CAN Newsletter Online

MIXED-SIGNAL OSCILLOSCOPE

Delivering 25 billion samples per second

The 8-GHz 6 series MSO by Tektronix (USA) comes with CAN FD decode and trigger option. It samples simultaneously on its four channels.

The mid-range MSO boots measurement confidence with its low-noise inputs (Photo: Tektronix)

The MSO (mixed-signal oscilloscope) is intended for embedded system designers. The four channels can be used to measure one clock and three data channels. Optionally, it supports decoding and triggering of different communication networks including Classical CAN and CAN FD as well as Mil-Std-1553, Arinc 429, and Sent. Additional support is available for automotive Ethernet and USB.

Based on the same platform as the popular 5 series, the 6 series provides upgradeability for long-term investment protection. Introduced last year to numerous awards from across the industry, the 5 series was the result of a clean sheet design. It features a host of innovations that carry over to the successor products including an intuitive user interface, a capacitive pinch-zoom-swipe 15,6-inch touchscreen, Flexchannel inputs, and a 12-bit A/D converter that can deliver up to 16 bit of vertical resolution. The MSO features optionally the Windows 10 operating system.

"The trend toward higher performance in embedded systems is now in full swing with no end in sight," said Chris Witt from Tektronix. "Our customers developing these systems need more bandwidth and lower-noise inputs, but they also still want the usability, convenient probing and compact packaging of midrange scopes. With the 6 Series MSO we're delivering a compelling combination of class-leading performance and usability that will boost productivity and shorten time to market."

To meet the need for more insight on faster signals, the 6 Series MSO incorporates a new low-noise preamplifier ASIC, the TEK061, that lowers noise, especially on signals that are in the hundreds of millivolt peak-to-peak. With its sample rate on four channels, the instrument delivers 16-bit resolution at 200 MHz. This means that not only can designers see the interfering signals on their power rail, but they can also measure them with a level of accuracy.

Like the predecessor MSO, the introduced oscilloscope comes with a built-in arbitrary/function generator, a free DVM and trigger frequency counter with product registration, and offers a choice of operating system. The TLP058 logic probe turns any of the instrument's four Flexchannel inputs into eight digital inputs. The instrument also has upgradeable bandwidth, starting at 1 GHz and extending up to 8 GHz with a simple license upgrade.

An power analysis option is available, too. Tektronix has also released the Visual Trigger capability and the option for SPMI serial trigger. This option decodes the MIPI power management bus.

For easier connection to fast signals, Tektronix has launched a series of higher performance probes. The TDP7700 is a series of TriMode™ probes with bandwidths of 4 GHz, 6 GHz, or 8 GHz. These probes enable engineers to make the single-ended, differential, and common-mode signal measurements required for high-speed bus analysis, without moving or changing probes. These probes use the Tekflex connector, which places active buffers at the probe tip for the best signal fidelity while limiting mechanical stress on tiny test points and supports a variety of connectivity methods to the device under test including solder-in tips, direct connection and handheld browsing. The TAP4000 and TDP4000 probes extend the range of active, single-ended and differential probes, respectively, and support up to 4 GHz bandwidth.

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