pico® Technology

PicoScope 9201

Sampling Oscilloscope for Windows PCs

Telecoms engineering | Production testing | R&D | Semiconductor characterisation

A complete sampling oscilloscope for your PC

12 GHz bandwidth on 2 channels
Dual timebase from 10 ps/div
Up to 10 GHz trigger bandwidth
5 TS/s equivalent-time sample rate

- High-resolution cursor and automatic waveform measurements with statistics
- Waveform processing including FFT
- Time and voltage histograms
- Eye-diagram measurements for NRZ and RZ
- Automated mask test
- Intuitive Windows user interface
- Electrical standards compliance testing
- Semiconductor characterization
- Telecom service and manufacturing
- Timing analysis
- Digital system design and characterization
- Electronic mask drawing and display
- Automatic pass/fail limit testing
- High-speed serial bus pulse response

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12 GHz Bandwidth

The wide bandwidth specification provides acquisition and measurement of fast signals with a transient response of 50 ps or faster. Timebase stability, accuracy, and resolution of 200 fs allow characterisation of jitter in the most demanding applications.

10 GHz High-Frequency Trigger

The PicoScope 9201 has a built-in high-frequency trigger. The bandwidth of up to 10 GHz allows measurements of microwave components with extremely fast date rates.

Built-in 1 GHz Direct Trigger

The Pico 9000 is equipped with built-in direct trigger for signals up to 1 GHz repetition rates without using additional trigger units.

Pulse parameter measurements

The PicoScope 9000 quickly measures more than 40 pulse parameters. Up to ten simultaneous measurements or four statistics measurements are supported. No need to count graticules and estimate the waveform's position. The measurements conform to the IEEE standards.

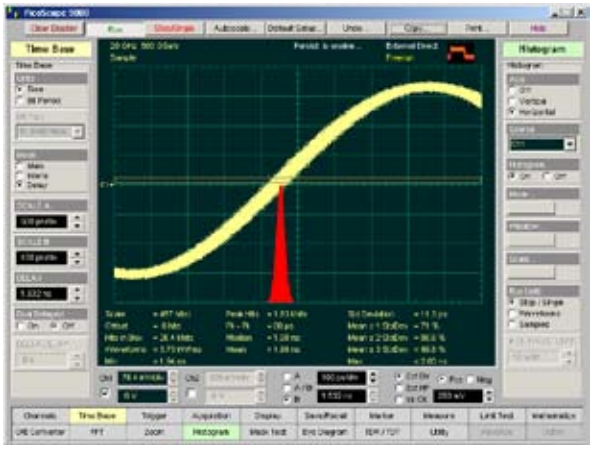
Kit contents

- PicoScope 9201 Sampling PC Oscilloscope
- PicoScope 9000 Series Software CD
- Installation guide
- Two SMA M-F adapters/connector savers
- USB cable
- LAN cable (only with LAN option)
- Power supply - UK, US, EU or AUS/NZ
- Carry case

Powerful mathematical analysis

The PicoScope 9201 supports up to four simultaneous mathematical combinations and functional transformation of acquired waveforms.

You can select any of the mathematical functions as a maths operator to act on the operand or operands. A waveform maths operator is a maths function that requires either one or two sources. The operators that involve two waveform sources are: Add, Subtract, Multiply, and Divide. The operators that involve one waveform source are: Invert, Absolute, Exponent, Logarithm, Differentiate, Integrate, Inverse, FFT, Interpolation, Smoothing.



Histogram analysis

A histogram is a probability distribution that shows the distribution of acquired data from a source within a user-definable histogram window. The information gathered by the histogram is used to perform statistical analysis on the source.

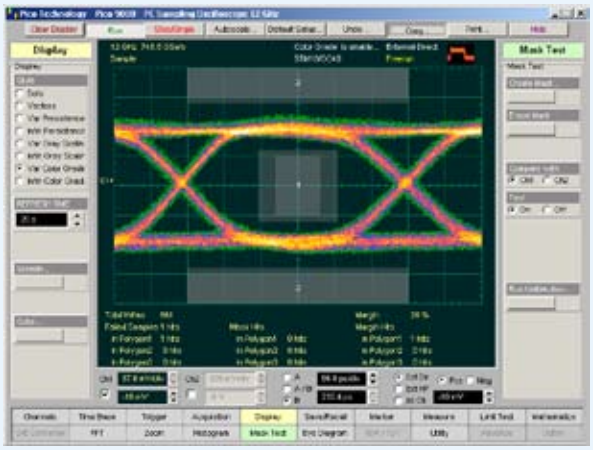
Histograms can be constructed on waveforms on either the vertical or horizontal axes. The most common use for a vertical histogram is measuring and characterising noise on displayed waveforms, while the most common use for a horizontal histogram is measuring and characterising jitter on displayed waveforms.

Eye-diagram analysis

The PicoScope 9201 quickly measures more than 30 fundamental parameters used to characterise non-return-to-zero (NRZ) signals and return-to-zero (RZ) signals. Up to four parameters can be measured simultaneously.

Mask testing

For eye-diagram masks, such as those specified by the SONET and SDH standards, the PicoScope 9201 supports on-board mask drawing for visual comparison. The display can be grey-scaled or colour-graded to aid in analysing noise and jitter in eye diagrams.



PicoScope 9201 front panel

PicoScope 9201 Sampling PC Oscilloscope

Channels (Vertical)	
Number of channels	2 (simultaneous acquisition)
Bandwidth	DC to 12 GHz
RMS Noise, maximum	< 2.5 mV
Scale Factors (Sensitivity)	2 mV/div to 255 mV/div
Nominal Input Impedance	(50 ± 1) Ω
Input connectors	SMA (F)
Time Base (Horizontal)	
Timebases	10 ps/div to 2 ms/div (main, intensified, two delayed, or dual delayed)
Delta Time Interval Accuracy	±0.4% of of delta time interval ± 15 ps ± 100 ppm of delay setting
Time Interval Resolution	200 fs minimum
Trigger	
Trigger Sources	External Direct Trigger, External Prescaled Trigger, Internal Clock trigger
Direct Trigger Bandwidth and Sensitivity	100 mV p-p DC to 100 MHz, increasing linearly from 100 mV p-p at 100 MHz to 400 mV p-p at 1 GHz
Prescaled Trigger Bandwidth and Sensitivity	200 mV p-p to 2 V p-p from 1 GHz to 8 GHz, 300 mV p-p to 1 V p-p to 10 GHz
Trigger RMS Jitter, maximum	3.5 ps + 20 ppm of delay setting
Acquisition	
ADC Resolution	16 bits
Digitising Rate	DC to 100 kHz maximum
Acquisition Modes	Sample (normal), Average, Envelope, or Peak Detect
Data Record Length	32 to 4096 points maximum per channel in x2 sequence
Display	
Display Resolution	501 points horizontally x 401 points vertically
Display Style	Dots, Vectors, Variable Persistence, Infinite Persistence, Variable Grey Scaling, Infinite Grey Scaling, Variable Colour Grading, Infinite Colour Grading
Measurements and Analysis	
Marker	Vertical bars, horizontal bars (measure volts) or waveform markers (x and +)
Automatics Measurements	Up to 40 automatic pulse measurements
Histogram	Vertical or Horizontal
Mathematics	Up to four math waveforms can be defined and displayed
FFT	Up to two fast Fourier transforms can be run simultaneously with the built-in filters (Rectangular, Nicolson, Hanning, Flattop, Blackman- Harris and Kaiser-Bessel)
Eye Diagram	Automatically characterises NRZ and RZ eye pattern. Measurements are based upon statistical analysis of the waveform.
Mask Test	Acquired signals are tested for fit outside areas defined by up to eight polygons. Standard or user-defined masks can be selected.
General	
Operating temperature range	+5 °C to +40 °C
Power	+6 VDC ± 5%. 2.5 A max. Mains adaptor supplied for UK/US/EU/AUS/NZ.
PC Connection	USB 2.0 (compatible with USB 1.1) + optional LAN (please enquire about delivery times)
PC Requirements	Windows XP (SP2) or Vista, 32-bit versions
Dimensions	W 170 mm x D 255 mm x H 40 mm
Weight	1.0 kg

Ordering Information	£	$	€
PP463 PicoScope 9201 12 GHz Sampling Oscilloscope	5,995	12,000*	8,000*

* Dollar and euro prices are subject to exchange rate fluctuations. Please contact Pico Technology for the latest prices before ordering.
Errors & omissions excepted.

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