

ePulse: Laser Measurement News

The true measurement of laser performance



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March 2014

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](#).



Feature

The Laser After 50: Opportunities for Growth in Photonics

The laser celebrated its 50th anniversary in 2010 and is now advancing toward 60 with a rapidly growing range of powers, bandwidths, and an incredible array of applications - from eye surgery to machining to rangefinding. This is a great time to stop and reflect on how photonics has improved our lives and what's coming in the future. We have only scratched the surface when it comes to harnessing optoelectronics and its ability to better our lives. [Photonics](#).

Tutorial

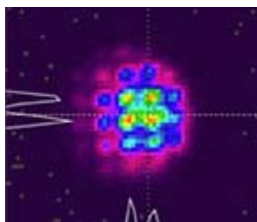
Common Reasons for Out of Tolerance Conditions

Power and energy sensors should be able to be used for many years without any repairs when used with the proper laser optical setup. Many Ophir customers are using original absorbers that are over 10 years of age. This collection of white papers -- one each for thermal, pyroelectric, and photodiode sensors -- will help your laser measurement equipment enjoy a longer life and produce more reliable results. [Out of Tolerance](#).

Applications

Why Beam Profiling at 1550nm Requires an InGaAs Camera

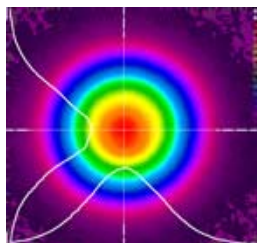
A recent application called for beam analysis of a 1550nm laser source with a challenging optical arrangement. Signal loss occurred at each beam transfer across multiple reflective surfaces. A more sensitive camera with Frame Summing was required to bring out the full beam pattern, size, and depth. [InGaAs Camera](#).



Business News

Share Your Story on Facebook. Win an iPad

Step 1: Upload a picture of your laser's beam profile to our [Facebook page](#) by April 10th. **Step 2:** Include the story behind the picture: What type of laser are you using? What are you using it for? What did you learn from taking the measurement? **Step 3:** Send us your address (in a private Facebook message) so we can send you a free USB drive. **Step 4:** Whoever has the most "likes" wins an iPad! ([Read our terms & conditions](#).)

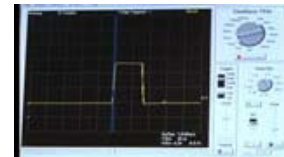


VIDEO: How Do You Define Enterprise Excellence?

Videos of the Month

How to See an Analog Representation of Laser Power/Energy on a Scope

Sometimes you need to see an analog representation of your laser power/energy on a scope, in parallel to measuring it with a meter. This video will show you how. [Video: Analog Scope](#).



BeamGage Tutorial: Camera Quick Start

Watch Chuck Reagan demonstrate how easy it is to connect a camera and start making profiling measurements using BeamGage software. [Video: BeamGage Quick Start](#).



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 **Carson Mok, Fibre Optic Product Designer, OZ Optics Limited**. "Here at OZ Optics we use a wide range of OPHIR products such as various beam profilers and power meters. As an R&D engineer I utilize Ophir products as Gold Standard for accuracy of measurement and trouble shooting. In addition to accuracy, the elegance of Ophir products is the fact they are robust enough to be used in production environment while being agile enough to be used in an R&D environment. Equivalent to their high accuracy the technical and sales support that accompany the products are

Ophir-Spiricon recently won the [Shingo Institute Video Contest](#) by asking its employees this very question. In this one-minute video, our employees talk about what enterprise excellence means to them. [Shingo Institute Video](#).

ISO/IEC 17025:2005 Accreditation Expanded

Ophir-Spiricon's ISO/IEC 17025:2005 testing and recalibration accreditation scope has been expanded to include Spiricon M² systems, Photon Nanoscans, Beams cans and Goniometric Radiometers, and Newport optical power meters and detectors. [Expanded Scope of Accreditation](#).

Technical Tips

Beam Profiling

BeamGage User Defined Special Calculations

BeamGage® 6.1, Professional and Enterprise, have a new feature that provides the ability to create user defined special calculations inside the BeamGage application. With this new feature, operators can program their own set of custom calculations and analyze data in any manner. [Read the Tech Tip](#).

Power/Energy Meters

Laserstar Power Tune/Audio Tune

The Laserstar has an exclusive audio tune capability within the Power Tune function that makes it easy to adjust your laser to its maximum power. Unlike a bar graph or mechanical meter, the Power Tune screen graphically shows the current reading, what came before, and the trend. This allows you to determine if you have reached maximum power. [Read the Tech Tip](#).

FAQs

Power/Energy Meters

How do I pair the Quasar interface with my computer? [Read the FAQ](#).

What's the calibration turn-around time for power meters at the US calibration facility? [Read the FAQ](#).

The Sensor Finder could not find a sensor for my application. It gave me the message "Pulse width or frequency incorrect." What does that mean? [Read the FAQ](#).

Why is the PD300-1W specified for only up to 10W/cm² while the regular PD300 can go up to 50W/cm²? [Read the FAQ](#).

Beam Profiling

Why does BeamGage have a Window shield icon on the desktop icon and why does it ask me to log on as an Administrator to run the application? [Read the FAQ](#).

How do I use the LBS-300 alignment fixture or target to align my beam through an LBS-300 beam sampler? [Read the FAQ](#).

What's New

VIDEO: What Was Hot at Photonics West

Did you miss all the new technology announcements at Photonics West? In this *Laser Focus World* video, Ophir's Gary Wagner shares the latest in new products introduced for very high power laser measurement and beam profiling. [Photonics West Video](#).

StarLab 3.0: Multi-Channel Laser Power/Energy Software

StarLab 3.0 is laser measurement software that converts a PC into a multi-channel laser power/energy station. The new version provides a revamped user experience that combines



second to none both in terms of speed in response and detailed explanations." -- Carson Mok

From the Blog

High Power Laser Beam Profiling: A Day in the Life of a Laser Cutting Technician

Adam is a laser technician whose job is to make sure the YAG laser system cuts steel sheets efficiently and effectively. One day he noticed that one laser cutter was not performing as well as the others. It was removing too much metal as it cut, thus wasting material, degrading the quality of the cut, and slowing down the process. [Laser Cutting](#).

2014 Catalogs: Power Meters & Beam Profiling

Download the Ophir-Spiricon Laser Measurement Catalogs today. Tutorials and product specifications for [Power Meters](#) and [Beam Profiling](#). New [Beam Profiling Magalog](#) includes application notes, technology articles, and reference algorithms.

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.

Trade Shows

[AMUG: Additive Manufacturing Users Group](#)
April 6-10, 2014
Tucson, AZ

[Construct](#)
April 10-13, 2014
Bucharest, Romania

[Defense Security Sensing](#)
May 5-9, 2014
Baltimore, MD
Booth 825

How to Get a 15% Discount

If you're an end user of our laser equipment, we'd like to know more about how you use it. Provide us with 500 words and a few images. In exchange, we will give you a 15% discount on your Ophir-Spiricon laser measurement equipment. Here's a [sample application article](#) to get you started. We'll showcase your application in our ePulse newsletter and you'll get recognition by the industry for your commitment to providing high quality laser services. And

ease-of-use and expanded functionality for displaying, formatting, and viewing data. Coming soon. [StarLab 3.0](#).

BeamWatch: 1st Non-Contact Industrial Beam Monitoring System for High Power YAG and Fiber Lasers

BeamWatch™ is a non-contact, focus spot size and position monitor for very high power YAG and fiber lasers used in material processing applications. Because there is no contact with the laser beam, the system has no power restriction and has been successfully tested on high power lasers up to 100kW. **The new version** features an algorithm that optimizes the measurement window, removing imprecise, manual judgments from the process and improves the overall precision of measurements. [BeamWatch](#).

BeamGage Beam Profiling Software Features Enhanced Computation Engine

BeamGage® 6.1 is a state-of-the-art beam profiling system that performs extensive data acquisition and analysis of laser beam parameters. The new version features a major upgrade of the computation engine to improve cycle time, responsiveness of the user interface, and enhance the ability to work with apertures and partitions. This improves the performance and speed of the software, especially when analyzing different beams or sources of light and for heavy computations. [BeamGage 6.1](#).

you'll get the discount! E-mail kevin.kirkham@us.ophiropt.com

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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 the award-winning **BeamTrack** power/position/size meters and 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. ISO/IEC 17025:2005 accredited for calibration of laser measurement instruments.

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