

ePulse: Laser Measurement News January 2010

Happy New Year! Welcome to **ePulse: Laser Measurement News**, a review of new developments in laser analysis, 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.

Tutorials

An Introduction to Beam Profiling

Beam profiling ensures you are getting the performance you expect from your laser. This short course covers the basics of laser measurement: mode quality, what happens when mode changes, what beam profiling equipment is available, and how to diagnose processing problems. [Read the article.](#)

Applications

Beam Profiling Diagnoses How Uneven Laser Heating Causes Parts to Fail Inspection

Recently, a manufacturing engineer spoke to Ophir-Spiricon because he could not diagnose the problems with his new, robot-mounted, 4kW diode laser. The engineer bought the laser to heat-treat metal parts but it wouldn't work properly and the laser company didn't know why. The engineer and his technicians suspected that either the laser did not focus properly on the target or the lens did not distribute power correctly on the target surface but all of their checks were inconclusive. [Read the article.](#)

Laser Measurement in Medical Laser Service

The global medical industry incorporates thousands of lasers in its arsenal of treatment tools. Wavelengths from UV to Far Infra-red are used for everything from Lasik eye surgery to cosmetic skin resurfacing. Visible wavelengths are used in dermatology and ophthalmology to target selective complementary color chromophores. Laser powers and energies are delivered through a wide range of fiber diameters, articulated arms, focusing handpieces, scanners, micromanipulators, and more. With all these variables, medical laser service personnel are faced with multiple measurement obstacles. [Read the article.](#)

Technical Tips

Establishing an Interface Between LabVIEW and Ophir Displays

Here is clarification on the steps to establishing an interface with LabVIEW when connecting an Ophir meter, such as the

Video of the Month

Laser Measurement

Ophir sensors and meters can measure laser energy, power output, pulse repeatability, and frequency from laser sources ranging from Ultraviolet to Far Infra-red and everything in between. [Watch our introduction to laser measurement with power meters and sensors.](#)



Laser Puzzle

[Try your hand at the Laser Word Search Puzzle.](#) All entries will receive a 1GB pen drive. The grand prize winner will win a netbook. E-mail answers to sales@ophir-spiricon.com. Need a hint? E-mail kevin.kirkham@ophir-spiricon.com.

The winner from the last issue's crossword puzzle is **Matthew A. Leigh, PhD, Laser System Scientist at Envisioneering, Inc.** He is currently studying long distance atmospheric propagation of laser beams in maritime environments. [View some of his beam profiles.](#)

Free Laser Measurement Equipment

That's right. If you're an end user of our laser equipment, let's hear about it and 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 our latest innovative instruments, detectors, or profiling cameras and software to use in your lab. For

USBI/Nova II/Vega with the USB. [Read the tech tip.](#)

FAQs

Power/Energy Meters

What is the minimum power you measure? [Read the FAQ.](#)

What is the shortest pulse you can measure energy/power? [Read the FAQ.](#)

Beam Profiling

When will BeamGage be supported with 64-bit systems? [Read the FAQ.](#)

Is BeamGage-Standard compatible with Windows 7 32-bit? [Read the FAQ.](#)

When will BeamGage Automation be available? [Read the FAQ.](#)

Calibration

Can I receive a discount on the cost of Ophir power meter recalibration? [Read the FAQ.](#)

What's New

Fundamentals of Photonics: Laser Beam Characterization Webinar

In this February 18th webcast, researchers and engineers will learn the fundamental techniques for successful measurement and analysis of the laser beam profile characteristics and receive recommendations about application-specific beam characterization, measurement standards and definitions. [Register today.](#)

Pyroelectric Energy Sensors Provide Highest Damage Threshold and Pulse Energies

The **PE25BF-DIF** and **PE100BF-DIF** energy sensors provide the highest damage threshold, highest pulse energies, and widest spectral range in the industry. The PE25BF-DIF has a fast broadband absorber that accurately measures from 193nm to 2.2 μ m at pulse rates to 150Hz; pulse energies are measured up to 10J. The PE100BF-DIF measures from 193nm to 2.0 μ m at pulse rates to 40Hz; pulse energies are measured to 40J. While most high damage threshold detectors require multiple diffusers to cover the spectral range, the PE25BF-DIF and PE100BF-DIF use a single, removable diffuser to cover UV, Visible, and Mid-IR wavelengths. [Find out more.](#)

Ophir-Spiricon Supports LaserFest

Ophir-Spiricon has joined with the American Physical Society, the Optical Society, and SPIE to celebrate the 50th anniversary of the laser. [Find out about activities and events.](#)



power/energy meters, e-mail Burt.Mooney@Ophir-Spiricon.com and for beam profilers, e-mail Kevin.Kirkham@Ophir-Spiricon.com. In a few nanoseconds, you'll be telling the laser world about your application using our equipment and in a femtosecond or two later you'll be logging your data on our equipment like the Nova II, Vega, Quasar or BeamGage.

Power Meter & Beam Profiling Catalogs

Download the Ophir-Spiricon Laser Measurement Catalogs today. Tutorials and products in [Power Meters](#) and [Beam Profiling](#).

Fast Ship Program

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

Trade Shows

Upcoming shows where you can see Ophir-Spiricon equipment in action. For a complete list of trade shows, [click here.](#)

[SPIE Photonics West](#)

January 27-29, 2010
Moscone Center,
San Francisco, California

[Medical Design & Manufacturing](#)

February 9-11, 2010
Anaheim Convention Center,
Anaheim, California

[OFC/NFOEC 2010](#)

March 23-25, 2010
San Diego Convention Center,
San Diego, California

About Ophir-Spiricon Inc.

Ophir-Spiricon is part of the Ophir Optronics Laser Measurement Group. The Laser Measurement Group provides a complete line of instrumentation including power and energy sensors, beam profilers, and spectrum analyzers. Wholly focused on laser measurement, the group's modular, customizable solutions serve manufacturing, medical,

military, and research industries throughout the world. Since 1978, an unwavering commitment to forward thinking has kept us "the partner of choice" in optoelectronics.

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