

ePulse: Laser Measurement News

The true measurement of laser performance



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March 2013

Welcome to **ePulse: Laser Measurement News**, a review of new developments in laser beam measurements, beam diagnostics, and beam profiling. Each issue contains industry news, product information, and technical tips to help you solve challenging laser measurement and spectral analysis requirements. Please forward to interested colleagues or have them [subscribe](#).



Tutorials

The Difficulties of Beam Profiling 193nm DUV

A research organization was developing a critical procedure that required a pulsed DUV laser beam, 193nm. The current equipment only produced a gray-scale image that told little about the distribution of the energy intensity across the beam profile. The solution was a CCD camera-based profiler. [193nm Beam Profile](#).

WEBINAR March 20th: Laser Measurement Solutions for Industrial Applications

Industrial laser processes (marking, cutting, etc.) pose special challenges. A slight change in the behavior of the laser (power a bit too low or high, or beam shape not quite what was expected) can have a significant impact on the profitability of the process. This webinar will provide you with the tools you need to solve - even prevent - these problems. March 20th, various times. [Details and Registration here](#).

WEBINAR On Demand: Matching Laser Beam Profiling to Your Laser Application: An Insider's View

An insider's look at how best to profile laser beams in various applications. Sponsored by Laser Focus World magazine, presented by Ophir's Allen Cary and John McCauley. [Beam Profiling, On Demand](#).

Applications

Beam Profiling in Biomedical Device Manufacturing

Nitinol Devices and Components manufactures stents and other biomedical devices. While they are phasing fiber and disk lasers into production, 30 laser manufacturing stations are up and running and need to be monitored. [Lasers in Biomedical Manufacturing](#).

Business News

State-of-the-Art Report: Laser Beam Measuring Instruments

Whether printing a label on a part, welding a precision joint, or repairing a retina, it's important to understand the nature of the laser beam and its performance. Beam characterization instruments provide the tools to know precisely what the laser beam is doing at the point of the work and if the optics are having the desired effect. [Laser Beam Measurement](#).

Video of the Month

Fastest Calibration Lead-Time in the Industry

How did Ophir-Spiricon achieve the fastest calibration lead-time in the industry? Follow our [lean journey and find out what's coming next](#).



Laser Puzzle

[Try your hand at this month's Laser Puzzle](#). All entries will receive a 4GB pen drive and the new Ophir Laser Measurement Poster. The grand prize winner will receive a 16GB iPad. E-mail answers to sales@us.ophiropt.com. Need a hint? E-mail kevin.kirkham@us.ophiropt.com

Here are the [answers to the last issue's puzzle](#). The winner of last issue's puzzle was **Matt Spears, Laser R&D Engineer, Spectranetics Corporation**. "The Spectranetics Corporation produces a 175mJ, 308nm, 135ns excimer laser used in minimally invasive interventional procedures within the cardiovascular system. We use pyroelectric energy detectors to calibrate the energy output of our laser. We also use beam profilers to verify the beam quality." - Matt Spears

From the Blog

The Wrong Way to State Dynamic Range...and How to Spot It

All camera beam profilers have several components, each with its own dynamic range. There's the detector itself, the analog-digital convertor, and then there's the incorporation of noise into the equation. [Dynamic Range](#).

Recalibration and Repair Lead Time Less Than Four Days

The Calibration department at Ophir-Spiricon is dedicated to providing quality service in a timely manner. Our average lead time is now less than four days, including the time it takes to repair instruments. [Find out more about Ophir's Recalibration and Repair.](#)

Technical Tips

Power/Energy Meters

How Much of the Power Sensor Aperture Can My Laser Fill Up?

The entire aperture senses power, so you can use the whole head. But there's more to the story. [Read the Tech Tip.](#)

Longer Length Sensor Cables

Longer cable lengths can be provided, but it is not possible to add an extension to the cable. Find out more. [Read the Tech Tip.](#)

Beam Profiling

Advanced Laser Beam Analysis Software Demo

Dan Ford, Ophir-Spiricon's Regional Sales Manager, demonstrates the latest laser beam profiling software at Photonics West 2013. [View the Tech Tip.](#)

How to Generate a Report from BeamGage

BeamGage can generate a report of what is seen on the screen in PDF for XPS format. [Read the Tech Tip.](#)

FAQs

Beam Profiling

Why can't a camera licensed for BeamGage Standard be used with BeamGage Professional or Enterprise? [Read the FAQ.](#)

How do you enable more results than the standard ones seen in BeamGage? [Read the FAQ.](#)

Power/Energy Meters

Why won't a new Pyroelectric Compact C sensor work with the Nova meter? [Read the FAQ.](#)

Can a lost PD300 filter be replaced? [Read the FAQ.](#)

What's New

IR Phosphor Viewer Card: 1st 10 Replies Get One FREE

We offer a glass IR phosphor card that allows you to see NIR lasers from 810 - 860 nm, 900-1100 nm, and 1500-1600 nm. The card does not require charging before use. It's excellent for beam alignment and has a large damage threshold (1KW/cm²) compared to others. We will award one card to each of the first ten (10) customers who reply. Order part number 7F01235A. Cost is \$75 each, after the first ten are given out. E-mail: kenneth.ferree@us.ophiropt.com



Winner: Photonics West Treasure Hunt

It started with a treasure map at Photonics West and Ophir-Spiricon-Photon products displayed in different booths. It ended with a laser scientist finding the products and winning an iPad. Congrats to winner Julio Ramirez, Senior Laser Scientist at Epilog Laser. "I'm really thankful for the iPad. What a pleasant surprise. At Epilog, we rely on Ophir-

Catalogs: Power Meter & Beam Profiling

Download the 2013 Ophir-Spiricon Laser Measurement Catalogs today. Tutorials and products in [Power Meters](#) and [Beam Profiling](#). Introducing the new [Beam Profiling magalog](#) with articles, tips, measurement tables, and more.

Trade Shows

[SPIE Defense, Security + Sensing](#)

April 29-May 3, 2013
Baltimore, MD
Booth 1425

[LASER World of Photonics](#)

May 13-16, 2013
Munich, Germany
Hall B1, Booth 560

[CLEO:2013](#)

June 11-13, 2013
San Jose, CA
Booth 1615

Fast Ship Program

Ophir-Spiricon's [Fast Ship program](#) provides one-day shipment of the most popular power/energy, beam profiling, and M² laser measurement equipment across the U.S.

Free Laser Measurement Equipment

If you're an end user of our laser equipment, let's hear about how you use it in your application. You can write the whole article or you can collaborate with our talented writers. In exchange, we can negotiate you receiving one of our latest innovative instruments, detectors, or profiling cameras and software to use in your lab. E-mail kevin.kirkham@us.ophiropt.com
In a few nanoseconds, you'll be telling the laser world about your application using our equipment and a femtosecond or two later you'll be logging your data on our equipment like the Nova II, Vega, Quasar or BeamGage.

Follow Us Online

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Blog

Spiricon power sensors and Pyrocam cameras to produce good and reliable lasers for our engraving machines. Ophir has always given us a great deal of attention, ensuring all our needs are fulfilled on time and on budget."

Beam Profiler First to Measure Beam Quality in Real-Time

Photon M²-1780 is the industry's only laser beam profiling system that measures beam quality in real-time. It automatically measures the M² beam propagation ratio and all associated ISO 11146 parameters instantaneously, at video rates over 20Hz. [M²-1780 Profiler](#).

Low Cost Laser Power/Energy Meter

StarLite is a laser power/energy meter that provides both digital and analog screen displays. A compact, handheld unit, it displays power, single shot energy, energy and frequency of high repetition rate lasers, and beam size. [StarLite](#).

Large Area Beam Profiling Camera Measures Beam Widths to 35 mm

The L11059 USB large format beam profiling camera is designed for measuring large laser beams that require fast frame rates, low noise, and high responsivity. The camera's high resolution, 4008 x 2672 pixel format allows profiling of beams up to 24 x 36 mm without the need for reduction optics. [L11059 Camera](#).

[The Ophir Laser Measurement Group](#)

Web

www.ophiropt.com/photonics

About Ophir-Spiricon, LLC

With over 30 years of experience, Ophir Photonics, a Newport Corporation brand, provides a complete line of instrumentation including power and energy meters, beam profilers, spectrum analyzers, and goniometric radiometers. Dedicated to continuous innovation in laser measurement, the company holds a number of patents, including Ophir-Spiricon's **Ultracal™**, the baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. The Photon family of products includes **NanoScan** scanning-slit technology, which is capable of measuring beam size and position to sub-micron resolution. The company's modular, customizable solutions serve manufacturing, medical, military, and research industries throughout the world.

An ISO 9001:2008 Registered Company.

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