PicoScope PC-based oscilloscopes

PicoScope PC-based oscilloscopes are used to debug and accelerate development of CAN-based automotive ECUs and embedded systems. Clear, high-resolution display of waveforms and measurement data enables engineers to see what is happening in their designs to pinpoint timing errors and other signal integrity issues. Analysis tools include serial protocol decoders, math channels and automated measurements that help to validate the operation and performance of an ECU design over its specified operating range.

Hardware

The range of PicoScope models is designed to address the needs of design and test engineers with bandwidths from 70 MHz to 1 GHz, sampling speeds from 1 to 5 GS/s and deep capture memories from 128 MS to 4 GS. 2, 4 or 8 analog channels plus optionally 16 digital channels on MSO models enable multiple signals to be viewed in complex designs. Models with 8- to 12-bit resolution and innovative FlexRes® technology ensure that signals are captured with the integrity and dynamic range to identify the smallest signal details.

Six in one instrument functionality

PicoScope instruments, coupled with the latest PicoScope 7 user interface for Windows, Linux or macOS platforms offer the capabilities of six conventional instruments as standard:

- Oscilloscope
- Logic Analyzer (on MSO models)
- Spectrum Analyzer
- Protocol Decoder / Analyzer
- Function Generator
- Arbitrary Waveform Generator

PicoScopes are portable laboratory-grade instruments that integrate the user's own PC for instrument control, waveform display, measurement and analysis of the device under test. Each new generation of PC technology with higher performance processors and improved displays bring with them successive improvements to the PicoScope user experience. Furthermore, regular free of charge updates to PicoScope 7 software means that PicoScope capabilities evolve to address new test and measurement challenges as they emerge, thereby future-proofing the initial PicoScope purchase. The latest version of PicoScope 7 is available here: https://oem.picotech.com/p7beta/download

30 serial protocol decoders are included as standard, including CAN, CAN FD and CAN J1930, with more protocols in development. Multiple decoders, with the same or different protocols, can be set up in parallel to observe communication traffic at different points in a system.

Packet data can be displayed in-graph as a bus format, aligned with the captured waveforms on a common time axis. Data errors can be easily correlated with the acquired waveforms to investigate timing errors or other signal integrity issues.

In-table format shows a list of the decoded frames, including the data and all flags and identifiers. Filtering conditions can be set to display only specific frames of interest, search for frames with specified properties, or define a start pattern to signal when the program should list the data. A link file can be used to cross reference hexadecimal field values into human readable form. So, for example, instead of displaying \"Address: 7E\" in the Table view, the corresponding text "Set Motor Speed" will be shown instead.

To find out more visit the Pico Technology website: https://www.picotech.com/products/oscilloscope

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Features

PicoScope 3000D Series: 70 - 200 MHz bandwidth, 2 / 4 channels, 8-bit hardware resolution, 16 digital channels on MSO models, up to 512 MS capture memory
PicoScope 4000A Series: 20 MHz bandwidth, 2 / 4 / 8 channels, 12-bit hardware resolution, up to 256 MS capture memory. Also available 4225A & 4425A Automotive diagnostic oscilloscopes & kits
PicoScope 5000D Series: 60 - 200 MHz bandwidth, 2 / 4 channels, FlexRes 8 to 16-bit hardware resolution, 16 digital channels on MSO models, up to 512 MS capture memory
PicoScope 6000E Series: 300 MHz - 1 GHz bandwidth, 2 / 4 / 8 channels, 8-bit & FlexRes 8 to 12-bit hardware resolution, 16 digital channels with optional MSO pods, up to 4 GS capture memory