

## **Research Study Finds Tektronix MSO4000 Oscilloscope 53 Percent Faster for Design Debug**

**Based on Hands-on Sessions with Three Oscilloscope Brands, Researchers Also See Strong Preference for Tektronix User Experience**

BEAVERTON, Ore., April 26, 2010 - Tektronix, Inc., the world's leading manufacturer of oscilloscopes, today announced results from the Time and Motion Study by research firm Hansa|GCR titled, "Finding Runts and Glitches in Digital Signals: An Examination of User Experience with Three Oscilloscopes," that was conducted in December 2009. The study concluded that the Tektronix MSO4000 Mixed Signal Oscilloscope was preferred by over two-thirds of the participants and was 53 percent faster in finding runts and glitches when debugging a design.

Timing errors and physical layer issues plague every new digital design, causing engineers to lose countless hours trying to find and troubleshoot these problems. The Time and Motion Study examined user experiences when performing common test tasks involved in debugging these issues, such as finding and analyzing runts and glitches, using three comparable oscilloscopes from Tektronix, Agilent, and LeCroy in the \$20,000 price range.

"For this study we conducted in-person interviews with 47 experienced oscilloscope users, asked them to complete the same debug task from start to finish and to describe their experience," said Andrea Eaker, Senior Research Consultant, Hansa|GCR. "This directional research indicated that users were able to find runts and glitches in a signal twice as fast with the Tektronix oscilloscope compared to the Agilent and LeCroy scopes. Users also found the automated search feature and available triggers particularly useful in completing these tasks, and Tektronix received the highest satisfaction ratings overall."

The expert oscilloscope user participants were asked to perform three tasks on each scope:

- 1) Set-up the oscilloscope to monitor for glitches and runts
- 2) Set up a trigger and capture a runt
- 3) Search the waveform to locate all runt instances

As the research study indicates, all participants were given a two minute time limit to complete each task. The Tektronix oscilloscope was the only instrument that participants were able to complete all the three tasks well under the two minute time limit. Participants did not experience similar success with the other two instruments. With both the LeCroy and Agilent oscilloscopes, several of the experienced participants failed to complete 2 out of the 3 test tasks within the allotted time.

Time to complete each task: Averages given in seconds

Task 1	Task 2	Task 3	TOTAL
Agilent 10	120*	110*	242
LeCroy 106*	100*	69	275
Tektronix 16	61	35	112

\*Averages include 120 seconds for individuals unable to complete the task

"The Hansa|GCR research study confirms what oscilloscope users have known for over 60 years. Tektronix

scopes offer a comprehensive set of easy to understand and operate tools for every stage of debug,” said Roy Siegel, General Manager, Mid-range Oscilloscopes, Tektronix. “Our oscilloscopes enable engineers to discover and capture problems in their design, then search and analyze those problems to find root cause – fast. This in turn leads to greater productivity and faster time to market.”

### Access to Research Study & Video Clips

To download the Time and Motion oscilloscope user study and see video clips of the tests in action go to, [www.tek.com/seeresults](http://www.tek.com/seeresults).

### About the MSO4000 Mixed Signal Oscilloscope

The MSO 4000 Mixed Signal Oscilloscope Series consists of six models ranging from 350 MHz to 1 GHz. With four analog channels and 16 digital channels, the MSO 4000 provides 20 time-correlated channels to visualize analog, digital and serial signals with a single instrument to quickly find and diagnose problems. All models have 10M points of record length on each channel, enabling you to capture long windows of signal activity while maintaining fine timing resolution. The MSO 4000 includes Digital Phosphor technology for fast visualization of signal anomalies, over 125 trigger combinations to capture critical signal activity, Wave Inspector® controls for automated search of an event you specify, and automated serial bus, power and video analysis capability. More information about the MSO 4000 can be viewed at: <http://www.tektronix.com/mso4000>

### About the Hansa|GCR Research Study

Hansa| GCR conducted 47 in-person interviews with experienced oscilloscope users. Scope users were recruited from publication lists, and from panelists who had been pre-qualified as experienced scope users. Interviews were conducted in Austin , Texas and Boston , Massachusetts . Research participants included users of all three oscilloscope brands.

The three scopes selected for testing were all from the \$19,000 to \$21,000 price range and included:

Agilent MSO 7000 Series

LeCroy WaveRunner Xi Series

Tektronix MSO 4000 Series

During the interview, participants met with a researcher and completed the same series of tasks on three different brands of oscilloscopes. Each participant completed tasks on all three scopes and the order in which the scopes were tested was rotated to prevent order bias. After completing tasks on each scope, participants described their initial reaction to the scopes.

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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).