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**YOKOGAWA**  
Test & Measurement



*E-Newsletter July 2008, Vol 1.0*

Dear Customer,

## Web Seminar Series

Ask most engineers today what their biggest challenge is and you'll hear "doing more with less". Engineers are constantly being tasked with covering not only their core competencies but also areas that fall outside their core expertise. Yokogawa is pleased to provide a wide variety of educational technical seminars geared to providing engineers with the knowledge they

need in an easy to digest one hour webinar or live seminar. Take a look at Yokogawa.

### In This Issue

[UART, I2C/SPI/SM, CAN/LIN/Flexray](#)

[Electric Motor Testing Seminar](#)

[When 8-bit Scopes Aren't Enough](#)

[Power Measurement & Harmonic Analysis](#)

[In-House Seminars from Yokogawa](#)

[Getting To Know Yokogawa](#)

[Promotion & Deals](#)

[Future Issues](#)

### Quick Links

[All T&M Products](#)

[Waveform Measuring Instruments](#)

[Power Measuring Instruments](#)

[Optical Measuring Instruments](#)

[Upcoming Events & Education](#)

[Contact Yokogawa](#)

[Join Our Mailing List!](#)

**Yokogawa T&M Products**

### UART, I2C/SPI/SM, CAN/LIN/Flexray: Tips and Tricks for Serial bus Protocol Analysis and Physical layer Troubleshooting, using Mixed Signal Oscilloscope (MSO) Technology

Serial data buses have become increasingly common, core components of most electronic designs. As a design or test engineer, you presently need to use a protocol analyzer, logic analyzer, digital oscilloscope, or a combination of all three in order to debug serial bus signals. However, none of these instruments by themselves give you a complete picture of the physical and protocol layers-until now.

Mixed signal oscilloscopes with serial bus analysis capability are ideal for monitoring bus traffic, detecting anomalies, and pinpointing their causes (i.e. too much noise, skew between signals, low signal levels, slow rise times, etc.) Armed with detailed waveform and protocol information captured and analyzed by the oscilloscope, you can easily witness signal behavior on the bus, monitor time correlated interactions, and quickly correct problems.



Digital Oscilloscope DL9240L. With up to 1.5 GHz bandwidth and a 10 GS/s sampling rate. Its History Memory function dramatically increases the performance of the large memory.



Sometimes an Oscilloscope, sometimes a Chart Recorder ! The DL750P is equipped with a fully function scope and chart recorder.

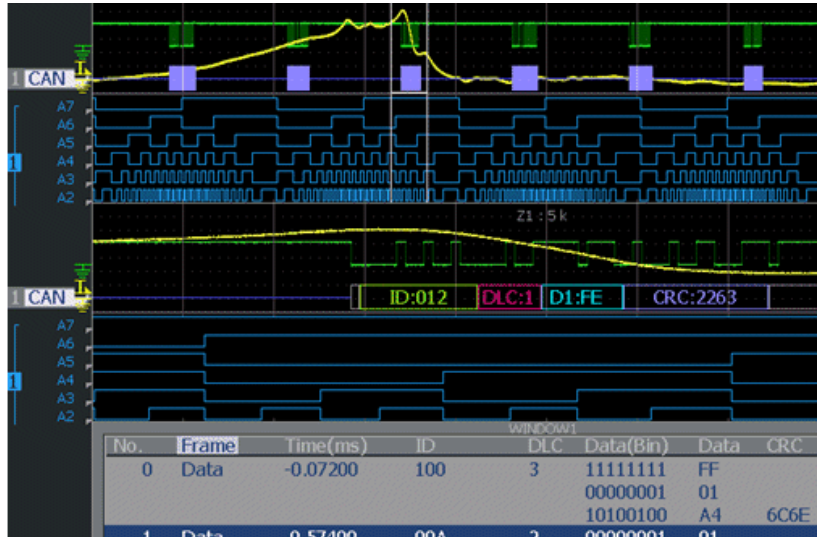


The world's shortest dead zone, with up to four wavelengths and multiple functions. Has a large and bright 8.4" LCD on a lightweight, compact and solid body. Less than 10 sec power-up time.

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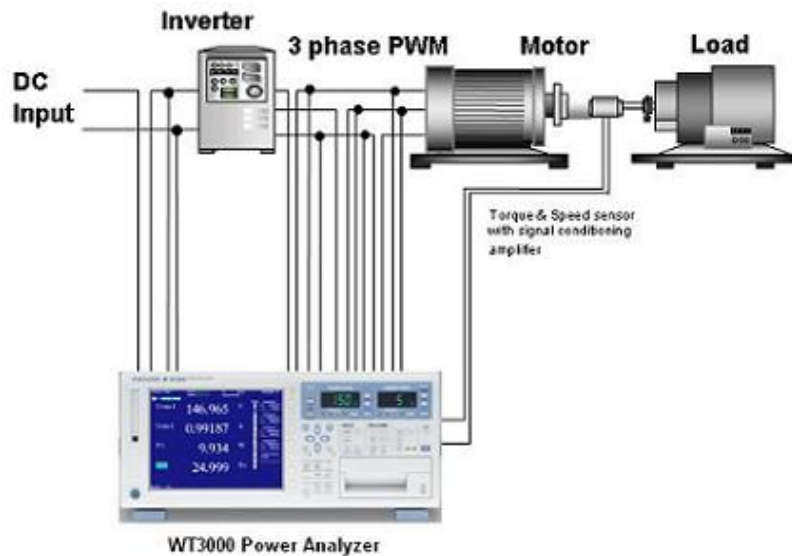


This online seminar will:

- Identify major causes of serial data bus problems.
- Discuss the advantages and disadvantages of using different types of test equipment for testing serial data buses.
- Discuss the use and capabilities of mixed signal oscilloscopes for triggering on specific bus events and analyzing serial bus data.
- Demonstrate examples of serial data bus trigger, search, decode, and analysis

[Please click here to register for July 24, 2008](#)

### Electric Motor Testing Seminar



The one hour seminar will cover making precision electrical power measurements on AC motors and variable speed drives. Topics will include efficiency measurements of the drive, motor and complete system, accurate measurements of the fundamental PWM voltage of a drive, phase voltage measurements without a neutral line, and other testing techniques outlined in IEEE Standard 112B, Test Procedure for Polyphase Induction Motors.

[Please click here to register for July 29, 2008](#)

### **When 8-bit Scopes Aren't Enough: High-Resolution, Isolated, Mixed-Signal Instruments for Electro-Mechanical Measurements**



We all know what a difference the right tool can make. While traditional 8-bit oscilloscopes are the right choice in many situations, they often are not the best choice when making mixed signal, power and/or electro-mechanical measurements. There exists in the market, instruments designed with these applications in mind. Hybrid instruments offer capabilities not found in traditional 8-bit oscilloscopes. These capabilities include: high-resolution (up to 16-bit) and isolated inputs, very long memory for long-term recording and support for a variety of signal inputs (RMS coupling, temperature, strain, frequency-voltage, accelerometers, etc.)

#### **What you will learn in this seminar:**

- Understand differences between oscilloscopes, recorders and hybrid instruments.
- Identify key instrument specifications for electro-mechanical applications.
- Why hybrid instruments are often the best choice.
- Discuss specialized functions designed for electro-mechanical applications.

[Please click here to register for August 12, 2008.](#)

### **Power Measurement & Harmonic Analysis: Applications using latest Digital Power Analyzers**

Power Measurement & Harmonic Analysis Seminar is the second part from the Yokogawa T&M University series on precision AC power measurements. This 1-hour seminar is packed with tips and techniques for making accurate power measurements on distorted waveforms like from a Power Supply, Electronic Ballast and Variable Speed PWM Motor Drive. We will also cover methods for making and analyzing the harmonic content of various power waveforms.

## Who Should Attend

- Design Engineers & Managers involved with AC power measurements on Motors, Power Conversion Devices, Power Supplies & Lighting systems.
- Test Engineers responsible for testing power devices.
- Electric Transportation system engineers and Power Quality engineers involved with product conformance testing will also benefit greatly from this seminar.



[Please Click Here to Register for August 26, 2008.](#)

## In House Probe Seminar

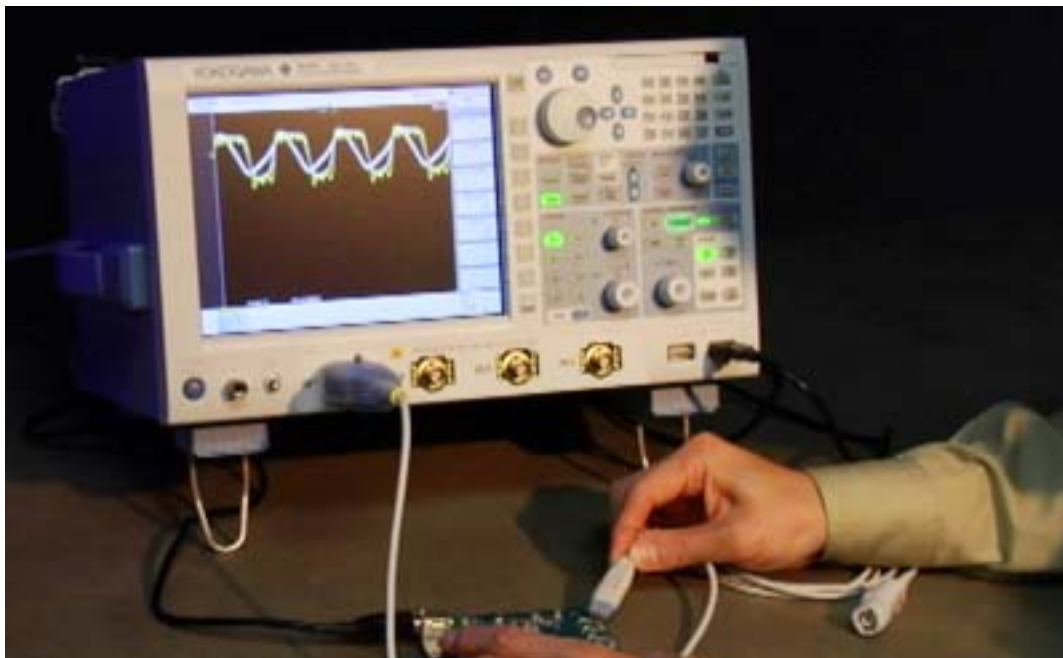
Yokogawa hosted a Lunch & Learn Technical Seminar, June 20 in Newnan, GA. Attended by Scope Engineers, professors from University of West Georgia, internal engineers, and other industry professionals, the Probe seminar included quality programming and practical information.

Featuring Yokogawa's Lead Design Engineer for Probes, Ken Haga, from Yokogawa Japan, the probe seminar was engaging and worthwhile, according to attendees.

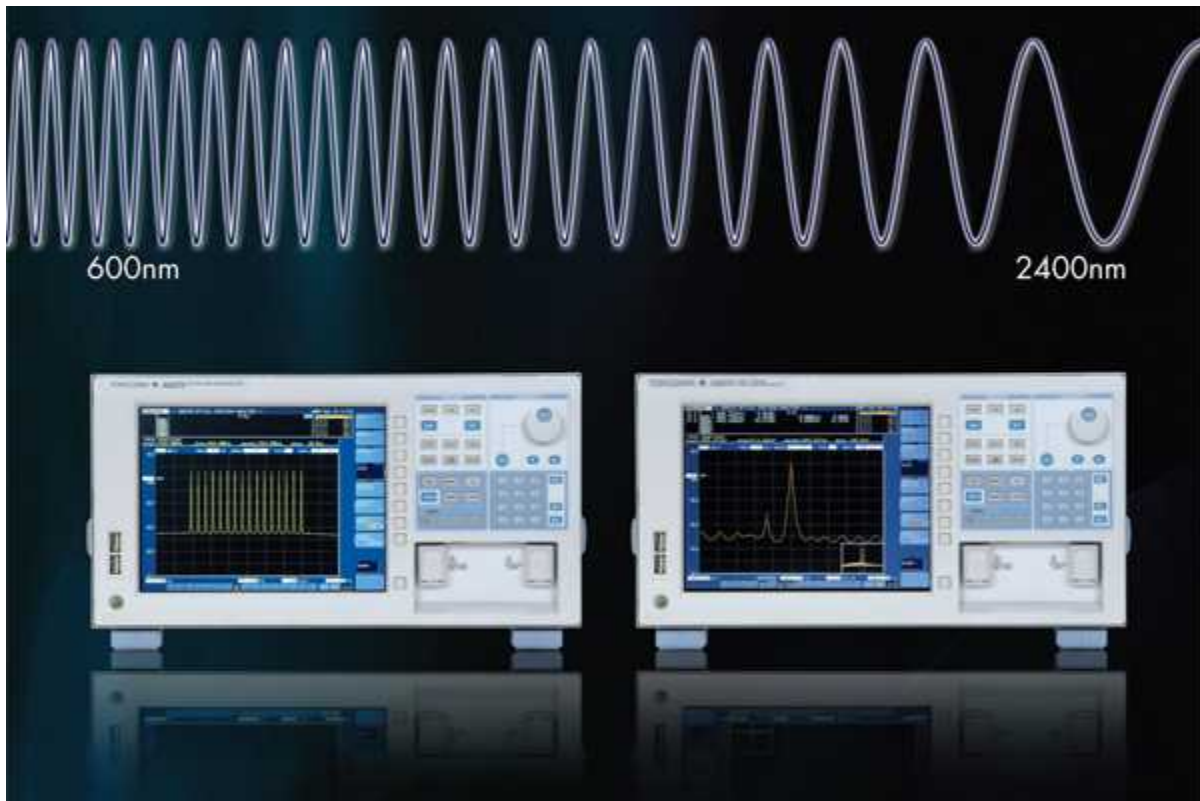


"The presenter was simply great," said Jeff Rainey, Yokogawa's Test and Measurement Product specialist. "He obviously demonstrated deep technical knowledge, but he also had a great delivery that just kept our attention."

Like other Yokogawa seminars that are offered, this Probes seminar was open to all scope engineers and industry professionals, not simply Yokogawa-specific engineers. The information is practical and fresh and useful to anyone who works with probes. "I expected the seminar to be a refresher course from previous seminars," said Larry Wilson, Yokogawa's Senior Manufacturing Engineer. "It turned out to be much more. The presenter highlighted information that was practical and immediately useful to me."



## Long Wavelength Optical Analysis Using Optical Spectrum Analyzers



Expanding on Yokogawa's recent introduction of the world's only long wavelength OSA, this seminar will explain the various markets, applications and test methods utilizing an OSA from a standpoint of those longer than telecommunication wavelengths.

The need for quality Optical Spectrum Analysis isn't restricted to the telecommunications arena. There exist many industrial uses of laser and optics which benefit from using an OSA. This presentation will discuss some of those industrial applications in longer wavelengths above 1700nm.

The common use of an OSA is simply to determine the characteristics of an optical signal. But more advanced analysis and trace functions are available to help researchers, engineers, manufacturers and technicians with more intricate testing and assurance methods. These directly lead to better products and services.

[Please Click Here to Register for September 16, 2008.](#)

**In-House Seminars**

**QUALITY ■ INNOVATION ■ FORESIGHT**

from

**Yokogawa Provide Free Technical Education at Your Company Location**

Let Yokogawa's industry experts coach your engineering team in measurement theory, test techniques, and advances in product technologies. These current technical seminars from Yokogawa can help your staff expedite debug and design validation, and are available as continuing education, informal seminars, or lunch-and-learns. They are available at no cost to you except your time. Minimum attendance required.



#### Seminar Topics:

- Mixed Signal Oscilloscope and Logic Analysis Seminar
- Electric Motor Testing Seminar
- Introduction & Use of the Optical Spectrum Analyzer
- Hybrid Scoperecorder Seminar
- Serial Data Bus Analysis Seminar
- Power Analysis Seminar: Making Precision AC Power Measurement
- Oscilloscope Basics and Key Features of Today's Scopes
- Advances in Mixed Signal Oscilloscope Technologies and Applications
- Oscilloscope Probes and Probing Techniques
- When 8-bit Scopes Aren't Enough: High-Resolution, Isolated, Mixed-Signal Instruments for Electro-Mechanical Measurements
- UART, I2C/SPI/SM, CAN/LIN/Flexray: Tips and Tricks for Serial bus Protocol Analysis and Physical layer Troubleshooting, using Mixed Signal Oscilloscope (MSO) Technology
- Overcoming Noise in Data Acquisition: The Seven Deadly Sources, and How to Improve the Measurement Performance of Any System

[Please e-mail us for details.](#)

#### Getting To Know Yokogawa



YOKOGAWA

Yokogawa was established in 1915 and has grown into nearly a \$4 Billion company over the past 90 years. Yokogawa is a technology leader that annually reinvests nearly 10% of its earnings into R&D and has nearly 6,200 patents to show for it.

[To read more about Yokogawa's approach to the T&M market please read the following Test and Measurement World article.](#)

#### Promotions & Deals



- Buy one of our WT3000, WT1600 or PZ4000 AC Power Analyzers and get 30% off of one of our DL9000 signalXplorer Oscilloscopes. That's a powerful package!
- Trade-in a working AQ6317C Optical Spectrum Analyzer (OSA) and receive up to a \$10,000 credit toward the purchase of our latest OSA, the AQ6370

[For more information, please e-mail us.](#)

# QUALITY ■ INNOVATION ■ FORESIGHT

We hope this newsletter provided you with some valuable information and we look forward to seeing you on-line. Stayed tuned for future issues of **applicationXplorer** and more useful information from Yokogawa. If you received this email in error please use the "SafeUnsubscribe" link below.

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