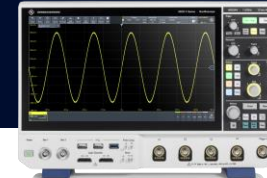




R&S®MXO 4 OSCILLOSCOPE versus Keysight 4000 X-Series



Rohde & Schwarz introduces the first of a new generation of oscilloscopes that excel in both performance and value. Designed with the latest technologies, including 12-bit ADC, 400 Mpoints segmented memory and an industry-leading > 4.5 million waveforms/second capture rate, the R&S®MXO 4 Series delivers a once-in-a-decade engineering breakthrough for accelerated insight.

Your benefit	Features
Find signal anomalies quickly	Unparalleled update rate with a trigger rearm time of < 21 ns makes the R&S®MXO 4 the fastest waveform capturing oscilloscope in the industry.
See your signals accurately	The R&S®MXO 4 has an enhanced 18-bit vertical system resolution with HD mode. Combined with low measurement noise and a digital trigger, you can see and trigger with maximum accuracy and sensitivity.
Capture more time	With ultra-deep memory, the R&S®MXO 4 can record very long durations of waveforms, giving you maximum assurance when monitoring long events while preserving maximum sample resolutions.

Memory depth comparison

R&S®MXO 4: standard 400 Mpoints memory | 800 Mpoints memory and 1.6 Gpoints segmented memory (option)

← Keysight InfiniVision 4000 X-Series: standard 2 Mpoints per channel

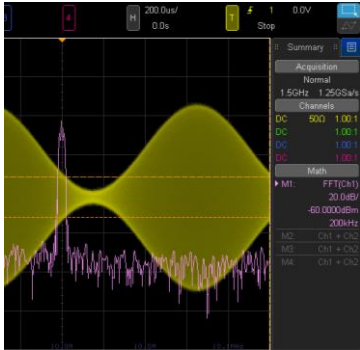
200 times more standard memory means that the R&S®MXO 4 can capture longer periods of time with a high sample rate. The R&S®MXO 4 also excels by offering up to 1 million segmented acquisitions – something no other oscilloscope can.



For more information, visit
www.rohde-schwarz.com/product/MXO4

Parameter	R&S®MXO 4	Keysight InfiniVision 4000 X-Series
Acquisition system		
Bandwidth (GHz)	0.2, 0.35, 0.5, 1, 1.5 (upgradeable)	0.2, 0.35, 0.5, 1, 1.5 (upgradeable)
Maximum vertical resolution	18 bit	12 bit
Maximum sampling rate	5 Gsample/s	5 Gsample/s
Maximum memory depth	400 Mpoints/channel (max. 800 Mpts on 2 channels with option)	2 Mpoints/channel (max. 4 Mpoints on 2 interleaved channels)
Waveform update rate	> 4 500 000 waveforms/s	> 1 000 000 waveforms/s
Hardware input sensitivity	0.5 mV/div to 1 V/div at 50 Ω	4 mV/div to 1 V/div at 50 Ω
Segmented/history mode	> 1 000 000 acquisitions	1000 acquisitions
Spectrum analysis	Hardware accelerated with > 40 000 FFT/s Independent spectrum and time settings with 0.1 Hz resolution bandwidth Dedicated diagram for spectrum	FFT function as part of math < 10 FFT/s Up to 64 kpoints resolution with time and spectrum control tied closely Math diagrams display one at a time
Signal integrity		
Noise (1 mV/div, 200 MHz, 50 Ω)	45 μV	113 μV
Channel-to-channel isolation	≥ 60 dB (1:1000)	≥ 40 dB
Trigger system	Digital	Analog
Trigger sensitivity	0.0001 div (for all bandwidths and all vertical scales)	Below 1 GHz: 0.6 ~ 1 div, depends on scale Above 1 GHz: 1 ~ 1.5 div, depends on scale
Timebase accuracy	< 0.2 ppm	± 10 ppm
Hardware options		
Arbitrary function generator	2 channels, 100 MHz, ARB length: 40 Mpoints	2 channels, 20 MHz, ARB memory: 8192 points
Mixed signal capabilities (MSO)	400 MHz, 16 channels, 5 Gsample/s, 400 Mpoints/channel	300 MHz, 16 channels, 8 Gsample/s, 250 Mpoints/channel
Form factor		
Display	13.3" Full HD (1920 × 1080) pixel	12.1" VGA (800 × 600) pixel
Dimensions (W × H × D)	414 mm × 279 mm × 162 mm	454 mm × 275 mm × 156 mm
Weight	6 kg	6.3 kg

Spectrum analysis



Keysight InfiniiVision 4000 X-Series

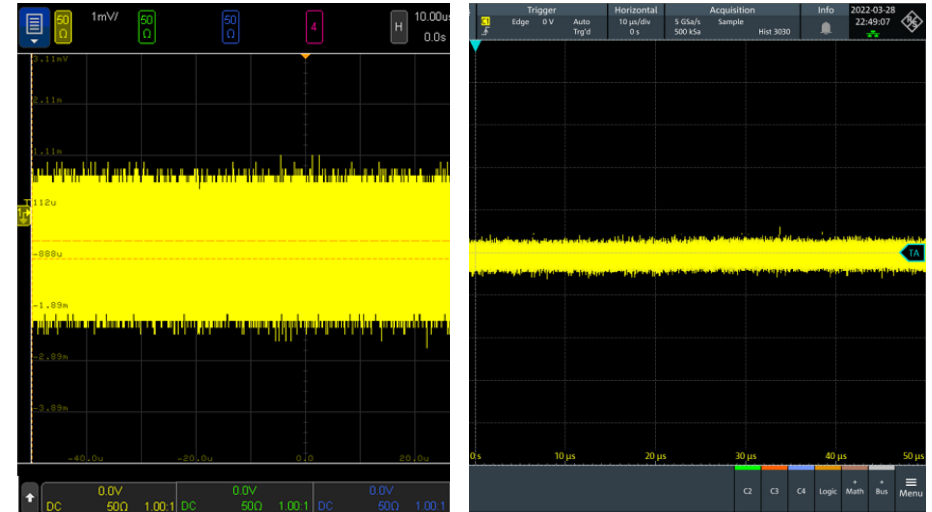
- ▶ **Display:** FFT needs to be overlaid on the channel waveform on the same screen
- ▶ **Memory:** Limited memory for smaller RBW
- ▶ **Setup:** Time and spectrum control closely tied, making the control intertwined and complex
- ▶ **Update rate:** Slow FFT update with less than 10 FFT/s



R&S®MXO 4

- ▶ **Display:** Dedicated spectrum diagram with R&S®SmartGrid control
- ▶ **Memory:** Deep memory allows you to see spectrum details with 0.1 Hz resolution bandwidth
- ▶ **Setup:** Independent spectrum and time domain setting for intuitive setup while retaining time correlation
- ▶ **Update rate:** Ultra-fast FFT update rate of 45 000 FFT/s

System noise: Keysight InfiniiVision 4000 X-Series versus R&S®MXO 4



At 1.5 GHz with 50 ohm input coupling, the Keysight InfiniiVision 4000 X-Series (left) has higher noise even with no signals present on the channel. The equivalent for the R&S®MXO 4 at 1 mV/div is on the right.

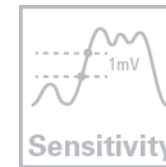
Advantages of the R&S®MXO 4 over the Keysight InfiniiVision 4000 X-Series



4.5 x
Faster capture rate



200 x
More memory



1000 x
Better input sensitivity



2 x
Less noise



64 x
More vertical resolution