

Keysight 4000 X-Series vs. Teledyne LeCroy HDO4000

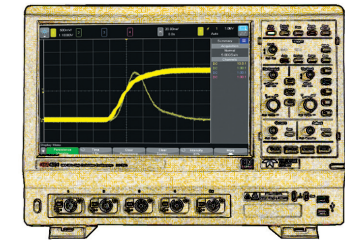
InfiniiVision 4000 X-Series–Oscilloscope Experience Redefined

- 12.1-inch capacitive touch display
- InfiniiScan Zone touch trigger
- > 1,000,000 wfm/sec uncompromised
- Standard segmented memory
- Bandwidth upgrade to 1.5 GHz
- Fully upgradable 5-instrument-in-1
 - Oscilloscope
 - Digital channels (MSO)
 - Protocol analysis
 - Dual-channel WaveGen with arbitrary waveform and modulation support
 - Digital voltmeter (DVM)
- InfiniiView oscilloscope analysis software

MegaZoom IV custom ASIC powers the fast update rate, MSO, function generator, protocol analysis and responsive, deep memory



Imagine an oscilloscope that sees everything, triggers on anything, has the ease-of-use of a tablet device, and grows with your projects. The new Keysight Technologies, Inc. 4000 X-Series oscilloscopes are engineered for next-generation performance, delivering waveform update rates orders of magnitude faster than the competition to display the most signal detail on an industry-leading 12.1-inch capacitive touch screen with innovative InfiniiScan Zone touch triggering for the most intuitive and responsive oscilloscope measurements. Coupled with a fully-upgradable 5-instruments-in-1, the 4000 X-Series provides maximum investment protection.



	Keysight 4000 X-Series		Teledyne LeCroy HDO4000	
Bandwidth	200 MHz, 350 MHz, 500 MHz, 1 GHz, 1.5 GHz	√	200 MHz, 350 MHz, 500 MHz, 1 GHz	√
Upgradable bandwidth	Yes	√	Not available	X
Max sampling rate	5 GSa/s (2x more)	√	2.5 GSa/s	X
Update rate	> 1 M Wfms/sec (up to 1,000x faster)	√	Normal ¹ : ~1 K Wfms/sec	X
Max memory depth	Up to 4 M	X	Up to 50 M (12.5x more)	√
ADC resolution	8-bits	X	12-bits (16x more resolution)	√
Display size	12.1" 4:3 (> 12% viewing area)	√	12.1" 16:9	√
Touch screen	Yes – capacitive	√	Yes – resistive	X
Hardware-based zone trigger	Yes – InfiniiScan Zone touch trigger	√	Not available	X
Waveform generator	Yes – integrated 2-ch	√	Not available	X
Hardware-based serial decode	Yes	√	Not available	X
Standard passive probe	700 MHz passive (40% more)	√	500 MHz passive	X
Knob per channel vertical control	Yes	√	Not available	X

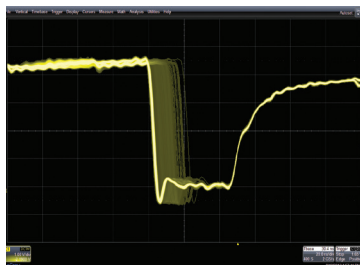
1. Measured using the latest generation WaveRunner 6Zi HRO.

Experience the Speed

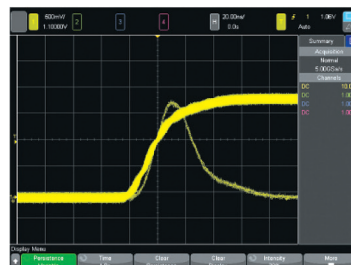
With 1,000,000 wfm/sec update rate:



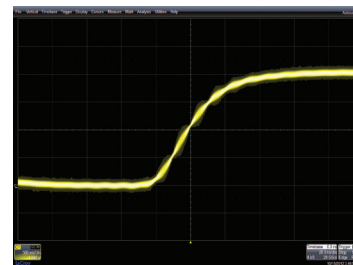
Multiple infrequent glitches and metastable signals were observed after one second of persistence on the 4000 X-Series.



No infrequent glitches and less edge jitter were observed after 30 seconds of persistence on the LeCroy¹, even with WaveStream enabled.



Multiple infrequent glitches and metastable signals were observed after one second of persistence on the 4000 X-Series.

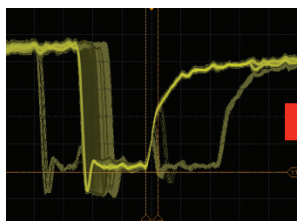


Glitch is not captured on the LeCroy¹, even after turning on WaveStream and letting it run for 30 seconds.

> 1,000,000 waveforms per second update rate allows you to see infrequent events and subtle signal details that the LeCroy will miss. Because of the uncompromised MegaZoom IV memory architecture, the 4000 X-Series won't slow down even with digital channels, protocol decoding, measurements, and math functions turned on.

Experience the Usability

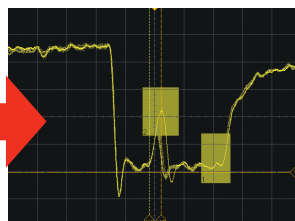
With InfiniiScan Zone touch trigger and 12.1-inch capacitive touch screen:



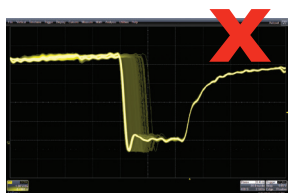
With the InfiniiScan Zone touch trigger, if you can see it, you can trigger on it.



It is as simple as finding the signal and drawing the zone box. The metastable signal was isolated immediately.



Added the second zone to further isolate dangerous glitches above the logical threshold.



No InfiniiScan Zone available with the LeCroy.

KEYSIGHT SERVICES

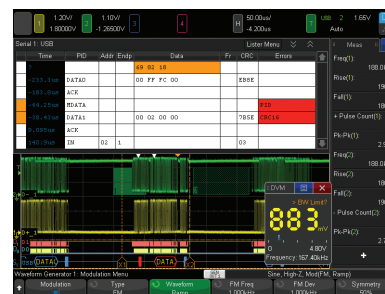
Accelerate Technology Adoption. *Lower costs.*

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Keysight Services helps you improve productivity and product quality with our comprehensive service offerings of one-stop calibration, repair, asset management, technology refresh, consulting, training, and more.

Experience the Integration

With class' only fully upgradable 5-instruments-in-1:



Best-in-class oscilloscope:

Equipped standard features like InfiniiScan Zone, segmented memory, advanced math, advanced triggers, and class-leading 12.1-inch capacitive touch screen.

Protocol analysis:

Provides hardware-based protocol-aware triggering decode, search, and navigation for serial buses.

Logic timing analyzer (MSO):

Ideal for R&D engineers and education establishments that need more than the traditional 2 or 4 analog channels.

Industry-exclusive 20 MHz dual-channel WaveGen:

With a modulation feature, it is ideal for educational or design labs where bench space and budget are limited.

Integrated Digital Voltmeter:

Provides a 3-digit DVM and 5-digit counter measurements through the same probes as the oscilloscope channels.



Upgradable bandwidth and MSO, dual-channel WaveGen, and DVM are not available with the LeCroy

1. Measured using the latest generation WaveRunner 6Zi HRO.