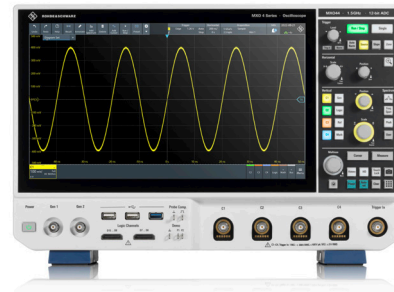


MXO 4 SERIES OSCILLOSCOPE

versus Tektronix 4B Series MSO

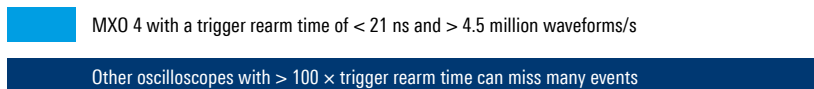
Rohde & Schwarz has a new generation of oscilloscopes that combine excellent performance and value. Designed with the latest technologies, including 12-bit ADC, 400 Mpoints segmented memory and an industry-leading > 4.5 million waveforms/s capture rate, the MXO 4 series is a once-in-a-decade engineering breakthrough for accelerated insight.



Benefit	MXO 4 features
Find signal anomalies quickly	An unparalleled update rate and trigger rearm time of < 21 ns make the MXO 4 the fastest waveform capturing oscilloscope in the industry.
See your signals accurately	The MXO 4 has enhanced 18-bit vertical system resolution in HD mode. Combined with low measurement noise and a digital trigger, you can see and trigger with maximum accuracy and sensitivity.
Capture more time	The ultra-deep memory lets the MXO 4 record very long waveform durations for maximum assurance when monitoring long events while preserving maximum sampling resolution.

Acquisition speed comparison

Faster waveform update rates let oscilloscopes see more of a signal to better chance of capture possible waveform issues. At over 4.5 million waveforms/s, the MXO 4 has the world's fastest update rate and can capture events that other oscilloscopes miss.



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

Parameter	MXO 4 series	Tektronix 4B series MSO
Acquisition system		
Bandwidth	200/350/500 MHz, 1 GHz, 1.5 GHz (upgradeable to 1.5 GHz)	200/350/500 MHz, 1 GHz/1.5 GHz (upgradeable to 1 GHz)
Channels	4	4, 6
Maximum vertical resolution	18 bit HD mode	16 bit with high resolution
ADC resolution max. sample rate	12 bit	8 bit at 6.25 Gsample/s, 12 bit at lower sample rate
Maximum real-time sampling rate	5.0 Gsample/s	6.25 Gsample/s
Maximum standard memory depth per channel	400 Mpoints; 800 Mpoints (optionally, on 2 channels)	31.25 Mpoints; 62.5 Mpoints (option)
Waveform update rate	4 500 000 waveforms/s	50 waveforms/s 500 000 waveforms/s (FastAcq mode)
Spectrum analysis	<ul style="list-style-type: none"> ▶ hardware accelerated with > 40 000 FFT/s ▶ independent spectrum and time settings with 0.1 Hz resolution bandwidth ▶ dedicated diagram for spectrum 	<ul style="list-style-type: none"> ▶ FFT function as part of math < 10 FFT/s ▶ up to 64 kpoints resolution with time and spectrum control closely tied ▶ math diagrams display one at a time
Signal integrity		
Noise (1 mV/div, 500 MHz, 50 Ω)	54 µV	200 µV
Channel-to-channel isolation	≥ 60 dB (1:1000)	≥ 46 dB (1:200)
Trigger system	digital	analog
Trigger sensitivity	0.0001 div (all bandwidths and all scales)	0.7 div or greater (varies by bandwidth)
Timebase accuracy	±0.2 ppm	±2.5 ppm
Hardware options		
Arbitrary function generator	2 channels, 100 MHz, ARB length: 40 Mpoints	1 channel, 50 MHz, ARB memory: 128 kpoints
MSO logic channels	standard 16 channels, does not take up analog channel	optional; up to 48 channels, each 8-channel pair takes up an analog channel
Mechanical data		
Display	13.3" Full HD (1920 × 1080 pixel)	13.3" Full HD (1920 × 1080 pixel)
Dimensions (W × H × D)	414 mm × 279 mm × 162 mm	405 mm × 287 mm × 155 mm
Weight	6 kg	7.3 kg

Memory depth comparison

Twelve times more standard memory lets the MXO 4 capture longer periods with a high sample rate. The MXO 4 can also make up to 1 million segmented acquisitions – no other oscilloscope can.

MXO 4

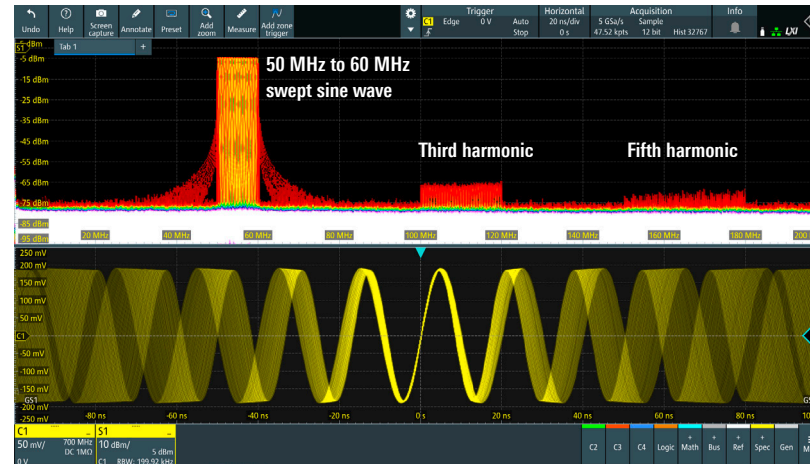
Standard 400 Mpoints memory 800 Mpoints memory; 1.6 Gpoints segmented memory (option)

Tektronix 4B Series MSO

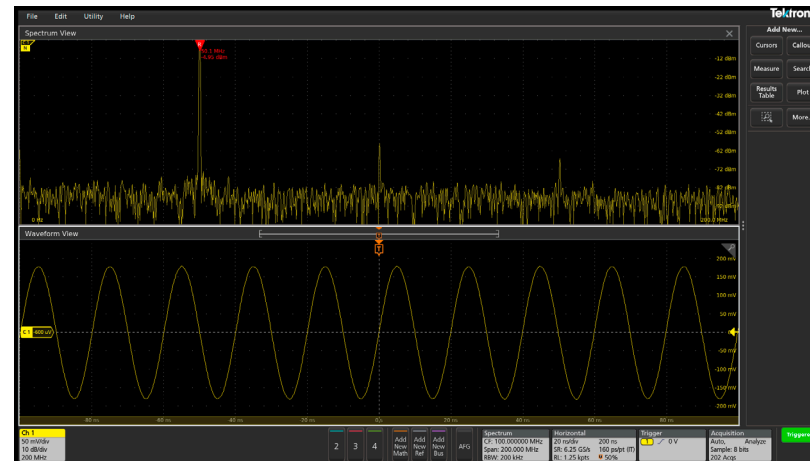
Even with a memory extension, the Tektronix 4B Series MSO (62.5 Mpoints) falls far short of the MXO 4

Update rate and spectrum

Both instruments are fed a 50 MHz swept sine wave and the spectrum is turned on.



The sine wave envelope can be clearly seen with the MXO 4. The spectrum clearly shows the harmonics and frequency sweep and resembles that of a spectrum analyzer.



The low update rate means the Tektronix 4B series MSO cannot show the sweep in the sine wave. The FastAcq mode cannot be activated with spectrum. On the spectrum x-axis, it is not clear where the harmonics are, since the frequencies are not displayed. The frequency sweep is not visible on the spectrum.

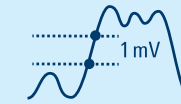
Advantages of the MXO 4 versus Tektronix 4B Series MSO



Memory

12 ×

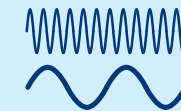
More memory



Sensitivity

7000 ×

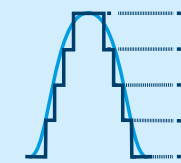
Better input sensitivity



More waveforms

90 000 ×

Faster waveform update rate



ADC

4 ×

More vertical resolution



Noise

4 ×

Less noise

Rohde & Schwarz GmbH & Co. KG

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MXO 4 Series Oscilloscope

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Data without tolerance limits is not binding | Subject to change

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