

Competitive Comparison:

Keysight 4000 X-Series vs. R&S RTM Series

InfiniiVision 4000 X-Series Oscilloscope Experience Redefined

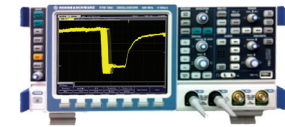
- 12.1-inch capacitive touch display
- InfiniiScan Zone touch trigger
- > 1,000,000 wfms/sec uncompromised
- Standard segmented memory
- Bandwidth upgrade to 1.5 GHz
- Fully upgradable 5-instrument-in-1
 - Oscilloscope
 - Digital channels (MSO)
 - Protocol analysis
 - Dual-channel WaveGen with arbitrary 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 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. It's without a doubt the very best embedded-operating system oscilloscope on the market today.



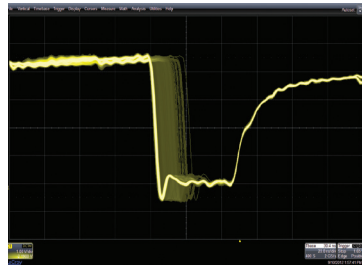
	Keysight 4000 X-Series		Rohde & Schwarz RTM	
Bandwidth	200 MHz, 350 MHz, 500 MHz, 1 GHz, 1.5 GHz	√	500 MHz	x
Upgradable bandwidth	Yes	√	Not available	x
Sampling rate	Up to 5 GSa/s	√	Up 5 GSa/s	√
Update rate	> 1 M Wfms/sec (80x more)	√	12.5 K wfms/sec	x
Memory depth	Up to 4 M	x	Up to 8 M (2x more)	√
Segmented smart memory	Yes	√	Not available	x
Display size	12.1" (> 2x the viewing area)	√	8.4"	x
Touch screen	Yes – capacitive	√	Not available	x
Mixed signal	Yes – 16 ch integrated, upgradable	√	Not available	x
HW-based zone trigger	Yes – InfiniiScan Zone touch trigger	√	Not available	x
Waveform generator	Yes – integrated 2-ch	√	Not available	x
Application support	USB Low/Full/Hi, I ² C, SPI, RS232, UART, CAN, LIN, I ² S, ARINC, 1553, FlexRay, Mask, FPGA, Power, Video, InfiniiView, VSA/ASV	√	I ² C, SPI, RS232, UART, CAN, LIN, Mask	
Serial search	Yes	√	Only CAN/LIN	x
Standard passive probe	700 MHz passive (40% more)	√	500 MHz passive	x
System BW (w/ std. probe)	700 MHz for 1 GHz and above models (40% more)	√	Not specified (likely 500 MHz)	x
Knob per channel	Yes	√	Not available	x

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.

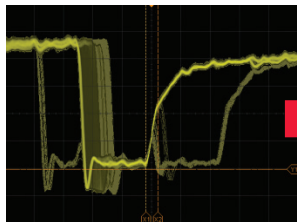


No infrequent glitches and less edge jitter were observed after 30 seconds of persistence on the LeCroy[®], even with WaveStream enabled.

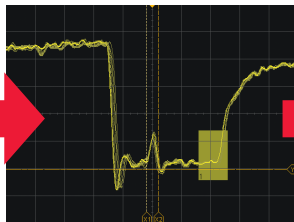
> 1,000,000 waveforms per second update rate allows you to see infrequent events and subtle signal details that the LeCroy will miss. Because of the uncompromised MegaZoom IV memory architecture, the 4000 X-Series won't slow down even with digital channels, protocol decoding, measurements, and math functions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

Experience the Usability

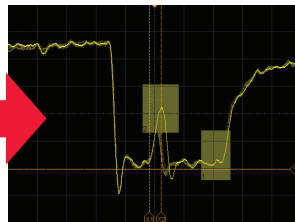
With InfiniiScan Zone touch trigger and 12.1-inch capacitive touch screen:



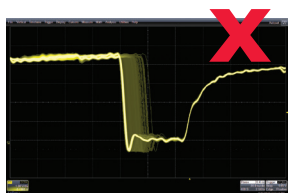
With the InfiniiScan Zone touch trigger, if you can see it, you can trigger on it.



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

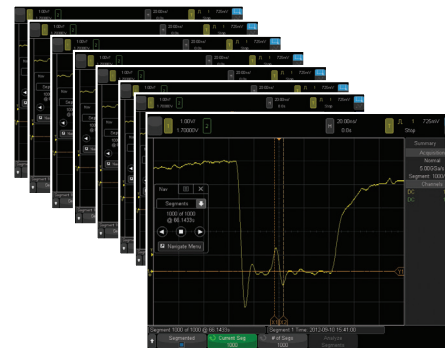
Accelerate Technology Adoption. *Lower costs.*

www.keysight.com/find/services

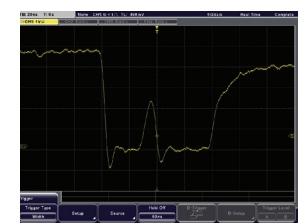
Keysight Services helps you improve productivity and product quality with our comprehensive service offerings of one-stop calibration, repair, asset management, technology refresh, consulting, training, and more.

Experience the Usability

With standard segmented memory:



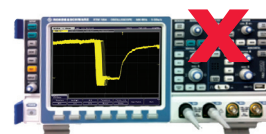
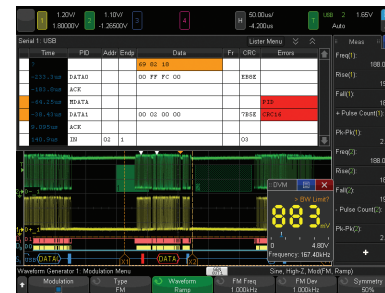
The optimized and efficient segmented memory architecture of the 4000 X-Series captured selective and critical signal details over 66 sec at 5 GS/s. It not only captured 1,000 metastable signals, but also revealed critical delta time relationships among them.



At 5 GS/s and 8 Mpts, a traditional memory architecture scope like R&S' RTM can only capture 1.6 ms of time. While it can trigger on one glitch, it won't be able to analyze inter-glitch timing correlations, which are multi-milliseconds apart.

Experience the Integration

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



Dual-channel WaveGen and upgradable bandwidth and MSO are not available with the R&S RTM.

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.