

## ePulse: Laser Measurement News

The true measurement of laser performance



### ePulse: Laser Measurement News March 2012

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

#### Webinar - Fundamentals of Photonics: Laser Beam Characterization

*Laser Focus World* features expert Roger Rypma in a webinar on laser beam characterization. Profiling enables understanding of a beam's spatial characteristics, such as size, shape, position, mode structure, and propagation. [Learn the techniques, recommendations for application-specific beam characterization, standards, and definitions.](#)

#### Mode-Field Diameter and "Spot Size" Measurement of Lensed and Tapered Specialty Fibers

Lensed and tapered specialty fibers are designed to optimize coupling between fiber and various optical components, such as edge-emitting laser diodes and AWGs. The MFD and spot size of these fibers is typically in the range of 5 microns or less, presenting challenges for near field and far field measurements. [Read the full report.](#)

### Applications

#### Free Power Meter App for Android Devices

A new Android app allows you to display laser measurement data on mobile devices. The App connects to Ophir's Quasar wireless power and energy meter via Bluetooth. Once connected, the App displays power readings from any laser measurement sensor connected to the Quasar device within a range of 10 meters. [Download the Quasar App from the Android Market.](#)



#### Beam Profiling of a Laser Welding Station

A customer recently moved their welding system, and had it cleaned and serviced. They were concerned that possibly the beam quality had been degraded through those disruptions to the equipment. [Find out how they determined the quality of the laser beam.](#)

### Technical Tips

#### Beam Profiling with .Net Automation Interface and LabVIEW

BeamGage Professional and BeamGage Enterprise version 5.7 support Automation via .Net components. This allows you to write one application

### Video of the Month

#### How to Turn Your PC Into a Multi-Channel Laser Power and Energy Measurement Workstation

StarLab laser measurement software converts a PC into a multi-channel laser power/energy station. The newest version includes support for BeamTrack sensors which combine multiple measurement functions in a single device: power, energy, beam position, and beam size. StarLab 2.30 features a special graph that tracks the stability of the laser beam so any drift in the beam can easily be seen. [View the StarLab video.](#)



### From the Blog

#### How to Profile Large Beams

Some military and industrial applications can involve laser beams as large as 10 inches. Using large lenses and optics to reduce the beam down to a camera CCD would be expensive and impractical. [Find out how such a beam can be profiled and analyzed using standard beam profilers.](#)

#### New for 2012 Catalogs: Power Meter & Beam Profiling

Download the 2012 Ophir-Spiricon Laser Measurement Catalogs today. Tutorials and products in [Power Meters](#) and [Beam Profiling](#).

### Laser Puzzle

[Try your hand at this month's Laser Puzzle.](#) All entries will receive an 2GB pen drive. The grand prize winner will receive an iPad 16GB WiFi. E-mail answers to [sales@us.ophiropt.com](mailto:sales@us.ophiropt.com). Need a hint? E-mail [kevin.kirkham@us.ophiropt.com](mailto:kevin.kirkham@us.ophiropt.com)

that drives - or automates - another. BeamGage includes a LabVIEW example that can be run with the LabVIEW Run-Time Engine provided with the BeamGage software CD or available for free download from National Instruments. [Find out more.](#)

### How to be Sure of the Calibration of High Power Sensors When They're Calibrated at a Fraction of Full Power

Ophir models 5000W and 10KW are calibrated using a relatively low power, ~ 200 - 300W lasers. Using low power lasers to calibrate the instrument vs. the high power at which it is used raises the question of calibration accuracy. The following explanation clearly demonstrates that the 5000W and 10KW are indeed accurate to  $\pm 5\%$  over their measurement range. [Find out more.](#)

## FAQs

### Beam Profiling

What are the most common problems encountered with BeamGage installation? [Read the FAQ.](#)

When I use the NanoScan beam profiler with Windows XP, the computer crashes every time I try to save the profile data as ASCII text. [Read the FAQ.](#)

After setting up the NanoScan profiler and acquiring the beam, the profile bounces back and forth. [Read the FAQ.](#)

### Power/Energy Meters

Why doesn't my Ophir meter turn on today? It's been working thus far. [Read the FAQ.](#)

When measuring a fiber output, should I put the fiber tip right up against the PD300 detector? If not, how close should I come? [Read the FAQ.](#)

## What's New

### Ophir Profile: Meet Jimmy Green, North America OEM Manager & Power Meter Specialist, Ophir-Spiricon

What do power meters and bees have in common? Jimmy Green, for starters. When he's not tending to Ophir-Spiricon's laser measurement customers, Jimmy is bee keeping with his wife. On any day, you'll find him up to his elbows either in honey or in interesting laser applications. [Find out more.](#)



[Many products available next business day in US](#)

### Webinar: Latest Innovations in Ophir Laser Measurement

Those of you who have been working with us for some time have no doubt noticed that there have been some major improvements (yes, changes) to our product lines. We've released a whole new line of laser beam Power/Position/Size sensors, a line of Direct-to-PC power and energy sensors, done a major upgrade to our line of Pyroelectric energy sensors, released some new software, and more - and all this over the course of just a year. Our goal at Ophir has always been to constantly be the ones pushing the leading edge of the industry - and to help our customers do the same. These changes help us stay way out in front, but they definitely create a need to stop for a moment and help all our customers catch up. For this reason, we will be hosting a webinar, in which we will review the "renovation job" of the past year and help everyone appreciate what these improvements can give you.

- **March 21, 2012 - Time: 10:00 am, Israel Standard Time (Tel Aviv, GMT+02:00) 09:00-09:45 Munich, Germany Time 17:00-17:45 Tokyo, Japan time.** [Register Now.](#)
- **March 21, 2012 - Time: 6:00 pm, Israel Standard Time (Tel Aviv, GMT+02:00) for USA and Europe 12:00-12:45 EST, 09:00-09:45 USA time PST, USA time.** [Register Now.](#)

Here are the [answers to the last issue's puzzle](#). The winner was **Judy Donnelly, Program Coordinator, Laser and Fiber Optic Technology, Three Rivers Community College**. "We try to expose students to the kinds of instrumentation they'll see in the workplace. We use Ophir meters extensively and we have three LBAs, two USB, and one serial. We just installed BeamGage. Students in the laser technology course use the LBAs to become familiar with beam profiling, beam parameter measurement and spatial modes (we have a wickedly multimode yellow HeNe that amazes everyone). Our thanks to Bill Eramo at Ophir." - Judy Donnelly

## Trade Shows

[SPIE Defense, Security + Sensing](#)

April 24-26, 2012  
Baltimore, MD  
Booth 1625

[CLEO:2012](#)

May 8-11, 2012  
San Jose, CA  
Booth 1607, 2207

[LASYS 2012](#)

June 12-14, 2012  
Stuttgart, Germany  
Halle 1-J 12

## 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.

## Free Laser Measurement Equipment

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 of our latest innovative instruments, detectors, or profiling cameras and software to use in your lab. E-mail [kevin.kirkham@us.ophiropt.com](mailto: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

### New 2012 Catalog for Laser Measurement Applications

The 2012 Laser Measurement Catalog from Ophir Photonics covers a wide range of laser power and energy sensors and meters, and laser beam profiling systems for medical, industrial, defense, and research applications. A PDF-formatted reference book, it features tutorials and product data sheets. Download your copy today: [Laser Sensors & Power Meters](#) and [Beam Profiling](#).

#### Social Media



#### Blog

[The Ophir Laser Measurement Group](#)

#### Web

[www.ophiropt.com/photonics](http://www.ophiropt.com/photonics)

## 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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