

WaveSurfer 4000HD

12 bits all the time.

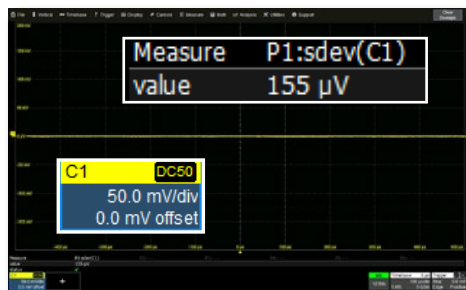
**Unrivaled Performance,
Unbeatable Value.**



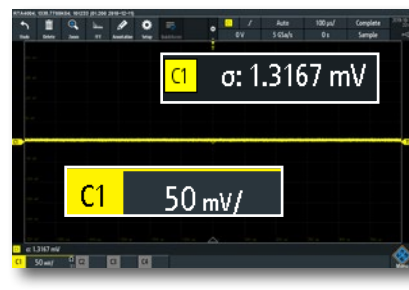
WaveSurfer 4000HD offers the industry's lowest noise, highest precision, and best accuracy.

Baseline Noise (200 MHz model)	WaveSurfer 4024HD	RTA4004
1 mV/div	✓ 65 μ V	✓ 60 μ V
10 mV/div	✓ 70 μ V	X 260 μ V
50 mV/div	✓ 160 μ V	X 1400 μ V
100 mV/div	✓ 270 μ V	X 2700 μ V
1000 mV/div	✓ 2.7 mV	X 22.7 mV

Datasheet version: 05.00, April 2019



WaveSurfer 4024HD
200 MHz, 5 GS/s, 12 bits



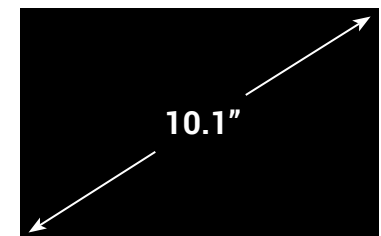
RTA4004
200 MHz, 5 GS/s, 10-bit ADC
8x more noise

	WaveSurfer 4000HD	R&S RTA4000
Analog Channels	4	4
Digital (MSO) Channels	16 (with MSO option)	16 (with MSO option)
Bandwidth	200 MHz - 1 GHz	200 MHz - 1 GHz
Resolution	12 bits	10-bit ADC
Noise at 50 mV/div	160 μ V	1400 μ V
Maximum Sample Rate	5 GS/s	5 GS/s
Standard Memory (per channel/interleaved)	12.5/25 Mpts	100/200 Mpts
Display Size (Resolution)	12.1" (1280 x 800)	10.1" (1280 x 800)
Waveform update rate	170,000 wfms/sec	64,000 wfms/sec
Gain Accuracy at 1 mV/div	\pm 0.5% of full scale	\pm 2.5% of full scale
Weight	5.3 kg / 11.7 lbs	3.3 kg / 7.3 lbs
H x W x D	273 mm x 380 mm x 160 mm	220 mm x 390 mm x 152 mm
Start up/Boot time	~35 seconds	~13 seconds

WaveSurfer 4000HD has a 12.1" display

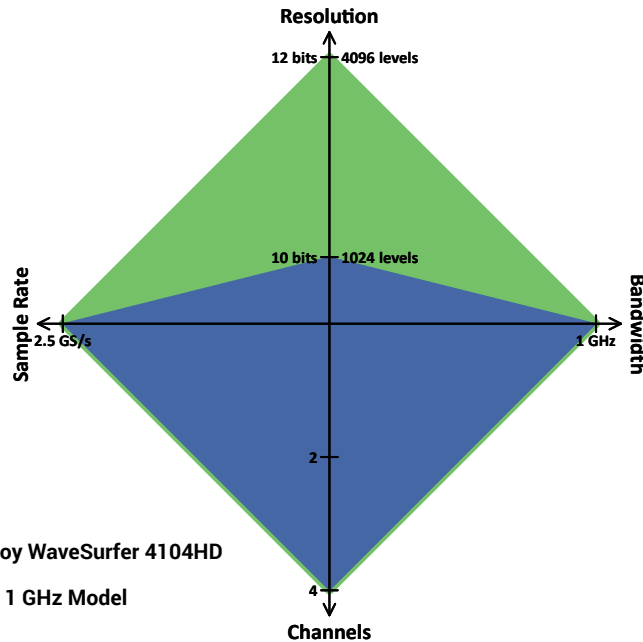


RTA4000 has a 10.1" display

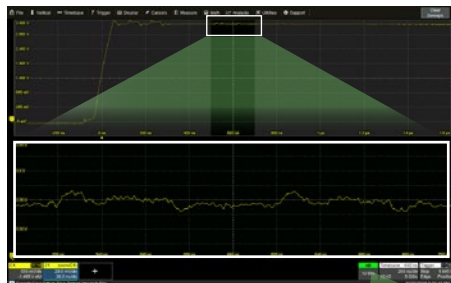


38% bigger

Teledyne LeCroy WaveSurfer 4000HD vs. R&S RTA4000 Series

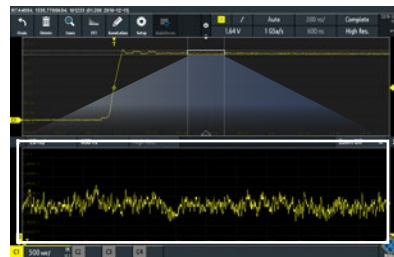


- Teledyne LeCroy WaveSurfer 4104HD
- R&S RTA4004 1 GHz Model



WaveSurfer 4024HD 200 MHz model

HD
12 Bits



RTA4004 200 MHz model

The example above shows a 100x vertical zoom (bottom trace) of the top of a signal. Small variations in signals are not visible on an RTA4000 Series oscilloscope.

Why does Rohde & Schwarz's RTA4004 with a 10-bit ADC have worse baseline noise compared to an 8-bit oscilloscope?

	12 bits	10-bit ADC	8 bits
Baseline Noise	WaveSurfer 4104HD	R&S RTA4004+B2410	8-bit oscilloscope*
1 mV/div	125 μ V	110 μ V	280 μ V
10 mV/div	130 μ V	410 μ V	320 μ V
50 mV/div	280 μ V	2400 μ V	1340 μ V
100 mV/div	465 μ V	4600 μ V	2180 μ V
1000 mV/div	4.7 mV	31.4 mV	21.1 mV

* Measured on a Keysight MSOX4104A (not specified in Datasheet).

WaveSurfer 4000HD has comprehensive probe support

Over 30 probes in 9 categories

