ePulse: Laser Measurement News

July 2011

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.

Business News

Newport Corporation to Acquire Ophir Optronics, Create Global Photonics Industry Leader
Newport has signed a definitive agreement to acquire Ophir Optronics for $8.43 per share, or a total of approximately $230 million in cash. The transaction is expected to close in the 4th quarter of 2011, subject to regulatory approvals and the approval of Ophir's shareholders. According to Robert J. Phillippy, Newport's President and Chief Executive Officer, "This transaction will bring together two industry leaders in photonics technology and will create some very exciting growth opportunities for the combined company." Read the article.

Value vs Cost - A Question of Productivity
Purchasing a laser beam profiler can seem expensive when compared with other methods, such as using a power meter or even burn papers. Nonetheless, many manufacturers have found that a CCD beam profiler can save them considerable time and increase productivity dramatically. Find out why.

Tutorials

On-Demand Webinar: BeamGage® Laser Beam Profiling
This 60-minute, how-to webinar on laser beam profiling discusses how to use beam profiling measurements to improve the performance of your laser. Covers installation, measurements, and reports using BeamGage, the next generation beam analysis system. View the webinar.

Applications

Magnification Calibration Procedure
Beam profiler magnification calibration involves measuring spot centroids for known beam position translations. This can be done either by moving the profiler or moving the spot. The former method is preferred since the profiler with magnification is usually mounted to a high quality 3-axis translation stage. Find out more.

Technical Tips

Beam Profiling

Video of the Month

BeamTrack™, Industry's First Laser Power/Position/Size Sensors
BeamTrack is a unique series of thermal sensors that combine multiple functions in one device: measuring power, energy, beam position, and beam size. The sensors provide information on centering and beam wander, all in a compact unit that is the same size as single function detectors of the same power level. Learn more by watching the video.

2011 Power Meter & Beam Profiling Catalogs

Download the 2011 Ophir-Spiricon Laser Measurement Catalogs today. Tutorials and products in Power Meters and Beam Profiling.

Laser Puzzle

Try your hand at this issue's Laser Puzzle. All entries will receive a 2GB pen drive. The grand prize winner will receive an iPad 16GB WiFi. 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 was **Steve Loveland, Laser Support Engineer, Miyachi Unitek Corporation.** "Ophir-Spiricon provides the necessary test equipment to make sure our Laser Welding and Marking Equipment stay within specification and continue to

For most applications, laser beam intensity is too high for the operating range of the CCD camera. Find out how to get the most attenuation with the three supplied ND filters that come with BeamGage® CCD cameras. Read the profiling tip.

Power/Energy Meters
What is the best way to measure the power of a laser that is, unfortunately, not stable, where the power is drifting upwards or downwards? I am making a measurement taking readings by hand and logging to a computer. Read the measurement tip.

When you log energy from multiple sensors in parallel using StarLab, are the time stamps in the various channels are synchronized with each other? Read the sensors tip.

FAQs

Beam Profiling
I want to ask about the accuracy specficication on the M2-200-BB. In the spec, it states that typical accuracy is 5%. Is this ±5% of the mean measurement, and is this a 1-sigma, 3-sigma, or P-P value? Read the FAQ.

If your beam is rather weak on the screen, can you enhance the image by changing the Z Scale instead of summing frames? Read the FAQ.

I am using BeamGage® Standard and I want to report the data into Excel. Can I do that? Read the FAQ.

I have just reloaded my LD8900 software onto a new computer. Now the system doesn't work. It says that the signal is saturated, even when there is no light input? Read the FAQ.

Power/Energy Meters
How much power can I put into an Ophir sensor if I only use it for a short time? Read the FAQ.

We have an FL500-A head which we use with a QUASAR Bluetooth interface. Of course we calibrated the FL500, but since the QUASAR is a digital link, it didn't make sense that it should also be calibrated. But I wanted to verify this. Read the FAQ.

I've lost my AC charger. What are the output requirements? Read the FAQ.

I want to track my laser's power and basic beam characteristics but don't need all the very detailed information I get from a beam profiler. Is there anything else I can use? Read the FAQ.

What's New

BeamTrack™, Industry's First Laser Power/Position/Size Sensors
BeamTrack is a unique series of thermal detectors that combines multiple functions in one device: power, energy, beam position, and beam size. The sensors also provide information on centering and beam wander, all in a compact unit that is the same size as single function detectors of the same power level.
Find out more about BeamTrack.

Many products available next business day in US

perform like brand new. We use Ophir equipment in all aspects of development, production, testing, field service, and the occasional repair. In an industry where your equipment needs to be reliable, we can always depend on Ophir to make sure we stay the industry leader in custom Laser Systems." - Steve Loveland

Trade Shows

SPIE Optics + Photonics
August 23-25, 2011
San Diego, CA

NASA Tech Briefs Sensors Tech Forum
October 10-12, 2011
Boston, MA

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 of our latest innovative instruments, detectors, or profiling cameras and software to use in your lab. For power/energy meters, e-mail burt.mooney@us.ophiropt.com and for beam profilers, e-mail 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.

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Pyro-C Laser Energy Sensors Combine High Damage Threshold, High Repetition Rates, Widest Range of Wavelengths
An upgrade to the company's PE line of pyroelectric pulsed sensors, the Pyro-C detectors provide the industry's lowest measurable energy, longest measurable pulse width, and highest accuracy. The sensors are compact devices that provide a user adjustable threshold, preventing false readings in noisy environments. Find out more about Pyro-C.

New Clean Room for Production of Solid-State, Pyroelectric Detector Arrays
A new 840 square foot clean room is used for manufacturing the solid-state, pyroelectric detector arrays used in Ophir's Pyrocam™ beam profiling cameras. The new clean room houses photolithography and thin film deposition processes. Yellow lighting is used to prevent premature exposure of the photolithography materials used. Find out more about the clean room.

About Ophir-Spiricon, LLC

Ophir-Spiricon is part of the Ophir Photonics Group. With over 30 years of experience, the Photonics Group 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 Ultracal™, the baseline correction algorithm that helped establish the ISO 11146-3 standard for beam measurement accuracy. The recently acquired 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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