

WaveSurfer 4000HD

12 bits all the time.

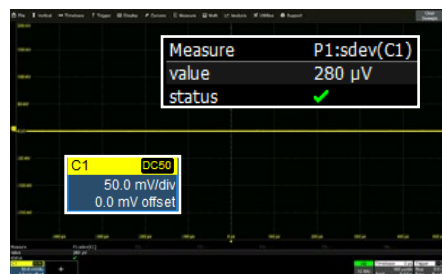
Unrivalled Performance,
Unbeatable Value.



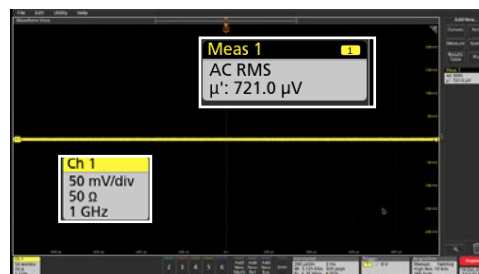
WaveSurfer 4000HD offers the industry's lowest noise, highest precision, and best accuracy.

Baseline Noise (1 GHz model)	WaveSurfer 4104HD	Tektronix MSO46
1 mV/div	✓ 125 μ V	X 260 μ V
10 mV/div	✓ 130 μ V	X 335 μ V
50 mV/div	✓ 280 μ V	X 800 μ V
100 mV/div	✓ 465 μ V	X 1620 μ V
1000 mV/div	✓ 4.7 mV	X 13.0 mV

Datasheet version: 48W-61558-3 Oct 2019



WaveSurfer 4104HD
1 GHz, 5 GS/s, 12 bits



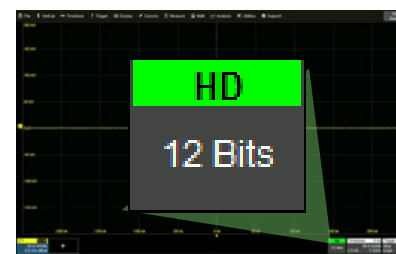
Tektronix MSO46
1 GHz, 3.125 GS/s, 12 bits
2.5x more noise

	WaveSurfer 4000HD	Tektronix 4 Series
Analog Channels	4	4, 6 (without digital) †
Digital (MSO) Channels	16 (with MSO option)	8 to 48 †
4 Analog + 16 Digital Price	Low	High
Bandwidth	200 MHz - 1 GHz	200 MHz - 1.5 GHz
Resolution	12 bits	12-bit ADC ††
Noise at 50 mV/div	280 μ V	800 μ V
Measured ENOB	8.3 (1 GHz model)	7.6 (1 GHz model)
Maximum Sample Rate	5 GS/s	6.25 GS/s ††
Standard Memory (per channel/interleaved)	12.5/25 Mpts	31.25 Mpts
Display Size	12.1"	13.3"
Waveform update rate	170,000 wfms/sec	100,000 wfms/sec
Gain Accuracy at 1 mV/div	±0.5% of full scale	±2.5% of full scale
Weight	5.3 kg / 11.7 lbs	7.6 kg / 16.8 lbs
H x W x D	273 mm x 380 mm x 160 mm	351 mm x 405 mm x 265 mm
Start up/Boot time	~35 seconds	~144 seconds

† Every 8 digital channels consumes 1 analog channel.

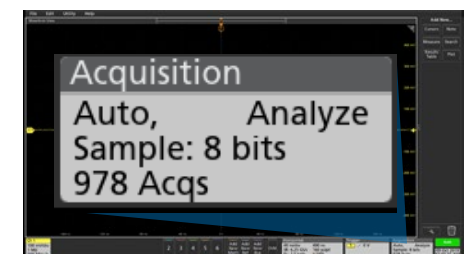
†† 8-bit resolution at 6.25 GS/s, 12-bit resolution is available at 3.125 GS/s or lower.

Teledyne LeCroy's WaveSurfer 4000HD is always 12-bit resolution



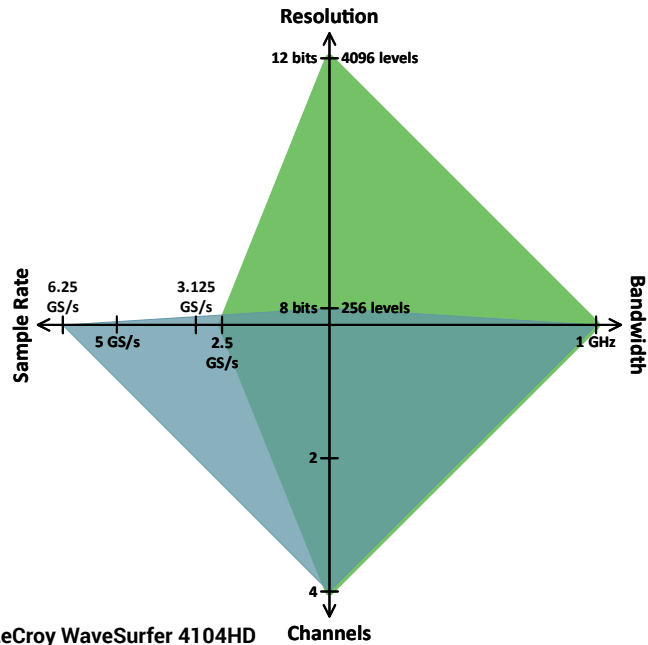
Default Setup on WaveSurfer 4000HD
Firmware version: 8.9.0.2

The Tektronix 4 Series 12-bit ADC defaults to 8-bit resolution – why?

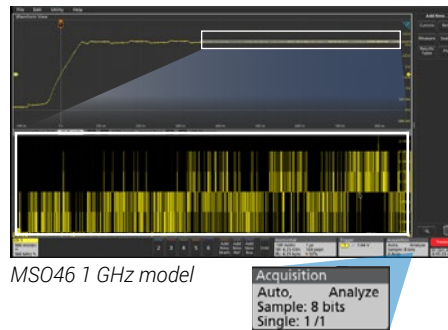
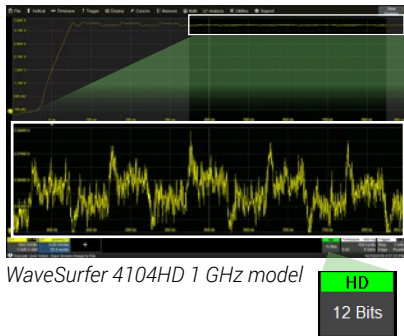


Default Setup on Tektronix 4 Series
Firmware version: 1.20.14.7058

Teledyne LeCroy WaveSurfer 4000HD vs. Tektronix 4 Series



- Teledyne LeCroy WaveSurfer 4104HD
- Tektronix MSO46 1 GHz Model



The example above shows a 100x vertical zoom (bottom trace) of the top of a signal. Small variations in signals are lost in quantization noise on the Tek 4 Series.

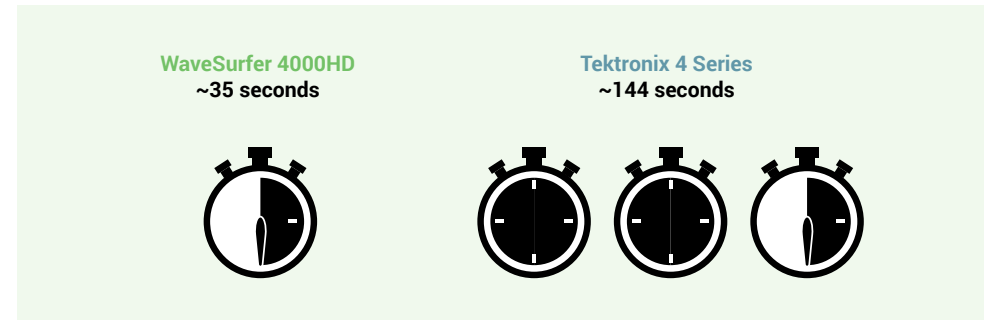
Cost

WaveSurfer 4000HD's dedicated digital logic port does not consume analog channels.



Time

WaveSurfer 4000HD boots up more than 4x faster than the Tektronix 4 Series.



Weight

WaveSurfer 4000HD is 43% lighter than the Tektronix 4 Series.

