

ePulse: Laser Measurement News

March 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

Common Reasons for Thermal Sensor Damage or Out of Tolerance Conditions

A customer asked, "If the sensing head has some visible laser burns on its black coating, underneath the diffuser, will that affect the measurements?" Surface contamination, overheating of the sensor housing, and localized overheating of the coating can all cause out of tolerance conditions. Find out more about the proper care and maintenance of thermal laser power sensors. [Read the article.](#)

Laser Beam Profiling and Accuracy

A customer asked, "How can I be certain that my beam profiler is measuring accurately? Is there a standard calibration methodology?" While there is no calibration standard, Spiricon has done the next best thing to demonstrate reliable and consistent results. [Read the article.](#)

Laser Focus World: Laser Beam Characterization Webinar, Sponsored by Ophir-Spiricon

For those who missed it, join us for this Laser Focus World webcast that discusses the fundamental techniques for successful measurement and analysis of laser beam profile characteristics. Recommendations are made about application-specific beam characterization, measurement standards, and definitions. Thanks to those who joined us on February 18, 2010, for the original event. [View the archived webinar here.](#)

Applications

Assessing Broadband Optical Radiation

As of 27 April 2010, member states across the whole of the European Community must have in place local legislation that is designed to assess and limit the amount of *artificial optical radiation (AOR)* that employees may be exposed to in the workplace. This article by James Steward, LVR Limited, discusses the requirements, measurement equipment, and selected application examples. [Read the article.](#)

Video of the Month

Laser Measurement

Laser measurement instrumentation overview. Ophir-Spiricon power and energy meters include photodiode and pyroelectric sensors, and RP meters. Beam profiling systems include silicon CCD and pyrocam cameras as well as industrial CO2 measurement systems. The company's next generation beam profiling system combines real time power and energy measurement with a beam profile and the world's most advanced beam analysis software. [View the laser measurement video.](#)



Laser Puzzle

[Try your hand at this month's Laser Crossword 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.

The winner from the last issue's puzzle is **Joe Thomes** at **NASA Goddard Space Flight Center**.

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

Technical Tips

Sensor Calibration Methodology: PTB Report on 5000W

From time to time, the question arises about how Ophir-Spiricon can be sure of the calibration of our high power sensors when we calibrate at a small fraction of full power. Our calibration process is described in detail [here](#). A recent check of our 5000W head by PTB in Germany shows excellent agreement between our calibration and their standards. [Read the tech tip.](#)

FAQs

Power/Energy Meters

A customer inquired, "I am integrating a L100(500A) power meter head into a workstation and I would like to know how long between 'readings' I have to wait for the head to cool or what dictates how long I can shoot into the head." [Read the FAQ.](#)

Beam Profiling

Are you having USB device problems with the USB cable plugged into the front of the PC? [Read the FAQ.](#)

Calibration

Occasionally a question arises about how we can be sure of the calibration of our high power sensors when we calibrate at a small fraction of full power. [Read the FAQ.](#)

What's New

Next Generation Laser Beam Analysis System

BeamGage® Professional, the latest addition to the company's family of next generation laser beam analysis systems, builds on the features included in **BeamGage Standard: BeamMaker®** beam simulator, automatic camera control for ease of use, and comprehensive set of beam analysis algorithms. The Professional version adds such new capabilities as partitioning of the camera output for separate analysis of multiple laser beams from sources such as fiber, a .NET interface for full remote control when integrating beam analysis into an automated application, and camera sharing. [Find out more.](#)

Circular Laser Energy Sensors Make Centering Easy

The **PD300-R** line of **Circular Photodiode Sensors** is identical in performance to the company's popular **PD300** laser detectors but features round geometry for easy mounting and centering on collinear optical bench systems. SM-1 mounting threads on all components ensure a fit with most optics. The sensors are designed to detect a wide range of light levels, from 500 picoWatts to 3W. Each device has a built-in filter that reduces the light level on the detector and allows measurements up to 30mW without saturation. A second, removable filter allows measurement up to 3W. [Find out more.](#)

Water Cooled and Fan Cooled Laser Beam Dumps for High Power Applications

New **Laser Beam Dump** products for high power applications are designed to safely absorb the "unused" part of a high power laser beam and dissipate the resulting heat, protecting nearby personnel and equipment. The **BDFL500A-BB-50** is a fan-cooled

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.](#)

[OFC/NFOEC 2010](#)

March 23-25, 2010

San Diego Convention Center,
San Diego, CA

[SPIE Defense, Security & Sensing](#)

April 6-8, 2010

Orlando World Center
Marriott Resort & Convention
Center
Orlando, CA

[ASLMS LASER 2010](#)

April 16-18, 2010

Phoenix Convention Center
Phoenix, AZ

[3D-SuG 2010](#)

April 25-26, 2010

Hilton Buffalo Thunder
Santa Fe, NM

[CLEO/QELS 2010](#)

May 18-20, 2010

San Jose McEnergy Convention
Center
San Jose, CA

Beam Dump for up to 500W. The **BD5000W-BB-50** is a water-cooled Beam Dump for even higher power applications, up to 5kW. [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.](#)



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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