

RIGOL

Test & Measurement Product Catalog



MSO5000 Series Digital Oscilloscopes



MSO5000 series digital oscilloscope is a high-performance oscilloscope model designed based on RIGOL UltraVision II technology. With a 9-inch capacitive multi-touch screen, the MSO5000 series integrates 7 independent instruments into one, delivering super sample bandwidth ratio, extremely high memory depth, and other excellent specifications. Highly integrated ASIC chipset, and innovative non relay front-end, which have prolonged the service life of the oscilloscope to a large extent, indirectly reducing

the usage cost for users. It is compact and portable in design, and all of the MSO series products support the upgrade of the channels, bandwidths, and the analysis software. As it integrates many functions of multiple instruments, different user groups can have more choices in selecting their desired product based on their needs, helping them save their budget to a large extent while enjoying the superior test support and user experience.

- Analog bandwidth: 350 MHz, 200 MHz, 100 MHz, and 70 MHz; bandwidth upgrade option supported
- 2 or 4 analog channels (upgradable), standard 16 digital channels (need to buy LA probe)
- Up to 8 GSa/s real-time sample rate
- Up to 200 Mpts memory depth (option)
- High waveform capture rate (over 500,000 wfms/s)
- 41 measurement items; full-memory hardware measurement function
- A variety of serial protocol triggers and decodes
- 9-inch capacitive multi-touch screen, 256-level intensity grading display, with color persistence

7-into-1 Integrated Digital Oscilloscope



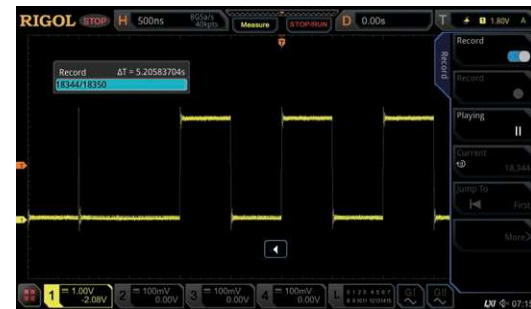
Over 500,000 wfms/s Capture Rate



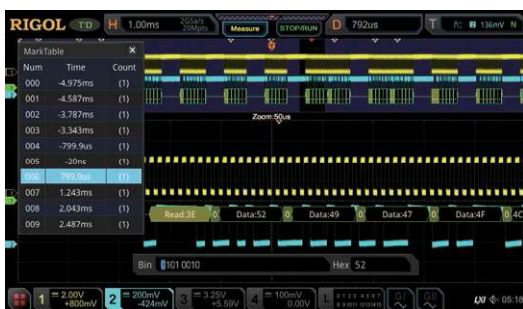
Hardware Full Memory Auto Measurement



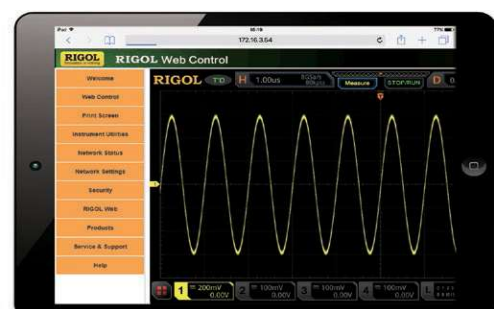
Hardware Waveform Recording and Playback



Variety of Protocol Decodings



Convenient remote control of Web Control



Key Specifications

Model	MSO5072	MSO5074	MSO5102	MSO5104	MSO5204	MSO5354
Analog Bandwidth	70 MHz		100 MHz		200 MHz	350 MHz
Channels	2	4	2	4	4	4
	16 input digital channels (required to purchase PLA2216 active logic probe)					
	Dual-channel arbitrary waveform generator output (required to install the MSO5000-AWG option to activate the software function)					
Max. Sample Rate of Analog Channel	MSO5354/MSO5204/MSO5104/MSO5074: 8 GSa/s (single-channel), 4 GSa/s (half-channel ^[1]), 2 GSa/s (all channels) MSO5102 and MSO5072: 8 GSa/s (single-channel), 2 GSa/s (all channels)					
Max. Memory Depth	Analog channel: 200 Mpts (single-channel), 100 Mpts (half-channel ^[1]), 50 Mpts (all channels) Digital channel: 25 Mpts (all channels)					
Max. Waveform Capture Rate ^[2]	≥500,000 wfms/s					
Range of Time Base	5 ns/div~1 ks/div		5 ns/div~1 ks/div		2 ns/div~1 ks/div	1 ns/div~1 ks/div
Vertical Sensitivity Range ^[3]	500 uV/div~10 V/div					
DC Gain Accuracy ^[2]	± 3% of full scale					
Hardware Real-time Waveform Recording and Playing	≥450,000 wfms (single-channel)					
Trigger Type	Standard: Edge trigger, Pulse trigger, Slope trigger, Video trigger, Pattern trigger, Duration trigger, Timeout trigger, Runt trigger, Window trigger, Delay trigger, Setup/Hold trigger, and Nth Edge trigger Option: RS232, UART, I2C, SPI, CAN, FlexRay, LIN, I2S, and MIL-STD1553					
Decoding Type	Standard: Parallel Option: RS232, UART, I2C, SPI, LIN, CAN, FlexRay, I2S, and MIL-STD-1553					
Waveform Calculation	A+B, A-B, A×B, A/B, FFT, A&&B, A B, A^B, !A, Intg, Diff, Sqrt, Lg, Ln, Exp, Abs, AX+B, LowPass, HighPass, BandPass, and BandStop					
Auto Measurement	41 auto measurements; and up to 10 measurements can be displayed at a time					
Enhanced FFT	Record Length	Max. 1 Mpts				
	Window Type	Rectangular, Blackman-Harris, Hanning (default), Hamming, Flattop, and Triangle.				
	Peak Search	a maximum of 15 peaks, confirmed by the settable threshold and offset threshold set by users				
Analysis	Frequency counter, DVM, power analysis, histogram					
Arbitrary Waveform Generator	25 MHz, 2CH (required to install the AWG option)					
Connectivity	USB2.0 Host × 1, USB2.0 Device, LAN(10/100/1000 Base-T), HDMI 1.4b, TRIG OUT					
LCD Size and Type	9-inch capacitive multi-touch screen/gesture enabled operation					

[1] Half-channel mode: CH1 and CH2 are one group, CH3 and CH4 are one group, each group shares 4 GSa/s sampling rate, and each channel opens one channel in each group, which is half channel mode.

Ordering Information

Order Information	Order No.
Models	
MSO5354 (350 MHz, 8 GSa/s, 100 Mpts, 4+16 CH MSO)	MSO5354
MSO5204 (200 MHz, 8 GSa/s, 100 Mpts, 4+16 CH MSO)	MSO5204
MSO5104 (100 MHz, 8 GSa/s, 100 Mpts, 4+16 CH MSO)	MSO5104
MSO5102 (100 MHz, 8 GSa/s, 100 Mpts, 2+16 CH MSO)	MSO5102
MSO5074 (70 MHz, 8 GSa/s, 100 Mpts, 4+16 CH MSO)	MSO5074
MSO5072 (70 MHz, 8 GSa/s, 100 Mpts, 2+16 CH MSO)	MSO5072
Standard Accessories	
Power cord conforming to the standard of the destination country	-
USB cable	CB-USBA-USBB-FF-150
2 or 4 passive probes (350 MHz)	PVP2350
Quick guide (hard copy)	-
Optional Accessories	
16 digital channels active logic probe (dedicated probe for MSO5000 series)	PLA2216
USB-GPIB interface converter	USB-GPIB
Near-field probe	NFP-3
Power analysis phase difference correction jig	RPA246
Digital oscilloscope demonstration plate	DK-DS6000
Bandwidth Upgrade Option	
Bandwidth upgrades from 70 MHz to 100 MHz	MSO5000-BW0T1
Bandwidth upgrades from 70 MHz to 200 MHz	MSO5000-BW0T2
Bandwidth upgrades from 70 MHz to 350 MHz	MSO5000-BW0T3
Bandwidth upgrades from 100 MHz to 200 MHz	MSO5000-BW1T2
Bandwidth upgrades from 100 MHz to 350 MHz	MSO5000-BW1T3
Bandwidth upgrades from 200 MHz to 350 MHz	MSO5000-BW2T3
Memory Depth Option	
Maximum memory depth up to 200 Mpts	MSO5000-2RL
Channel Number Upgrade Option	
Upgrade the number of analog channels to 4 (only available for the MSO5XX2 model)	MSO5000-4CH
Bundle Option	
Function and application bundle option, including MSO5000-COMP, MSO5000-EMBD, MSO5000-AUTO, MSO5000-FLEX, MSO5000-AUDIO, MSO5000-AERO, MSO5000-AWG, and MSO5000-PWR	MSO5000-BND
Serial Protocol Analysis Option	
PC serial bus trigger and analysis (RS232/UART)	MSO5000-COMP
Embedded serial bus trigger and analysis (I2C and SPI)	MSO5000-EMBD
Auto serial bus trigger and analysis (CAN and LIN)	MSO5000-AUTO
FlexRay serial bus trigger and analysis (FlexRay)	MSO5000-FLEX
Audio serial bus trigger and analysis (I2S, only available for the MSO5XX4 model or the model installed with the MSO5000-4CH option)	MSO5000-AUDIO
MIL-STD-1553 serial bus trigger and analysis (MIL-STD-1553)	MSO5000-AERO
Measurement Application Option	
Dual-channel 25 MHz arbitrary waveform generator	MSO5000-AWG
Built-in Power Analysis	MSO5000-PWR