

Product Selection Guide



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OSCILLOSCOPE SELECTION GUIDE



**HDO4000/
HDO4000-MS**



**WaveSurfer 10/
WaveSurfer 10M**



WaveSurfer 3000

Bandwidth	200 MHz to 1 GHz	1 GHz	200 MHz to 750 MHz
Resolution	12-bit ADC resolution, 15-bit with enhanced resolution	8-bit ADC resolution, 11-bit with enhanced resolution	8-bit ADC resolution, 11-bit with enhanced resolution
Rise Time	1.75 ns to 450 ps	350 ps	1.75 ns to 550 ps
Channels	2, 4, 2 + 16, 4 + 16	4, 4 + 18	2, 4, 2 + 16, 4 + 16
Display	12.1" Color WXGA Touch Screen	10.4" Color SVGA Touch Screen	10.1" Color WSVGA Touch Screen
Memory	12.5 Mpts/Ch 25 Mpts Interleaved	10 Mpts/Ch 20 Mpts interleaved	10 Mpts/Ch
Maximum Memory[†]	Up to 25 Mpts/Ch 50 Mpts Interleaved	10 Mpts / 20 Mpts, 16 Mpts / 32 Mpts with WaveSurfer 10M or ADT option	—
Sample Rate	2.5 GS/s	10 GS/s	2 GS/s to 4 GS/s
MSO Characteristics	250 MHz, 1.25 GS/s [†]	250 MHz, 1 GS/s [†]	125 MHz, 500 MS/s [†]
Trigger Types	Edge, Width, Glitch, Pattern, TV, Runt, Slew Rate, Interval (Period), Dropout, Qualified	Edge, Width, Glitch, Pattern, TV, Runt, Slew Rate, Interval (Period), Dropout, Qualified	Edge, Width, Pattern, TV, Runt, Slew Rate, Interval (Period), Dropout, Qualified
Serial Trigger and Decode[†]	I ² C, SPI, UART, RS-232, CAN, CAN FD, LIN, FlexRay, SENT, Audio, MIL-STD-1553, D-PHY, ARINC 429, DigRF 3G, DigRF v4, ENET, Manchester, NRZ, USB 1.0/1.1/2.0, USB 2.0-HSIC, SpaceWire	I ² C, SPI, UART, RS-232, CAN, CAN FD, LIN, FlexRay, SENT, Audio, MIL-STD-1553, D-PHY, ARINC 429, DigRF 3G, DigRF v4, ENET, Manchester, NRZ, USB 1.0/1.1/2.0, USB 2.0-HSIC, SpaceWire	I ² C, SPI, UART, RS-232, CAN, CAN FD, LIN
Connectivity and Storage	USB Host for Storage USB Device for PC LAN for PC GPIO for PC [†]	USB Host for Storage LAN for PC GPIO for PC [†]	USB Host for Storage USB Device for PC LAN for PC GPIO for PC [†]
Math	+, -, x, /, FFT, Absolute Value, Average, Derivative, Deskew, Envelope, Enhanced Resolution, Floor, Integral, Invert, Reciprocal, Rescale, Roof, Square, Square Root, Trend, Zoom	+, -, x, /, FFT, Derivative, Deskew, Integral, Rescale, Roof, Square, Square Root, Zoom (Absolute Value, Average, Envelope, Enhanced Resolution, Exp (base e), Exp (base 10) Floor, Invert, Log (base e), Log (base 10), Reciprocal, Roof and Trend included with WaveSurfer 10M or ADT option)	+, -, x, /, FFT, Absolute Value, Average, Derivative, Envelope, Enhanced Resolution, Floor, Integral, Invert, Reciprocal, Rescale, Roof, SinX/x, Square, Square Root, Trend, Zoom
Dimensions (HWD)	291.7 x 399.4 x 131.31 mm (11.48" x 15.72" x 5.17")	260 x 340 x 152 mm (10.25" x 13.4" x 6")	270 x 380 x 125 mm (10.63" x 14.96" x 4.92")
Weight	5.71 kg (12.6 lbs)	7.26 kg (16.0 lbs)	4.81 kg (10.6 lbs)

[†] Optional



	WaveJet Touch	WaveAce 2000	WaveAce 1000
Bandwidth	350 MHz / 500 MHz	70 MHz to 300 MHz	40 MHz to 100 MHz
Resolution	8-bit ADC resolution , 12-bit with enhanced resolution	8-bit ADC resolution	8-bit ADC resolution
Rise Time	1 ns / 750 ps	5.0 ns to 1.2 ns	8.8 ns to 3.5 ns
Channels	4	2, 4	2
Display	7.5" Color VGA Touch Screen	7" Color WQVGA	7" Color WQVGA
Memory	2.5 Mpts/Ch 5 Mpts interleaved	12 kpts/Ch 24 kpts Interleaved	1 Mpts/Ch 2 Mpts Interleaved
Maximum Memory[†]	–	–	–
Sample Rate	up to 2 GS/s	1 GS/s to 2 GS/s	500 MS/s to 1 GS/s
MSO Characteristics	–	–	–
Trigger Types	Edge, Edge ALT, Edge OR, Pulse Width, Period, Pulse Count, Dropout, TV, Logic	Edge, Width, Video, Slope, Alternate	Edge, Width, Video, Slope, Alternate
Serial Trigger and Decode	I ² C, SPI, UART, RS-232	–	–
Connectivity and Storage	USB Host for Storage USB Device for PC LAN for PC GPIB for PC	USB Host for Storage USB Device for PC LAN for PC	USB Host for Storage USB Device for PC
Math	+, -, x, FFT, Integral, Derivative	+, -, x, /, FFT	+, -, x, /, FFT
Dimensions (HWD)	190 x 330 x 124 mm (7.5" x 13" x 4.9")	163 x 360 x 124.1 mm (6.42" x 14.17" x 4.89")	163 x 313 x 115.8 mm (6.42" x 12.32" x 4.6")
Weight	3.7 kg (8.16 lbs)	3.33 kg (7.40 lbs)	2.78 kg (6.10 lbs)

ORDERING INFORMATION

Product Description Product Code

HDO4000 Oscilloscopes

200 MHz, 2.5 GS/s, 2 Ch, 12.5 Mpts/Ch 12-bit HD Oscilloscope with 12.1" Color WXGA Touch Display	HDO4022
200 MHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch 12-bit HD Oscilloscope with 12.1" Color WXGA Touch Display	HDO4024
350 MHz, 2.5 GS/s, 2 Ch, 12.5 Mpts/Ch 12-bit HD Oscilloscope with 12.1" Color WXGA Touch Display	HDO4032
350 MHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch 12-bit HD Oscilloscope with 12.1" Color WXGA Touch Display	HDO4034
500 MHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch 12-bit HD Oscilloscope with 12.1" Color WXGA Touch Display	HDO4054
1 GHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch 12-bit HD Oscilloscope with 12.1" Color WXGA Touch Display	HDO4104
200 MHz, 2.5 GS/s, 2+16ch, 12.5 Mpts/Ch 12-bit HD Mixed Signal Oscilloscope w/ 12.1" Color WXGA Display	HDO4022-MS
200 MHz, 2.5 GS/s, 4+16ch, 12.5 Mpts/Ch 12-bit HD Mixed Signal Oscilloscope w/ 12.1" Color WXGA Display	HDO4024-MS
350 MHz, 2.5 GS/s, 2+16ch, 12.5 Mpts/Ch 12-bit HD Mixed Signal Oscilloscope w/ 12.1" Color WXGA Display	HDO4032-MS
350 MHz, 2.5 GS/s, 4+16ch, 12.5 Mpts/Ch 12-bit HD Mixed Signal Oscilloscope w/ 12.1" Color WXGA Display	HDO4034-MS
500 MHz, 2.5 GS/s, 4+16ch, 12.5 Mpts/Ch 12-bit HD Mixed Signal Oscilloscope w/ 12.1" Color WXGA Display	HDO4054-MS
1 GHz, 2.5 GS/s, 4+16ch, 12.5 Mpts/Ch 12-bit HD Mixed Signal Oscilloscope w/ 12.1" Color WXGA Display	HDO4104-MS

WaveSurfer 10 Oscilloscopes

1 GHz, 5 GS/s, 4 Ch, 10 Mpts/Ch DSO with 10.4" Touch Screen Display. 10 GS/s, 20 Mpts Interleaved	WaveSurfer10
1 GHz, 10 GS/s, 4 Ch, 16 Mpts/Ch DSO with 10.4" Touch Screen Display. 10 GS/s, 32 Mpts Interleaved includes WS10-ADT option	WaveSurfer 10M

WaveSurfer 3000 Oscilloscopes

200 MHz, 4 GS/s, 2 Ch, 10 Mpts/Ch with 10.1" Touch screen Display	WaveSurfer 3022
200 MHz, 4 GS/s, 4 Ch, 10 Mpts/Ch with 10.1" Touch screen Display	WaveSurfer 3024
350 MHz, 4 GS/s, 4 Ch, 10 Mpts/Ch with 10.1" Touch screen Display	WaveSurfer 3034
500 MHz, 4 GS/s, 4 Ch, 10 Mpts/Ch with 10.1" Touch screen Display	WaveSurfer 3054
750 MHz, 4 GS/s, 4 Ch, 10 Mpts/Ch with 10.1" Touch screen Display	WaveSurfer 3074

WaveJet Touch Oscilloscopes

350 MHz, 1 GS/s, 4 Ch, 2.5 Mpts/Ch with 7.5" Touch screen Display; 2 GS/s, 5 Mpts Interleaved	WaveJet 334T
500 MHz, 1 GS/s, 4 Ch, 2.5 Mpts/Ch with 7.5" Touch screen Display; 2 GS/s, 5 Mpts Interleaved	WaveJet 354T

Product Description Product Code

WaveAce Oscilloscopes

40 MHz, 500 MS/s, 2 Ch, 1 Mpts/Ch with 7" Color WQVGA Display. 1 GS/s Interleaved, 1 M Ω Input	WaveAce 1001
60 MHz, 500 MS/s, 2 Ch, 1 Mpts/Ch with 7" Color WQVGA Display. 1 GS/s Interleaved, 1 M Ω Input	WaveAce 1002
100 MHz, 500 MS/s, 2 Ch, 1 Mpts/Ch with 7" Color WQVGA Display. 1 GS/s Interleaved, 1 M Ω Input	WaveAce 1012
70 MHz, 1 GS/s, 2 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 1 M Ω Input	WaveAce 2002
70 MHz, 1 GS/s, 4 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 1 M Ω Input	WaveAce 2004
100 MHz, 1 GS/s, 2 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 1 M Ω Input	WaveAce 2012
100 MHz, 1 GS/s, 4 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 1 M Ω Input	WaveAce 2014
200 MHz, 1 GS/s, 2 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 50/1 M Ω Input	WaveAce 2022
200 MHz, 1 GS/s, 4 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 50/1 M Ω Input	WaveAce 2024
300 MHz, 1 GS/s, 2 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 50/1 M Ω Input	WaveAce 2032
300 MHz, 1 GS/s, 4 Ch, 12 kpts/Ch with 7" Color WQVGA Display. 24 kpts, 2 GS/s Interleaved, 50/1 M Ω Input	WaveAce 2034

Logic Studio Logic Analyzer

16 Channel, 1 GS/s, 100 MHz USB Logic Analyzer	LogicStudio 16
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ArbStudio Arbitrary Waveform Generators

2 Ch 16-bit 1 GS/s Arbitrary Waveform Generator	ArbStudio 1102
2 Ch 16-bit 1 GS/s Arbitrary Waveform and Digital Pattern Generator	ArbStudio 1102D

WaveStation Function/Arbitrary Waveform Generators

10 MHz, 2 Ch, 14-bit, 125 MS/s Function/Arbitrary Waveform Generator with 3.5" Display	WaveStation 2012
25 MHz, 2 Ch, 14-bit, 125 MS/s Function/Arbitrary Waveform Generator with 3.5" Display	WaveStation 2022
50 MHz, 2 Ch, 14-bit, 125 MS/s Function/Arbitrary Waveform Generator with 3.5" Display	WaveStation 2052
80 MHz, 2 Ch, 14 bit, 500 MS/s Function/Arbitrary Waveform Generator with 4.3" Display	WaveStation 3082
120 MHz, 2 Ch, 14 bit, 500 MS/s Function/Arbitrary Waveform Generator with 4.3" Display	WaveStation 3122
160 MHz, 2 Ch, 14 bit, 500 MS/s Function/Arbitrary Waveform Generator with 4.3" Display	WaveStation 3162



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