

# ePulse: Laser Measurement News

The true measurement of laser performance



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October 2008

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

#### Beam Profiling at Focus: Essential for Beam Shaping

Spatial laser beam profiling at focus is an essential part of quantitatively characterizing the shaped laser beam. Beam shaping techniques enable both the manufacturer and the end user of laser materials processing systems to custom design both the spatial and temporal profile of the laser beam for optimum performance. But the success of this technique is highly dependent on the performance of the laser relative to the beam shaping technique employed. Find out more in Larry Green's article on [Beam Profiling](#).

#### Power and Energy Meters: From Sensors to Displays

In this article we will review the basic sensor types: thermocouple, photodiode, and pyroelectric, and cover the instruments that are used to display the power and/or energy of the lasers. We will explore what parameters one must look at to determine the best detector head for a particular laser and then match it up with a readout. The article will give some historical perspective on the evolution of power and energy meters and what the future holds. Read the details in Burt Mooney's [Power and Energy Meters](#).

#### Staying in Focus: Testing and Calibration

Lasers are tricky things to test. Not only does a user need to make sure the right amount of energy and the correct sort of beam is produced, but the laser's application - be that manufacturing, research, or clinical - can also have an impact on how it is tested. Gemma Simpson, News Editor at Electro Optics, interviewed Ophir-Spiricon's Founder Emeritus Dr. Carlos Roundy, and VP Sales Kenneth Ferree about the array of methods by which one can [test or calibrate a laser, once operational](#).

#### Application Note

Can water cooled heads be used at lower power or for short periods without water cooling? Get the details [here](#).

#### FAQs: Beam Profiling

What is the best beam width measurement method? Read the [FAQs](#)

## 2008 Laser Measurement Catalog

[Download the new 2008 Ophir-Spiricon Laser Measurement Catalog today.](#)

### Laser Q&A

**What is the temperature dependence of pyroelectric heads?**

Find out at [Laser Q&A](#).

### 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.

### eProfiles

#### Yoram Shalev, Sales & Marketing Director, Ophir Optronics

Yoram Shalev speaks six languages: English, French, Spanish, Hebrew, Portuguese, and Italian. This is quite handy as he manages a distribution channel that spans the globe. Yoram is Sales & Marketing Director for Ophir Optronics, a leader in high quality Infrared (IR) optics and laser measurement systems. Find out more at [eProfiles: Yoram Shalev](#).

### On-Site Seminars

Ophir-Spiricon has begun conducting a limited number of on-site beam diagnostic seminars for major laboratory facilities and academic institutions focusing on photonic developments. These educational seminars will include such topics as "Power vs energy: Which do you measure and why," "Focused spot analysis: When it makes

## What's New in Laser Measurement

### High Accuracy Laser Beam Profiling Software Features Patented Beam Measurement System

Ophir-Spiricon has release the newest version of **LBA**, high accuracy laser beam analysis software. LBA is based on **Ultracal™**, the company's patented, baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. LBA features a **Pointing Stability** program that collects centroid and peak data from the LBA core system and displays it graphically; this is critical for maintaining accuracy in welding, laser manufacturing, and military range finder applications. The newest version of LBA operates on the Microsoft® Windows® Vista 32 operating system and works with Ophir-Spiricon's **SP503U** and **SP620U**, new USB 2.0 CCD cameras that feature the highest dynamic range in the industry, up to 64dB. Find out more at [LBA](#).

sense," and "M2 beam propagation analysis." For more information or to schedule a seminar, contact Kevin Kirkham at [Kevin.Kirkham@ophir-spiricon.com](mailto:Kevin.Kirkham@ophir-spiricon.com) or call 435-753-3729.

## Conferences & Exhibitions

### [ICALEO](#)

October 20-24, 2008  
Pechanga Resort  
Temecula, CA

## 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 meters, 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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