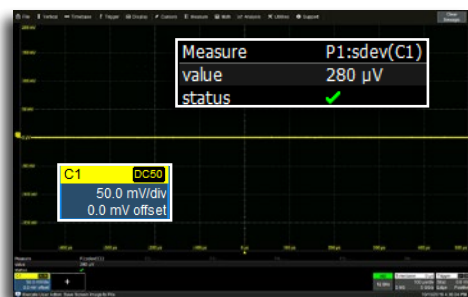## WaveSurfer 4000HD

12 bits **all the time.**
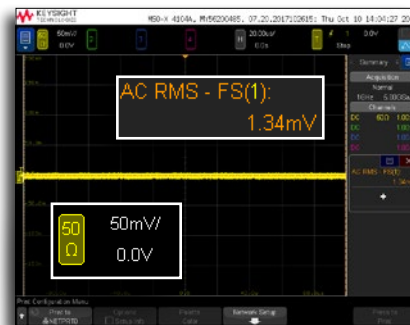
Unrivaled Performance, Unbeatable Value.

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

Baseline Noise (1 GHz model)	WaveSurfer 4000HD		Keysight 4000X	
1 mV/div	✓	125 µV	X	280 µV
10 mV/div	✓	130 µV	X	320 µV
50 mV/div	✓	280 µV	X	1340 µV
100 mV/div	✓	465 µV	X	2180 µV
1000 mV/div	✓	4.7 mV	X	21.1 mV

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

MSOX4104A
1 GHz, 5 GS/s 8 bits
4x more noise

	WaveSurfer 4000HD	Keysight 4000X
Analog Channels	4	2 or 4
Digital (MSO) Channels	16 (with MSO option)	16 (with MSO option)
Bandwidth	200 MHz - 1 GHz	200 MHz - 1.5 GHz †
Resolution	12 bits	8 bits
Noise at 50 mV/div	280 µV	1340 µV
Maximum Sample Rate	5 GS/s	5 GS/s
Standard Memory (per channel/interleaved)	12.5/25 Mpts	4 Mpts
Display Size (Resolution)	12.1" (1280 x 800)	12.1" (800 x 600)
Waveform update rate	170,000 wfms/sec	1,000,000 wfms/sec
Gain Accuracy at 1 mV/div	±0.5% of full scale	±2% of full scale
Weight	5.3 kg / 11.7 lbs	6.3 kg / 13.9 lbs
H x W x D	273 mm x 380 mm x 160 mm	275 mm x 454 mm x 156 mm
Start up/Boot time	~35 seconds	~60 seconds

† *1.5 GHz only available on 2 channels*

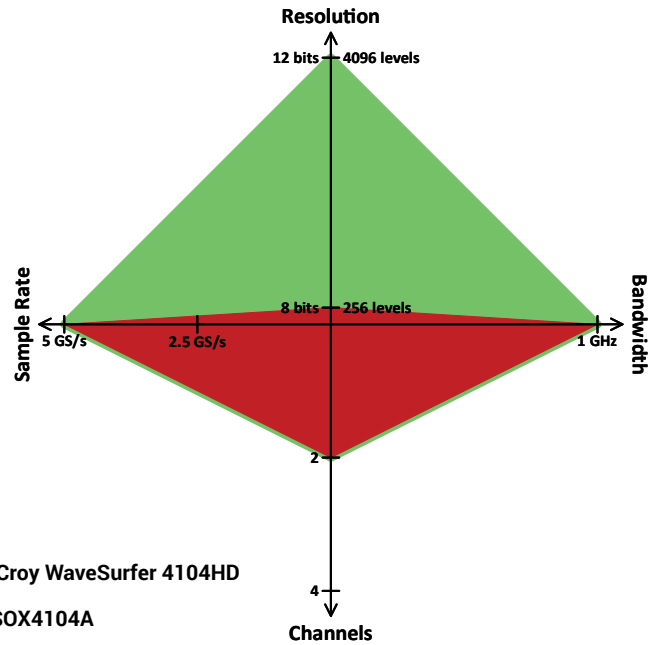**Teledyne LeCroy's WaveSurfer 4000HD is always 12-bit resolution**

8-bit oscilloscopes are noisier, less accurate, and have less precision
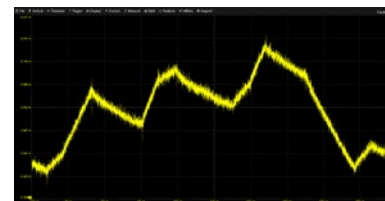
Teledyne LeCroy 12-bit Resolution Oscilloscope

8-bit Resolution Oscilloscope

TELEDYNE LECROY
Everywhere**you**look™

WaveSurfer 4000HD vs. Keysight 4000X Series

- Teledyne LeCroy WaveSurfer 4104HD
- Keysight MSOX4104A

Teledyne LeCroy's 12 bits for the price of Keysight's 8 bits

- WaveSurfer 4000HD
- Keysight 4000X

WaveSurfer 4000HD has comprehensive probe support

Over 30 probes in 9 categories

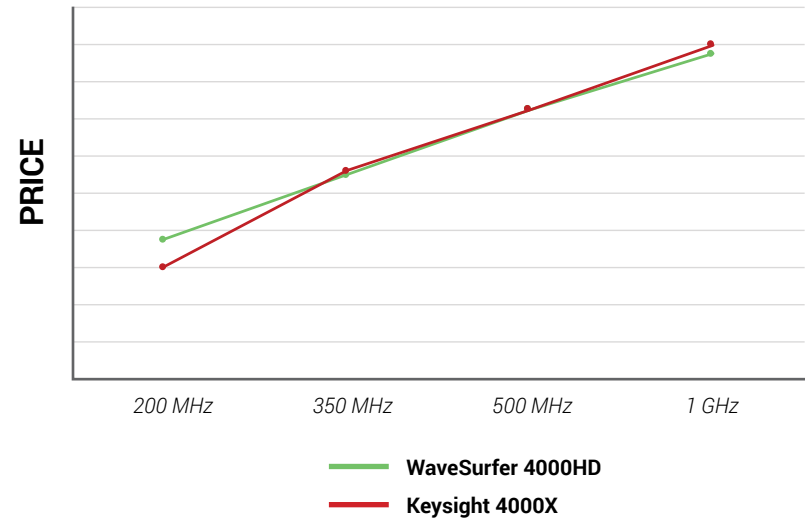*WaveSurfer 4104HD 1 GHz model*

HD
12 Bits

MSOX4104A 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 noise on a Keysight 8-bit oscilloscope.