

GPS-

# 2000HD series

## Introducing the new 12-bit high resolution scope series

The high-resolution oscilloscope has excellent signal detection and display capabilities, which helps analyse the details and characteristics of signals, and is used in high-precision power supply testing, measuring power supply ripple, optimizing device performance, and detecting It has great advantages in applications such as diagnosis of engine control units and medical equipment use.

The 7" display capacitive touch screen supports multi-touch gestures, with the addition of a user-friendly UI design, which can greatly improve the operation efficiency. It also supports mouse control and remote web control over LAN.

The trigger system supports multiple powerful triggering modes including serial bus triggering and Advanced features like History waveform recording, Search and Navigate functions, Mask Test, Bode Plot, Power Analysis, and extended waveform record capabilities are available for comprehensive waveform analysis.



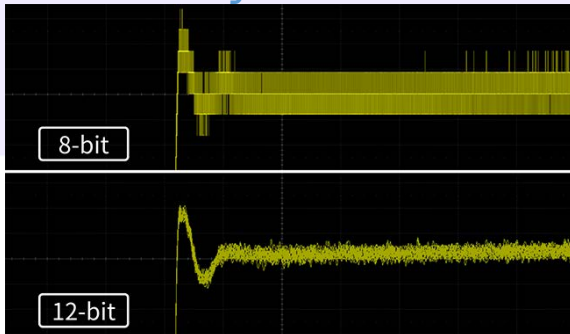
### Key Features

- Utilises 12-bit Analogue-Digital Converters with a sample rate of up to 2 GSa/s
- Front ends feature a 70 Vrms noise floor at a bandwidth of 200 MHz
- Offers 2/4 analogue channels with a maximum bandwidth of up to 200 MHz
- Serial bus triggering and decoder, supports protocols I2C, SPI, UART, CAN, LIN fitted as standard
- Optional 16 digital channels and 25 MHz waveform generator
- Incorporates SPO technology for enhanced performance
- Achieves a waveform capture rate of up to 120,000 wfms/s in normal mode and 500,000 wfms/s in sequence mode
- Supports 256-level intensity grading and colour temperature display modes
- Features a digital trigger system with various intelligent triggering options

[www.gpslimited.com/2000HD](http://www.gpslimited.com/2000HD)  
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## Product Features

### 12-bit High Resolution



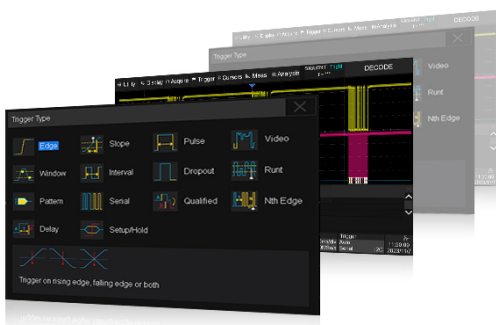
High-resolution oscilloscopes have excellent signal detection and display capabilities, which help analyse the details and characteristics of signals, and provide a great advantage in applications such as high-precision power supply testing, power supply ripple measurement, equipment performance optimization, and engine control unit testing.

### Long Memory Depth



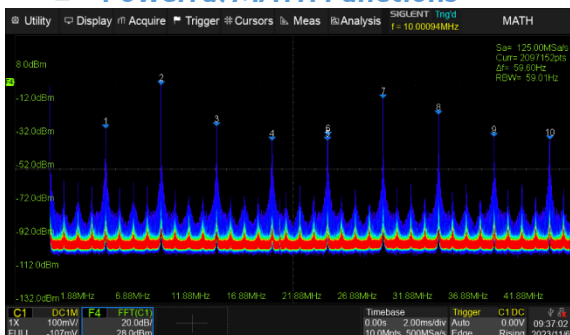
With a maximum memory depth of up to 100 Mpts, GPS-2000HD series is suitable for observing and analysing long-duration signals, low-frequency signals, and transient phenomena. With large memory depth, the oscilloscope is able to process more data, and the accuracy and stability of the calculation results are also much higher.

### Multiple Triggering & Decoding



The GPS-2000HD series has a variety of triggering types, including edge, slope, delay, set/hold, and a variety of bus triggers (serial triggers). It supports triggering and decoding of I2C, SPI, UART protocols in the embedded industry and CAN, LIN protocols in the automotive industry, and can accurately capture and intuitively display the protocol information of the bus in a table or in other ways, so that it can be tested with stability.

### Powerful MATH Functions



Built-in FFT function, the maximum number of operation points is 2Mpts, 4 independent Math waveforms, and supports user-defined operation expressions. With superior spectral resolution, it can more accurately analyse the frequency components and energy distribution of signals, easily transforming into a spectrum analyser. FFT supports a variety of window functions, ordinary, average, maximum value hold mode, support for peak detection, automatic detection of stray frequencies and marking the formation of a list of displays.

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## Product Features (cont.)

### ■ Efficient Power Analysis



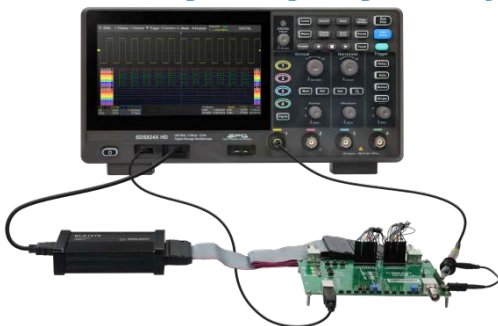
Power analysis with our voltage probe (DPB5000 series) and current probe (CP6000 series) can quickly and accurately analyse 12 parameters such as power quality, current harmonics, inrush current, transient response, etc., which helps engineers eliminate cumbersome manual configurations and complex formulae calculations. It is extremely suitable for observing abnormal harmonics, analysing harmonics, evaluating equipment stability, judging electromagnetic interference and other tests.

### ■ Excellent Loop Resistance Testing



The series comes standard with Bode plot, and with Isolated Signal Generator option or GPS LTD Arbitrary Waveform Generator, it can perform loop response testing, provide the frequency response curve of the DUT, and easily obtain the gain and phase values at each frequency point. Meanwhile, with the help of data list, cursor measurement, and automatic measurement functions, you can analyse the Bode Plot curve in detail, judge the system stability and so on.

### ■ 16 CH Digital Logic Signal Analysis



The GPS-2000HD can be used with our 16-channel logic analyser probe option (SLA1016) to add 16 digital channels to the instrument without affecting other test functions, realizing mixed-signal acquisition and analysis, and quickly solving analog-digital mixed-signal design and analysis problems.

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## Technical Specifications

Model	GPS-2104HD	GPS-2202HD	GPS-2204HD
<b>Bandwidth</b>	100 MHz	200 MHz	200 MHz
<b>Channels</b>	4	2	4
<b>Sample rate (max)</b>	One channel mode: 2 GSa/s, Two channel mode: 1 GSa/s, Four channel mode: 500 MSa/s		
<b>Memory depth (max)</b>	One channel: 50 Mpts/ch, Two channel: 25 Mpts/ch, Four channel: 10 Mpts/ch	One channel: 100 Mpts/ch, Two channel: 50 Mpts/ch, Four channel: 25 Mpts/ch	
<b>Waveform capture rate (max)</b>	Normal: 80,000 wfm/s; Sequence: 500,000 wfm/s	Normal: 120,000 wfm/s; Sequence: 500,000 wfm/s	
<b>Trigger type</b>	Edge, Slope, Pulse width, Window, Runt, Interval, Dropout, Pattern, Video, Qualified, Nth edge, Delay, Setup/Hold time, Serial		
<b>Serial trigger and decoder (standard)</b>	I <sup>2</sup> C, SPI, UART, CAN, LIN		
<b>Vertical resolution</b>	12-bit		
<b>Measurement</b>	50+ parameters, statistics, histogram, trend, and track supported		
<b>Math</b>	4 traces 2 Mpts FFT, Filter, +, -, x, ÷, ∫dt, d/dt, √, Identity, Negation, Absolute, Sign, ex, 10x, ln, lg, Interpolation, MaxHold, MinHold, ERES, Average. Supports formula editor		
<b>Data analysis</b>	Search, Navigate, History, Mask test, Counter, Bode plot, and Power analysis		
<b>Digital channel (optional)</b>	16-channel; maximum sample rate up to 1 GSa/s; record length up to 10 Mpts		
<b>USB AWG module (optional)</b>	One channel, 25 MHz, sample rate of 125 MHz, wave length of 16 kPts, isolated output		
<b>I/O</b>	USB 2.0 Host x2, USB 2.0 Device, 10 M / 100 M LAN, Auxiliary output (TRIG OUT, PASS/FAIL), SBUS (MSO)		
<b>Display</b>	7" TFT-LCD with capacitive touch screen (1024*600)		
<b>Standard accessories</b>	USB cable 1pc, Quick start guide, Passive probe (1 per channel) Certificate of calibration, Power cord 1pc		

## General Specifications

Part Numbers / Optional Accessories		
Code	Item	Part Number
GPS-2104HD	4Ch, 100MHz, 2GSa/s, 12 Bit, HD high resolution oscilloscope	302104
GPS-2202HD	2Ch, 200MHz, 2GSa/s, 12 Bit, HD high resolution oscilloscope	302202
GPS-2204HD	4Ch, 200MHz, 2GSa/s, 12 Bit, HD high resolution oscilloscope	312204

### Dimensions

312x 133 x 151mm (w x d x h) approx.

### Mass

2.6kg (main unit) / 3.8kg (with packaging)

### Operating:

0°C ~ 40°C (storage -20°C to 60°C)

Relative humidity ≤ 85%

3000m (operating), 15000m (non-operating)

### Services

1-year warranty (subject to product registration with GPS Ltd)

Visit [www.gpslimited.com/register-product](http://www.gpslimited.com/register-product)

Service and calibration available.

Please contact for more information

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