

ePulse: Laser Measurement News

April 2010

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

How to Properly Select a Laser Power or Energy Sensor

The selection of a sensor to accurately measure the power of a laser or the energy of a pulsed laser can seem like a simple procedure. However, many times the selection process is limited to choosing a sensor that only meets the range of power or energy to be measured, leaving out other essential laser criteria. Without their consideration, it's all too easy to select the wrong sensor. As a result, you can inaccurately measure the laser and cause the sensor to fail prematurely. Pay attention to these three (3) steps. [Read the article.](#)

Technical Tips

BeamGage Beam Profiling

A customer walked through the instructions for building an automation interface with BeamGage-Pro. A few questions arose about creating LabVIEW subVIs. [Read the tech tip.](#)

Power/Energy Measurement

For those using multiple sensors on a particular power/energy meter, the latest firmware for the Nova II and Vega includes the ability to automatically read a different sensor, when it is connected, without having to turn the sensor Off or On again. [Read the tech tip.](#)

FAQs

Power/Energy Meters

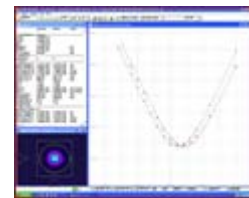
When a damage threshold specification refers to a certain maximum power density (or energy density), what beam profile is assumed? [Read the FAQ.](#)

I would like to measure the power of a pump laser operating at 1 kHz and producing about 20 mJ per pulse. The laser's output beam is 3 mm diameter. That implies an energy density per pulse of 0.28 J/cm^2 . The information that I have on the Ophir 30A thermal head is that the damage threshold for sub-100 ns pulses is 0.3 J/cm^2 , and that threshold is only specified in the catalog

Video of the Month

Laser Measurement

Is your laser beam optimized for your application? In this month's video, we learn why laser developers and manufacturers rely on M2 measurements to design and tune the quality of their lasers. We also find out how knowing your laser's M2 can benefit your application. [View the M2 video.](#)



Laser Puzzle

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

Here are the [answer's to last month's puzzle.](#) The winner from the last month's puzzle is **Peter Kresta, Carl Baasel Lasertechnik GmbH & Co.KG.** His company produces high end laser products for critical CO2 laser applications. They need to be assured that their lasers are producing the best mode possible and therefore test from time to time.

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,

up to 30 Hz. Am I too close to that threshold? [Read the FAQ.](#)

How is the performance of thermal sensors affected by ambient temperature? [Read the FAQ.](#)

Beam Profiling

I have to make some measurements on a long term test. I would like to set up a power meter to take 100 shots of a 30 Hz laser, calculate an average, save the average, and dump the rest. I want it to do this every hour for 30 days without human intervention. I would also like to set up a beam code to take 10 pictures once a day for 30 days. Is this possible? [Read the FAQ.](#)

What's New

Latest Innovations from Ophir-Spiricon

Ophir-Spiricon's engineering team continues to innovate at a rapid pace. New laser measurement and analysis products include pyroelectric, pin fin, and OEM power and energy sensors; cameras with optical pulse triggering; industrial beam analyzers; and next generation beam analysis software. [Review the specs and benefits.](#)

Camera Re-Certification Program

Customers ask us, "How can I be certain that my Beam Profiler is measuring accurately? Is there a NIST traceable calibration methodology?" So Ophir-Spiricon launched the Camera Re-Certification Program for yearly re-certification of camera performance. [Find out more.](#)

Compact USB Laser Sensor Interface

Juno is a smart USB sensor to PC interface that converts a laptop or desktop PC into a laser power/energy meter. A compact USB module, the Juno connects any of Ophir-Spiricon's 100+ smart laser sensors -- thermal, pyroelectric, and photodiode -- to a PC USB port. The Juno operates with Ophir-Spiricon's **StarLab** software. StarLab logs power and energy; calculates and displays averages, statistics, histograms; and more. The system can record every energy pulse at up to 10 KHz. [Find out more.](#)

StarLab 2.00, Multi-Channel Laser Power/Energy Software

StarLab 2.00 is laser measurement software that converts a PC into a multi-channel laser power/energy station. Features of the newest version of the software include synchronization and display of multiple channels in one window, user-defined and multi-channel calculations, and an easy-to-use configuration panel for all channels. StarLab works with Ophir-Spiricon's smart displays and PC interfaces, allowing users to measure, analyze, and record laser power and energy parameters from the company's line of smart power/energy sensors. [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.](#)



we can negotiate you receiving one our latest innovative instruments, detectors, or profiling cameras and software to use in your lab. For 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 a femtosecond or two later you'll be logging your data on our equipment like the Nova II, Vega, Quasar or BeamGage.

2010 Power Meter & Beam Profiling Catalogs

Download the new 2010 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.](#)

[3D-SuG 2010](#)

April 25-26, 2010
Hilton Buffalo Thunder
Santa Fe, NM

[CLEO/OELS 2010](#)

May 18-20, 2010
San Jose McEnergy Convention Center
San Jose, CA

[SPIE Optics + Photonic](#)

August 3-5, 2010
San Diego Convention Center
San Diego, CA

About Ophir-Spiricon, LLC

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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