

PicoScope 9000 Series PC Sampling Oscilloscopes

QUICK START GUIDE





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Quick Start Guide

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- 1) 17.7.08 First version.
- 2) 20.11.08 Added 9211.
- 3) 27.4.10 Changed part no. to 9211A.
- 4) 6.6.11 Added 9221A & 9231A. Added 64-bit Windows & Win7.
- 5) 12.12.11 Simplified cover.

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1 Introduction

Thank you for purchasing a PicoScope 9000 Series PC Sampling Oscilloscope, a high-bandwidth, high-effective-sampling-rate measuring instrument specifically designed for analysing repetitive signals.

This guide explains how to install the software and the **User's Guide** from the CD-ROM supplied, and how to start using your oscilloscope.

Once you have finished the installation, you will find that the **User's Guide** contains much more information about setting up and using the hardware and software. You can open the Guide **by clicking the "Help" button in the PicoScope 9000 program**, or you can read it in PDF format directly from the CD-ROM.

2 Safety information

We strongly recommend that you read the general safety information below and also the product-specific safety warning in the **User's Guide** before using your product for the first time. If you do not use the equipment in the manner specified, then you may impair the built-in protection. This could result in damage to your computer and injury to yourself and others.

The **User's Guide** is installed on your computer when you install the software from the CD-ROM.

2.1 Maximum input ranges

Models: PicoScope 9201A, 9211A, 9221A, 9231A	
Safe input range	± 2 V relative to ground
Operating input range	± 1 V relative to ground 1 Vp-p amplitude



Operation outside the safe input range is likely to cause permanent damage to the unit.

Incorrect configuration or use on voltages outside the safe input range can be hazardous.

Mains voltages



The PicoScope 9000 Series PC Sampling Oscilloscopes are not designed for use with mains (line) voltages. You must not attempt to measure mains (line) voltages with these instruments, either directly or through any kind of probe, adaptor or connector.

2.2 Safety grounding

The ground of your oscilloscope is connected directly to the ground of your computer through the USB cable supplied and to mains ground through the power adaptor. It is designed this way to minimise interference. Therefore, to obtain the best measurement accuracy, always use the USB cable and power adaptor supplied to attach the oscilloscope to your computer.



Take care to avoid connecting the ground input of the product to any electrical power source. If in doubt, use a voltmeter to check that there is no significant a.c. or d.c. voltage between the oscilloscope ground and the point to which you intend to connect it. Failure to check may cause damage to the oscilloscope and the computer, and could cause injury to yourself and others.



The **oscilloscope's ground connection is for** measurement purposes only. The oscilloscope does not have a protective safety ground.

2.3 Repairs

The unit contains no user-serviceable parts. Repair or calibration of the unit requires specialised test equipment and must be performed only by Pico Technology. Return the unit to us directly or through your local distributor.

3 Included with your PicoScope

Please check that your PicoScope PC Sampling Oscilloscope package contains the following items:

Order No.	Description
-	PicoScope 9000A Series PC Sampling Oscilloscope
-	Two SMA connector savers (attached to oscilloscope)
PR131	TDR accessory kit (PicoScope 9211A & 9231A only)
DI053	PicoScope 9000 software CD
DO134	PicoScope PC Sampling Oscilloscopes Quick Start Guide
PS007	Universal power adaptor
MI106	USB cable
TA076	Ethernet patch cable (9211A & 9231A only)
TA075	Ethernet crossover cable (9211A & 9231A only)
MI144	Carry case
MI193	UK mains lead (EU customers only)
MI194	EU mains lead (EU customers only)
MI195	US power cord (North American customers only)
MI197	Set of SMA connector dust caps

Some product packs may contain additional items.

4 System requirements

Please verify that your computer meets the following requirements.

- Pentium or equivalent PC with at least 32 MB RAM and 10 MB disk space
- Microsoft Windows XP, Vista or 7, 32-bit or 64-bit
- Free USB port on PC, or USB hub.
- USB 1.1 port (USB 2.0 port recommended)

We recommend higher system specifications than these for best performance. Please see your PicoScope 9000 Series User's Guide, installed with your PicoScope software, for details.

5 Installing the PicoScope 9000 Series software

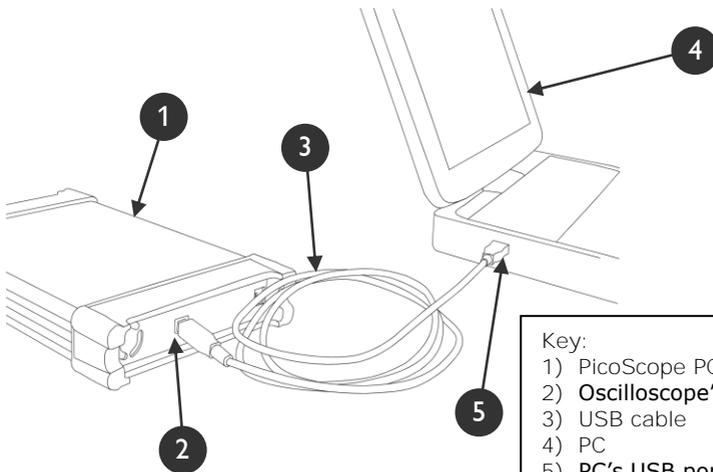
STOP! Do not connect the oscilloscope to the PC yet!

The following instructions will tell you when to connect the oscilloscope.

- 1) Insert the Pico CD into your CD-ROM drive. It should start automatically. (If it does not, follow the steps on the right.)
- 2) **Click the "Install Software" button.**
- 3) Follow the instructions on the screen to install the PicoScope 9000 Series software.
- 4) Fit the appropriate mains cable (line cord) to the power adaptor and plug the cable into a mains (power) socket. Plug the DC power lead from the power adaptor into the back of the oscilloscope. Switch on the mains power.
- 5) Connect the oscilloscope to the PC using the USB cable supplied (see connection drawing below). Ignore any warnings that Windows displays such as "This device can perform faster" or "USB2 device connected to USB1 hub".
- 6) The Windows "New Hardware Found Wizard" will run. Follow the instructions, and if the wizard asks to connect to Windows Update, select "No". If a warning about Windows Logo testing appears, click "Continue Anyway".
- 7) The "New Hardware Found Wizard" may run twice. If this happens, repeat the previous step.

To start the CD-ROM manually:

- 1a) Click the Windows **Start** button and select "Run..."
- 1b) Type **d:\pico** (where 'd:' is your CD-ROM drive)
- 1c) Press the **Enter** key



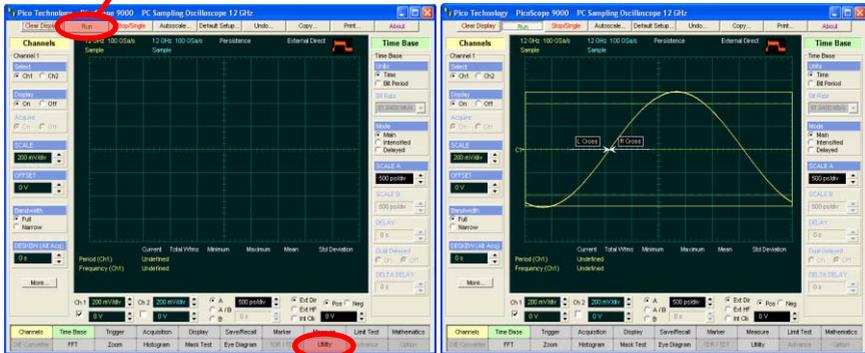
Key:

- 1) PicoScope PC Oscilloscope
- 2) Oscilloscope's USB port
- 3) USB cable
- 4) PC
- 5) PC's USB port

6 Using the PicoScope 9000 Series PC Oscilloscopes

- 1) Click the Windows **Start** button, go to **"Programs"** and then **"Pico Technology"**, and then select **"PicoScope 9000"** to begin using the oscilloscope. You will see an empty PicoScope 9000 display, like the picture on the left below:

"Run" button



"Utility" button

- 2) If you have an external signal source, connect the source (limited to $\pm 1\text{ V}$ with respect to ground and 1 Vp-p) to the "CH 1" input of the oscilloscope.
- 3) If you do not have a suitable test signal, you can use the built-in demonstration signal generator to simulate a signal. Right-click the "Utility" button at the bottom of the window to open the Utility control panel to the right of the waveform display, then click the "Demo Signal" button. You can then assign a test signal generator to each of the input channels.
- 4) Click the "Run" button, and you should then see a signal in the oscilloscope window, like the picture on the right above.

7 Free newsletter

Pico Technology sends out a free monthly newsletter by email. This gives news of product launches, software upgrades and application notes; and hints and advice. We treat your e-mail address and other details as confidential and will not pass them to any third party.

To subscribe, visit:

www.picotech.com/maillist.html

8 Software updates / replacing lost software

The latest versions of all Pico software and manuals can be downloaded free of charge from our web site at:

www.picotech.com

If you require a new CD, please contact Pico Technology or your distributor.
There may be a small charge for this service.

9 Input connections

The **User's Guide** installed with the software contains complete descriptions of input connections. Follow the instructions in section 5 to install the software and the Guide.

10 Specifications

The **User's Guide** that was installed with your Pico software contains the latest specifications for your PicoScope PC Sampling Oscilloscope. We recommend that you print a copy of the specification table and attach it to this guide for easy reference.

11 Technical support

The Pico Technology technical support web site **and users' forum** are at:

www.picotech.com/support

They contain regularly updated technical support information.

Pico Technology

James House
Colmworth Business Park
St. Neots
Cambridgeshire
PE19 8YP
United Kingdom

Tel: +44 (0) 1480 396395

Fax: +44 (0) 1480 396296

Email: support@picotech.com



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