

## **Oscilloscope firmware designed to simplify, shorten debug cycles**

Tektronix, Inc announced a broad set of oscilloscope firmware and software upgrades designed to simplify and shorten serial bus debug cycles and enhanced support for a number of important serial bus standards including PCI Express, CAN/LIN, FlexRay, MIL-STD-1553B and MOST (Media Oriented System Transport).

Over the past several years, serial buses have increased in diversity and complexity while engineers have less time than ever to focus on solving signal integrity issues. According to the recent EDN “Mind of the Engineer” study, 54 percent of engineers say they are “doing more with less” while 48 percent report increased job functions and responsibilities. Without deep expertise into serial bus standards, engineers often find that verifying performance and compliance can be difficult and frustrating. Tektronix is responding to this trend by building a deep level of intelligence about serial buses into its Performance Oscilloscope Series.

### **Enhanced trigger capabilities**

With signal complexity rising, capturing a unique event on an oscilloscope requires a trigger system with a high degree of flexibility. Visual Trigger allows engineers to create highly customizable shapes using their mouse or touchscreen that closely match the desired waveform of interest. This highly intuitive capability will change the way engineers interact with the trigger system on an oscilloscope. Also, with a new Mark All Trigger Events capability, the Tektronix Performance Trigger system ensures capture and search of all potential complex behaviors in a given acquisition of interest.

### **Customized data analysis for engineers using MATLAB**

Engineers have traditionally turned to Tektronix performance oscilloscopes for fast measurement acquisition and their superior signal fidelity. Often, waveform data is then analyzed in a variety of user-defined ways with processing and analysis tools such as MATLAB. Now, Tektronix is providing the custom analysis interface for use with MATLAB®, giving oscilloscope users unique plotting and filter capabilities for greater depth of analysis.

### **DPOJET - The industry’s foremost analysis and debug engine**

As serial bus speeds continue to increase, crosstalk has emerged as a growing concern. With this latest update, Tektronix oscilloscope users will be better equipped to identify crosstalk in their designs without having to resort to a bit error rate tester. The popular DPOJET jitter and eye diagram analysis tool now incorporates an algorithm for correctly identifying crosstalk induced jitter as bounded uncorrelated jitter (BUJ). This means real-time oscilloscopes can be used for measuring total jitter and can separate crosstalk or ISI from other jitter sources. Also, libraries can be created using Microsoft Visual Studio to customize measurements in DPOJET, for instance.

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DPOJET has also been enhanced with the ability to add customized measurements and now includes support for logic signals acquired using the mixed signal functionality in Tektronix MSO5000 and MSO70000 Series oscilloscopes. This logic channel capability allows up to 16 address and command bus signals to be integrated into the DPOJET debug environment.

### Serial decode/trigger/search

While most serial buses are similar in signaling architecture, there are important nuances that vary from standard to standard. By providing automated test suites, Tektronix eliminates the need for engineers to be experts in every standard. This latest release speeds up serial bus verification for design engineers in two important industries: automotive and high-end computing.

In support of the growing use of electronics in automotive, Tektronix is rolling out robust CAN/LIN support and new capabilities for analyzing FlexRay and MOST buses. These buses are widely used across the automotive industry as well as a number of other segments such as lightweight aircraft and heavy equipment.

With the increase in the number and complexity of high-speed serial buses in the enterprise server industry, Tektronix is now offering PCI Express PHY Layer Decode support for all variations of this popular bus standard. This enhances an already strong level of 8b/10b decode capability while speeding up PCIe design verification and troubleshooting for engineers.

Tektronix

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[1] <http://www.tektronix.com>