

Tablet Oscilloscope tBook mini TO1000series



70MHz, 100MHz, 150MHz bandwidth, 2 or 4 analog channels

1 GSa/s real-time sample rate

14Mpts or 28Mpts memory depth

Up to 80,000wfm/s waveform capture rate

Up to 5 hours lithium battery (Options)

8" TFT LCD & 800*600 pixels high resolution Multi-touch capacitive screen

Gradient waveform display with 256 intensity levels

Trigger functions: Edge, Pulse, Logic, Time Out, Runt, Slope, N Edge, Alternating and Video

Built-in 8G memory, waveforms and screenshots can be viewed and edited in scope

Various I/O port, LAN, Wi-Fi, USB2.0, USB Device, HDMI, Trigger out

Innovation, makes test simpler.

Compared with traditional oscilloscope, Micsig tablet oscilloscope will bring you new operation experience and it will make your test and measurement work simpler & easier.

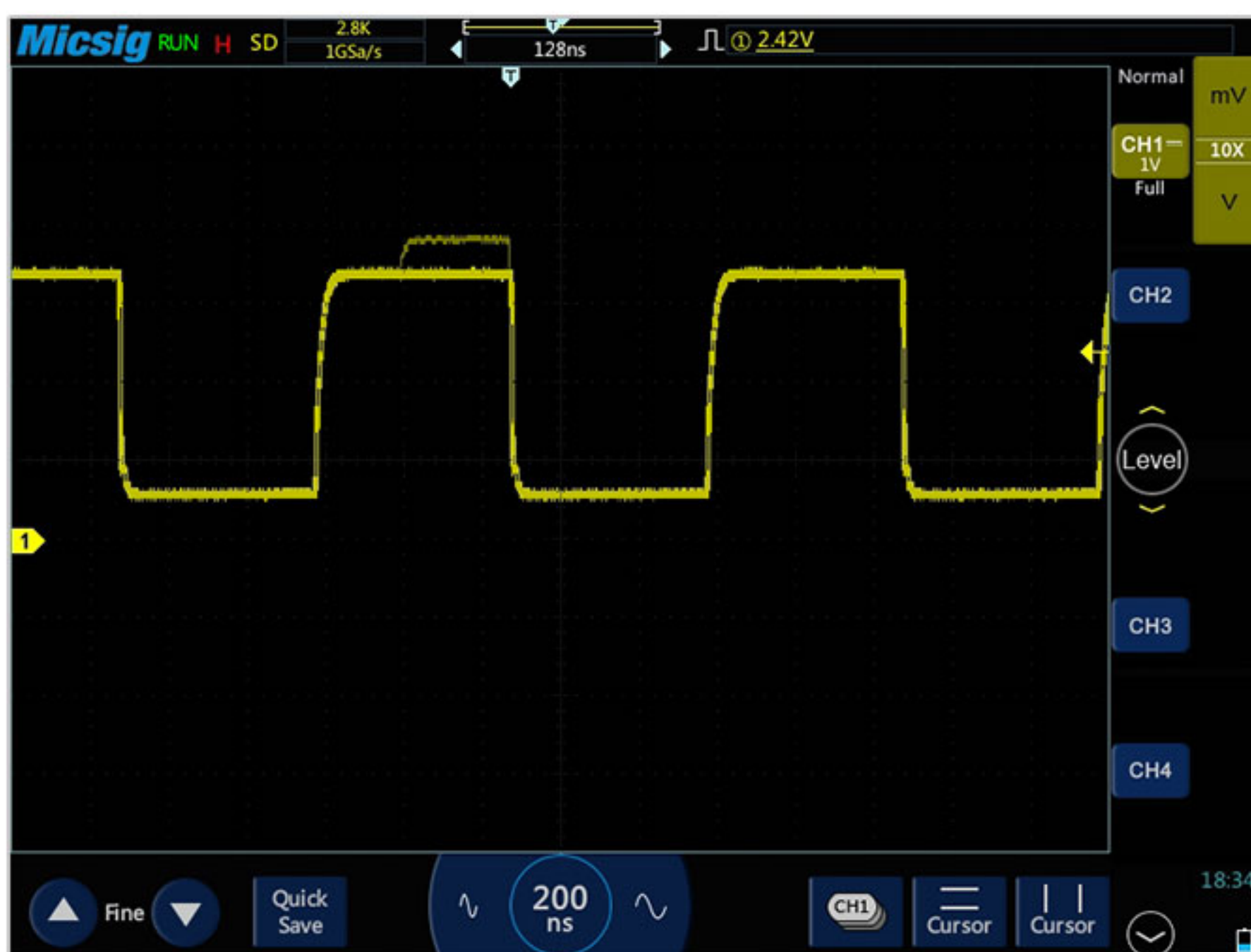
Micsig tBook mini TO1000 series is an entry level digital oscilloscope that will meet your requirements for excellent performance at an ultra-low price point. A portable and sleek design saves previous space on your workbench. Using high resolution multi-touch capacitive screen with intuitive menus, the TO1000 series is engineered to deliver a truly state-of-the-art experience.



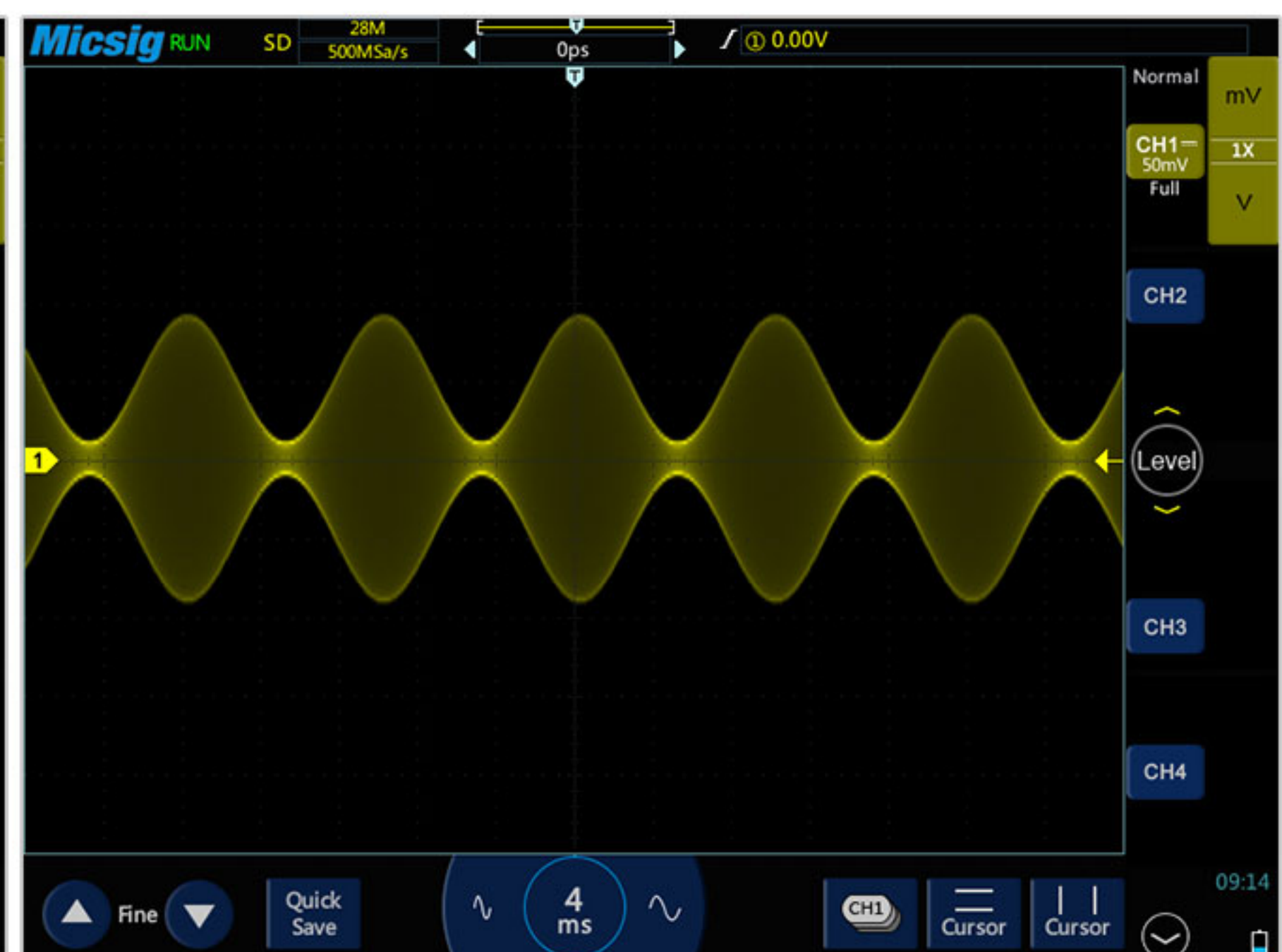
Specification

| Model | TO1072 | TO1074 | TO1102 | TO1104 | TO1152 |
|----------------------|--|--------------|---------------------------|---------------------------|---------------------------|
| Bandwidth | 70MHz | 70MHz | 100MHz | 100MHz | 150MHz |
| Rise time | ≤5ns | ≤5ns | ≤3.5ns | ≤3.5ns | ≤2.3ns |
| Input channel | 2 | 4 | 2 | 4 | 2 |
| Sample rate | 1G Sa/S | 1G Sa/S | 1G Sa/S | 1G Sa/S | 1G Sa/S |
| Memory depth | 14Mpts | 14Mpts | 28Mpts | 28Mpts | 28Mpts |
| Max capture rate | 80,000 wfm/s | 80,000 wfm/s | 80,000 wfm/s | 80,000 wfm/s | 80,000 wfm/s |
| Bandwidth limitation | 20MHz | 20MHz | 20MHz,high pass, low pass | 20MHz,high pass, low pass | 20MHz,high pass, low pass |
| Interface | Wi-Fi,LAN,HDMI,USB Host,USB Device,GND,DCPower,Trigger out | | | | |
| Screen | 8 inches TFT LCD 800*600 pixels display resolution,14*10 grids | | | | |
| Dimension | 250*200*55mm | | | | |
| Battery(optional) | Built-in lithium battery, working time is up to 5 hours continuously . | | | | |

Features and benefits



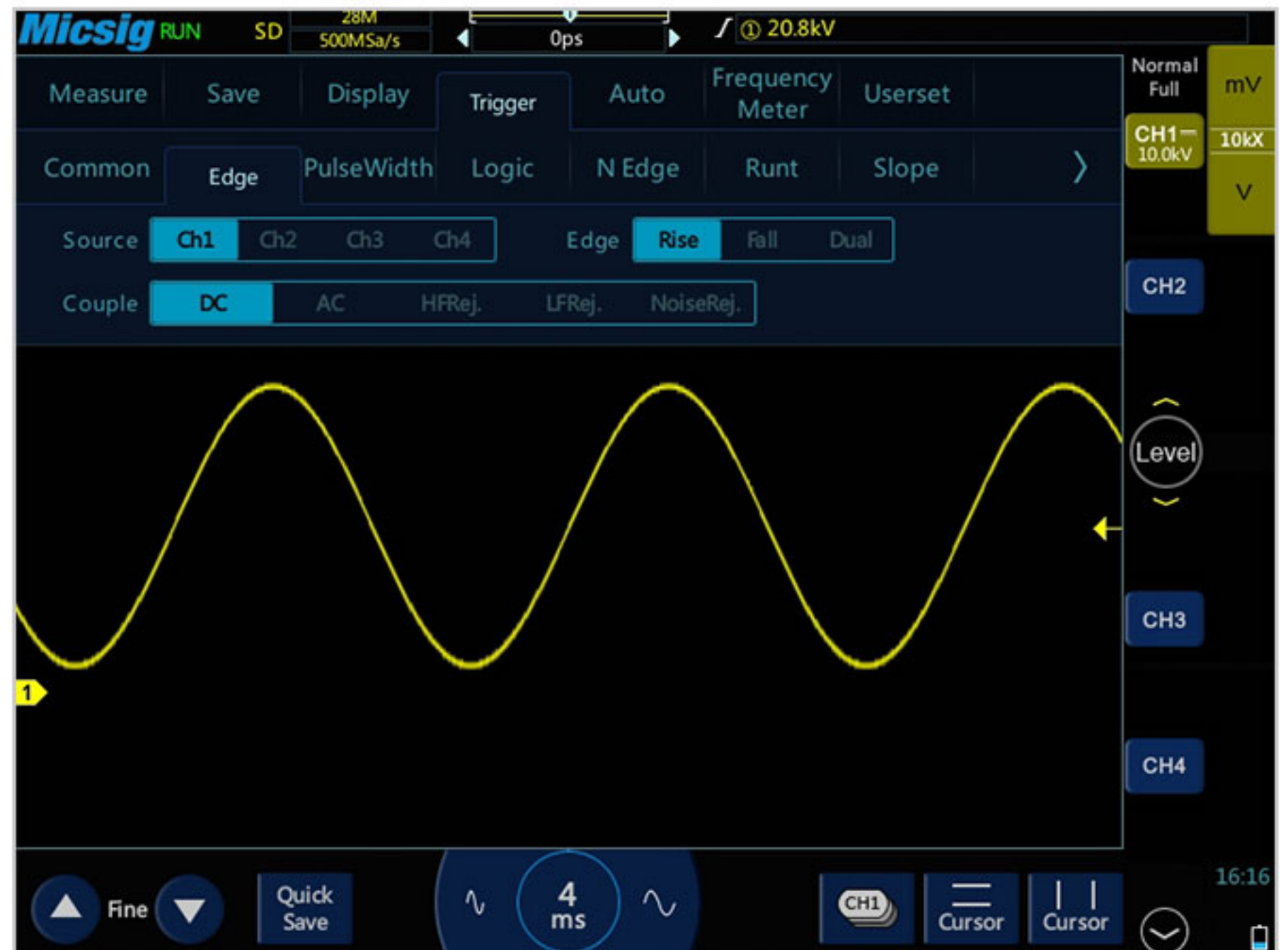
Up to 80,000wfm/s capture rate



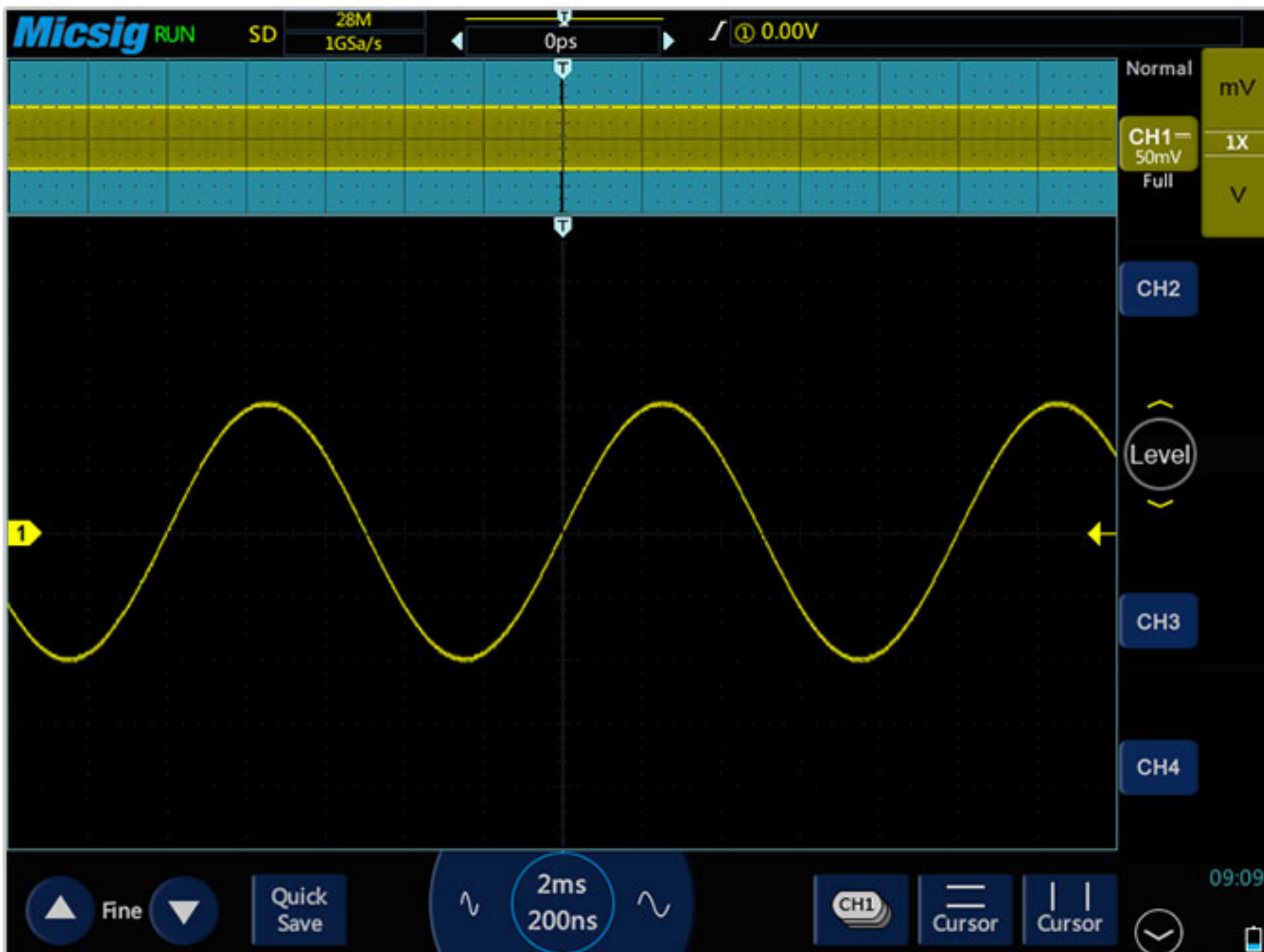
Gradient waveform display with 256 intensity levels



31 types of auto measurements



Various trigger functions



Up to 28Mpts memory depth



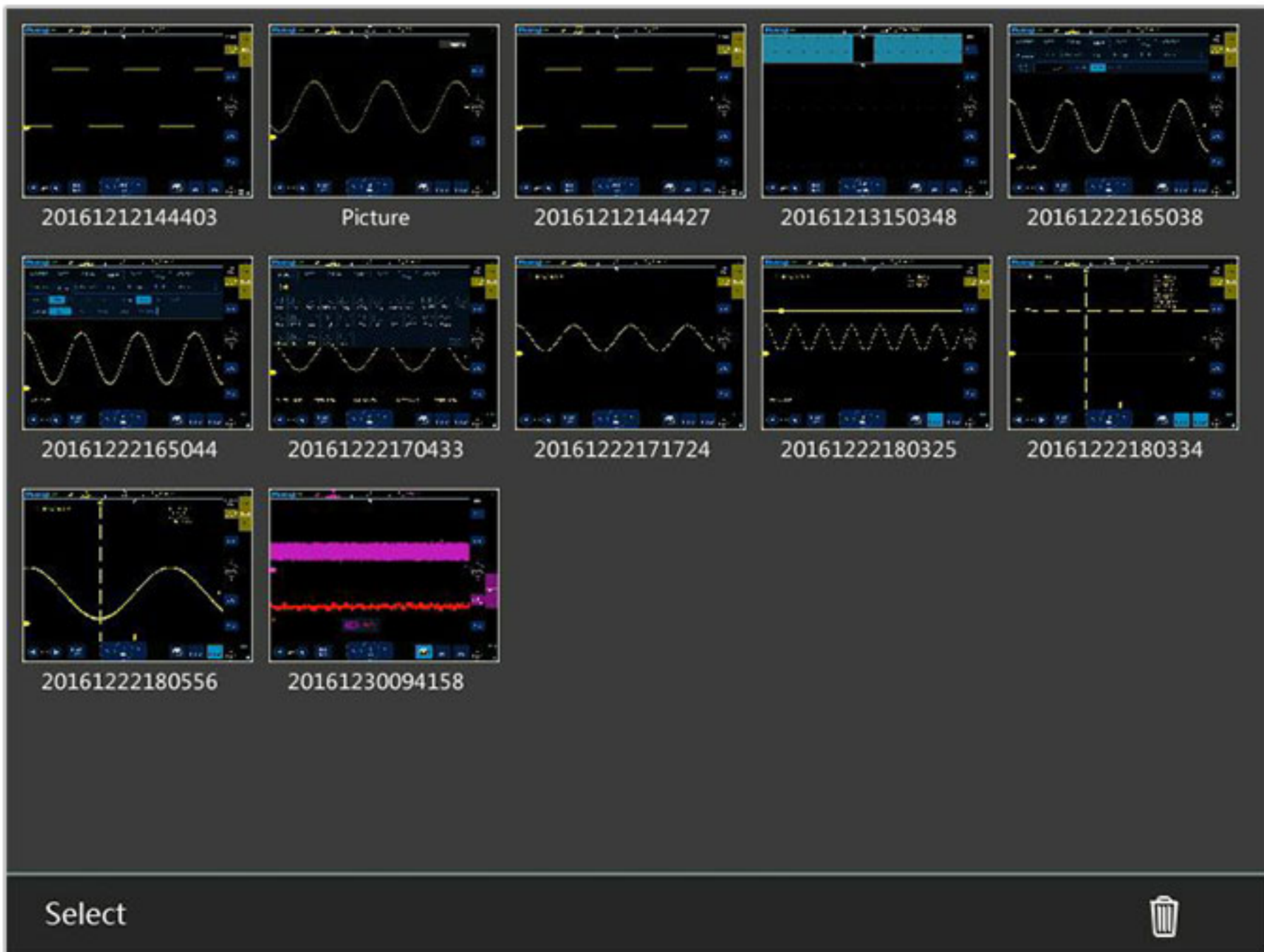
Quicksave



Free PC software



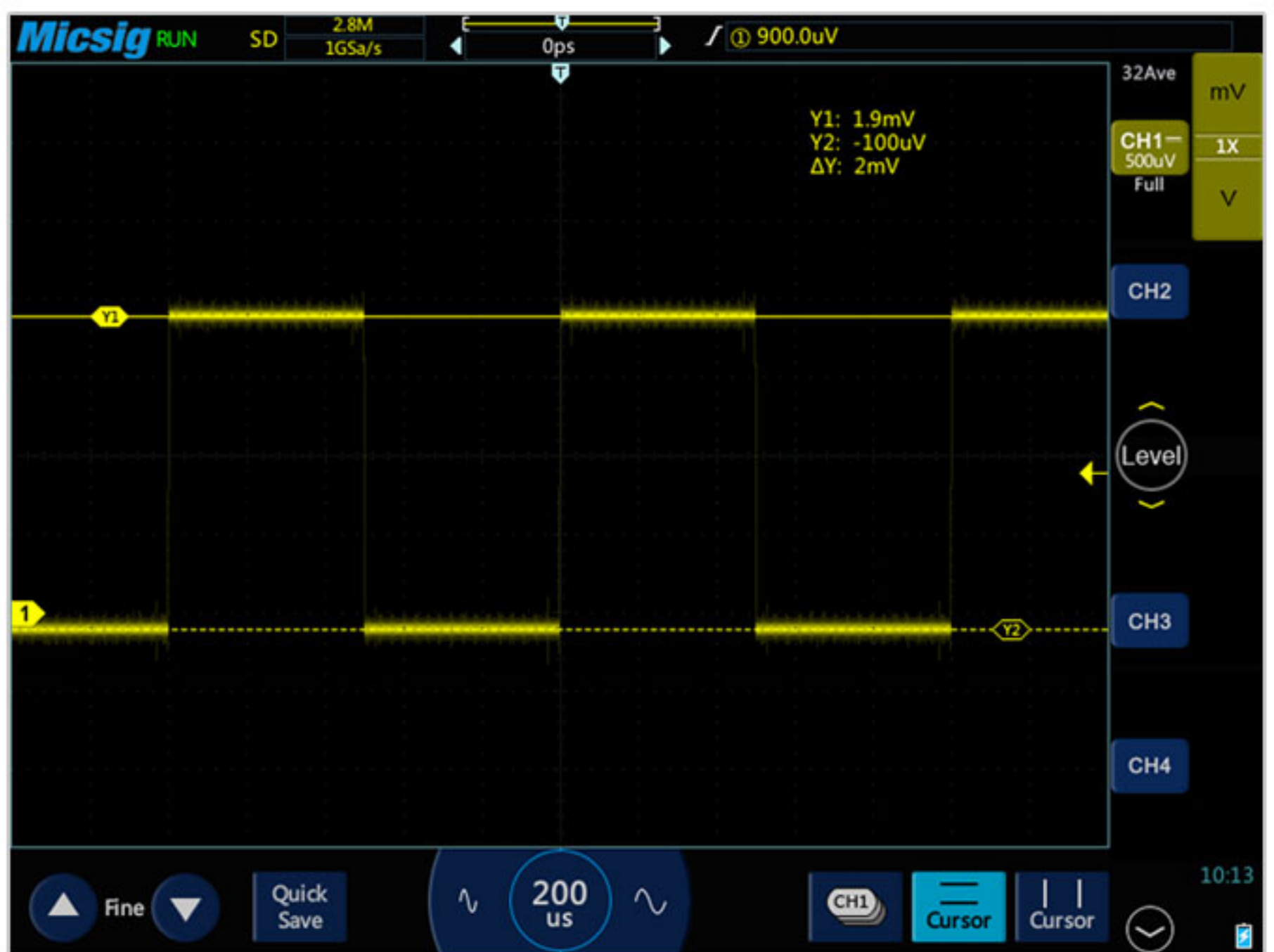
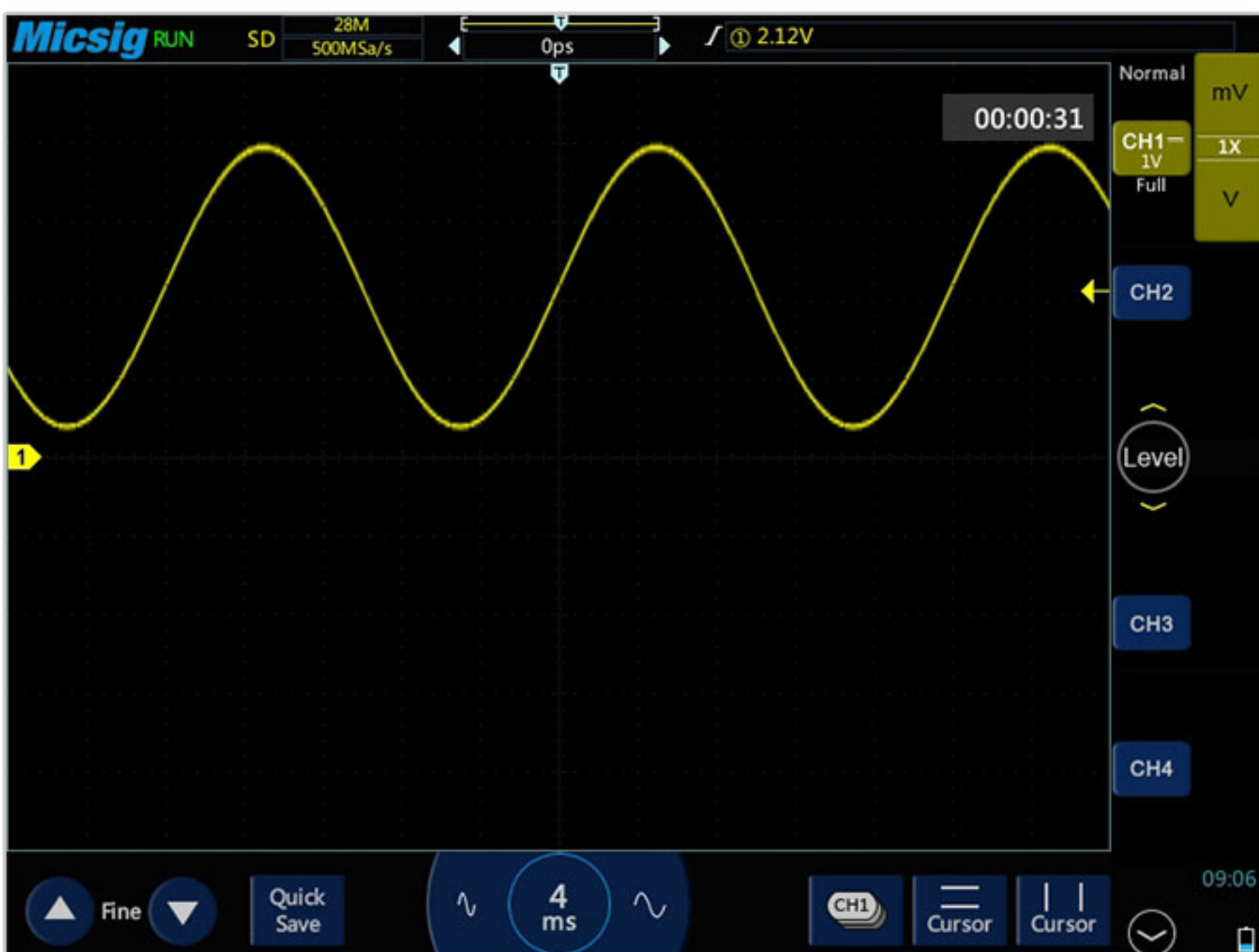
Mouse operation



8G built-in storage memory

App(Android)

Optional software accessories



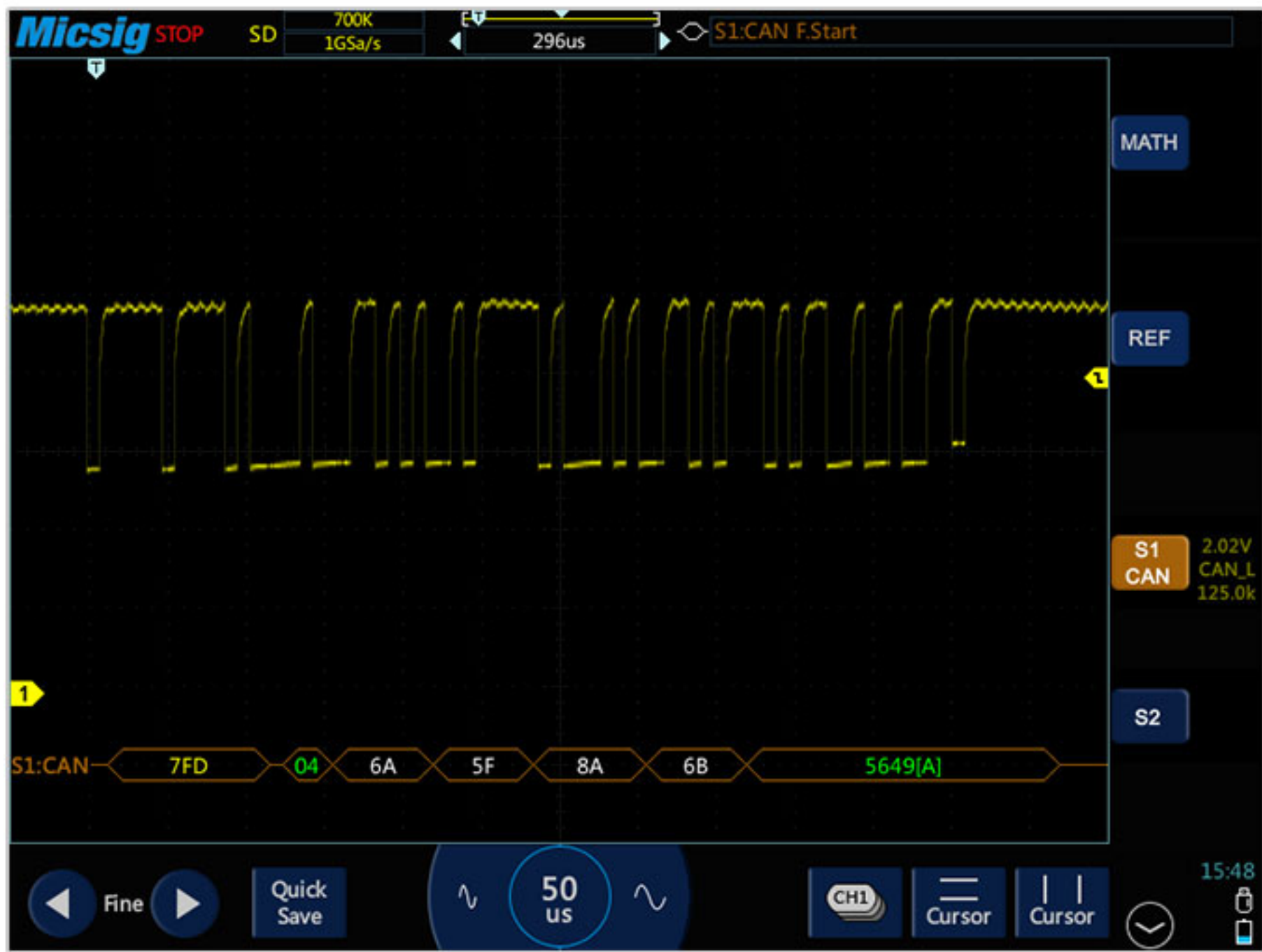
Video record

Vertical sensitivity 500μV/div



Wi-Fi

HDMI



**UART/RS232/RS422/RS485,LIN,CAN,
SPI,I2C**

Specifications

All specifications apply to all models unless noted otherwise.

Horizontal system

| | |
|-----------------------|-----------------------|
| Time base range | 2ns/div to 1ks/div |
| Time base delay range | -14 divisions to 14ks |
| Clock skew | $\leq \pm 2$ ppm/Year |
| Time based accuracy | ± 20 ppm |

Vertical system

| | |
|-----------------------|---|
| Bandwidth limitation | 20MHz(TO1072/TO1074) 20MHz high pass, low pass(TO1102/TO1104/TO1152) |
| Input coupling | DC, AC, GND |
| Input impedances | $1M\Omega \pm 1\% 14.5pF \pm 3pF$ |
| Vertical resolution | 8bits |
| DC gain accuracy | $< \pm 2\%$ ($1M\Omega$) |
| Vertical scale | 1mV/div to 10V/div ($1M\Omega$) |
| Channel to channel | ≥ 40 dB (100:1) |
| Offset range | ± 6 div |
| Maximum input voltage | CAT I 300V ($1M\Omega$) |

Sampling system

| | |
|---------------------------------------|---|
| Sampling mode | Real time sample rate |
| Peak sampling | |
| Sample rate 1G Sa/s | All the sampling glitches in scanning rate are narrow to single channel 1 ns, dual channel 2 ns .four channel 4ns |
| Max duration in the max sampling rate | |
| Sample rate 1G Sa/s | 28/14ms |
| Sample rate 500MSa/s | 56/28ms |
| Sample rate 250MSa/s | 56/28ms |
| Average | Average of sampling for N times N is chosen from 2, 4, 8, 16, 32, 64, 128, 256 |
| Envelope | Envelope of sampling for N times N is chosen from 2, 4, 8, 16, 32, 64, 128, 256, ∞ |

Trigger system

| | |
|------------------|---|
| Trigger mode | Normal, Auto, Single |
| Trigger coupling | DC, AC, HF reject(> 50 KHz), LF reject(< 50 KHz), noise reject |
| hold off range | 200ns to 10s |
| Trigger type | |
| Edge | Positive, negative, or either slope on any channel input. Coupling includes DC, AC, HF reject, LF reject, and noise reject. |
| Pulse Width | Trigger on width of positive or negative pulses that are $>$, $<$, $=$, \neq , or inside/ outside a specified period of time (8ns~10s). |
| Logic | Trigger when any logical pattern of channels goes false or stays true for specified period of time (8ns~10s). Any input can be used as a clock to look for the pattern on a clock edge. Pattern (AND, OR, NAND, NOR) specified for all input channels defined as High, Low, or Don't Care |
| Video trigger | Trigger on all lines or individual lines, odd/ even or all fields on PAL/625 SECAM、 NTSC/525、 720P、 1080I、 1080P video signals. |
| Time out | Trigger on an event which remains high, low, oreither, for a specified time period. Selectable from |
| Slope | Positive slope (Great than, lower than, within specific interval) Negative slope (Great than, lower than, within specific interval) |
| Runt | Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again. Event can be time- or logic qualified. |
| Nth edge | Edge type: Risingm Falling Idle time: 16ns to 4s Number of edges 1 to 65535 |

Waveform measurement

| | |
|-------------------|---|
| Cursor | Horizontal Cursor, Vertical Cursor, Cross Cursor |
| Auto measurements | 23, of which up to five can be displayed on-screen at any one time. Measurements include: Period, Frequency, Rise Time, Fall Time, Delay, Positive duty Cycle, Negative Duty Cycle, Positive Pulse Width, Negative Pulse Width, Burst Width, Positive Overshoot, Negative Overshoot, Phase, Peak to Peak, Amplitude, High, Low, Max, Min, Mean, Cycle Mean, RMS, Cycle RMS. |
| Waveform math | |
| Dual Waveform FFT | Add, subtract, multiply, and divide waveforms |
| FFT | Spectral magnitude. Set FFT Vertical Scale to Linear RMS or dBV RMS, and FFT Window to Rectangular, Hamming, Hanning, or Blackman-Harris. |

Display system

| | |
|---------------------------------|---|
| Display type | 8" TFT LCD Multi point capacitive screen |
| Display resolution | 800*600 |
| Max touch point on touch screen | 5 points |
| Operation way | Full touch, Mouse |
| Afterglow time | Auto, 10ms to 10s, ∞ |
| Time Base format | YT, XY, Roll, Zoom |
| Expansion bench mark | Center, Trigger Position |
| Waveform display | Brightness is adjustable, point, Line |
| Grid | 14*10 div, Brightness of the grid is adjustable |
| Grey level | 256 level |
| Language | English, Simplified Chinese. For more languages please contact Micsig |

Storage

| | |
|---|--------------------------------|
| Storage media | Native, U Disk |
| Built-in memory | 8G |
| Storage format | csv, wav, bin |
| Waveform quantity | Unlimited |
| waveform storage name | Support |
| display the reference waveform quantity | 4 piece |
| screenshot | Support |
| User setting number storage | Unlimited |
| User name setting | Support |
| Flash format | Comply with industry standards |

Power source

| | |
|----------------------|-------------------------|
| Power source voltage | 100 to 240V AC, 50/60Hz |
| Power consumption | < 60W |
| Fuse | 12V DC, 5A |
| Battery(Optional) | Lithium battery |

Interface

| | |
|------------------------|--|
| USB Host | Support USB mass storage devices, support read and write |
| USB Device | Support read and write |
| DC interface | For charging |
| Probe calibration Port | 1KHz, 2Vpp |
| LAN | Support |
| HDMI | Optional |
| Wi-Fi | Optional |

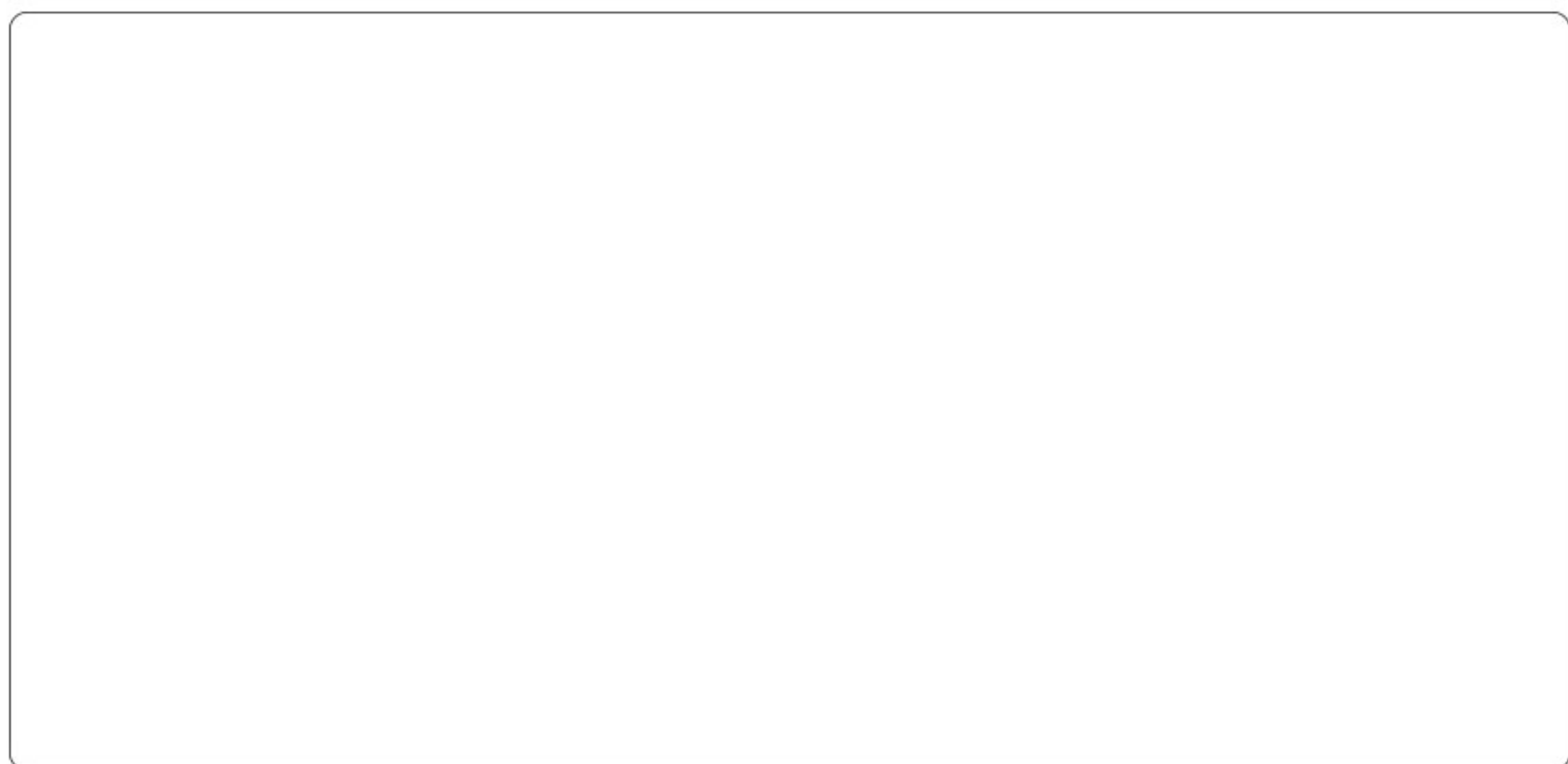
Environment

| | |
|---------------|-----------------|
| Temperature | |
| Operating | 0°C to 45°C |
| Non-operating | -40°C to 60°C |
| Humidity | |
| Operating | 5% to 85%, 25°C |
| Non-operating | 5% to 90%, 25°C |
| Altitude | |
| Operating | < 3000m |
| Non-operating | < 12000m |

Physical characteristics

| | |
|------------|-------|
| Dimensions | |
| Height | 200mm |
| Width | 250mm |
| Depth | 55mm |
| Weight | |
| Net | |
| 2CH Bare | 1040g |
| 4CH Bare | 1125g |
| Shipping | |
| 4CH Bare | 2445g |
| 2CH Bare | 2630g |
| Battery | 263g |

| Ordering Information | | |
|-------------------------------|--|--------------|
| | Description | Order Number |
| Model | TO1152 (150 MHz, 2 CH) | TO1152 |
| | TO1104 (100 MHz, 4 CH) | TO1104 |
| | TO1102 (100 MHz, 2 CH) | TO1102 |
| | TO1074 (70 MHz, 4 CH) | TO1074 |
| | TO1072 (70 MHz, 2 CH) | TO1072 |
| Standard Accessories | Tablet Oscilloscope tBook Mini | See model |
| | Localized power cord | MS-Cable |
| | Power adapter | MS-PA-1205 |
| | Probes(quantity depends on the oscilloscope channel) | MS-PR-P130A |
| | BNC | MS-Cap |
| Hardware Optional Accessories | tBook mini battery | MS-BA |
| | Carry strap | MS-Belt |
| | Screen Protector Film | MS-Mask |
| | Oscilloscope Handbag | MS-Handbag |
| Software Optional Accessories | Wi-Fi | MS-Wi-Fi |
| | HDMI | MS-HDMI |
| | Vertical sensitivity 500μV/div | MS-500 |
| | Video Record | MS-VR |
| | Serial bus decode: UART, CAN, LIN, SPI, I2C | MS-decode |
| Warranty | Repair Service 3 Years (including warranty) Probes and accessories are not covered by the oscilloscope warranty and service offerings. Refer to the datasheet of each probe and accessory model for its unique warranty and calibration terms. | |



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