PicoScope® 4262

HIGH-RESOLUTION USB OSCILLOSCOPE

A Digital Oscilloscope for the Analog World

pico
Technology
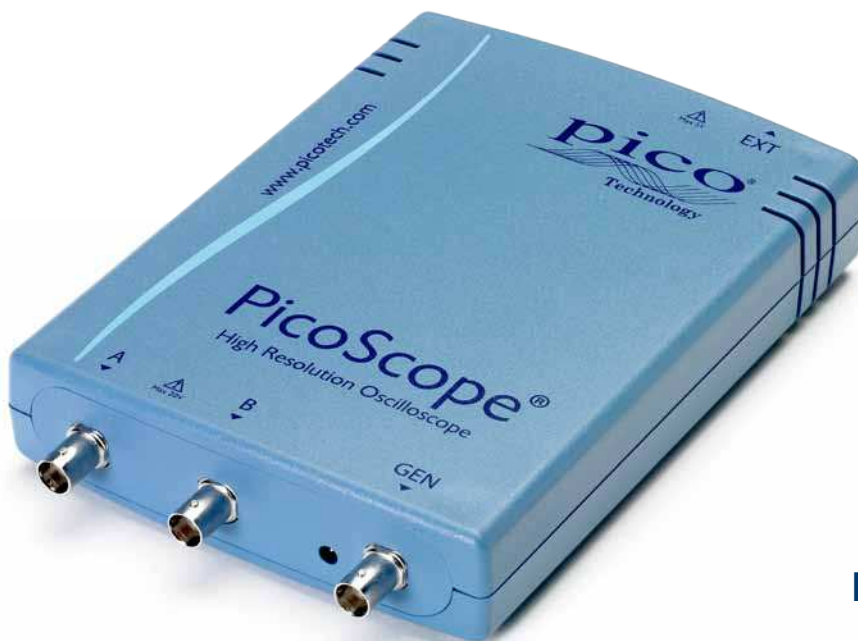
Low noise
Two channels
16 MS buffer
16-bit resolution
10 MS/s sampling
5 MHz bandwidth
Advanced digital triggers
Low-distortion signal generator
Arbitrary waveform generator
USB powered

16 bit

Supplied with a full SDK including example programs • Software compatible with Windows XP, Windows Vista and Windows 7 • Free Technical Support

...from a name you can trust

PicoScope 4262 Oscilloscope

Low distortion, low noise

The PicoScope 4262 from Pico Technology is a 2-channel, 16-bit high-resolution oscilloscope with a built-in low-distortion signal generator. With its 5 MHz bandwidth, it can easily analyze audio, ultrasonic and vibration signals, characterize noise in switched mode power supplies, measure distortion, and perform a wide range of precision measurement tasks.
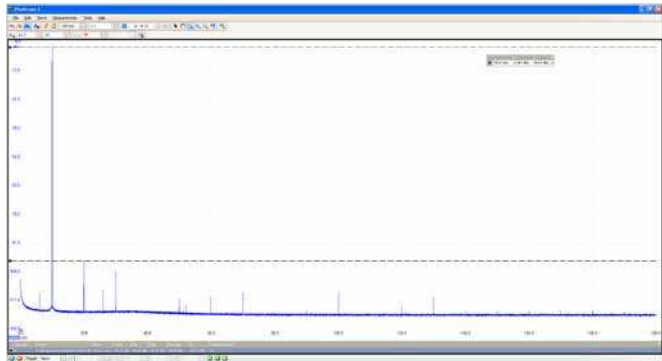
Full-featured oscilloscope

The PicoScope 4262 is a full-featured oscilloscope, with a function generator and arbitrary waveform generator that includes a sweep function to enable frequency response analysis. It also offers mask limit testing, math and reference channels, advanced digital triggering, serial decoding, automatic measurements and color persistence display.

Designed for the analog world

When used in spectrum analyzer mode, the scope provides a menu of eleven automatic frequency-domain measurements such as IMD, THD, SFDR and SNR. Its performance is so good that it rivals many dedicated audio analyzers and dynamic signal analyzers costing several times the price.

Most digital oscilloscopes have been designed for viewing fast digital signals. The trend has been to use new technology solely to increase sampling rate and bandwidth. With the PicoScope 4262 we have focused on what's important for measuring analogue signals: increasing the resolution, improving dynamic range, and reducing noise and distortion.

Advanced triggers

As well as the standard range of triggers found on all oscilloscopes, the PicoScope 4262 offers a comprehensive set of advanced digital triggers including pulse width, windowed and dropout triggers to help you capture the data you need.
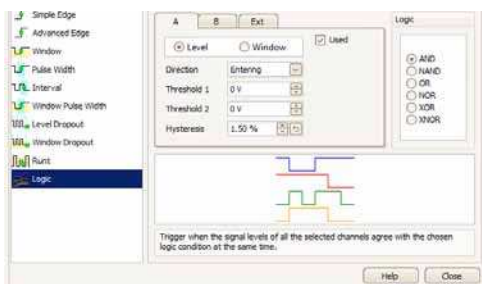

Digital triggering

Digital triggering reduces trigger errors and allows our oscilloscopes to trigger on the smallest signals, even at the full bandwidth. Trigger levels and hysteresis can be set with great precision and resolution.

Digital triggering also reduces re-arm delay and this combined with the segmented memory allows the triggering and capture of events that happen in rapid sequence. At the fastest timebase you can use rapid triggering to capture a new waveform every microsecond. The mask limit testing function can then scan through these waveforms to highlight any failed waveforms for viewing in the waveform buffer.

Arbitrary waveform and function generator

The unit has a built-in signal generator (sine, square, triangle, DC level). As well as basic controls to set level, offset and frequency, more advanced controls allow you to sweep over a range of frequencies. Combined with the spectrum peak hold option, this makes a powerful tool for testing amplifier and filter responses.

Also included is a fully programmable arbitrary waveform generator with a 4 k-sample buffer.
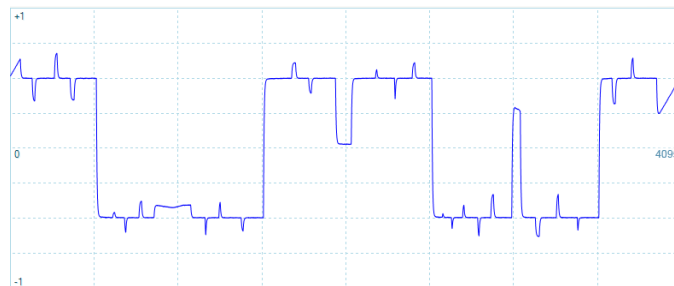
High-end features as standard

To protect your investment, both the API and the firmware inside the unit can be updated. We have a long history of providing new features for free via software downloads. Other companies make vague promises about future enhancements but we deliver on our promises year after year. Users of our products reward us by becoming lifelong customers, frequently recommending us to their colleagues.

High signal integrity

Most oscilloscopes are built down to a price; ours are built up to a specification.

Careful front-end design and shielding reduces noise, crosstalk and harmonic distortion. Years of oscilloscope experience enable us to achieve improved pulse response and bandwidth flatness.

We are proud of the dynamic performance of our products and publish these specifications in detail. The result is simple: when you probe a circuit with a PicoScope, you can trust in the data you capture.

PicoScope 4262 Specifications

VERTICAL	
Number of channels	2
Input connectors	BNC
Bandwidth (-3 dB)	5 MHz (4 MHz on ±20 mV range, 3 MHz on ±10 mV range)
Bandwidth limiter	200 kHz, switchable
Rise time (calculated)	70 ns (88 ns on ±20 mV range, 117 ns on ±10 mV range)
Resolution	16 bits (20 bits in enhanced resolution mode)
Input impedance	1 MΩ ±2% ‖ 15 pF ±2 pF
Input coupling	AC/DC
Input sensitivity	2 mV/div to 4 V/div (10 vertical divisions)
Input ranges	±10 mV, ±20 mV, ±50 mV, ±100 mV, ±200 mV, ±500 mV, ±1 V, ±2 V, ±5 V, ±10 V, ±20 V
DC accuracy (% of full scale)	±0.25% (±0.5% on ±50 mV range , ±1% on ±20 mV range, ±2% on ±10 mV range)
Overvoltage protection	±50 V (DC + AC Peak)
HORIZONTAL	
Sampling rate (real time 1 or 2 channels)	10 MS/s
Sampling rate (cont. USB streaming)*	1 MS/s (with supplied software), 10 MS/s one channel, 6.7 MS/s two channels (in SDK)
Buffer memory	16 MS
Waveform buffer (no. of segments)	10,000 (with supplied software), 32,768 (in SDK)
Timebase ranges	1 ns/div to 1000 s/div
Timebase accuracy	±50 ppm
Sample jitter	< 10 ps RMS
DYNAMIC PERFORMANCE (typical)	
Crosstalk	> 50,000:1
Total harmonic distortion	−95 dB typical @ 10 kHz, −1 dBfs input
SFDR	102 dB typical @ 10 kHz, −1 dBfs input
Pulse response	<1% overshoot all ranges
Bandwidth flatness	±0.2 dB DC to full bandwidth
Noise	8.5 µV RMS (on most sensitive range)
TRIGGERS (CHANNELS A & B)	
Trigger modes	None, auto, repeat, single, rapid (segmented memory)
Basic trigger types	Rising, falling
Advanced digital trigger types	Edge, window, pulse width, window pulse width, dropout, window dropout, interval, runt pulse, logic
Trigger sensitivity (Ch A, Ch B)	Digital triggering provides 1 LSB accuracy up to full bandwidth of scope
Max. pre-trigger capture	Up to 100% of capture size
Max. post-trigger delay	Up to 4 billion samples
Trigger re-arm time	< 10 µs on fastest timebase
EXT TRIGGER	
Trigger types	Edge, pulse width, dropout, interval, logic, delayed
Input characteristics	Rear panel BNC, 1 MΩ ±2% ‖ 15 pF ± 2 pF
Threshold range	±5 V and ±500 mV, DC coupled
Sensitivity	25 mV p-p at 1 MHz, typical
DC accuracy	± 1%
Bandwidth	5 MHz
Overvoltage protection	± 50 V
SERIAL DECODING	
Protocols	I^{2}C, CAN Bus, SPI, RS232/UART
MASK LIMIT TESTING	
Statistics	Pass/fail, failure count, total count
DISPLAY MODES	
Interpolation	Linear or sin (x)/x
Persistence modes	Digital color, analog intensity, custom, or none
MATH CHANNELS	
Functions	−x, x+y, x−y, x*y, x/y, sqrt(x), x^y, exp(x), ln(x), log(x), abs(x), norm(x), sign(x), sin(x), cos(x), tan(x), arcsin(x), arccos(x), arctan(x), sinh(x), cosh(x), tanh(x)
Operands	Input channels A and B, time, reference waveforms, pi

* Ideal values shown. Actual achieved sampling rates are PC-dependent.

SPECTRUM ANALYZER	
Frequency range	DC to 5 MHz
Windowing functions	Rectangular, Gaussian, triangular, Blackman, Blackman-Harris, Hamming, Hann, flat-top
Display modes	Magnitude, peak hold, average
Number of FFT points	128 to 1 million
SIGNAL GENERATOR	
Standard output signals	Sine, square, triangle, DC voltage, ramp, sinc, Gaussian, half-sine, white noise, PRBS
Bandwidth	20 kHz
Output frequency accuracy	±50 ppm
Output frequency resolution	< 0.01 Hz
Output voltage range	±1 V (into high impedance load)
Offset voltage adjustment	100 µV steps (within overall ±1 V range)
DC accuracy	±0.5% of full scale
Amplitude flatness	< 0.1 dB to 20 kHz, typical
SFDR	102 dB typical @ 10 kHz, −1 dBfs input
Connector type	Front panel BNC
Output characteristics	600 Ω
Overvoltage protection	±10 V
Sweep modes	Up, down, dual with selectable frequency and sweep time
AWG	
Update rate	192 kS/s
Buffer size	4096 samples
Resolution	16 bits
Bandwidth	20 kHz
Rise time (10% to 90%)	11 µs, typical
AUTOMATIC MEASUREMENTS	
Oscilloscope mode	AC RMS, true RMS, DC average, cycle time, frequency, duty cycle, rising/falling rate, rise/fall time, high/low pulse width, maximum, minimum, peak to peak,
Spectrum mode	Frequency at peak, amplitude at peak, average amplitude at peak, total power, THD %, THD dB, THD+N, SFDR, SINAD, SNR, IMD
Statistics	Average, standard deviation, maximum, minimum
GENERAL	
PC connectivity	USB 2.0 hi-speed
Dimensions	210 x 135 x 40 mm (including connectors)
Weight	< 0.5 kg
Power requirements	Powered from USB port
Operating temperature range	0 °C to 45 °C (20 °C to 30 °C for stated accuracy)
Storage temperature range	−20 °C to +60 °C
Operating humidity range	5% to 80% RH, non-condensing
Storage humidity range	5% to 95% RH, non-condensing
Safety approvals	Designed to EN 61010-1:2010
EMC approvals	CE: Tested to EN61326-1:2006. FCC: Tested to part 15 subpart B
Environmental approvals	RoHS and WEEE compliant
Software/PC requirements	PicoScope 6, SDK and example programs. Microsoft Windows XP, Vista or Windows 7 (32-bit or 64-bit).
Languages (software and manuals)	English, French, German, Italian, Spanish
Languages (software only)	Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, Finnish, Greek, Hungarian, Japanese, Norwegian, Polish, Portuguese, Romanian, Russian, Swedish, Turkish

Have you seen our PicoScope 4000 Series data sheet?

It shows the full range of features available with the PicoScope software, which turns your PicoScope 4262 into a powerful oscilloscope and spectrum analyzer. All of these capabilities are included in the price of your oscilloscope.

PicoScope 4262 Connections

Ch A
Ch B
AWG
& Function Generator

The front panel of the PicoScope 4262 has two BNC input channels and a BNC output for the function generator and AWG.

Trigger Input

USB

The rear panel of the PicoScope 4262 has two connections: a USB port for connection to the PC, and a BNC for an external trigger to be connected.

Your PP799 PicoScope 4262 product pack contains the following items:

- 2 x MI007 probes
- PicoScope 4262
- USB cable
- Quick Start Guide
- Software and Reference CD

Ordering Information

ORDER CODE	PART DESCRIPTION	GBP	USD*	EUR*
PP799	PicoScope 4262 16-bit oscilloscope with 2 probes	749	1236	906

Pico Technology, James House, Colmworth Business Park,
St. Neots, Cambridgeshire, PE19 8YP, United Kingdom
T: +44 (0) 1480 396 395
F: +44 (0) 1480 396 296
E: sales@picotech.com

www.picotech.com