

# ePulse: Laser Measurement News

The true measurement of laser performance



## ePulse: Laser Measurement News June 2016

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](#).



### Business Perspective

#### MKS Instruments Acquires Newport

We are pleased to announce that on April 29, 2016, MKS Instruments completed the acquisition of Newport Corporation, the parent company of Ophir-Spiricon, LLC. MKS is a publicly traded technology leader in vacuum measurement and control, power and plasma, data analytics, and automation and control. What does this mean for you? [MKS Instruments](#).

#### 40<sup>th</sup> Anniversary Facebook Competition

Ophir is celebrating its 40<sup>th</sup> birthday! Join the celebration by participating in our anniversary contest. Just follow these steps. (Terms & conditions [here](#).)

- Step 1: Between June 19<sup>th</sup> and July 3<sup>rd</sup>, 2016, tell us how you have used an Ophir product. Upload a picture or story to our [Facebook page](#). Extra points for a story about a really old product.
- Step 2: Send us your address (in a private Facebook message) as all entries get a free gift.
- Step 3: The best post wins an iPad.

### Features

#### Reimagining UV Laser Beam Profiling

*By Kevin Kirkham, Senior Manager, Product Development, Ophir-Spiricon*

Take a look inside Ophir's offerings for profiling UV laser beams. Spot sizes from 0.15mm to over 25mm can be safely profiled without the risk of camera sensor damage or degradation. Laser beam analyzer accessories based on wavelength conversion materials permit spatial profile analysis of UV lasers with wavelength in the range of 193nm to 360nm. [UV Converters](#).

#### Enhancing Laser Performance: Top 5 Critical Measurement Scenarios

*By John McCauley, Midwest Region Sales Manager, Ophir-Spiricon*

With all of the data being generated, it can be easy to "lose focus" on why laser measurements need to be taken. There are five scenarios in a laser's lifecycle where taking measurements are vital, both for the

### Videos of the Month

#### Supporting Law Enforcement

Ophir-Spiricon supported local law enforcement training by hosting an "active shooter" simulation. Watch how our employee hostages were liberated in this month's video. [Law Enforcement](#).



#### Best Practices in Laser Measurement

Thermal offset due to sensor heating. When to zero out thermal offsets, and when NOT to. [Video: Thermal Offset](#).



### Laser Puzzle

[Try your hand at this month's Laser Puzzle](#). All submissions will receive a 8GB USB pen drive. The grand prize winner will receive a 16GB iPad. E-mail answers to [sales@us.ophiropt.com](mailto:sales@us.ophiropt.com). Need a hint? E-mail [john.mcelandowney@us.ophiropt.com](mailto:john.mcelandowney@us.ophiropt.com)

Here are the [answers to the last issue's puzzle](#). The winner of last issue's puzzle was **Arnold Rabinovich, Biomedical Engineer, REX Healthcare**. "Rex Hospital is a 665 bed, general hospital located in Raleigh, North Carolina. It is the capital city's oldest hospital, founded by a bequest from John T Rex, a tanner and respected member of the local society in 1894. We have used Ophir equipment (Vega meter, L40(150)A, F150A, PE50BF-Dif) for years for our accuracy and calibration reliability to measure 15 different medical lasers at the RexHealth Hospital, including Coherent, Boston Scientific,

process in which the laser is being utilized, and for the ongoing maintenance of this valuable manufacturing tool. 1. Development and manufacturing of the laser source, 2. Development of the laser application, 3. Development of the laser process, 4. System acceptance and delivery, and 5. Corrective and preventative maintenance periods. [Critical Measurements](#).

## Applications

### University Research Team Faces Challenge of Measuring Multiple Lasers

*By Dick Rieley, Field Sales Engineer III, Mid-Atlantic Region, Ophir-Spiricon*

As is common in most university research environments, necessity is the mother of invention. In this case, a lab needed to ensure the performance of three different laser sources that spanned a range from 700nm to 1800nm. Rather than invest in separate and expensive beam diagnostic equipment for each laser, the lab was able to compare each to the manufacturer's specification, then measure performance and establish a baseline using one Spiricon XC130 InGaAs camera. [Beam Diagnostics](#).

## Webinars

### Managing Inherent and Environmental Thermal Effects on High-Power Laser Systems

*By John McCauley, Midwest Region Sales Manager, Ophir-Spiricon*

A laser will only perform as designed if it emits the correct amount of power or energy and if the beam size is correct for the intended use. The same is true for high-powered lasers, however, the thermal effects that these lasers have on the system add a level of complexity to the application. In this on-demand *NASA Tech Briefs* webcast, John McCauley, Midwest Region Sales Manager, Ophir-Spiricon, discusses the thermal effects that are common to high-power lasers, how to measure them, how to identify when these thermal effects will be a problem in the process, and how they are being managed. [Thermal Effects](#).

## Technical Tips

### Power/Energy Meters

#### Power Meter Logging

Here's how to understand the logging periods and limitations when logging on-board a laser meter and when logging on a PC with StarLab. [Read the Tech Tip](#).

#### Measuring High Average Powers

You can now measure high average powers using moderate power sensors with a new feature in the StarBright meter called "Pulse Power Measurement." [Read the Tech Tip](#).

### Beam Profiling

#### BeamGage® Multiple Processes and Internal TCP Communications

BeamGage is a multiple process application that requires local (not network or Internet) port access to communicate. This allows for a great amount of flexibility when using multiple camera or multiple analyzer configurations. [Read the Tech Tip](#).

## FAQs

### Beam Profiling

I just installed BeamGage and now my Ophir StarLab software and the BeamGage software both will not find my USB based Ophir power meter

Lumenis (4 lasers), Alcon Labs (3 lasers), HGM Medical Laser, Endo Optics Laser, Surgilase (3 lasers), and Cutera. We are in the process of returning all of our sensors for recalibration."

## From the Blog

### Optical Alignment

After weeks of working on a complex design, you reach the moment of truth. But you then realize you can't find the laser beam. Here's a simple solution to an infuriating problem. [Optical Alignment](#).

## Catalogs: Power Meters & Beam Profiling

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

## Trade Shows

### [JNPLI 2016](#)

June 28-29, 2016  
Liege, Belgium

### [Congress Optique](#)

July 4-7, 2016  
Bordeaux, France

### [ASME: 3D Printing & Additive Manufacturing](#)

August 22-24, 2016  
Charlotte, NC

### [Optics & Photonics \(SPIE\)](#)

August 28 - September 1, 2016  
San Diego, CA

### [PHOTON 16](#)

September 5-8, 2016  
Leeds, UK

### [LANE 2016](#)

September 19-22, 2016  
Furth, Germany

### [LPS 2016](#)

September 20-22, 2016  
Bregenz, Austria

### [Laser World of Photonics India](#)

September 21-23, 2016  
New Delhi, India

### [TCT Show 2016](#)

September 28-29, 2016  
Birmingham, UK

## Fast Ship Program

Ophir-Spiricon's [Fast Ship program](#) provides one-day shipment of the most popular power/energy, beam profiling, and M<sup>2</sup> laser measurement equipment across

display. How can I fix this? [Read the FAQ.](#)

What is the operation temperature range and recommended storage for BeamGage CCD camera systems? [Read the FAQ.](#)

### Power/Energy Meters

Can the new large-format, high-power sensor, L2000W-BB-200x200 be used without water flow at reduced power, the way regular water-cooled sensors can? [Read the FAQ.](#)

When logging pulse energy measurements on a PC using StarLab, what is the time resolution of the timestamps? [Read the FAQ.](#)

Can I buy a universal power adapter/charger for my Ophir display? [Read the FAQ.](#)

Is StarLab 3.10 compatible with Windows 10? [Read the FAQ.](#)

## What's New

### Engineers from Ophir-Spiricon Sponsor 27th Annual USU Physics Day at the Lagoon Amusement Park

Ophir-Spiricon's engineers once again supported the University of Utah's Physics Lagoon Day at Lagoon Park. This year, we presented four experiments that demonstrate a variety of photonics principles and encourage middle school and high school students to pursue their interests in science and technology. The experiments are: Ultraviolet Skin, Transition Lenses, Light Tank, and Infrared Vision. [Physics Day.](#)

### Helios Laser Power Meter Measures High Power Lasers in Industrial Automation Applications

Helios is a compact laser power meter for measuring high power lasers in industrial processing applications. The meter measures high power solid state lasers – such as diode, fiber, and Nd:YAG lasers – with powers from 100W to 12kW and energies from 10J to 10kJ. For ease of integration into industrial automation networks, the power meter includes easy-to-use PC software and communicates via PROFINET industrial Ethernet and RS232 serial communications. [Helios Power Meter.](#)



the U.S.

## 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 you'll get the discount! E-mail [kevin.kirkham@us.ophiropt.com](mailto:kevin.kirkham@us.ophiropt.com)

## Follow Us Online

### Social Media



### Blog

[The Ophir Laser Measurement Group](#)

### Web

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

## About Ophir-Spiricon, LLC

With over 40 years of experience, Ophir Photonics, a Newport Corporation company, 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 **R&D 100** 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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