

New Tektronix Oscilloscope Series Provides Industry-Leading Capabilities for High-Speed Design and Analysis

DPO70000 and DSA70000 Leverage the Uncompromised Real-Time Performance Platform

PRNewswire-FirstCall
BEAVERTON, Ore.

Tektronix, Inc. , a leading worldwide provider of test, measurement and monitoring instrumentation, announced the introduction of the new DPO70000 Digital Phosphor Oscilloscope (DPO) and DSA70000 Digital Serial Analyzer (DSA) products extending the uncompromised Real-Time DPO performance platform recently introduced with the DPO7000. Included with the new series is key high-end functionality found previously only on the TDS6000C, the world's fastest multi-channel real-time oscilloscope. These new 4 GHz, 6 GHz, and 8 GHz instruments provide industry-best hardware and software for data acquisition, debug, validation, and compliance testing to provide engineers with an ideal test platform for their high-speed designs.

The DPO70000 series provides broad capabilities and performance for engineers who need to efficiently and confidently debug and verify high-speed digital designs in a wide range of industries and applications including high-performance computers, servers, and consumer electronics. The DSA70000 series is optimized for the serial data designer, providing an ideal test platform for high-speed standards including PCI-Express, XAUI, FB-DIMM, and Serial ATA.

The electronics industry increasingly depends upon industry standards for communications systems and computer buses. Design engineers working with high-speed serial and high-speed digital applications such as ASICs, SerDes, memory, motherboards, add-in cards, and peripherals in the computer, communications and consumer industries need the ability to validate signal integrity and view multiple channels simultaneously with matched channel response, to rapidly discover and capture intermittent faults or events in complex, often multi-lane signal structures. Troubleshooting serial data faults often requires detecting serial data protocol errors and tracing them to the underlying electrical phenomenon, requiring the ability to capture, view and analyze signal behaviors and their effects in both the physical and data link layers.

"Designers need to work with a growing number of serial standards, greater complexity, and with critical signal integrity challenges," said Colin Shepard, Vice President, Performance Oscilloscopes, Tektronix. "Along with the outstanding features and performance of the DSA70000 hardware, the new analyzers provide extremely accurate timing and jitter measurements, high-speed serial triggering and protocol decode, and compliance testing for serial data standards. The DSA70000 marries the most comprehensive serial data debug and analysis functionality with the industry's most advanced oscilloscope hardware platform."

"High-speed serial data standards like PCI-Express that were once characterized as emerging technology are now becoming widely deployed," said Mark Marlett, Principal Design Engineer, LSI Logic. "The new Tektronix DSA70000 Digital Serial Analyzers provide an ideal performance engine for engineers who need to debug and characterize operation of these high-speed serial data buses."

Industry-Leading Real-Time Performance

The DPO70000 and DSA70000 are based upon a new generation hardware platform that eliminates the trade-offs found in other high-performance oscilloscopes among sample rate, record length and waveform capture rate. The new 4 GHz DPO70404, 6 GHz DPO70604, and 8 GHz DPO70804 provide the bandwidth and performance to meet the needs for a broad range of high-speed digital design applications. The 4 GHz

DSA70404, 6 GHz DSA70604, and 8 GHz DSA70804 models are ideal for the first generation of high-speed multi-lane and multi-layer serial bus applications. For example, the 8 GHz DSA70804 model captures the fifth harmonic of the highest frequency clock for these first generation high-speed serial standards, especially useful for compliance testing of buses up to 3.125 Gb/s such as PCI-Express, SATA, and XAUI.

With a sample rate of 25 GS/s on all four channels simultaneously, the new models provide the fastest 4-channel sample rate performance of any oscilloscope available. User-selectable DSP for channel-to-channel and scope-to-scope matching ensures consistent results for multi-lane measurements. The DPO70804 and DSA70804 have a rise time to 35 ps (typical) and will provide a jitter noise floor down to 400 fs (rms) (typical) for critical jitter measurements, the lowest in the industry at comparable bandwidth. Each DPO70000 model includes 10M memory standard per channel while the DSA70000 provides 20M standard per channel. Both support configurations up to 100M memory per channel that enables the capture and analysis of high-speed data on multiple channels at long time windows and with the best timing resolution. This equates to the longest available time window of 4 ms at full real-time sample rate and 40 ps single-shot sample interval, ensuring the best resolution at full performance. All models include a 12.1 inch XGA display enabling engineers to see more information at once.

All of the new models provide fast waveform capture at all sample rates through 4th generation DPX® signal imaging that can acquire more than 250,000 waveforms per second. This allows designers to capture, view, and measure dynamic signal information in real time much more quickly, easily, and accurately than other oscilloscopes or serial analyzers in this class. With variable color-graded persistence that holds anomalies until the eye can see them, the new models will enhance customer productivity by quickly capturing elusive anomalies and transient events, improving accuracy and accelerating design debug. The new models also include the award-winning MyScope™ user interface that greatly simplifies ease of use. MyScope functionality enables users to quickly and easily customize the oscilloscope to meet their unique requirements.

DSA70000 Provides Complete Toolset for High-Speed Serial Applications

Engineers implementing high-speed serial data buses and interfaces are faced with debugging and validating designs for compliance with physical and data layer specifications. With the DSA70000, Tektronix provides as standard the performance and functionality most needed by these engineers including the best multi-layer analysis tools for the debug and validation of single and multi-lane high-speed serial signals.

The DSA70000 series instruments include leading Serial Compliance, Jitter and Timing Analysis tools that provide patented software clock recovery, RT-Eye® Serial Compliance and Analysis Software, and a full battery of standard specific parametric measurements in the amplitude, timing, and jitter domain, including Total Jitter at 10(-12) BER using patented industry accepted methods. Options can be added for additional domain expertise that provide specific Pass/Fail waveform mask and measurement limit testing in conformance with industry hosted "plug-fests" and workshops. Software options exist for PCI-Express, FB-DIMM, SATA, SAS, HDMI, and more. The analysis software provides jitter measurements for most key timing parameters required by high-speed serial data standards, and the highest accuracy and lowest jitter noise measurements available in any comparable bandwidth real time oscilloscope.

All models include the unique Pinpoint® trigger system, the world's only complete A/B triggering system to rapidly discover and capture intermittent faults or events in complex signal structures. In addition to more than 1400 possible trigger combinations provided with Pinpoint triggering, the DSA70000 models provide built-in serial pattern triggering up to 3.125 Gb/s, and 8b/10b protocol triggering and decoding with which designers can trigger on four consecutive 10b symbols or defined errors. This means that incoming data can be triggered on in real-time without post processing, enabling designers to actually trigger on a fault rather than just hoping to find it through repeated searches.

"The new real-time DSA70000 models bring together high-end serial data analysis and a state-of-the-art, high-performance, extensible hardware platform," said Kiran Unni, Program Industry Manager, Test & Measurement group with Frost & Sullivan. "With more serial data capabilities than any other available performance oscilloscope, the new DSA70000 provides excellent capabilities for first generation high-speed serial standard applications. Engineers working with serial standards will find the DSA70000 a great match for their needs."

Pricing

U.S. list prices for the 4 GHz DPO70404 begin at \$44,000. DSA70000 Digital Serial Analyzer models begin at \$49,500.

About Tektronix

Tektronix, Inc. is a test, measurement, and monitoring company providing measurement solutions to the communications, computer, and semiconductor industries worldwide. With 60 years of experience, Tektronix enables its customers to design, build, deploy, and manage next-generation global communications networks and advanced technologies. Headquartered in Beaverton, Oregon, Tektronix has operations in 19 countries worldwide. Tektronix' Web address is www.tektronix.com.

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