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Tablet Oscilloscope tBook Series

100 to 200 MHz Bandwidth	1 to 2 GSa/s Sampling Rate	3.6/18/90 M pts Memory Depth	Full touch Mouse Operation
2 or 4 Channels	10.1" TFT LCD 1024*600 pixels Display	up to 6 hours Battery	250k or 500k wfm/s Capture Rate

WORLDWIDE FIRST



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Introduction

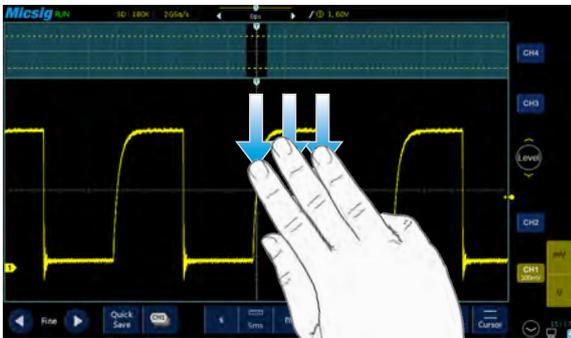
Micsig tBook series tablet oscilloscope combines with a simple and intuitive user interface, delivers a more enjoyable testing experience to you. Upon first use, you will discover that you can easily manipulate waveforms using the same gestures and controls found on your smart phone or tablet. It only takes minutes to learn to use!



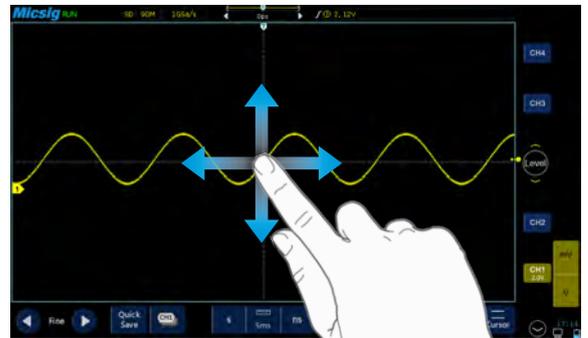
Touching and sliding the input channel buttons will open the channel's setting menu.



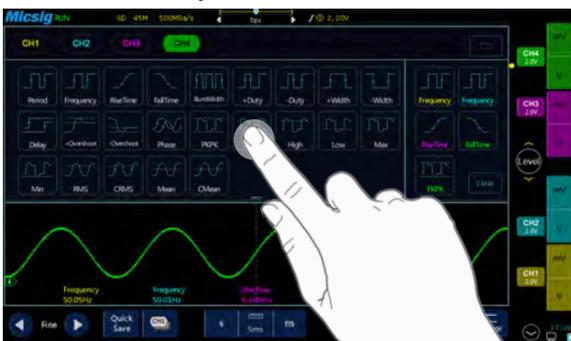
Swipe downward from the top edge to open the main menu.



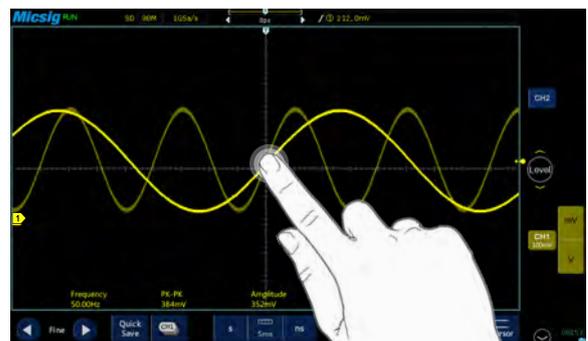
Swipe downward with three fingers simultaneously to directly access the ZOOM function directly.



Slide your finger across the screen to quickly and precisely move the waveform along any dimension.



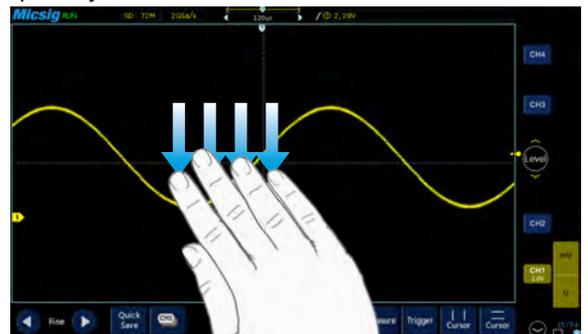
Swipe downward from the top edge of the screen to immediately access 31 types of measurement options in one time.



Gently double tap to zoom in, use the ruler slider to easily adjust the time base very quickly.

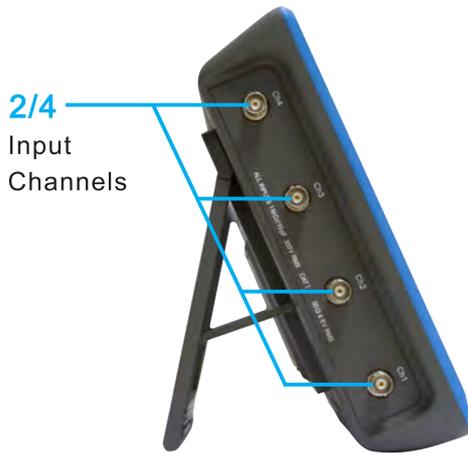
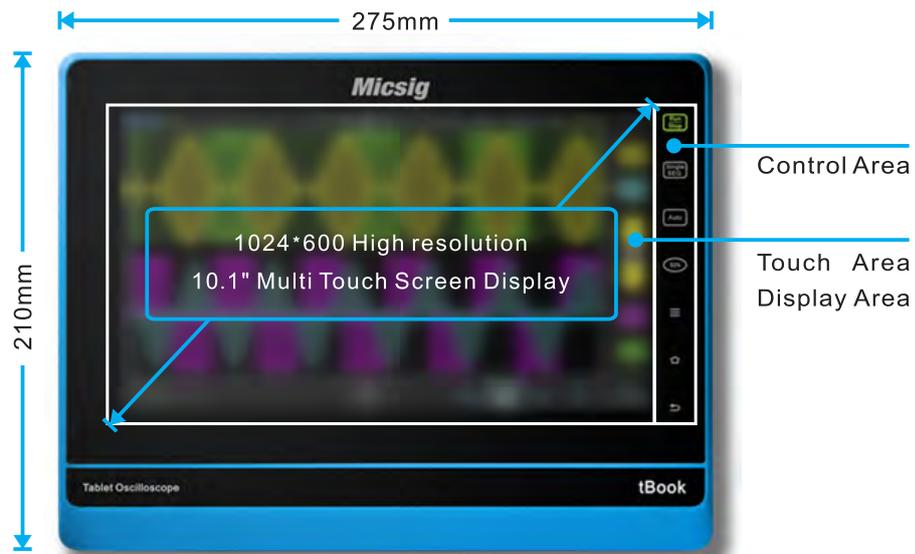


The dedicated Quicksave icon is a one-touch button for saving waveforms.

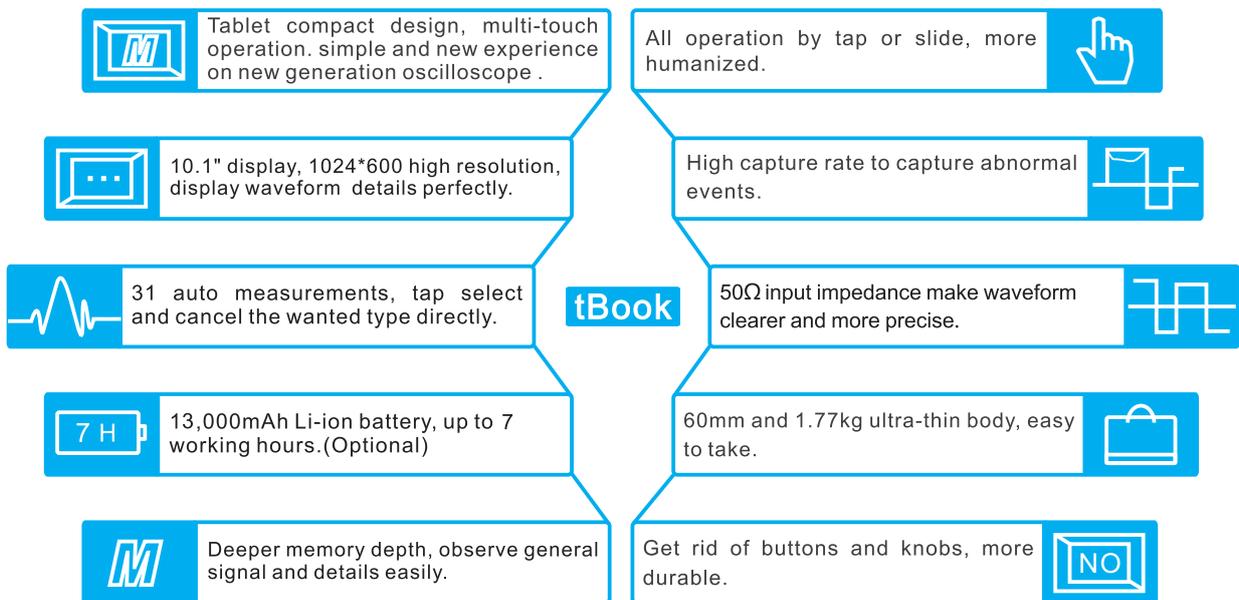


Swipe downward with four fingers to instantly take a screenshot of the waveform.

Appearance | Function | Feature

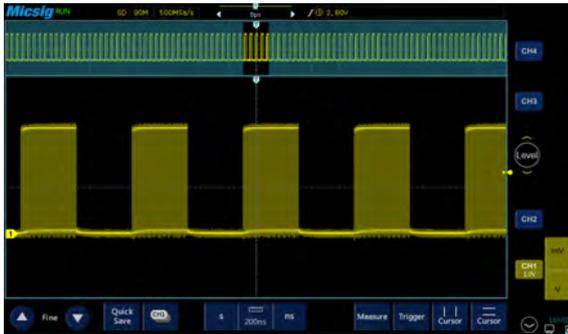


Various Interfaces



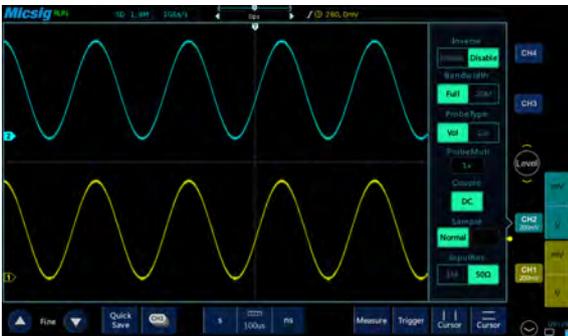
Deeper memory depth

Not only observe general waveform but also can find every waveform detail. To*** model standard memory depth is 18Mpts(90Mpts is optional) and TO***A model standard memory depth is 90Mpts.



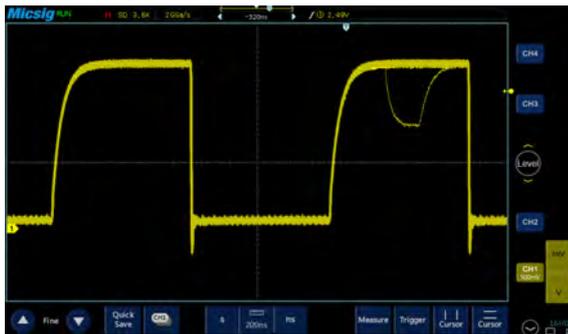
50Ω Input impedance

If choose 50Ω input impedance, it can match the 50Ω probe to make waveform clearer and more precise.



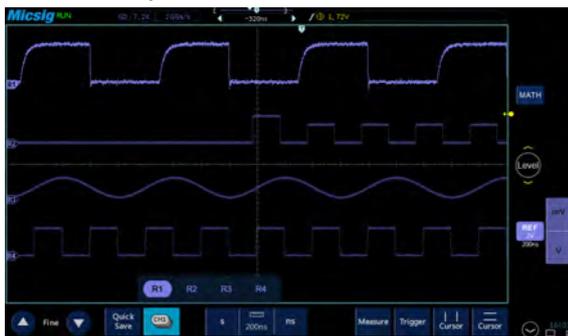
High capture rate

tBook series standard waveform capture rate is 250,00wfms/s or 500,000wfms/s. The higher capture rate, the shorter dead time of waveform, abnormal signals can be caught fast and accurately, which gives you the highest probability of capturing random and infrequent events.



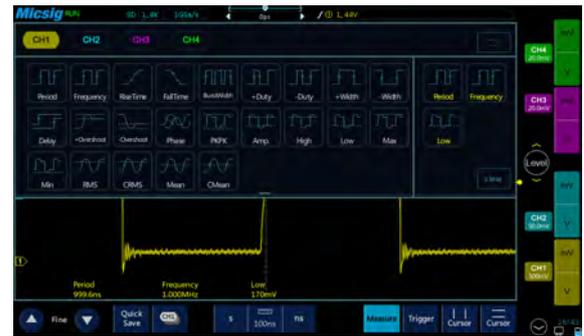
Reference waveform

You can set 4 sets reference waveform to compare, which makes you work easier.



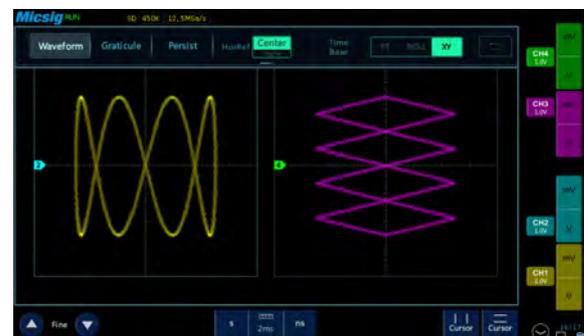
Automatic Measurement

Slide out measurement menu, tap to select or cancel the measurement icon, it makes operation more convenient.



XY mode

Using XY mode is quick and easy to view Lissajous-Figur, 4CH tablet oscilloscope supports simultaneous



Math Functions

5 Math operators: +, -, *, /, FFT. FFT can add Rectangle, Hamming, Hanning, Blackman-Harris window function.



Bigger capacity Battery

Regarding battery, we provide 13,000mAh for your option to meet your longer battery life.



Tablet Oscilloscope tBook Series

Model	TO102 TO104	TO102A TO104A	TO152 To154	TO152A TO154A	TO202 TO204	TO202A TO204A
Bandwidth	100MHz	100MHz	150MHz	150MHz	200MHz	200MHz
Rise time	≤3.5ns	≤3.5ns	≤2.3ns	≤2.3ns	≤1.75ns	≤1.75ns
Sample rate	1GS/s	2GS/s	1GS/s	2GS/s	1GS/s	2GS/s
Memory depth	18Mpts	90Mpts	18Mpts	90Mpts	18Mpts	90Mpts
Maximum waveform capture rate	250,000wfm/s	500,000wfm/s	250,000wfm/s	500,000wfm/s	250,000wfm/s	500,000wfm/s
Analog channels	2 / 4					
Display screen	10.1" TFT LCD Multi point touchable capacitive screen, resolution:1024 *600 pixels					
Operation	Mouse, Multi-touch: tap, swipe and pinch					
Time base range	2ns/div to 1,000s/div for TO*** model, 1ns/div to 1,000s/div for TO***A model					
Vertical resolution	8 bit					
Vertical scale	2mV/div to 5V/div					
Trigger types	Edge, Pulse, Logic, Time Out, Dwart PW, Slope, N Edge, Video					
Automatic measurements	Period, Frequency, Risetime, Falltime, Delay, PDC, NDC, PPW, NPW, BPW, POS, NOS, Phase, PKPK, Amp., Height, Low, Max, Min, RMS, CRMS, Mean, CMean					
Arithmetic	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					
I/O port	USB Host, USB Device					
Built-in storage	4GB, support external USB storage device					
Dimensions, weight	Dimensions: 275mm(Width) * 210mm(Height) * 60mm(Depth), net: 1770g					

Standard Accessories

Item	Description
Probe	Standard passive probe, bandwidth and quantity depend on model
MicroUSB Cable	Probe compensation, Use cable to connect USB calibration board with tBook to compensate probe.
Power adapter	For charging
USB calibration board	Probe compensation
Others	Product Quick Guide, Safety Information, Packing List, Calibration Certificate, Quick Start,
CD	Tablet oscilloscope quick start guide, Safety information, Micsig catalogue
Documents	Calibration certification, Packing List

Optional Accessories

Item	Description
Built-in battery	10,000mAh or 13,000mHh recharging Li-on battery.
Handbag	Black Nylon



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Handheld Multifunctional Oscilloscope

MS200/MS300/MS500 Series

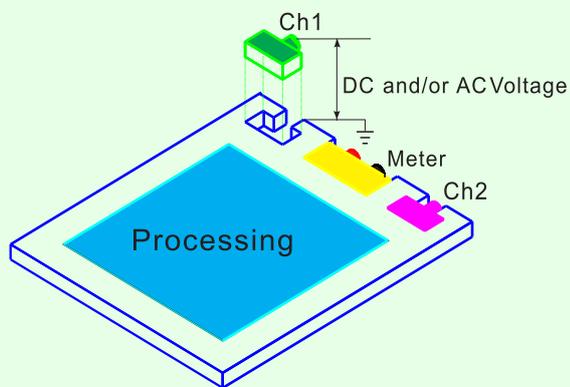


- 5.7 inch TFT LCD touch screen, 640*480 high resolution
- 70MHz~200MHz selectable bandwidth, up to 190,000wfms/s capture rate
- 1GS/s real time sample rate, 240Kpts memory depth
- 3 Operation modes: Touch, Button, Scroll wheel
- Optional electronically isolated-inputs channels
- Integrate the functions of oscilloscope, multi-meter and recorder in one unit
- Up to 4~5H Li-ion battery persistence working time
- Support Serial bus trigger, types: UART/RS232/RS422/RS485, LIN, CAN, SPI, I2C, ARINC429, MIL-STD-1553B
- Support Serial bus decode, types: UART/RS232/RS422/RS485, LIN, CAN, SPI, I2C, ARINC429, MIL-STD-1553B
- Support Video trigger, types: 625/PAL, SECAM, 525/NTSC, 720P, 1080I, 1080P
- Support I/O port: USB Host, USB Device

Overview



◇ This series of handheld oscilloscope fit comfortably in one hand, It's an ideal choice in the field on electrical measurement , test and maintenance tasks.



All isolated inputs allows independent floating measurements with each input.



The functions of scopesuite include updating, real time control, measurement, storage, dynamic display, record, data analysis



Address

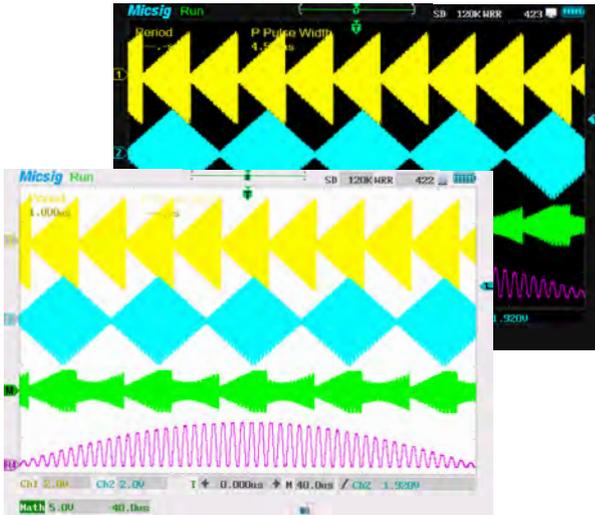
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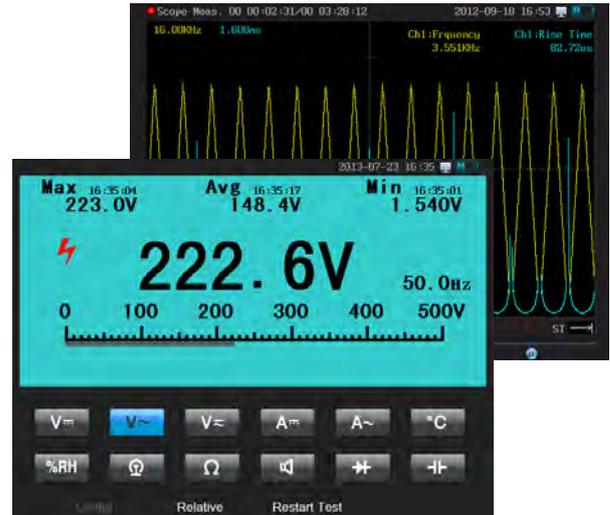
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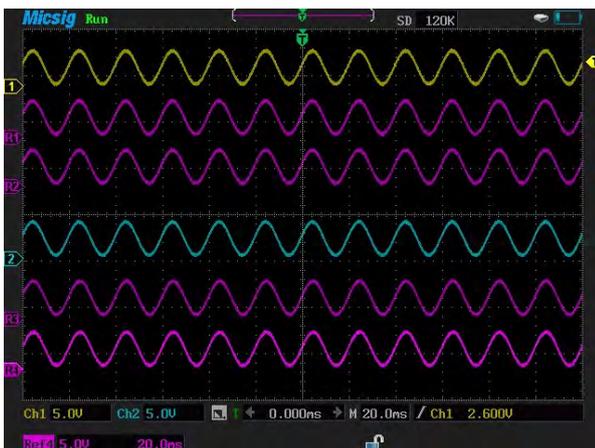
Feature



Indoor /Outdoor display mode



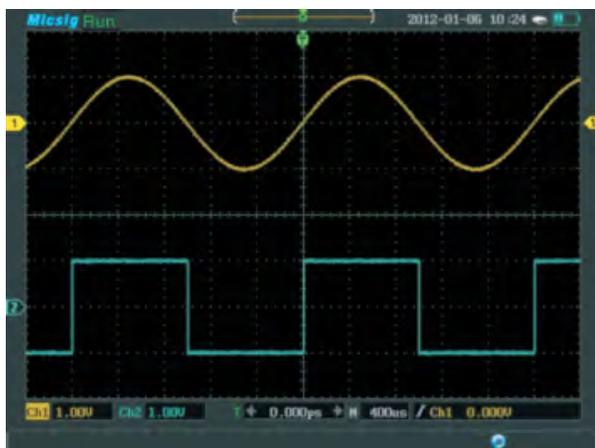
Multi-meter and recorder



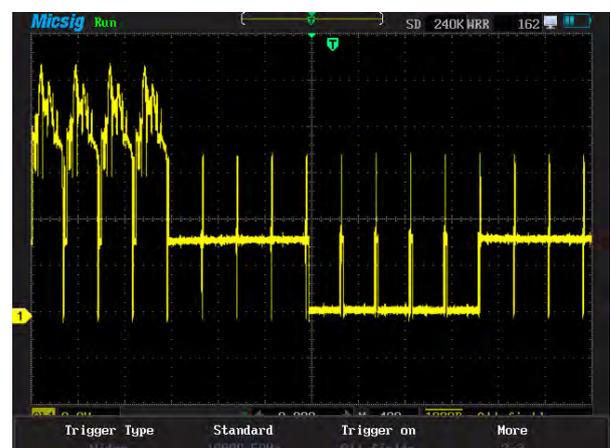
Users can choose 4 reference waveforms for comparison and analyze



31 types auto measurement, you can choose any four ones at one time just touch the marquee



Connect to USB storage device to record waveforms dynamically



Support various video triggers
Types: 625/PAL, SECAM, 525/NTSC, 720P, 1080I, 1080P



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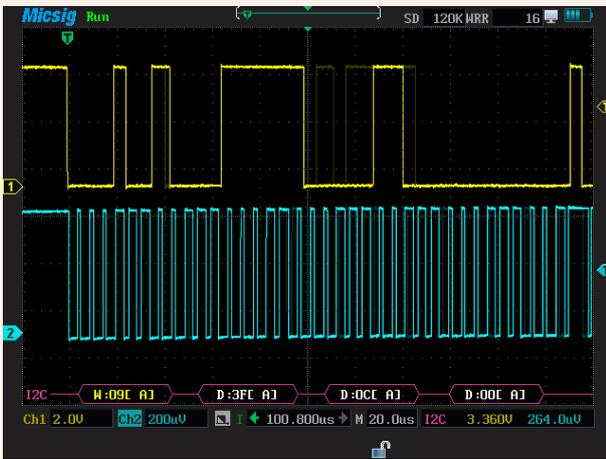
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Feature

Serial bus trigger and decode



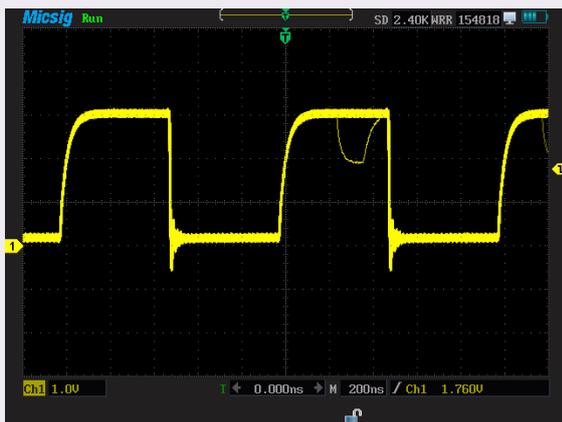
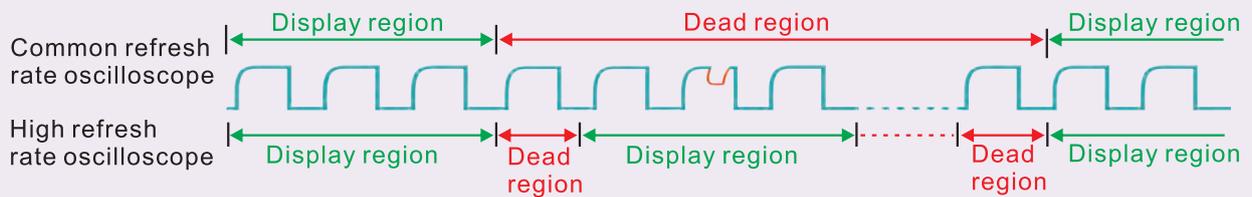
I2C serial bus decoding graphic mode

Time (ns)	Addr	Data	Ack	Trig	ReSet
0.64	50R	2B 2C 2D 2E 2F 30 31 32 33 34 35	X	Yes	Yes
14.21	09W	3F 36 00		Yes	
0.13	09W	3F		Yes	
0.13	09R	36 37	X	Yes	
0.13	50W	00 00		Yes	
0.64	50R	38 39 3A 3B 3C 3D 3E 3F 40 41 42	X	Yes	Yes
14.21	09W	3F 43 00		Yes	
0.13	09W	3F		Yes	
0.13	09R	43 44	X	Yes	
0.13	50W	00 00		Yes	
0.64	50R	5F 60 61 62 63 64 65 66 67 68 69	X	Yes	Yes
14.21	09W	3F 6A 00		Yes	
0.13	09W	3F		Yes	
0.13	09R	6A 6B	X	Yes	
0.26	50W	00 00		Yes	
0.64	50R	6C 6D 6E 6F 70 71 72 73 74 75 76	X	Yes	Yes
14.21	09W	3F 77 00		Yes	
0.13	09W	3F		Yes	
0.13	09R	77 78	X	Yes	
0.13	50W	00 00		Yes	
0.64	50R	79 7A 7B 7C 7D 7E 7F 80 81 82 83	X	Yes	Yes

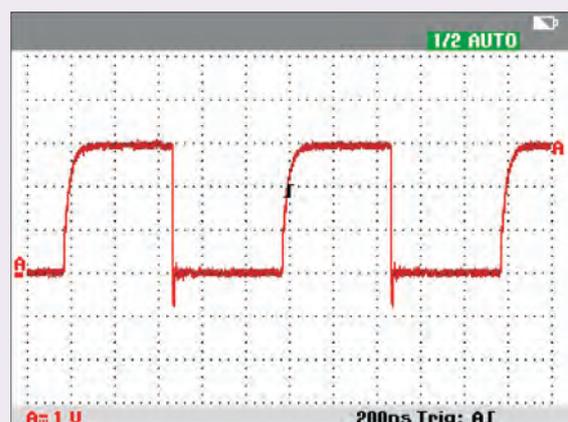
I2C serial bus decoding text mode

Waveform and data can be got in graphic mode; Address, ID, data, Calibration which makes up the frame are classified in text modem, and frame type and mistake can be satisfied, which can help users to debug and analyze the serial bus easier. What's more, the waveform and data can be transferred to a PC for your further analyze by a flash device

Up to 190,000 wfm/s capture rate



High refresh rate oscilloscope



Common refresh rate oscilloscope

Capture rate means how many waveforms acquisition per seconds your scope can acquire, process and display. Oscilloscope 'dead time' is the time it takes for scope to process and then display an acquired waveform before re-arming it's triggering for the next acquisition. The dead time of traditional oscilloscope is far more than 'display time', which results the signal occurred during dead time can't be captured. High capture rate product reduces dead time so that the abnormal signal could be caught fast and accurately.

Specification

Series	MS200 Series				MS300 Series		MS500 Series	
Model	MS207T	MS210T	MS215T	MS220T	MS310IT	MS320IT	MS510S	MS520S
Bandwidth	70MHz	100MHz	150MHz	200MHz	100MHz	200MHz	100MHz	200MHz
Rise time	≤5ns	≤3.5ns	≤2.3ns	≤1.75ns	≤3.5ns	≤1.75ns	≤3.5ns	≤1.75ns
Serial bus decode	Not support				Support 5 kinds		Supports 7 kinds	
Isolated channel	Not support				Support		Support	
Maximum waveform capture rate	50,000 wfm/s				50,000 wfm/s		190,000 wfm/s	
sample rate	1GS/s for single channel, 500MS/s for two channels							
Memory depth	240Kpts							
Display								
Screen	5.7 inches touch screen, 640* 480 pixels display resolution, 12* 8 display range							
Format	YT, Roll and XY							
Persistence	Auto, 100ms- 10s, or ∞							
Vertical system								
Input Channel	2 Oscilloscope channels, 1 Multi-meter channel							
Bandwidth limitation	20MHz							
Coupling	DC, AC, GND							
Input impedance	1MΩ ± 1% ≈ 15pF ± 3pF							
Vertical scale	2mv/div to 20V/div				5mv/div to 50V/div			
Vertical resolution	8 bit							
Max input voltage	500V				600V CAT II 300V CAT III			
Isolated channel voltage	-				1000V CAT II 600V CAT III			
Max channel floating voltage	-				1000V CAT II 600V CAT III			
DC vertical offset accuracy	5mV/div to 50V/div, ±2%							
Horizontal system								
Horizontal range	4ns/div to 10s/div							
Time base accuracy	20ppm							
Sampling modes	Normal, Average, Peak, Envelop							
Reference waveform	4 reference waveforms can be set(support external USB storage device)							
Trigger system								
Trigger types	Edge, Pulse, Logic, Serial bus trigger Video trigger, types: 625/PAL, SECAM, 525/NTSC, 720P, 1080I, 1080P (MS300 series is optional, MS500 series is standard)							
Serial bus trigger types	UART/RS232/RS422/RS485, LIN, CAN, SPI, I2C, ARINC429, MIL-STD-1553B							
Serial bus decode types	MS300 series(5 types): UART/RS232/RS422/RS485, LIN, CAN, SPI, I2C MS500 series(7 types): UART/RS232/RS422/RS485, LIN, CAN, SPI, I2C, ARINC429, MIL-STD-1553B							
Coupling modes	DC, AC, HF Rej., LF Rej., Noise Rej.							
Trigger modes	Auto, Normal, Single							
Hold-off time	200ns to 10s							
Math function	Add, subtract, multiply and divide waveforms, FFT Window to Rectangular, Hamming, Hanning or Blackman-Harris							
Trigger source	CH1, CH2				CH1, CH2, Ext trigger			
Multi-meter								
Measurements type	10 types: AC voltage, AC/DC voltage, AC voltage frequency, AC Current*, DC voltage, DC Current*, Resistance, On-off function, Diode, Capacitance MS500 Series have more 3 types: Relative humidity*, Pressure*, Temperature* Note: items with * need additional accessory.							
Full scale reading	5,000 counts							
Other information								
Interface	USB Host, USB Slave(Connect to PC)							
Power adapter	Input: 100~240V AC, 50~60Hz, Output: 12V DC, 5A							
Battery	7.4V/6,000mAh capacity, continuous working time 4~5h							
Dimension, weight	Dimension: 254mm(Height)* 160mm(Width)* 60mm(Depth), net:1380g, battery: 276g							

Standard Accessories

Items	Description	Items	Description
	Probe		7.4V/6000mAh lithium battery
	Multimeter table pen line		USB cable : Mini USB2.0
	Banana jack		ScopeSuite software
	Power adapter: Input: 100-240V AC, 50-60Hz, Output: 12V DC, 5A		
	Documents: User Guide, Packing List, Calibration Certificate, Quick Start, ScopeSuit software registration key		

Optional Accessories

Accessories	Order No.	Description
Handbag 	MN-009	Dimension: 300mm(Height)*410mm(Width)*130mm(Depth)
Suitcase 	MN-008	WR-16 ABS anti-pressure seal suitcase
Li-ion battery 	HB-009	7.4V/9000mAh Li-ion battery
High frequency current probe 	MP-C040	DC-40MHz, 30Arms, 50Apeak
	MP-C012	DC-12MHz, 150Arms, 300Apeak
	MP-C006	DC-6MHz, 300Arms, 500Apeak
	MP-C050	DC-50MHz, 30Arms, 50Apeak
	MP-C100	DC-100MHz, 30Arms, 50Apeak
High frequency current probe 	MP-C370,+MP-C300A	DC-70MHz, 30Arms, 50Apeak
	MP-C315,+MP-C300A	DC-15MHz, 150Arms, 500Apeak
	MP-C405,+MP-C400A	DC-5MHz, 500Arms, 700Apeak
High voltage differential probe 	MP-D070	DC-70MHz, 700Vpk
	MP-D150	DC-70MHz, 1500Vpk
	MP-D150A	DC-100MHz, 1500Vpk
	MP-D700	DC-70MHz, 7000Vpk
	MP-D700A	DC-100MHz, 7000Vpk



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