Optametra, LLC Press Kit

OFC/NFOEC 2009 March 23rd, 2009

Booth 2028

Company Background

Founded in 2007, Optametra is run by Robert A. Marsland, Jr. (a founder of New Focus, Inc.) and Daniel van der Weide (a professor of Electrical & Computer Engineering at UW-Madison). Optametra introduced its flagship product, the Coherent Lightwave Signal Analyzers™ for 40/100G Physical Layer Test at OFC/NFOEC 2009.

Company Fact Sheet

Optametra, LLC
104 South Shuman St.
Verona WI 53593
USA
(877) 768-8880

info@optametra.com

Management Team
Robert A. Marsland, Jr., Ph.D., President

Daniel van der Weide, Ph.D., Vice-President of Engineering

Advisory Board
Prof. Alan Willner, Ph.D., University of Southern California

Prof. Joe Campbell, Ph.D., University of Virginia

Public Relations Contact Information
To inquire more or review these products, you will receive the quickest response to inquiries by contacting Daniel van der Weide.

Daniel van der Weide

Vice President of Engineering

(877) 768-8880

dan@optametra.com

The Optametra Team

Management Team

Robert A. Marsland, Jr., Ph.D., President received his Ph.D. degree from Stanford University in 1990. He was one of the four founders of New Focus, Inc. that summer and later became Vice President of Focused Research, Inc., a wholly-owned subsidiary of New Focus. New Focus was listed on the NASDAQ in May 2000 and sold to Bookham in 2004. While at New Focus, Rob managed the photodetector product line which included the fastest available photodetector technology. He also managed the electrical engineering development efforts that supported the Picomotor and tunable laser product lines. After the IPO, Rob managed the development and qualification of several telecom components including 10-Gb/s receivers and modulator drivers. While at FRI, Rob initiated sponsored research in excess of $3 M and managed a team of 30 engineers and production personnel; he has also been a lecturer at UW Madison, and further serves as a founder and president of St Ambrose Academy.

Daniel van der Weide, Ph.D., Vice-President of Engineering, received his Ph.D. degree from Stanford University in 1993, and has founded several companies, including vdW Design, Tera-X and NeuWave Medical, where he is Chairman. While Dan has been Professor of Electrical & Computer Engineering at UW Madison since 1999, he has produced over 12 Ph.D. students, over 70 journal publications and raised and participated in over $15 M of research support. His research focuses on high-speed electronics and optics, and extends to applications in medicine and measurement of nanometer-scale materials.

Advisory Board

Prof. Alan Willner, Ph.D., University of Southern California, received his Ph.D. in Electrical Engineering from Columbia University. He was a Postdoctoral Member of the Technical Staff at AT&T Bell Laboratories (Crawford Hill) and a Member of Technical Staff at Bellcore. He is currently Professor of Electrical Engineering-Systems at the University of Southern California. He is a Fellow of the IEEE and the Optical Society of America (OSA), and he was a Fellow of the Semiconductor Research Corp.

Prof. Joe Campbell, Ph.D., University of Virginia, received his Ph.D. degree in physics from the University of Illinois at Urbana Champaign in 1973. Campbell has co-authored six book chapters, more than 300 journal publications and 200 conference presentations. He is a fellow of the Institute of Electrical and Electronics Engineers (and an IEEE Millennium Medal winner), the Optical Society of America (OSA), and the American Physical Society.

Product Overview

Explosive Growth of Bandwidth

The ability for carriers to smoothly grow data rates without pulling new fiber is the compelling value proposition of complex (amplitude and phase) optical modulation. Carriers such as Verizon and network equipment manufacturers such as Alcatel-Lucent have demonstrated 112 Gb/s transmission in an otherwise-10 Gb/s channel using complex modulation; conventional modulation leaves 90% of the fiber capacity unused!

This architectural transformation of telecommunications is being driven by growing demand for bandwidth by products such as YouTube, data centers, and high-speed infrastructure build-out. Instead of pulling new fiber at over $50k/km, complex modulation techniques with greater spectral efficiency offer an easier, more flexible and lower-cost route to increasing network capacity.

While barriers to deployment of complex modulation in fiber include lack of a single modulation standard, the OIF is establishing dual-polarization quadrature phase shift keying (DP-QPSK) as a promising candidate. This is coherent QPSK (not differential), and it requires an independent phase reference, not one derived from the signal itself.

Although tools for visualizing differential optical modulation have been recently introduced, Optametra's OM4005 and OM4006 Coherent Lightwave Signal Analyzers are the first to measure and display the full optical field of coherent signals. Using intradyne and proven phase-estimation techniques, Optametra's instruments present in-phase and quadrature eye diagrams, constellations, data waveforms, and bit-error rates (BER) for both polarizations of light in fiber, using either the customer's sources or available built-in telecom-grade tunable lasers.

Optametra's mission is to enable customers to characterize, install and monitor complex modulation transceivers on the bench, on the floor, and in the field. Optametra: complex measurements made simple.

Press Release

Optametra, LLC Introduces Coherent Lightwave Signal Analyzers™ for 40/100G Physical Layer Test at OFC/NFOEC 2009

March 19th, 2009

VERONA, Wisconsin—(BUSINESS WIRE)—**Optametra** announces the first available solutions for testing real coherent transmission systems in real time. Optametra's **OM4005 and OM4006 Coherent Lightwave Signal Analyzers**™ enable visualization and measurement of dual-polarized complex-modulated signals in fiber.

Optametra's hardware includes the OM3005 polarization-diverse Coherent Modulation Receiver™ (CMR™), enabling simultaneous measurement of any modulation format, including coherent dual-polarization (DP) QPSK, and subsets, such as differential QPSK. Optametra's software calibrates and processes for real-time burst-mode constellation diagram displays, eye-diagram displays, bit-error detection, polarization (Poincaré sphere), and more. Bit rates to 43 Gb/s (40G DP-QPSK) are supported today, with simple 112 Gb/s (100G DP-QPSK) upgrades available mid-2009.

Optametra will introduce the OM4005 and OM4006 at OFC/NFOEC 2009, San Diego Convention Center, Calif., Booth 2028, March 23-26, 2009.

The ability for carriers to smoothly grow data rates without pulling new fiber is the compelling value proposition of complex and polarization-diverse optical modulation. Carriers and network equipment manufacturers have demonstrated 112 Gb/s transmission in an otherwise-10 Gb/s channel using such modulation; conventional modulation leaves 90% of the fiber capacity unused! This architectural transformation of telecommunications is driven by growing demand for bandwidth by products such as YouTube, data centers, and high-speed infrastructure build-out. Instead of pulling new fiber at over $50k/km, modulation techniques with greater spectral efficiency offer an easier, more flexible and lower-cost route to increasing network capacity. Although other tools for visualizing complex optical modulation have been introduced earlier this month, "Optametra's OM 4005 and OM 4006 Coherent Lightwave Signal Analyzers™ are the first available to measure and display the full optical field of coherent signals," according to Rob Marsland, President of Optametra, "and they are by far the most cost-effective." Using intradyne and proven phase-estimation techniques, Optametra's instruments present in-phase and quadrature eye diagrams, constellations, data waveforms, and bit-error rates (BER) for both polarizations of light in fiber, using either a

customer's standard network sources or available built-in tunable lasers optimized for coherent applications.

U.S. Pricing and Availability

Optametra's OM4005 and OM4006 Coherent Lightwave Signal Analyzers™ may be ordered today, with standard lead-times of 10-12 weeks ARO, depending on configuration and current availability. Pricing starts at $87,900 in the U.S. Optametra's products support all four-channel 40 Gs/s or faster real-time oscilloscopes, including those from Agilent, Tektronix, and LeCroy. Additional information is available at **www.optametra.com**, including high-resolution images and video.

About Optametra

Optametra, LLC is a privately held company dedicated to developing instrumentation that enables customers to develop, manufacture, install, and monitor complex modulation transceivers. Optametra: complex measurements made simple.

To inquire more or review these products, you will receive the quickest response to inquiries by contacting Daniel van der Weide.

Daniel van der Weide

Vice President of Engineering

(877) 768-8880

dan@optametra.com

Optametra wins IT Segment of WI Governors Business Plan Contest

June 9, 2008

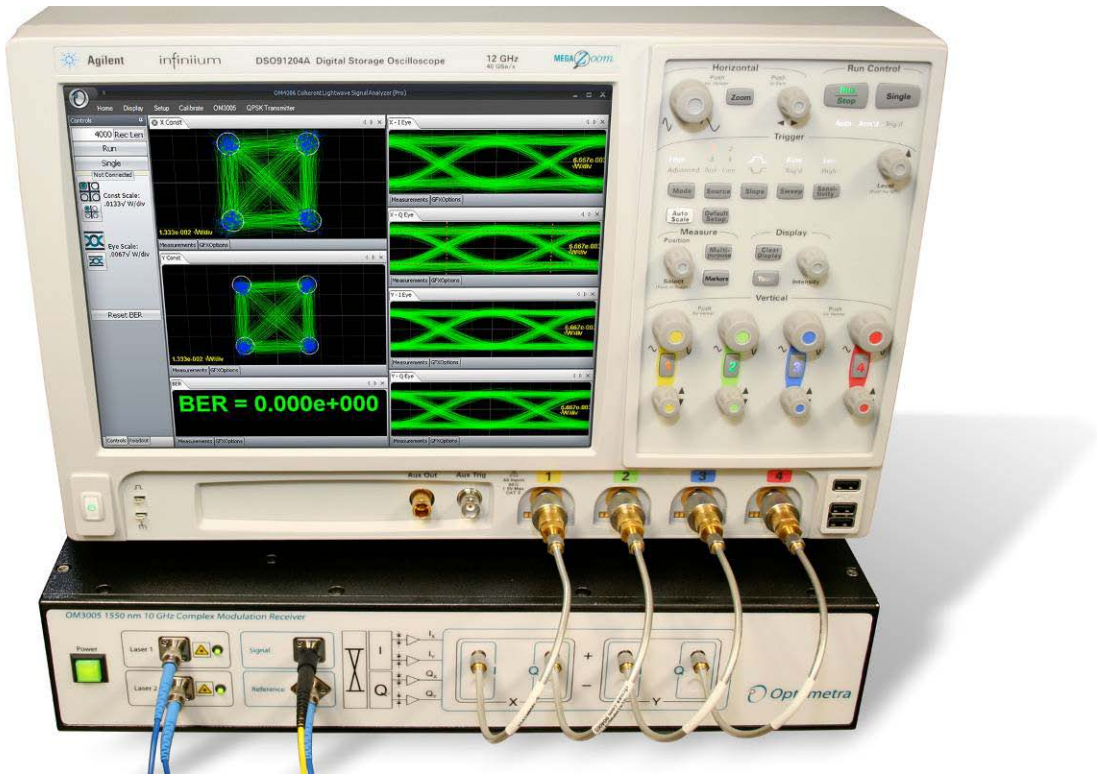
Madison, Wis. — Fifty-four judges took part in a process that progressively narrowed a field of 250 entries to 51 semi-finalists, 23 finalists and four category winners in Advanced Manufacturing, Business Services, Information Technology and Life Science

Product Datasheet

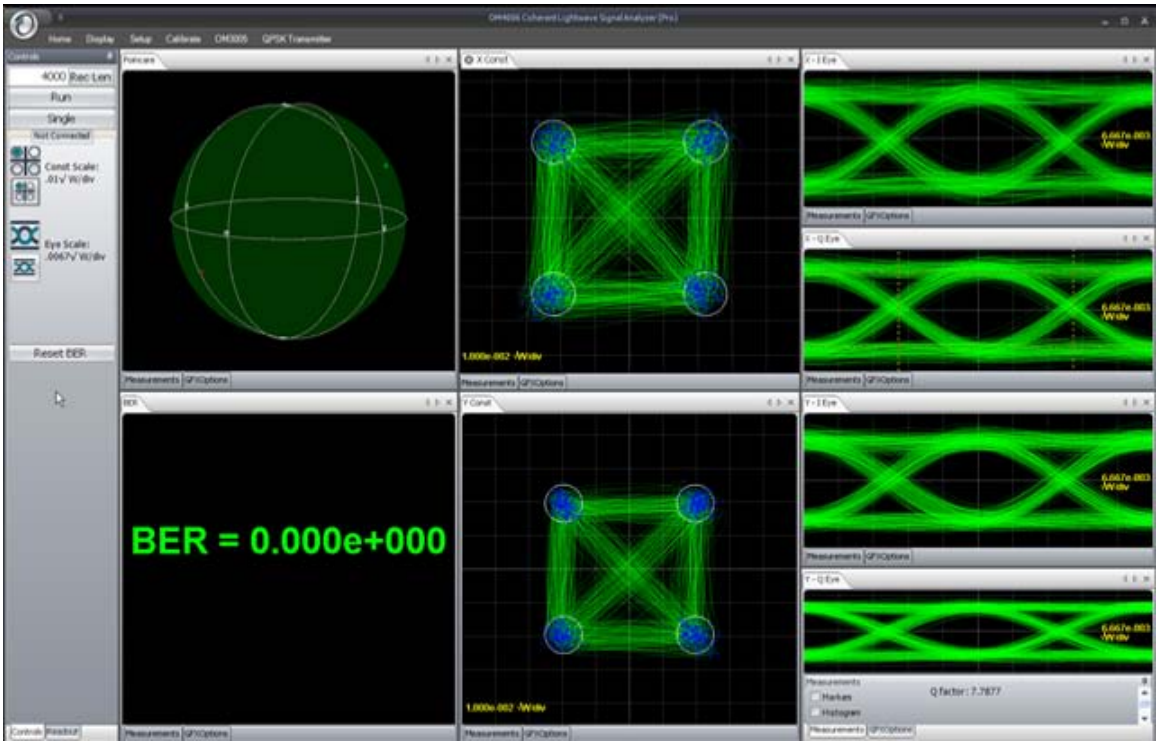
http://optametra.com/2009/documents/Optametra_OM4005_OM4006.pdf

Product Photos

Optametra OM4005 and OM4006



http://optametra.com/2009/images/photos/Optametra_OM4005_OM4006_v1.jpg



Screenshot of OM4005/OM4006 user interface

OM2014 nLaser