocean FX offers powerful onboard processing features. Onboard buffering of up to 50,000 spectra ensures data integrity; and onboard averaging of up to 5,000 spectra increases SNR and reduces cumulative data transfer times.

Applications: Fluorescence of fast proteins and other biomolecules; absorbance of reagents and other products; chemical oscillating reactions in biochemical processes



High-Speed Sorting and QC Processes

Challenge: Monitoring sample color, quality and other characteristics in high-speed environments requires a spectrometer with fast sampling rates.

Solution: With its high scan rate, robust communications capabilities and onboard processing, Ocean FX overcomes limitations of some devices for processing environments.

Applications: Food sorting and grading; high-speed plastics recycling; at-line and in-line absorbance, color and reflection measurements of various samples

Ocean FX for LIBS?

High sampling rates, short integration times and good UV sensitivity make Ocean FX a useful option for analyzing atomic emission lines in laser-generated plasmas, as occurs in LIBS (laser-induced breakdown spectroscopy). In a recent series of LIBS measurements of a copper coin, an Ocean FX setup detected significantly more atomic emission lines, especially in the deep UV, than a setup using a typical CCD spectrometer.

