

## **Tektronix Unveils 33 GHz Oscilloscope With Industry's Highest Measurement Accuracy**

### **DPO/DSA7000D Series Provides 100 GS/s Sampling Rate on 2 Channels Supporting Today's Fastest Signals for Optical Modulation Analysis and SerDes Validation**

BEAVERTON, Ore., August 1, 2011 – Tektronix, Inc., the world's leading manufacturer of oscilloscopes, today announced four new DPO/DSA7000D Series oscilloscope models with real time sampling rates up to 100 GS/s on two channels and 33 GHz analog bandwidth on four channels. These ground-breaking new products include models for 25 and 33 GHz bandwidths that provide the industry's highest level of measurement accuracy for today's fastest electrical signals across multiple channels.

Incorporating lightning-fast technology using IBM's 8HP silicon germanium (SiGe) chipset, Tektronix engineers have integrated high-speed bipolar transistors directly on the same die as standard CMOS, enabling the new oscilloscopes to deliver the fastest rise time on multiple channels of any real-time oscilloscope on the market. Such high-sensitivity, low noise measurement capabilities are required for accurate characterization of high speed optical, RF and serial data measurements beyond 20 Gb/s data rates.

“By combining the industry's best signal integrity and timing precision in a real time oscilloscope, we are giving our customers the breakthrough test instrumentation they need to complete their most cutting-edge designs accurately and with greater confidence,” said Roy Siegel, general manager, Oscilloscopes, Tektronix. “Further, we are continuing on the path of innovation with leading edge ASIC implementation design using 8HP SiGe technology to deliver outstanding levels of accuracy.”

#### **Multiple Industry Firsts for Performance Oscilloscopes**

The new oscilloscope achieves a number of industry firsts designed to benefit customers working on high performance systems and silicon. Key advancements include the following:

Tektronix continues its industry leading real time sample rate performance of 100GS/s on two channels and 50 GS/s on 4 channels both at 33GHz bandwidth that make the DPO/DSA73304D the fastest, most accurate oscilloscope on the market. This unmatched performance is made possible using Tektronix' new SiGe 33 GHz preamp and track & hold, giving design and validation engineers the clearest system visibility for debug and verification applications.

First to offer 33 GHz bandwidth on 4 channels with 10 terasamples equivalent time sampling to bring unmatched signal visibility to real-time oscilloscopes for both design and manufacturing applications.

Industry-best rise time performance for accurate characterization of sub 20 picosecond rise time signals. This helps customers develop leading-edge silicon with the most accurate oscilloscope in the industry.

Industry best input sensitivity at 62.5mV full scale (6.25mV/div) for better visibility of low amplitude signaling common in LVDS-based standards.

Fastest time to answer with quicker access to data, measurement analysis including 8b/10b serial decode, fast waveform data transfer within the instrument and new custom region-based qualification using Visual Trigger capability.

The popular DPOJET Jitter & Timing Analysis toolset is being updated to support jitter separation of Bounded Uncorrelated Jitter (BUJ). BUJ is an important category of jitter resulting from crosstalk on signals greater than 10 Gb/sec. Separation of BUJ from other random jitter sources can be accomplished in DPOJET for more complete analysis.

With 76 percent of Tektronix customers using third-party software, the new oscilloscopes introduce DataStore, an advanced data processing pathway. With third-party tools like MATLAB® or

Microsoft®.NET languages, users can insert waveform data processing algorithms directly into the scope's application and display system. Users will experience dramatic productivity improvements over a broad range of applications like de-embedding or invoking custom filter functions.

For signal access, Tektronix provides up to 33 GHz bandpass support through its seamless TekConnect™ channel interface, enabling the use of Tektronix 2.92mm adaptors and high-performance probes that feature small probe heads to provide a flexible and reliable connection to the Device Under Test (DUT).

### Support for Leading Edge Design Applications

Today's latest high-performance FPGAs are at the forefront of providing the industry with significantly higher levels of network bandwidth that requires SerDes validation beyond 20 GHz. Companies like Altera are addressing this demand by integrating features like 28-Gbps transceivers into their latest generation of 28-nm FPGAs.

“We have worked closely with Tektronix over the years to accurately test the capabilities of our transceiver technology in order to provide timely support for the latest generation of high-speed serial protocols,” said Bernhard Friebe, senior product marketing manager, high-end FPGAs at Altera. “These new oscilloscopes from Tektronix deliver an impressive combination of performance and accuracy that will enable Altera to continue to provide the highest performance, most power-efficient transceivers in the industry.”

With fiber speeds now at 100 Gb/s and beyond, engineers are trying to accurately verify optical modulation techniques for efficient fiber transport. The DPO/DSA70000D provides the 4-channel accuracy required for PM-QPSK modulation analysis. The 70000D Series works with the Coherent Lightwave Signal Analyzer from Optametra, which was recently acquired by Tektronix, for visualization and measurement of optical PM-QPSK or QAM16 and other complex-modulated signals.

“The new Tektronix 33 GHz oscilloscopes will give designers the ability to understand the effects of advanced modulation techniques on bit error rates, even as speeds continue to increase,” said Rob Marsland, former president of Optametra and now a senior manager in the Oscilloscope product line at Tektronix. “Using these scopes, bit rates exceeding 240 GB/s can now be analyzed for the first time with a high degree of confidence.”

As the oscilloscope leader, Tektronix understands the needs and challenges of the engineering community and continues to deliver new products and solutions to address the needs of the industry. Tektronix is focused on its commitment to innovation and quality which has been the company's competitive advantage and heritage for 65 years.

### Pricing/Availability

Worldwide shipments of the DPO/DSA70000D models will begin in Q4 2011. The four available models include DPO73304D and DSA73304D at 33 GHz bandwidth and DPO72504D and DSA72504D at 25 GHz bandwidth. Pricing starts at \$202,000 U.S. MSRP.

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### ABOUT TEKTRONIX

For more than sixty years, engineers have turned to Tektronix for test, measurement and monitoring solutions to solve design challenges, improve productivity and dramatically reduce time to market. Tektronix is a leading supplier of test instrumentation for engineers focused on electronic design, manufacturing, and advanced technology development. Headquartered in Beaverton, Oregon, Tektronix serves customers

worldwide and offers award-winning service and support. Stay on the leading edge at [www.tektronix.com](http://www.tektronix.com) .

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