

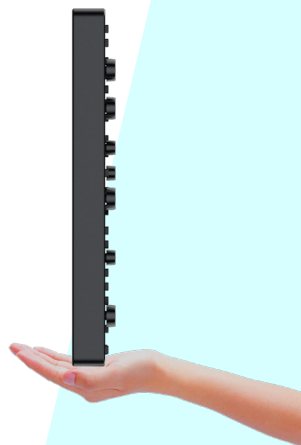
GPS-

# 5504ZX

14-inch 1920 x 1200-pixel touch screen for unrivalled waveform display

The GPS-5504ZX oscilloscope is an ultra-modern instrument, garnering all the latest technical developments to produce and a super effective solution for both field and lab applications. The instrument comes standard as a 500MHz, 4-channel digital oscilloscope with a 3GSa/s sampling rate, 360Mpts memory depth and a high waveform capture rate of 230.000wfm/s. Equipped with instrument-dedicated operating system, and accumulation of 10 years of UI design experience, this scope has evolved to simplify all user interfaces so that newer engineers can quickly grasp and get up and running within 5 minutes.

The oscilloscope supports PC and smartphone remote control and can simultaneously save data on multiple channels.



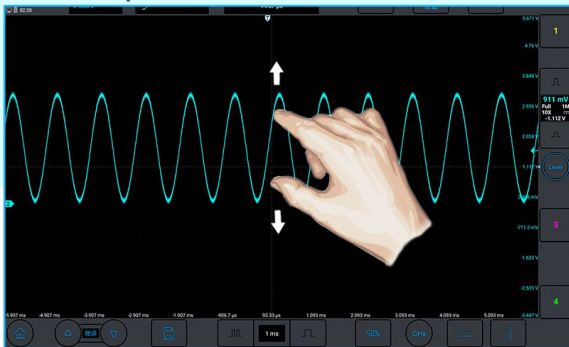
## Key Features:

- Max. 500MHz bandwidth
- Up to 360Mpts memory depth
- Simultaneous data saving on multi-channel
- High / Low pass bandwidth filtering
- Noise floor < 90 Vrms
- Standard segmented storage function
- Advanced math and FFT function
- 230,000 wfms/s waveform capture rate
- 14" anti-glare touch screen, 1920 x 1200 res.
- Ultra-friendly UI, get working in 5 minutes
- Trademark probe interface, auto-match attenuation
- Mobile APP, PC remote control, SCPI commands
- 32G internal storage to save big data
- Standard decodes: RS232/422/485/UART, CAN, CAN FD, LIN, SPI, I C, ARINC-429, MIL-STD-1553B

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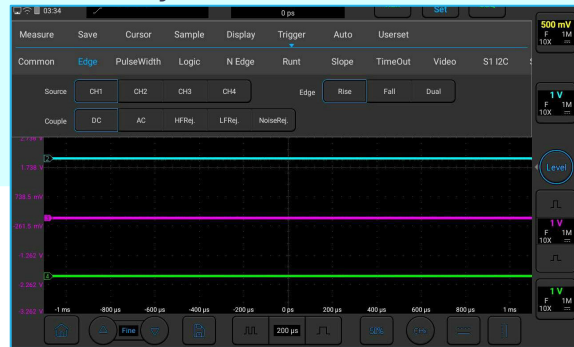
## Product Features

### Smooth Operation



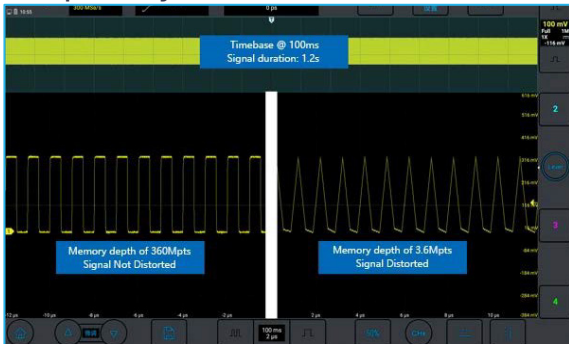
14" fully touch interactive display. All operations can be completed by touch for a more intuitive experience.

### User-friendly Interface



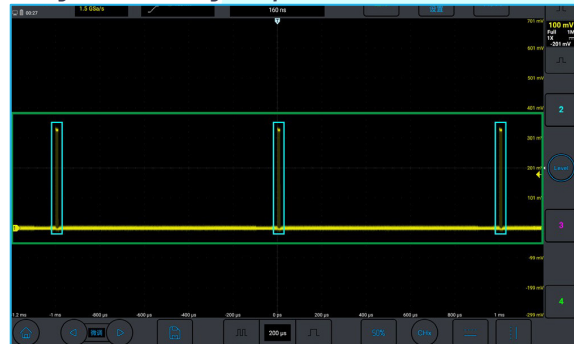
With over 10 years of UI design experience, the 5504ZX simplifies all user interfaces so that engineers can be up and running within 5 minutes.

### Deep Memory



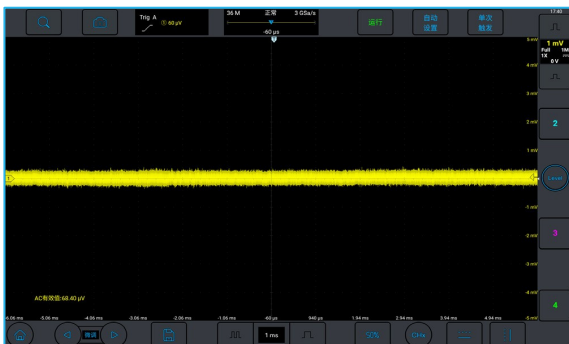
Insufficient memory depth often leads to distortion when long time-base signals are expanded. With memory depth of up to 360Mpts, there is no reduction in performance even with two channels opened at the same time. The signals will still maintain excellent fidelity even over a long period of time.

### Segmented Storage Acquisition



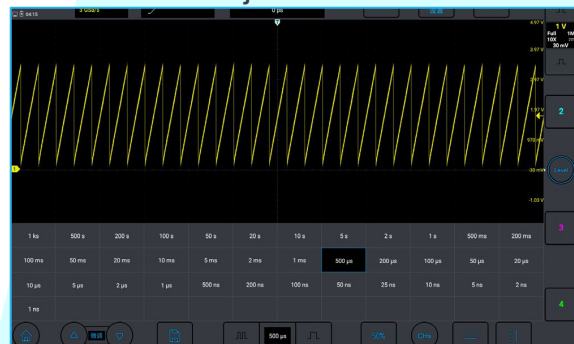
Traditional single acquisitions can only capture signals continuously, wasting storage depth when testing intermittent signals like laser pulses or serial buses (also difficult to trace back captured events). Segmented storage acquisition can capture the target signal and allows to play back captured ones, effectively captures target signals multiple times over a long period of time.

### Low Noise



Even at its full bandwidth of 500M, the noise floor is still less than 90µVrms, allowing engineers to accurately capture weak but important signals during daily debugging and signal analysis.

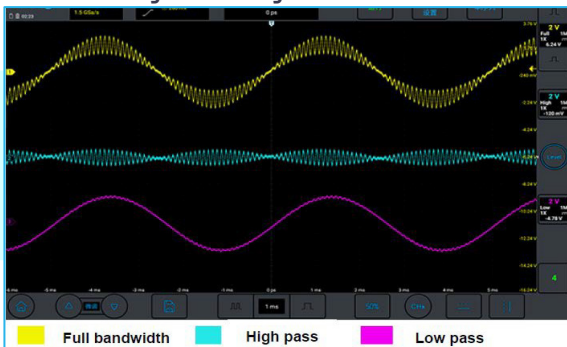
### Faster Time-base Adjustment



Traditional oscilloscopes need to step in a sequential manner when adjusting the time base. In addition to traditional sequential steps, the scope also has a time base matrix, allowing user to select any time base in one click.

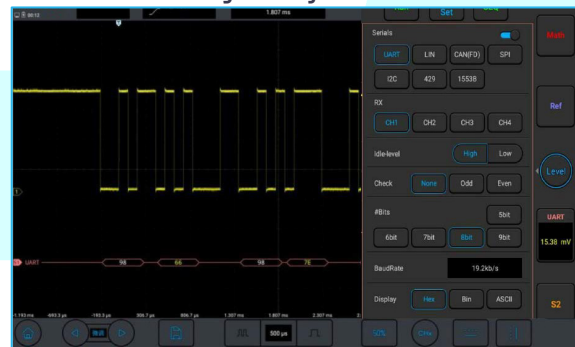
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## Hardware Digital Filtering



Hardware digital filtering can effectively filter out interference and noise, improving signal accuracy. Digital filtering can selectively pass or block signal components within a specific frequency range.

## Serial Bus Decoding & Analysis



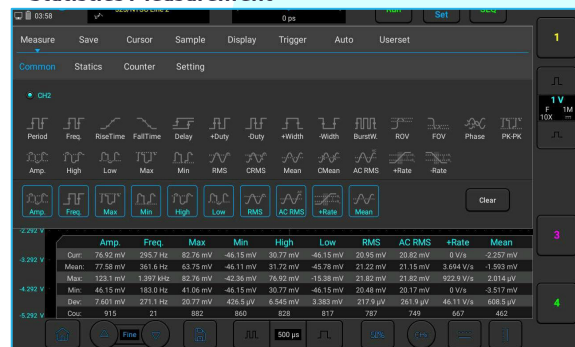
The 5504ZX comes as standard with RS-232/422/485/ UART, CAN, LIN, CAN FD, SPI, I2C, ARINC-429, 1553B. With the TXT decoding text mode, the data can be transferred to CSV format.

## Multiple Trigger Functions



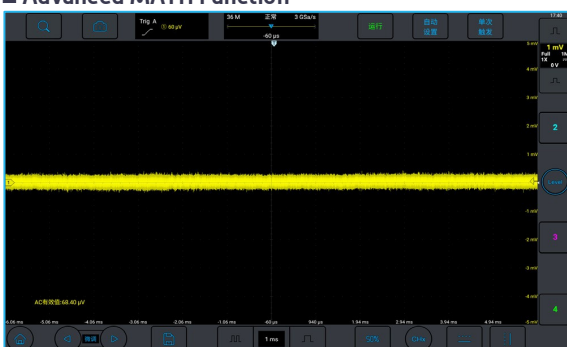
The 5504ZX provides multiple triggers, including edge, pulse width, logic, Nth edge, Runt, slope, bus decoding, etc. Whether you need to capture specific edge transitions, or observe duration and frequency of the target signal, it meets your requirement with ease.

## Statistics Measurement



Simultaneously calculate the average, maximum, minimum, and root mean square of 10 measurement items, with a max count of up to 10,000. Every waveform data is accurately recorded, providing more accurate and comprehensive readings.

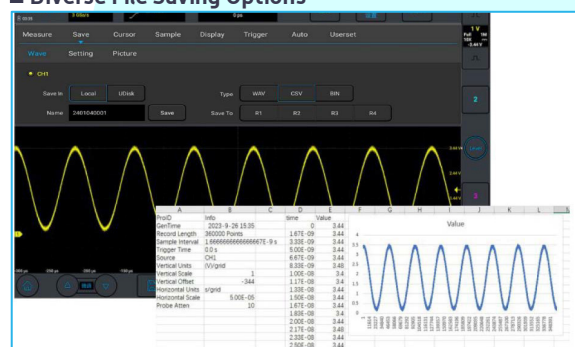
## Advanced MATH Function



Supports various mathematical calculations: addition, subtraction, multiplication, division, integration, differentiation, etc.

Supports custom function formula for advanced signal analysis. Also support FFT (Fast Fourier Transform) for real-time spectral analysis of collected waveform signals.

## Diverse File Saving Options



Users can save waveforms and measurement results as binary (BIN) or CSV format files for data analysis using Matlab or Excel. Also support saved as WAV format, open & analysis inside the oscilloscope. Additionally, user can save waveforms as images or record videos.

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## Key Specifications

GPS-5504ZX Tablet Oscilloscope	
Bandwidth	500 MHz
Rise time	≤ 0.7ns
Analog channels	4
Sampling rate	3 GSa/s
Memory depth	360 Mpts
Waveform capture rate	230'000 wfms/s
Vertical resolution	8 bits
Noise	< 90μVrms
Bus decoding (standard)	RS-232/422/485/UART, CAN, CAN FD, LIN, SPI, I <sup>2</sup> C, ARINC-429, MIL-STD-1553B
Interfaces	USB 3.0 Host, USB type-C, LAN, HDMI, Trigger out
Display	14" TFT LCD touch screen, 1920*1200 resolution
Trigger types	Edge, Pulse Width, Logic, Nth Edge, Runt, Slope, Time Out, Video, Serial

## Further Specifications

Vertical System	
Bandwidth Filter	20MHz, High Pass / Low Pass
Coupling	DC, AC, GND
Input Impedance & Acc.	1MΩ±1%    50Ω±1%
Vertical Resolution	8 bits
Vertical Divisions	10div
Vertical Scale Factor	1mV/div~10V/div (1MΩ) ; 1mV/div~1V/div (50Ω)
DC Gain Accuracy	5mV/div ~10V/div : ≤ ±2.0% ; ≤ 2mV/Div : ≤ ±3.0%
Vertical Offset Range (1MΩ/50Ω)	±2.5V (@probe X1, < 500mV/div) , ±125V (@probe X1, ≥ 500mV/div)
Noise Floor	≤ 90μVrms (1mV/div, 1MΩ)
Max. Input Voltage	CAT I 300Vrms 400Vpk (1MΩ) , 5Vrms (50Ω)
Channel isolation	> 40dB (≤ 100MHz) , > 35dB (> 100MHz)
Vertical expansion datum	Screen center, channel zero point
Probe Attenuation Ratio	1mX~10kX, 1-2-5 sequence, support customization

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## Further Specifications (cont.)

Horizontal System	
Horizontal scale	1ns/div~1ks/div
Roll mode range	200ms/div~1ks/div
Time base accuracy	20ppm
Horizontal divisions	12div
Time base delay time range	-12 div ~ 12ks, resolution: 1 pixel

Trigger System	
Trigger mode	Auto, Normal, Single
Trigger level range (analog)	±5div from screen center, analog channel
Hold off range	200ns~10s
Trigger coupling and frequency (analog)	DC, AC(110Hz), low frequency (58kHz), high frequency (58kHz), noise (18MHz)
Trigger Types	Edge, Pulse Width, Logic, N Edge, Runt Pulse (Runt), Slope, Time Out, Video, Serial
Bus decoding	RS-232/422/485/UART, CAN, CAN FD, LIN, SPI, I2C, ARINC429, 1553B

Sampling System	
Max. Real-time sampling rate	3G Sa/s (Either one of CH1 & CH2 is open, and either one of CH3 & CH4 is open) 1.5G Sa/s (Both CH1 and 2CH, or both CH3 and CH4 are open)
Memory depth (Max.)	360Mpts/36M/3.6M/360K/36K/3.6K/ Auto (Either one of CH1 & CH2 is open, and either one of CH3 & CH4);  180Mpts/18M/1.8M/180K/18K/1.8K/ Auto (Both CH1 and 2CH, or both CH3 and CH4 are open)
Peak sampling interval	single channel 333ps, dual channel 666ps
Average	2,4,8,16,32,64,128,256
Envelope Times	2,4,8,16,32,64,128,256, ∞

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## Further Specifications (cont.)

Measurements	
<b>Auto measurements</b>	Period, frequency, rise time, fall time, delay, positive duty cycle, negative duty cycle, positive pulse width, negative pulse width, burst pulse width, positive overshoot, negative overshoot, phase, peak-to-peak, Amplitude, High, Low, Maximum, Minimum, RMS, C RMS, Average, C Average, AC RMS, Positive Slope, Negative Slope  *C represents the first period, indicating a certain value in the first period of the waveform
<b>Hardware frequency counter and resolution</b>	Support each analog channel, 6bit, 2Hz~max. bandwidth, pk-pk > 0.8div
<b>Cursor</b>	Horizontal, Vertical, Cross
<b>Cursor resolution</b>	1 pixel
MATH	
<b>Dual waveform</b>	+, -, *, /, Analog channel
<b>FFT</b>	Points: max. 360k; Source: Analog channel; Window: Rectangular, Hamming, Blackman, Hanning
<b>AX+B</b>	A: $\pm 1k$ , Min. Resolution 1p or 4bit B: $\pm 1k$ , Resolution 1p or 5bit X: Analog channel
<b>Advanced math</b>	Advanced input, including +, -, *, /, <, >, $\leq$ , $\geq$ , ==, !=, &&,   , (, ) , !, sqrt, abs, deg, rad, exp, diff, ln, sin, cos, tan, intg, lg, asin, acos, atan

Display	
<b>Display</b>	14" capacitive TFT touch screen, 1920*1200 resolution, 12*10 Divisions
<b>Persistence</b>	Auto, 10ms~10s, $\infty$
<b>Time base mode</b>	YT, XY, Roll, Zoom
<b>Expand base</b>	Center, trigger position
<b>Waveform Display</b>	Dot, line, adjustable brightness
<b>Waveform Update Rate</b>	230,000 wfms/s

Storage	
<b>Storage media</b>	Local, USB drive
<b>ROM storage</b>	32GB
<b>Storage format</b>	WAV, CSV, BIN

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## Further Specifications (cont.)

System	
Self-calibration	Support
Languages	English, Chinese, German, French, Czech, Korean, Spanish, Italian, etc
Operating System	Android
Built-in apps	App Store, Browser, Oscilloscope, Calendar, Clock, Gallery, Calculator, User Guide, Electronic Tools, File Manager

Interfaces	
USB3.0	4, read and edit
USB Type-C	1, read and edit
LAN	1
4-pin aviation power socket	1
Probe calibration signal	1kHz, 2Vpk-pk
HDMI	HDMI 1.4
Supported interfaces	PC, Android/iOS remote control apps, SCPI

### Standard Accessories

MSP-BNC adaptor  
 Passive probes (4 pcs)  
 220V AC EU power cord (unit is 220V and 110V selectable)  
 Standard Certification

### Power

100~240V AC, 50/60Hz

### Consumption

< 120W

### Optional Accessories

High voltage differential probe  
 Current probe  
 (please contact for further details)

## General Specifications

Part Numbers / Optional Accessories		
Code	Item	Part Number
GPS-5504ZX	digital storage oscilloscope, 500 MHz, 4 channels, 8-bit	185504

### Dimensions

400 x 280 x 36mm / 15.7 x 11 x 1.4" (w x d x h) approx.

### Mass

4.3kg/9.5lbs approx.

### Operating

0°C ~ 45°C  
 85%RH, 40°C, 24hours  
 ≤3000m

### 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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