

# PicoScope Education Kit

PC Oscilloscope experiments for secondary schools, colleges and universities



*Now every classroom can obtain world-class equipment at an affordable price*

Supplied with equipment for three experiments:

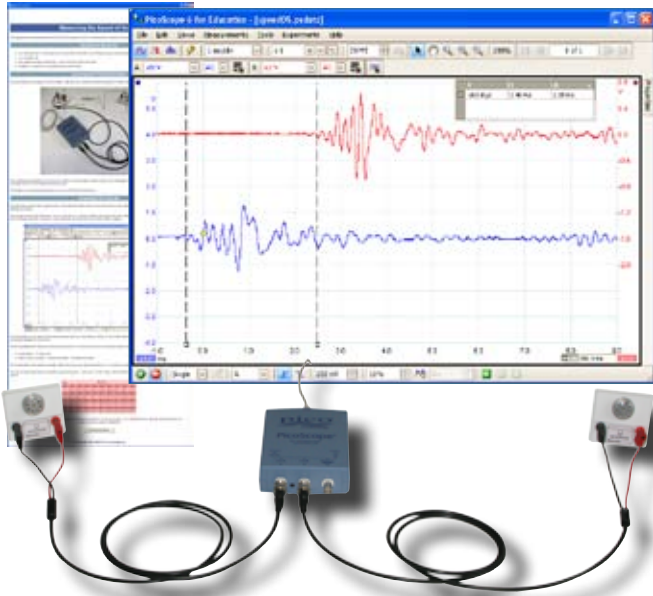
Speed of sound  
Faraday's Law  
AC dynamo

and includes guidance for four more experiments:

Value of a capacitor  
Serial data waveform  
Speed of a pulse along a cable  
Acceleration due to gravity

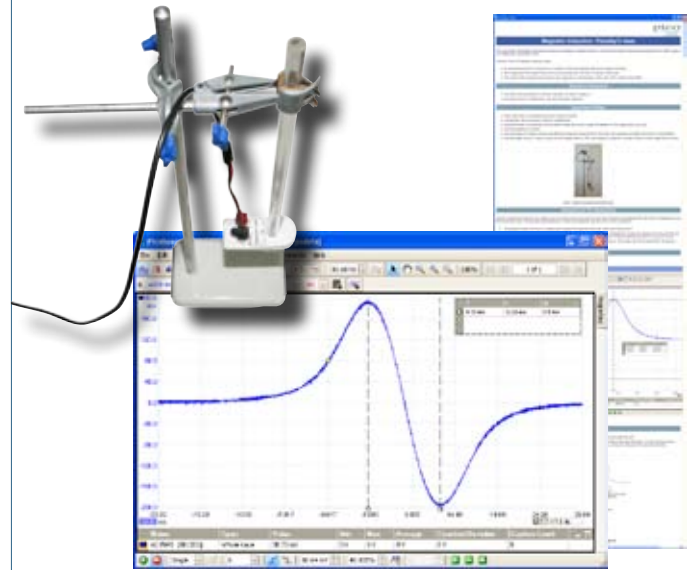
### Speed of sound

The speed of sound experiment uses two microphones (included) to measure the speed of sound.



### Faraday's Law

The Faraday's Law experiment demonstrates that the EMF induced in a conductor linked by a changing magnetic flux is proportional to the rate of change of the flux.



### AC dynamo

The AC dynamo experiment builds on the results of the Faraday's Law experiment. Repeated pulses of EMF are induced in a coil by a rotating magnet, resulting in an AC voltage output.



### Additional experiments

- Measuring the value of a capacitor
- Serial data
- Speed of a pulse along a cable
- Acceleration due to gravity

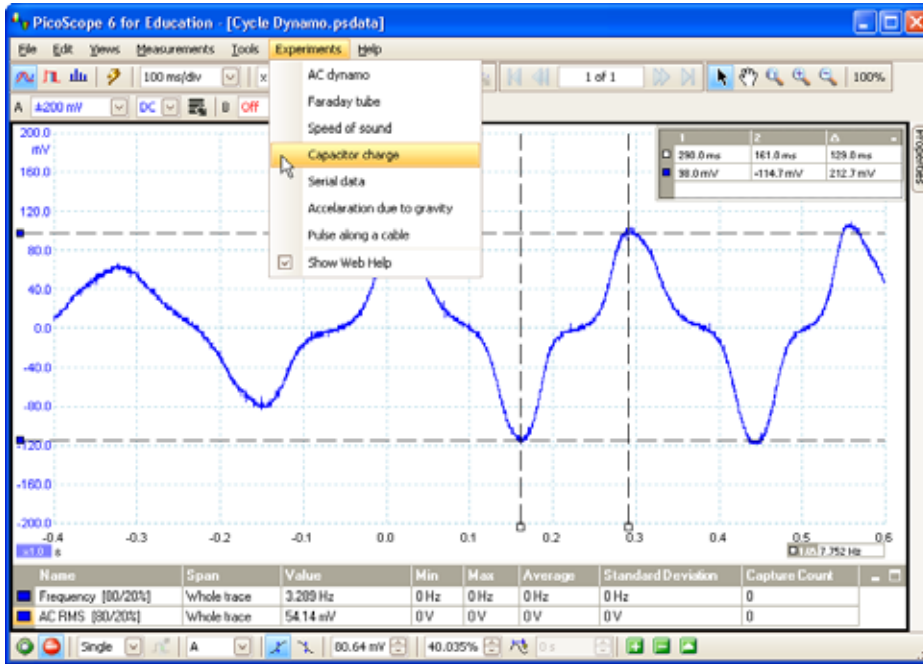
These four experiments are fully documented, with instructions and automatic setups built in to the software. You just need to supply the apparatus!



### Kit contents

- PicoScope 2205 Sampling PC Oscilloscope
- Speed of sound apparatus
- Faraday's Law apparatus
- AC dynamo apparatus
- PicoScope Education Kit Software CD
- Installation Guide
- BNC to 4-mm plug cables (2)
- BNC to crocodile clip cable
- USB cable
- Durable carry case

## PicoScope for Education



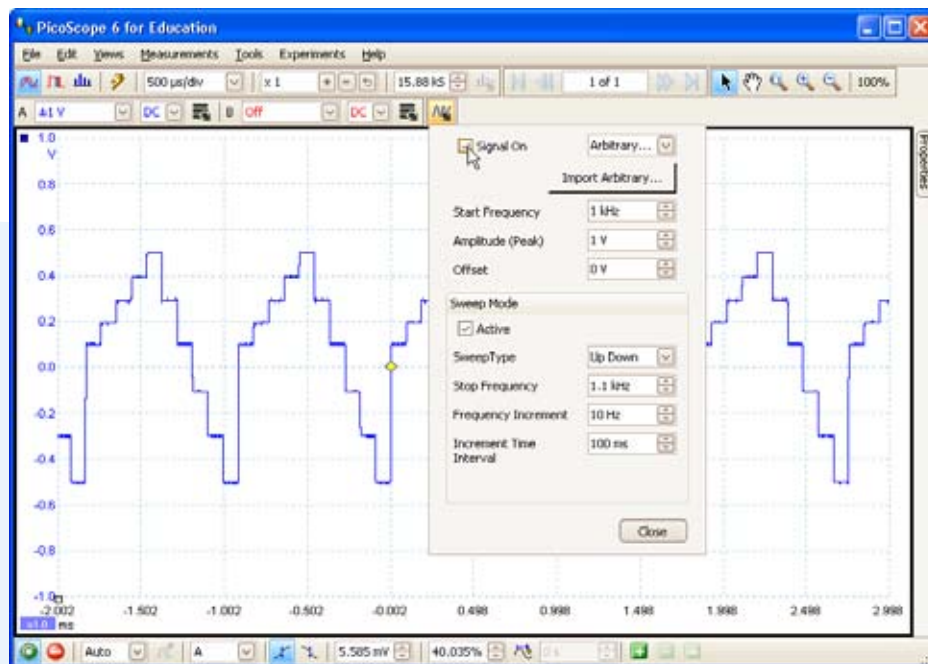
Starting an experiment is as easy as selecting an item the drop-down menu.

Features built in to the software include:

- X and Y rulers
- automatic measurements
- digital colour and analogue intensity persistence display modes
- spectrum analyser

## Built-in signal generator

The built-in function generator and arbitrary waveform generator can replace several bulky pieces of equipment on your workbench. Generate standard waveforms such as sine, square and triangle, or load your own custom waveform from a text file.



## PicoScope 2205 PC Oscilloscope



Channels (vertical)		Number of channels: 2 Bandwidth: 25 MHz Sensitivity: 10 mV/div to 4 V/div Accuracy: 3% Nominal input impedance: 1 M $\Omega$    20 pF Overload protection: $\pm$ 100 V on single input Input coupling: AC or DC, software-controlled Input connectors: BNC
Timebase (horizontal)		Timebases: 500 ns/div to 200 s/div Timebase accuracy: 100 ppm with 3 ps jitter
Trigger		Trigger sources: Ch A or Ch B Modes: Rising edge, falling edge, edge with hysteresis, pulse width, dropout, windowed, logic
Acquisition		ADC resolution: 8 bits (up to 12 bits with resolution enhance mode) Sampling rate: 200 MS/s (4 GS/s with equivalent-time sampling) Buffer size: 8000 samples in block mode, 2 M samples in streaming mode
Display		Display resolution: Up to 4000 points horizontally. Number displayed subject to screen size. Display styles: Real-time, digital colour, analogue intensity
Measurements and analysis		Rulers: 2 per channel on Y axis + 2 on X axis Automatic measurements: 26 automatic measurements in time and frequency domains FFT: Spectrum view built in
Signal generator		Connector type: BNC (shared with arbitrary waveform generator) Built-in signal types: Sine, square, triangle, ramp up, ramp down, DC voltage Output range: $\pm$ 250 mV to $\pm$ 2 V Offset: $\pm$ 1 V within $\pm$ 2 V output range Output resistance: 600 $\Omega$ Frequency range: DC to 100 kHz Frequency sweep: Up, Down, Up-Down, Down-Up
Arbitrary waveform generator		Connector type: BNC (shared with signal generator) Vertical resolution: 8 bits Buffer size: 4 K samples Output range: $\pm$ 250 mV to $\pm$ 2 V Offset: $\pm$ 1 V within $\pm$ 2 V output range Output resistance: 600 $\Omega$ Sample rate: DC to 2 MS/s Frequency sweep: Up, Down, Up-Down, Down-Up Input waveform format: Normalised CSV file format (comma-separated values, compatible with Microsoft Excel)
General		Operating temperature range: +5 $^{\circ}$ C to +45 $^{\circ}$ C Power: Powered from USB port PC connection: USB 2.0 (compatible with USB 1.1) PC requirements: Windows XP (SP2) or Vista, 32-bit versions Dimensions: 100 mm x 135 mm x 45 mm Weight: 210 g Approvals: FCC, CE

Ordering information	£	\$	€
PP471 PicoScope Education Kit	395	790*	585*

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

[www.picotech.com](http://www.picotech.com)



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