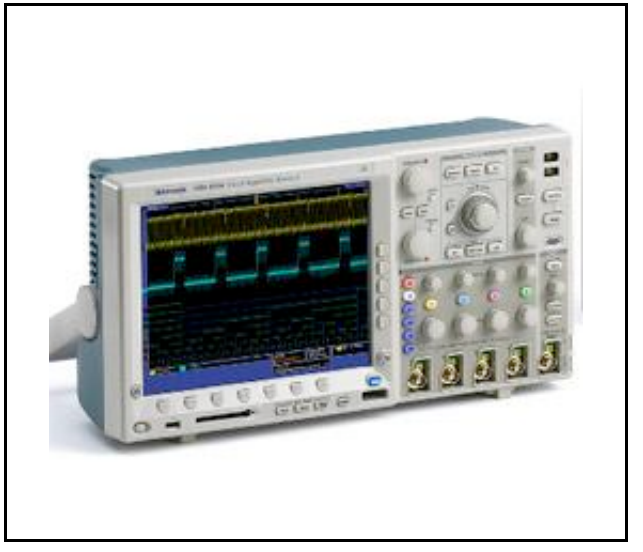
Tektronix - USB 2.0 bus analysis solutions for embedded design engineers

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A new module for triggering and analysis on USB serial buses, an industry first for bench oscilloscopes, has been announced by Tektronix.

The DPO4USB module addresses a key challenge facing today's embedded design engineer – the explosion of USB buses both for system-to-system and chip-to-chip communications. The new module complements the MSO/DPO4000 Series oscilloscopes and automates key measurement and analysis tasks on USB 2.0 low-speed, full-speed and high-speed buses, enabling engineers to more quickly troubleshoot and debug their designs for a faster time to market.

The DPO4USB module addresses the needs of designers integrating USB 2.0 buses into products ranging from toys to medical equipment and industrial systems to digital cameras and video recorders. Designers need tools that can help them decode and debug these buses efficiently. The DPO4USB module instantly decodes the protocol, presenting the acquired waveforms and decoded data packets time-aligned on the oscilloscope display, and provides the ability to automatically trigger on and then search for specific packet level content.

"Today's engineer is facing a changing design landscape," said Roy Siegel, general manager, mid-range oscilloscope product line, Tektronix. "USB 2.0 communication buses that were once found only in computer applications are now found in a wide variety of embedded applications. Designers want solutions that simplify complex measurements and debug tasks, allowing them to focus their efforts on innovation and problem-solving,". "We are committed to providing the bench instruments required by embedded designers to speed and simplify debug of their complex designs. We are proud to offer this new capability on our lower cost bench oscilloscopes which will help more engineers across multiple industries achieve faster time to market."

The versatile oscilloscopes in the MSO/DPO4000 Series have earned a reputation as productivity leaders due to novel features like Digital Phosphor Technology for discovering glitches and infrequent events, over 125 trigger combinations including setup and hold violations, and the Wave Inspector search / navigation toolset as well as the integrated protocol-specific analysis modules and more. The new DPO4USB module adds to this feature set and transforms the host oscilloscope into a powerful acquisition, display, and analysis solution for validating and troubleshooting USB 2.0 buses.

The DPO4USB serial triggering and analysis module, like other Tektronix serial bus application modules, is a debug tool that delivers unsurpassed insight into serial bus behaviour. For USB 2.0 low-speed and full-speed data rates, it triggers on user-defined packet content and then displays the results as time-correlated waveforms and data packets. For all USB 2.0 data speeds including high-speed, the module enables the oscilloscope to automatically decode packet streams, showing critical information like SYNC, handshake packets, token packets, data packets and more. Using the oscilloscope's standard Wave Inspector tools, designers can search packet-level content and mark points of interest, and then navigate among these with the Next and Previous keys and the Pan / Zoom controls, says the company.