

ePulse: Laser Measurement News

The true measurement of laser performance



ePulse: Laser Measurement News January 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

M² Beam Propagation: Why So Many Different Approaches to Measurement Instrumentation?

Measuring the propagation parameters of a laser beam is an important method of understanding the quality of the beam and predicting its performance. It is one of the major specs required by laser users and reported by laser manufacturers. Ophir offers three different M2 instruments under the Spiricon and Photon brands. We review the differences and why there are different approaches to making this measurement. [M² Beam Propagation](#).

Attenuation-Induced Error Due to Thermal Lensing in Beam Measurement

The need to profile lasers with powers in the 10mW to 1W range is becoming more common. Many of these lasers are in the visible spectrum, allowing them to be measured with CCD and CMOS camera systems. As with any laser being measured with a camera array, the beam needs to be attenuated. But there are cautions to be observed. [Read the article on Photonics Online](#).

Applications

Cost Effective Beam Profiling of a 10kW CO² Laser

A laser was being used to test electronic components. The beam quality wasn't as much a concern to the customer as being able to do real-time alignment of the output coupler and to scroll back through the captured data to see results. [10kW CO² Laser Profiling](#).

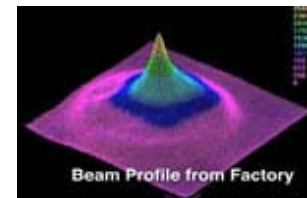
BeamGage as a Machine Vision System for Industrial Parts Inspection

A manufacturer was asked to produce a high volume of molded devices with a <100µm hole in the center through which a specific amount of material would pass in the final assembly. The product cannot be tested until fully assembled, so any device with an incorrect hole size would have to be rejected and reworked, reducing productivity. Being able to inspect and sort out acceptable devices prior to final assembly would provide significant savings. [Machine Vision](#).

Video of the Month

Choosing a Laser Beam Profiling System

Make sure the laser beam quality you expect is the one that is delivered. See how beam profiling can help you get the most performance out of your laser. [Learn more by watching the video](#).



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 **Joe Nicholson, Sr. Engineer, SAIC**. "At this SAIC location we have an Optics and High Power Laser Lab that conducts research, scientific studies, and field demonstrations for our customers using our own 3kW single mode fiber laser as well as other lasers. We use the Spiricon Laser Beam Diagnostics with a Point Grey Firewire Camera and various Spiricon lens and adaptors to fully characterize the laser beams both in the lab environment and during field testing." - Joe Nicholson

From the Blog

How to Measure the Peak Power of a Pulsed Laser

Most pulsed laser power meters display the total energy of a

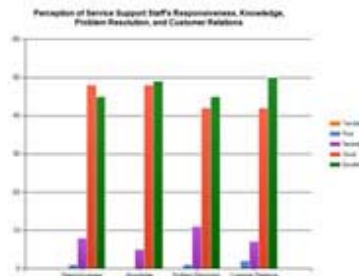
Business News

Recalibration and Repair Lead Time Less than Four Days

Miyachi Unitek Corporation, a laser welding and marking equipment manufacturer, is a valued customer. They recently stated, "Ophir-Spiricon has been in the top tier of our contractors in every way. [They are] always consistent with quality and turnaround times, as well as providing fast and reliable answers to any issues or questions that may arise. [We are] proud to have them as one of our suppliers/calibration providers." [Recalibration and Repair](#).

Thank You for Your Responses to the Calibration Dept. Survey

Customers recently shared feedback on the quality of our support service. The survey generated a very positive response and helped us become even more responsive. The winner of the survey's iPad 2 drawing is **Cassandra Westlund, SIMCO Electronics**. She said, "The Calibration Department is so easy to work with! Requests, RMA's, Calibrations, and Repairs are always completed in a timely manner and the quality of work is spectacular. The Ophir team is always friendly and helpful. Shayna, Stephanie, and other team members...I am delighted by their assistance and willingness to help."



Ophir-Spiricon's Dick Rieley Authors Popular Article on Photonics Online

Congratulations to Dick Rieley, our Mid-Atlantic Regional Sales Manager. He authored the fifth (5th) most popular article published by Photonics Online in 2012: [The Challenge of Splitting Laser Beams for Solar Panel Manufacturing](#).

Technical Tips

Beam Profiling: Using Multiple Cameras with BeamGage

When connecting multiple cameras to a computer with BeamGage, it is recommended that each camera be connected on its own separate adapter. [Read the Tech Tip](#).

Power/Energy Meters: Why Damage Specs are Derated for Larger Beams

For certain pyro sensors with a diffuser, such as the PE50BF-DIF-C (P/N 7Z02941), there is a note that for 10mm beam size, the damage threshold spec should be derated by 50%. Find out why. [Read the Tech Tip](#).

FAQs

Power/Energy Meters

Why does StarLab software include an OEM installation option? What is different about OEM from the Standard installation option? [Read the FAQ](#).

I am using a PD300 type sensor. I have a broadband light source but only want to measure the power of a specific wavelength. Can I set my meter to that wavelength and get a measurement? [Read the FAQ](#).

Beam Profiling

Can I have more than one camera connected to BeamGage at a time? [Read the FAQ](#).

pulse or, alternatively, the average power, not the peak power. How can a user measure the peak power of a pulsed laser beam? [Pulsed Laser Beams](#).

Catalogs: Power Meter & Beam Profiling

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

Trade Shows

[SPIE Photonics West 2013](#)

February 5-7, 2013

San Francisco, CA

Booth 1301

Join the **Ophir Treasure Hunt at Photonics West!** Complete the treasure map and you could win an iPad. Daily drawings.

[MD&M West](#)

February 12-14, 2013

Anaheim, CA

[OSA OFC/NFOEC](#)

March 19-21, 2013

Anaheim, CA

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

What's New

Join the Ophir Treasure Hunt at Photonics West

See if you can find the Ophir-Spiricon-Photon products displayed in different booths at Photonics West. Get a treasure map at **BOOTH 1301** (Newport/Ophir, front of South Hall). Find any one of the products and return your map by 3pm each day to be entered in the daily drawing for an iPad. Each entry will receive the exclusive Beam Profiling poster. Enter every day of the show. You do not need to be present to win. While you're getting your map, be sure to look at our new products and talk to our on-site engineers.



Social Media



Blog

[The Ophir Laser Measurement Group](#)

Web

www.ophiropt.com/photonics

Fast Ship Program: No Expedite Fee

We listened! The popular Fast Ship Program, which provides same day or one-day shipment of the most popular laser measurement equipment, no longer has an expedite fee. Starting February 4, 2013, users can request same day or one business day shipment of any Fast Ship product without additional fees. [Fast Ship](#).

Ophir-Spiricon Honored as Utah Manufacturer of the Year

The Utah Manufacturers Association honored Ophir-Spiricon as Utah Manufacturer of the year at their Annual Banquet. The award recognizes outstanding performance in operations and best practices, economic achievement, workplace safety, and community and state involvement. [Ophir-Spiricon](#).

RLI Training: Principles of Lasers and Laser Safety Officer Course

This combined course is designed for those that have been assigned to be the facility Laser Safety Officer but have little to no laser safety experience, as well as those that have not attended laser safety training in more than five years. [April 22-26, 2013, Cincinnati, Ohio](#).

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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