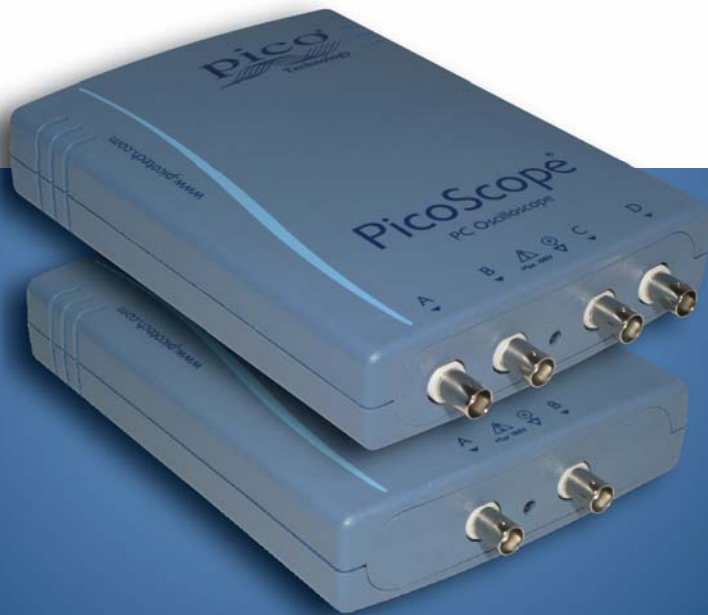


# PicoScope<sup>®</sup> 4000 Series

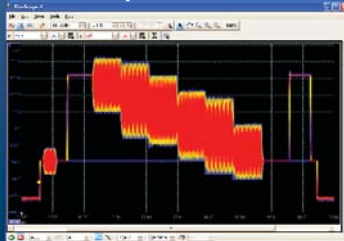
High-Precision PC Oscilloscopes



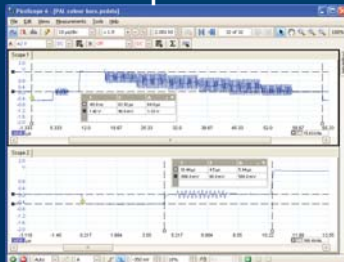
## Detailed waveform capture from Pico Technology

- 12-bit resolution
- 80 MS/s real-time sampling rate
- USB 2.0 interface for data and power
- 32 M sample buffer size
- Up to 4 channels
- 2-channel IEPE model available

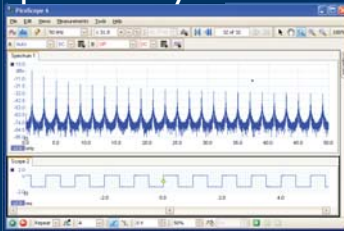
### Oscilloscope



### Zoomed scope views



### Spectrum analyzer



### All-in-one instruments

The PicoScope 4000 Series PC Oscilloscopes are extremely versatile, with an oscilloscope and spectrum analyser included in every model.

### PicoScope 4224 IEPE

The 2-channel IEPE version is compatible with industry-standard IEPE accelerometers and microphones, making it suitable for a variety of measurement applications including noise vibration analysis.

### Convenience and speed

The PicoScope 4000 Series scopes obtain their power from the USB 2.0 interface, so there's no need for an external power supply. The USB port also delivers high-speed data to your PC to give you a responsive, high-resolution display. With 80 MS/s sampling, the 4000 Series scopes are the fastest USB-powered 12-bit scopes around.

### Deep memory

The 32 M sample buffer is 'always on'. There is never a compromise between buffer size and waveform update rate, because the PicoScope 4000 Series always maximises both at the same time. Now you can capture every waveform with full detail without having to think about it.

### Advanced software

The scopes are bundled with the latest version of PicoScope for Windows. PicoScope is easy to use and can export data in a variety of graphical, text and binary formats. Also included are Windows drivers and example programs.

# SPECIFICATIONS

## Channels (vertical)

Number of channels  
Bandwidth  
Output  
Sensitivity  
Full-scale ranges  
DC accuracy  
Nominal input impedance  
Overload protection  
Input coupling  
Input connectors

## Timebase (horizontal)

Timebases  
Timebase accuracy  
Timebase jitter

## Trigger

Trigger sources  
Modes  
Types

## Acquisition

ADC resolution  
Software filtering  
Sampling rate  
Buffer size  
Number of waveform segments in buffer

## Display

Display styles

## Measurements and analysis

Rulers  
Automatic measurements  
Channel maths  
FFT

## General

Operating temperature range  
Power  
PC connection  
PC requirements  
Dimensions  
Weight  
Approvals

PicoScope 4424	PicoScope 4224
4	2
20 MHz (10 MHz on $\pm 50$ mV range)	
NA	NA
10 mV/div to 20 V/div	
$\pm 50$ mV to $\pm 100$ V	
1% of full scale	
1 M $\Omega$    22 pF	
$\pm 200$ V	
AC or DC, software-controlled	
4 x BNC	2 x BNC

PicoScope 4224 IEPE	
Passive Probe Mode	IEPE Interface Mode
2	
DC to 20 MHz (10 MHz on $\pm 50$ mV range)	1.6 Hz to 20 MHz
NA	4 mA up to 24 V $\pm 5\%$
10 mV/div to 4 V/div	
$\pm 50$ mV to $\pm 20$ V	
1% of full scale	
1 M $\Omega$    22 pF	1 M $\Omega$    1 nF
$\pm 100$ V	
AC or DC, software-controlled	AC
2 x BNC	

100 ns/div to 200 s/div
50 ppm
$\leq 10$ ps

Any input channel
Auto, repeat, single, none
Rising edge, falling edge, edge with hysteresis, pulse width, runt pulse, dropout, windowed

12 bits (up to 16 bits with resolution enhancement)	12 bits (up to 16 bits with resolution enhancement)
User-adjustable cut-off frequency and on/off control	User-adjustable cut-off frequency and on/off control
1/2 Channels - 80 MS/s 3/4 Channels - 20 MS/s	80 MS/s
32 M samples shared between active channels	32 M samples shared between active channels
Adjustable from 1 to 10,000	Adjustable from 1 to 10,000

Real-time, digital color, analog intensity
--

2 per channel on Y axis + 2 on X axis
26 automatic measurements in time and frequency domains
Invert, add, subtract, multiply, divide, advanced equations
Spectrum view with up to 1 M points

+0 °C to +45 °C (+15 °C to +40 °C for quoted accuracy)
Powered from USB port: 5 V @ 500 mA max.
USB 2.0 (Compatible with USB 1.1)
Microsoft Windows XP (SP2), Vista, Windows 7
200 mm x 140 mm x 38 mm
< 500 g
FCC (EMC), CE (EMC, LVD), RoHS

+0 °C to +45 °C (+20 °C to +30 °C for quoted accuracy)
Powered from USB port: 5 V @ 500 mA max.
USB 2.0 (Compatible with USB 1.1)
Microsoft Windows XP (SP2), Vista, Windows 7
200 mm x 140 mm x 38 mm
< 500 g
FCC (EMC), CE (EMC, LVD), RoHS

## ORDER CODES and PRICES

ORDER CODE	DESCRIPTION	PRICE
PP493	PicoScope 4424	£799 \$1318.35 €967.00
PP492	PicoScope 4224	£499 \$823.35 €604.00
PP695	PicoScope 4224 IEPE	£599 \$988.35 €725.00

US dollar and euro prices are subject to exchange rate variations. Contact Pico Technology or your distributor for up-to-date prices. Errors and omissions excepted.

PicoScope, PicoLog and Pico Technology are trademarks of Pico Technology. Windows, XP, and Vista are trademarks of Microsoft Corporation.