

OSCILLOSCOPE

20 variable channels

Pico's Picoscope 3000D Series PC oscilloscopes offer two or four analog channels and a built-in function/arbitrary waveform generator, plus an additional 16 digital channels on the MSO models.

THE HIGH-RESOLUTION DISPLAY OPTIONS enable the user to view and analyze each signal in fine detail.

The oscilloscopes fit into a laptop bag (Photo: Pico)

Operating together with the Picoscope 6 software, these devices offer a solution for many applications, including embedded systems design, research, test, education, service, and repair. All Picoscopes can decode I²C, EIA-232/UART, SPI, I²S, USB, Flexray, LIN, and CAN data.

The MSO (Mixed-Signal Oscilloscope) models include 16 digital inputs alongside the standard two or four analog channels, enabling the user to view digital and analog signals simultaneously. The MSO models can decode serial data on all analog and digital inputs simultaneously, giving the user up to 20 channels of data with any combination of serial protocols. For example, the model can decode multiple SPI, I²C, CAN, LIN, and Flexray signals at the same time.

Features such as resolution enhancement, mask limit testing, serial decoding, advanced triggering, a spectrum analyzer, math channels, XY mode, segmented memory, a function generator, and an arbitrary waveform generator are all included. Both the PC software and the firmware inside the scope can be updated.

Serial-bus-decoding-and-protocol-analysis-with-the-Picoscope-3000 (Photo: Pico)

With input bandwidths up to 200 MHz, the series can measure a range of signal types, from DC and baseband to RF and VHF. A real-time sampling rate of 1 GS/s allows detailed display of high frequencies. For repetitive signals, the maximum effective sampling rate can be boosted to 10 GS/s using Equivalent Time Sampling (ETS) mode. With a sampling rate of at least five times the input bandwidth, the oscilloscopes are equipped to capture high-frequency signal detail. The oscilloscopes offer a huge buffer memory, allowing them to sustain high sampling rates across long timebases. For example, using the 512 MS buffer the Picoscope 3206 and 3406 models can sample at 1 GS/s all the way down to 50 ms/div (500 ms total capture time).

The oscilloscopes feature a USB 3.0 connection, enabling faster saving of waveforms and faster gap-free continuous streaming of up to 125 MS/s when using the SDK. The scope is still backward-compatible with older USB systems.