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pico ®
Technology

TEST AND MEASUREMENT
PRODUCT CATALOG

REAL TIME OSCILLOSCOPE

SAMPLING OSCILLOSCOPE

DATA LOGGER

VECTOR NETWORK ANALYZER

PULSE GENERATOR

RF SIGNAL SYNTHESIZER

- Six instruments in one, portable, economic oscilloscope
- 16 Bits high resolution and 8 Bits-16 Bits flexible resolution oscilloscope
- 4 GS deep memory oscilloscope
- 4 true differential inputs and 14 Bits high resolution oscilloscope
- USB 3.0 bus supports continuous data recording without gaps up to 312 MS/s
- 5 MHz-30 GHz Analog Bandwidth
- 8 KS-4 GS Capture Memory
- 8 channels and 12 Bits oscilloscope
- 40 decode options as standard
- 300 KHz-8.5 GHz Cost-efficiency Vector Network Analyzer
- 300 KHz-8 GHz Cost-efficiency RF Signal Synthesizer
- 5-year warranty with PicoScopes
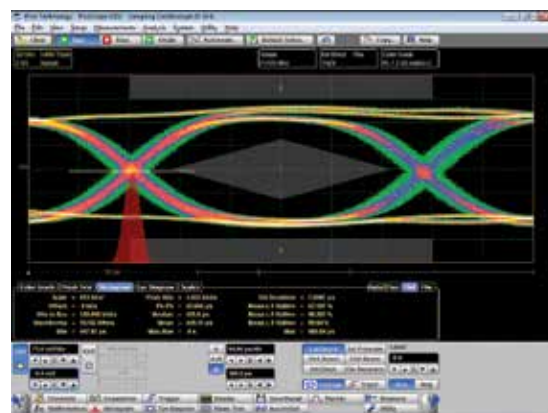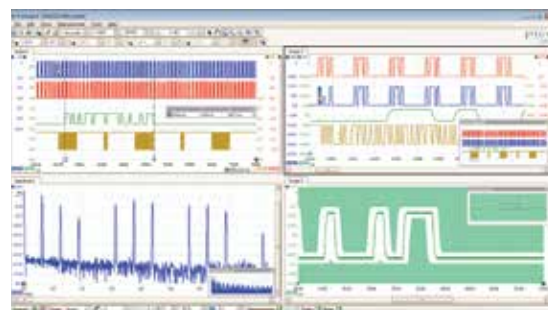
	PicoScope 2000 Series			PicoScope 3000 Series		PicoScope 4000 Series
	2000A models	**2000B models**	**2000A & B MSO models**	**3000D & 3000D MSO models**	**3000E models**	**4224A & 4424A**
Description	Power and performance in your hand	Benchtop performance in a pocket-sized scope	Mixed signal oscilloscopes	Fast sampling rate with deep memory	Industry's first USB-Powered high-speed oscilloscopes	High resolution oscilloscopes
Channels	2 or 4	2 or 4	2 analog + 16 digital	2 or 4 analog + EXT or 16 digital	4	2 or 4
Outputs	FG + AWG 100 kHz / 1 MHz	FG + AWG 1 MHz	FG + AWG 1 MHz	FG + AWG 1 MHz	FG + AWG 20 MHz	None
Analog bandwidth	10 to 25 MHz	50 to 100 MHz	25 to 100 MHz	50 to 200 MHz	350 to 500 MHz	20 MHz
Sampling rate	100 to 500 MS/s	500 MS/s to 1 GS/s	500 MS/s to 1 GS/s	1 GS/s	5 GS/s	80 MS/s
Resolution (enhanced)	8 bits (12 bits)	8 bits (12 bits)	8 bits (12 bits)	8 bits (12 bits)	8 bits~10 bits (12 bits~14 bits)	12 Bits (16 Bits)
Capture memory	8 kS to 48 kS	32 MS to 128 MS	48 kS to 128 MS	64 MS to 512 MS	2 GS	256 MS
Power	USB	USB	USB	USB or AC adapter	USB Type-C or USB plus Type-C PSU	USB
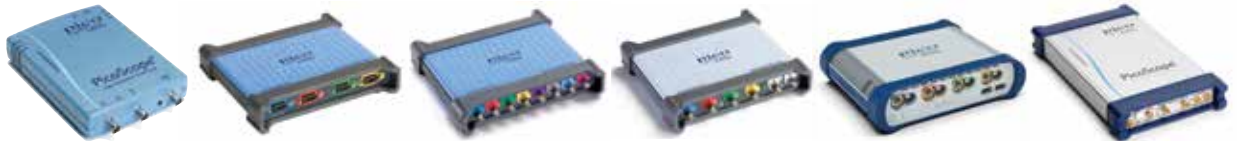
	PicoScope 4000 Series			PicoScope 5000D & 5000D MSO Series	PicoScope 6000&6000E Series	PicoScope 9000 Series
	PicoScope 4262	**PicoScope 4444**	**PicoScope 4824A**			
Description	Digital oscilloscope for the analog world	High-resolution differential oscilloscopes	8 channel oscilloscope	Flexible Resolution & MSO oscilloscopes	Highest performance real-time oscilloscopes	SXRTO & Sampling oscilloscopes
Channels	2 + EXT	4 true differential	8	2 or 4 analog + EXT or 16 digital	4 or 8 analog + 16 digital + AUX input	2 electrical (+ 1 optional optical), 4 electrical
Outputs	AWG and low-distortion sine wave generator	Probe compensation signal	FG + AWG	FG or FG + AWG	FG or FG + AWG	PRBS, Clock, diff. TDR/TDT
Analog bandwidth	5 MHz	20 MHz	20 MHz	60 to 200 MHz	300 MHz to 3 GHz	5 GHz to 30 GHz
Sampling rate	10 MS/s	400 MS/s	80 MS/s	1 GS/s	5 GS/s, 10 GS/s	1/2.5/15 TS/s
Resolution (enhanced)	16 bits (20 bits)	Flexible 12 or 14 bits (Up to 18 bits)	12 bits (16 bits)	8, 12, 14, 15 and 16 bits (up to 20 bits)	Flexible 8, 10, 12 bits (Up to 16 bits)	12 bits, 16 bits
Capture memory	16 MS	256 MS	256 MS	64 MS to 512 MS	1 GS to 4 GS	32 KS, 250 KS
Power	USB	USB	USB	USB or AC adaptor	AC adaptor	AC adaptor

Voltage Data Loggers PicoLog 1000	**Voltage Data Loggers ADC20**	**Voltage Data Loggers ADC24**	**Current Data Loggers PicoLog CM3**	**Thermocouple Temperature Data Loggers TC-08**	**PRT Temperature Data Loggers PT-104**
12/16 Channels	8 Channels	16 Channels	3 Channels	8 Channels	8 Channels
10/12 Bits ADC	20 Bits ADC	24 Bits ADC	24 Bits ADC	20 Bits ADC	24 Bits ADC

Fast Pulse Generators PG 914/PG 912/PG 911	**Vector Network Analyzer PiocVNA106&108**	**RF Signal Synthesizer AS 108**	**RF & Gigabits Probe PicoConnect 900**
2 or 4 Channels	2 Channels	1 Channel	1 Channel
40 ps/60 ps Rising Time	300 KHz-8.5 GHz	300 KHz-8 GHz	4 GHz-9 GHz

Six instruments in one, portable, economic oscilloscope – PicoScope 2000 series

● 10,25,50,70 MHz & 100 MHz
● Capture memory from 8 KS to 128 MS
● Sampling rate from 100 MS/s to 1 GS/s
● Digital oscilloscope
● Function generator
● Arbitrary Waveform Generator
● Logic analyzer
● Protocol analyzer
● Spectrum analyzer

PicoScope can decode 1-Wire, ARINC 429, BroadR-Reach (100BASE-T1), CAN & CAN FD, CAN J1939, CAN XL, DALI, DCC, DMX512, Ethernet 10BASE -T, Ethernet 10BASE-T1S, Ethernet 100BASE-TX, FlexRay, I²C, I²S, I3C, LIN, Manchester, MIL-STD-1553, Modbus (ASCII/RTU), Parallel Bus, PMBus, PS/2, Quadrature, SENT Fast/Slow, SMBus, SBS Data, SPI-MISO/MOSI, SDI-SDIO, UART (RS-232 / RS-422 / RS-485), USB and Wind Sensor protocol data as standard, with more protocols in development, and available in the future with free-of-charge software upgrades.

The SDK allows you to write your own software and includes drivers for Microsoft Windows, Apple Mac (OS X) and Linux, including Raspberry Pi and BeagleBone. Example code shows how to interface to third-party software packages such as C, C#, Microsoft Excel, National Instruments LabVIEW and MathWorks MATLAB.

"Great functionality in a compact size"
"Simplicity and low weight when traveling overseas "
"USB power, small size, an ideal choice for field use and system integration"

USB-Powered high-speed PicoScope 3000E series

● Bandwidth: 350 MHz-500 MHz
● Sampling rate: up to 5 GS/s
● ADC resolution：8 Bits-10 Bits
● Capture memory：up to 2GS
● Built-in Function Generator and Arbitrary Waveform Generator with 14 Bits, 20 MHz bandwidth, 32 ks buffer size
● Single USB Type-C 3 A port or from USB port plus external Type-C PSU (5V 3A)

8 channels & 12 Bits high resolution oscilloscope – PicoScope 4824A

● 8 channels, 12 Bits ADC(16 Bits software enhanced)
● 20 MHz Bandwidth, 80 MS/s sampling rate, 256 MS capture memory
● USB 3.0 interface, internal Arbitrary Waveform Generator and Function Generator

The PicoScope 4824A is a low-cost, portable solution for multi-input applications. With 8 high-resolution analog channels you can easily analyze audio, ultrasonic, vibration and power waveforms, check timing of complex systems, and perform a wide range of precision measurement tasks on multiple inputs at the same time. All of this fits into the same small footprint as the PicoScope 3000 and 5000 Series. The BNC connectors still accept the vast majority of probes and accessories with ample spacing of 20 mm.

16 Bits high resolution and low noise oscilloscope (Dynamic analyzer – PicoScope 4262)

- 16 Bits ADC
- 8.5 uV (RMS) baseline noise & 96 dB dynamic range
- 5 MHz bandwidth

The high resolution of the PicoScope 4000 series makes them ideal for low-noise, low-distortion measurements, and the built-in signal generators removes the need for an additional signal source. They can easily analyze audio, ultrasonic and vibration signals and characterize noise in switched mode power supplies, measure distortion in audio systems and perform a wide range of precision measurement tasks.

The 16 Bits PicoScope 4262 has unrivalled dynamic performance and can outperform many dedicated (and expensive) audio analyzers.

The right picture shows the comparison of the measurement results of a vehicle ignition signal by 8 Bits oscilloscope and 12 Bits oscilloscope and worldwide Golfing Association using 4000 series to check golf club deflection under swing load.

8 Bits oscilloscope

12 Bits oscilloscope
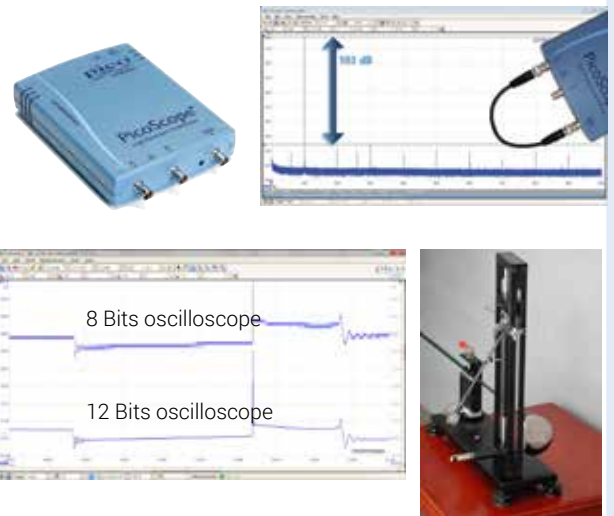
High-resolution true differential oscilloscope – PicoScope 4444

- 4 true differential inputs
- Capture memory: 256 MS
- ADC: 12 Bits or 14 Bits
- CATIII Voltage Test: 1000V

With four true differential inputs, 12 to 14 Bits resolution and wide differential and common-mode voltage ranges, the PicoScope 4444 and its accessories offer accurate and detailed measurement for a multitude of applications, from low-amplitude biomedical and electronic uses to 1000 V CAT III design and test.

Ripple & Noise

550 uV

3 phase power test   Power Inverter test   Biological(Heartbeat) test
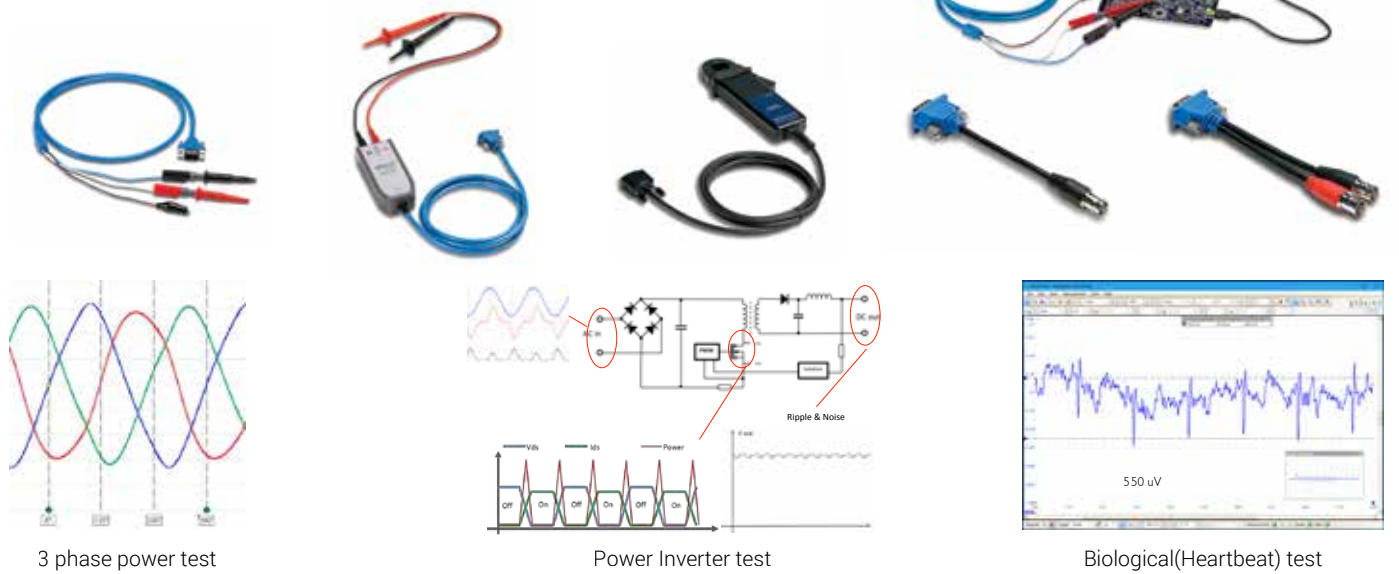
Flexible ADC resolution oscilloscope – PicoScope 5000D & 5000D MSO series

- Bandwidth: 60 MHz-200 MHz
- Sampling rate: 62.5 MS/s-1 GS/s
- ADC resolution: 8 Bits-16 Bits
- Capture memory: 64 MS-512 MS
- Built-in Function Generator and Arbitrary Waveform Generator with 14 Bits, 20 MHz bandwidth, 32 ks buffer size
- Both high speed acquisition for digital signal and accurate acquisition for analog signal can be accomplished through flexible ADC resolution in one instrument
- Switch between 8, 12, 14, 15 and 16 Bits resolutions, up to 20 Bits with software enhancement.
- Best performance & Cost efficiency

Deep memory & flexible ADC resolution high performance oscilloscope-PicoScope 6000 & 6000E series

- Bandwidth: 300 MHz-3 GHz
- Channels: 4 or 8 analog + 16 digital + AUX input
- ADC resolution: 8 Bits or 8, 10, 12 Bits flexible
- Sampling rate: up to 10 GS/s
- Capture memory: up to 4 GS
- Maximum sampling rate in continuous streaming mode using supplied SDK: up to 312 MS/s

The PicoScope6000/6000E has the deepest buffer memory available as standard on any oscilloscope. Deep memory allows the scope to sample at higher speeds for longer periods without gaps. For example, even at the sampling rate of 5 GS/s, the PicoScope6000/6000E can capture 200 ms of uninterrupted data. Zoom, pull and buffer overview tools in the PicoScope software make it easy to find details of interest.
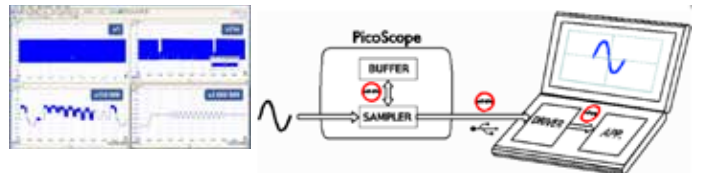

The First & New Class Scopes(SXRTO)-PicoScope 9400 series

- 2 & 4 channels (50 Ω)
- SXRTO (sampler-extended real-time oscilloscope)
- 5 GHz, 16 GHz bandwidth
- Up to 2.5 TS/s (0.4 ps resolution) equivalent-time sampling
- Four 12-bit 500 MS/s ADCs
- Up to 250 kS trace length
- Pulse, eye and mask testing down to 45 ps and up to 11 Gb/s
- Clock and data recovery (Optional, 5 Gb/s or 8 Gb/s)
- Combine the benefits of RTS + ETS + HBW
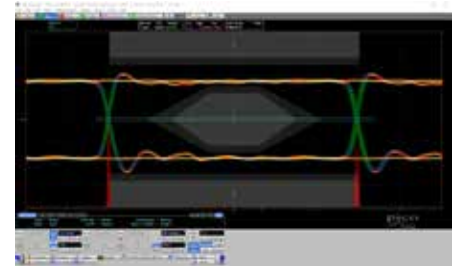
High speed serial data and TDR/TDT test solutions – PicoScope 9300 series

- Bandwidth: 30 GHz
- Real-time sampling rate: 1 MS/s
- CDR: 6.3 Mb/s-11.3 Gb/s
- Optical input bandwidth: 9.5 GHz
- ADC: 16 Bits
- Equivalent Sampling Rate: 15 TS/s
- Rise time: 14 ps
- Signal source: Pulse/Clock/NRZ/RZ
- Eye diagram, Jitter, Extinction ratio measurement of electrical/optical signal
- TDR Pulse: < 65 ps or < 45 ps
- Characteristic impedance, loss, delay measurement of cables/connectors/PCB traces
- High bandwidth probe PicoConnect 900: 4 GHz-9 GHz bandwidth; Fingertip browse or solder-in; Divide by 5:1, 10:1, 20:1; AC or DC coupling; Support all instruments with 50Ω input like real-time oscilloscope, sampling oscilloscope, spectrum analyzer, vector network analyzer, protocol analyzer.
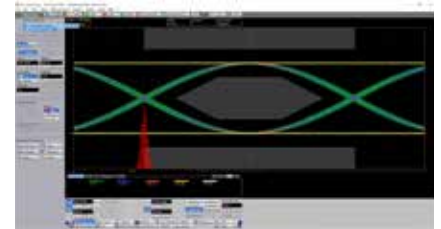
Cost efficiency & Portable Vector Network Analyzer – PicoVNA 106 & 108

- 300 kHz to 6 GHz or 8.5 GHz operation
- 118 dB (6 GHz) or 124 dB (8.5 GHz) dynamic range at 10 Hz bandwidth
- 0.005 dB (6 GHz) or 0.006 dB (8.5 GHz) RMS trace noise at bandwidth of 140 kHz
- Up to 5500 points/s, S2P measurement
- Support E-Cal automated calibration and TRL & TRM calibration
- Test automation, field service, installation test, embedded and classroom applications
- Inspection, test, characterization and calibration in the manufacture, distribution and service center industries
- Electronics component, assembly and system, and interface/interconnect ATE (cable, PCB and wireless)
- Material, geological, life science and food sciences; tissue imaging; penetrating scan and radar
- Broadband cable and harness test at manufacture, installation and fault-over-life monitoring
- Antenna matching and tuning
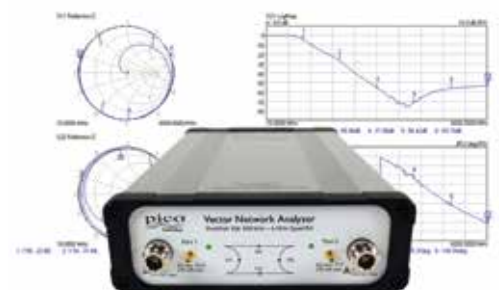
Cost efficiency & Portable RF Signal Synthesizer - AS 108

- 300 kHz to 8 GHz operation
- -15 dBm to +15 dBm dynamic range
- Fast 55 us frequency settling time to 10 ppm
- Fast amplitude settling, < 25 us to 1 dB and < 200 us to 0.1 dB
- -100 dBc/Hz phase noise at 1 GHz and 10 -100 kHz offset typical
- FM, ØM and AM modulation, internal 10 - 5000 Hz sine or external input
- Use sweep lists to emulate schemes such as QPSK, QAM, ASK, FSK
- User defined 'from power-up' stand-alone operation mode
- External Ref Clock I/O and Trigger I/O
- USB controlled from PC and display or tablet (MS Windows) , Linux or Mac to follow
- Supports multi-unit operation with trigger synchronised modulation sweeps, hops and lists
- SDK programming examples Lab View, C, C#, Python, Matlab
- Suited to bench, field or system integration applications

Temperature & Voltage & Current data loggers

- Current data logger
  PicoLog CM3: 3-phase current input, 24-bit resolution, 1% accuracy
- Voltage data logger: Includes four models
  PicoLog 1012: 10-bit resolution, 12 channels, 1% accuracy
  PicoLog 1216: 12-bit resolution, 16 channels, 0.5% accuracy
  ADC- 20: 20-bit resolution, 8 channels (or 4 differential channels), 0.2% accuracy
  ADC-24: 24-bit resolution, 16 channels (or 8 differential channels), 0.1% accuracy
- Temperature data logger: Includes two models
  TC-08: 20-bit resolution, 8 channels, ±0.2% of reading ±0.5 °C accuracy, −270 °C to +1820 °C measurement range
  PT104 (PT100 & PT1000): 24-bit resolution, 4 channels, 0.01% of reading + 0.015 °C accuracy, −200 °C to +800 °C measurement range
- PicoLog 6 software: Supports multiple different PicoLog data loggers and PicoScope oscilloscopes on the same PC; Channels can be scaled using lookup table or equation; Simple and complex programmable alarms; Data can be exported as CSV, clipboard image and PDF
- PicoLog Cloud software: Building on the proven design of PicoLog 6, PicoLog Cloud is a free upgrade that introduces many great new features like streaming live captures directly to the new PicoLog Cloud, sharing live and saved Cloud captures to anyone via browser URL

About Pico Technology

Pico Technology is a global leading manufacturer of high-performance electronic test instruments. Rooted in the strong engineering heritage of Cambridge (UK), Pico has achieved 32-year consecutive growth since its founding, through creating and leading the innovative PC-based test instruments. Its unique solutions and complete product lines provide electronic engineers high-performance yet cost-efficient tools that covers the entire design-validation-test cycle, from physical to protocol layers: Realtime oscilloscopes with built-in AWG, FG, logic analyzer, spectrum analyzer, serial protocol analyzer, offer up to 16-bit ADC resolution, 4G ultra-deep memory, 8 high resolution channels, and true differential probing. Compact 30GHz sampling scopes enable engineers to easily achieve TDR, eye-diagram, clock recovery. PicoVNA, Synthesizer, and PicoConnect probes expand to RF applications, in addition to the best-sold Pico Logger families. SDK allows users developing custom applications with other instruments realizing test automation. Lifetime free software and 5-year warranty protect customers' investment.

Pico Technology prides itself on offering innovative, high-quality and affordable alternatives to traditional bench-top test and measurement equipment, designed and built under the ISO9001:2008 quality system. We support a network of distributors in over 60 countries worldwide who are helping to build and maintain our enviable reputation in the industry. Find a local distributor, please visit: https://www.picotech.com/distributors. Get more information about Pico Technology and its products, please visit our website: www.picotech.com, or email us: pico.asia-pacific@picotech.com

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