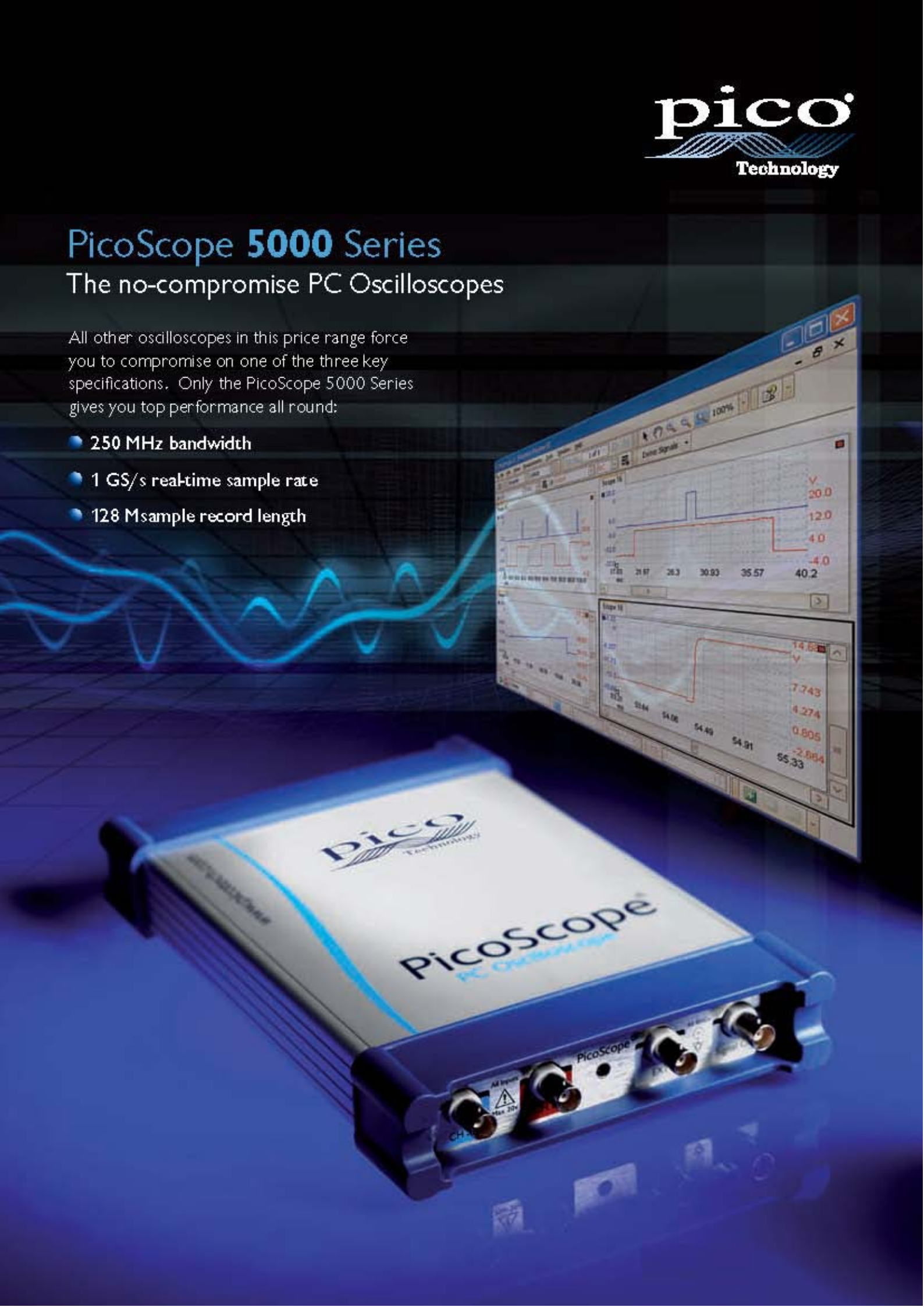
pico Technology

PicoScope **5000** Series

The no-compromise PC Oscilloscopes

All other oscilloscopes in this price range force you to compromise on one of the three key specifications. Only the PicoScope 5000 Series gives you top performance all round:

- **250 MHz bandwidth**
- **1 GS/s real-time sample rate**
- **128 Msample record length**

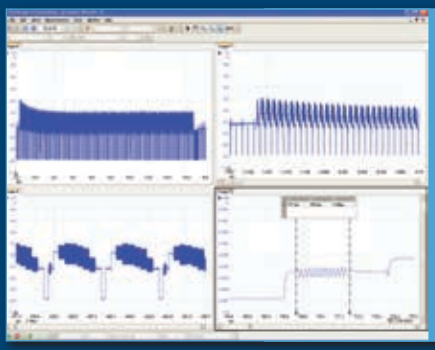


The power to perform

As a company we have spent the last 15 years listening to what our customers want. The result of this feedback and our unrivalled experience is the PicoScope 5204 dual-channel oscilloscope. Its class-leading bandwidth, sampling rate and memory depth are complemented by an array of advanced high-end features.

High bandwidth & sampling rate

At the heart of the PicoScope 5000 Series is its ability to digitise signals accurately and with minimal distortion. The 250 MHz analog bandwidth is complemented by a real-time sample rate of 1 GS/s, and ETS mode increases the sampling rate for repetitive signals to up to 20 GS/s.



Deep memory

Massive buffer memory

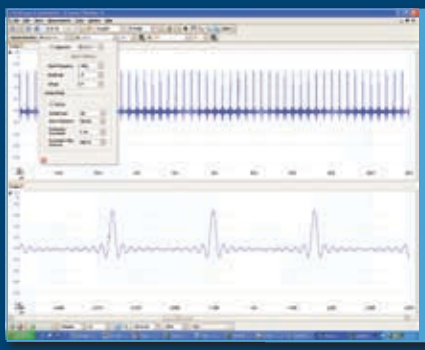
Don't compromise on memory: oscilloscopes with short record lengths can only capture at the maximum sampling rate on the first few timebases. The huge 128-million sample record length of the PicoScope 5204 ensures that complex waveforms can be captured at the full sampling rate.

Advanced triggers

As well as the standard range of triggers found on most oscilloscopes, the PicoScope 5000 Series has a full complement of advanced triggers as standard to help you capture the data you need.

Advanced triggers include:

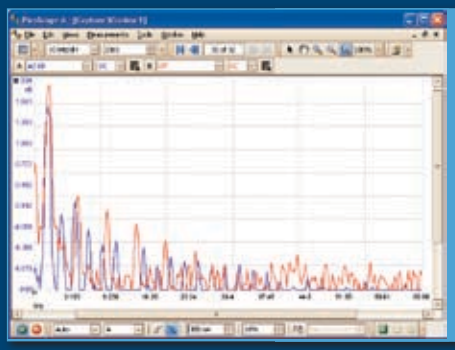
- **Pulse width**: Pulses less than or greater than a specified width can be triggered on.
- **Window**: If a signal moves into or out of a specified window, defined by 2 thresholds, a trigger event can be generated. Optionally, the event can be qualified by pulse width, and by other trigger sources.
- **Dropout**: Triggers after a signal stops toggling for a user-defined amount of time; can be qualified by other trigger sources.
- **Delay**: Once a trigger event has been identified, the unit can be configured to trigger on the *n*th event and can additionally be delayed by a user-defined time.
- **Logic Level**: A range of triggers to identify a user-defined logic state or pattern. There are up to 4 logic trigger sources: CHA, CHB, EXT and AUX I/O..



Arbitrary waveform generator

Arbitrary Waveform Generator

Generate standard waveforms from a library of stored waveforms including sine, square, triangle, ramp up, ramp down, sin(x)/x, Gaussian, half sine, white noise and DC level. Define your own waveforms using the power of the built-in 12-bit, 125 MS/s arbitrary waveform generator.



Spectrum analyser

Spectrum Analyser

With the click of a button, a waveform capture window can be opened to display the spectrum plot of the selected channel. The spectrum analyser allows signals up to 250 MHz to be viewed in the frequency domain. A full range of settings give users control over the number of spectrum bands, window types and display modes.

High-speed data acquisition

If the 128 Msample record length isn't enough, the supplied drivers and Software Development Kit allow users to write their own software or interface to popular third-party software packages. The drivers support data streaming functionality, where gap-free continuous data can be streamed via the USB 2.0 port directly to the PC's RAM or hard disk at a maximum rate of 6 MS/s (PC-dependent).

Long-term technical support

All Pico customers can contact our technical specialists for advice, and download software updates, for the lifetime of the product. There is no charge for these services.

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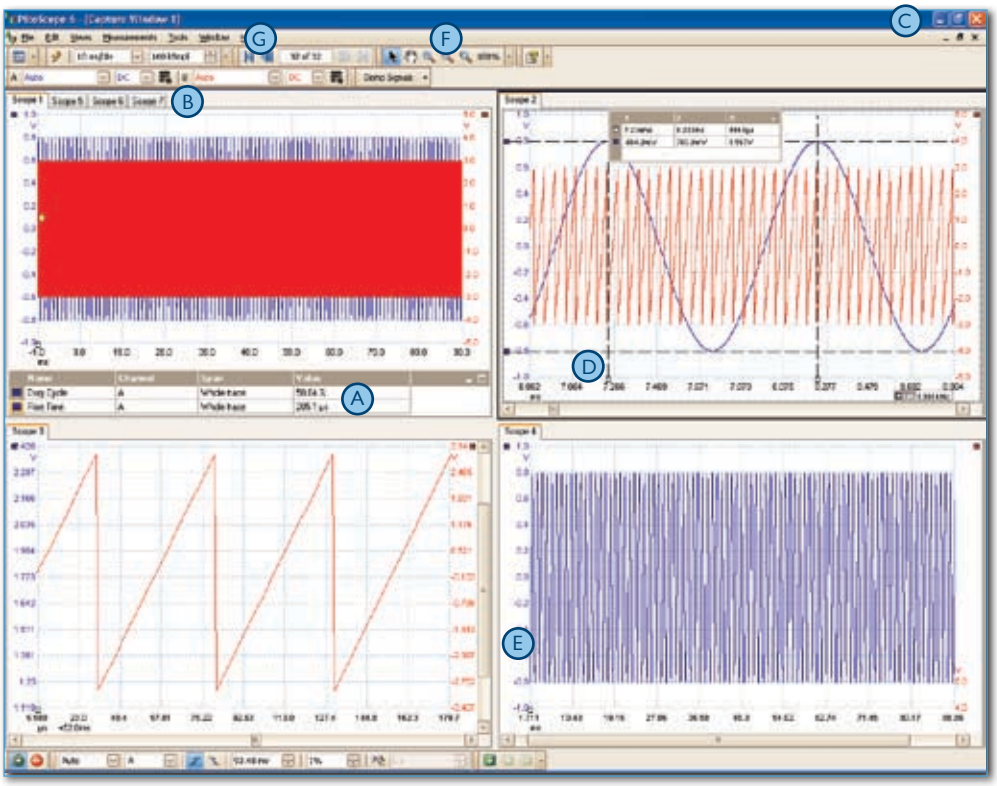


Automatic Measurements

(A) The capability to display calculated measurements and parameters for troubleshooting, analysing or visualisation is a powerful feature. Each capture window view can display as many automatic measurements as required.

Powerful visual capture & analysis

(B) Viewing captured data in PicoScope software could not be simpler, but is also extremely powerful when presenting data in multiple views.

(C) Fully adjustable in size and shape designed to make use of the full size of the computer display. The capture window can be split into a number of views which allow the data to be presented in a multitude of formats.

Oscilloscope controls

The display area is kept uncluttered to maximize the data views. Commonly-used controls such as voltage range selection, timebase, memory depth and channel selection are found on the toolbars for quick access. More advanced controls and functions are located within the option menu.

Display tools

(D) **Rulers**: A pair of rulers for each axis can be dragged onto the screen in order to make simple measurements of time, amplitude and frequency.

(E) **Axis dragging**: The vertical axis of each channel in each view can be adjusted simply by clicking on the axis values and dragging the axis up or down. This feature is particularly useful when data from one channel is obscuring data from another channel.

(F) **Zoom, pan, and marquee zoom tools**:
You can now enjoy greater freedom and simplicity when manipulating data views by using the suite of browsing and zooming tools. These include the marquee zoom tool where you can simply draw a box around the area you wish to magnify.

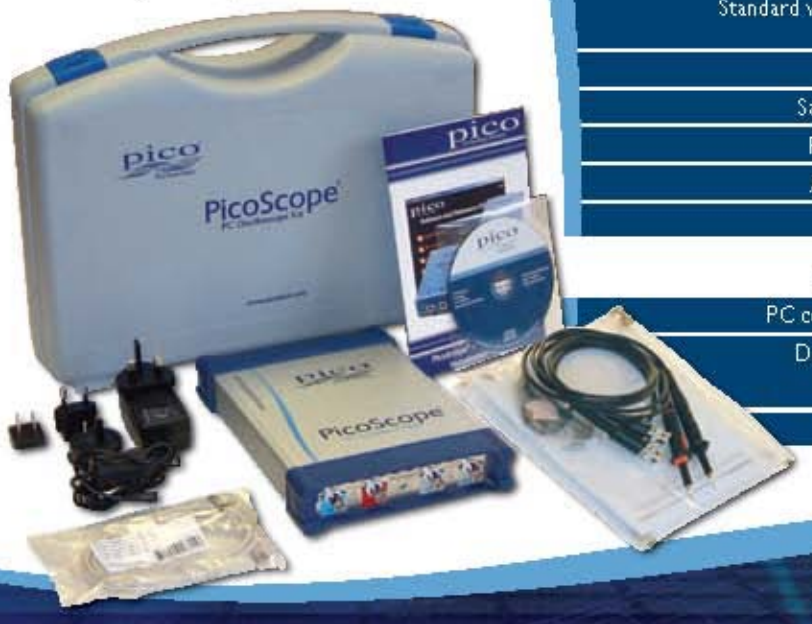
(G) **Waveform replay tool**: PicoScope software now features a circular waveform buffer that automatically records the last 32 waveforms, enabling scrolling and replaying of data, and especially useful when trying to find an intermittent event.

PicoScope **5000** Series

Overview specifications & ordering information

Kit contents

- PicoScope 5000 Series PC Oscilloscope
- Software CD
- Installation Guide
- USB cable
- Hard carry case
- Two calibrated 250 MHz probes
- Universal power supply with UK, US, EU and AUS/NZ adaptors



Oscilloscope specifications

Number of channels	2
Bandwidth	250 MHz
Maximum sampling rate	
Real time (one channel in use)	1 GS/s
Real time (both channels in use)	500 MS/s
Equivalent time (for repetitive signals)	20 GS/s
Buffer size	128 M samples (PicoScope 5204) 32 M samples (PicoScope 5203) Shared between channels if two channels enabled
Voltage ranges	± 100 mV to ± 20 V in 8 ranges
Input coupling	1 MΩ AC/DC
Vertical resolution / accuracy	8 bits / 3%
Timebase accuracy	50 ppm
Overload protection	CHA, CHB, External trigger ± 100V

Triggers

Trigger modes	Rising edge, falling edge, dual edge, alternate edges, logic level
Advanced trigger modes	Pulse width, dropout, window, delay

Spectrum analyser

Maximum spectrum ranges	DC to 250 MHz
Voltage range	± 100 mV to ± 20 V in 8 ranges
Windowing	Rectangular, Gaussian, Triangular, Blackman, Blackman-Harris, Hamming, Hann, Flat top

Arbitrary waveform generator

Signal output type	BNC 50 Ω
Standard waveforms	Sine, square, triangle, ramp, sin(x)/x, Gaussian, half-sine, white noise
Buffer	8192 samples
Sample rate	125 MS/s
Resolution	12 bits
Amplitude	±250 mV to ±2 V
Offset	±1 V

General

PC connection	USB 2.0 (compatible with USB 1.1)
Dimensions	W 170 mm D 255 mm H 40 mm (approximately 6.7" x 10.0" x 1.6")
Weight	0.9 kg (approximately 31.7 oz)

PicoScope **5203**

250 MHz bandwidth
1 GS/s sampling rate
32 M Sample record length

£ 1195 € 1759 $ 2199

PicoScope **5204**

250 MHz bandwidth
1 GS/s sampling rate
128 M Sample record length

£ 1795 € 2639 $ 3299

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