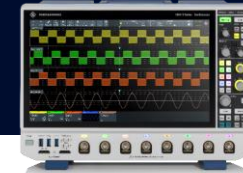# ROHDE & SCHWARZ
Make ideas real

R&S®MXO 5 SERIES OSCILLOSCOPE
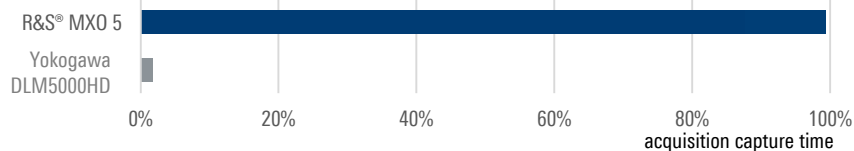## versus Yokogawa DLM5000(HD)

The R&S®MXO 5 Series delivers breakthrough oscilloscope technology to speed up your understanding in both the time and frequency domains. The MXO 5 Series 4 and 8-channel models combine the deepest standard memory of 500 Mpoints and the world's fastest acquisition rate of 18 million waveforms/second across multiple channels, letting the instrument stand out among competitors.

Your benefit	Features
See signals in real time	Never miss another signal anomaly. The fastest acquisition rate in the industry allows the R&S®MXO 5 to acquire over 99% of real-time signals. This outstanding performance is can be easily accessed by any digital trigger and in free run mode.
Easily optimize perspectives	Customizable layout and toolbar, smart menu and fast search function: the R&S®MXO 5 comes with the most intuitive and flexible user interface of any oscilloscope.
Uncompromising waveform analysis	R&S®MXO 5 has up to 18-bit HD precision in time and frequency measurements. The fast spectrum of > 45K FFT/s reveals spurious spectrum events that would be otherwise missed. The hardware for measurement and math functions allows for responsive control even with deep memory.

Real-time acquisition rate comparison

R&S®MXO 5 Series offers the highest acquisition rate on the market to capture more events that other scopes would miss. Even the Yokogawa DLM5000 HD model can only focus on introducing the 12-bit ADC and extended memory but no enhanced processing capabilities. Acquisition rates and capture rates are far slower than the R&S®MXO 5 Series
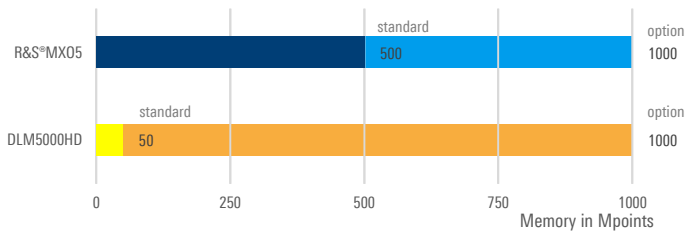

For more information, visit
www.rohde-schwarz.com/product/MXO5

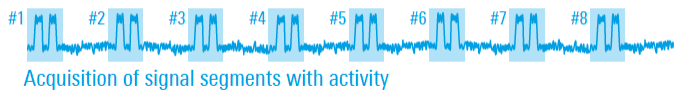| Parameter	R&S®MXO 5 Series	Yokogawa DLM5000	Yokogawa DLM5000HD
Acquisition system			
Bandwidth (GHz)	0.1, 0.2, 0.35, 0.5, 1, 2 (upgradable)	0.35, 0.5 (upgradable)	
Channels	4, 8	4, 8	
Max. vertical resolution	18-bit HD mode	12-bit high resolution mode	16-bit high resolution mode
ADC bits	12-bit at all sample rates	8-bit	12-bit
Max. sampling rate	5 GSamaples/s on 4 channels 2.5 GSamples/s on 8 channels	2.5 GSamples/s	
Memory depth	Standard 500 Mpoints/ch Max 1 Gpoints/ch on 4 ch. (option)	Standard 50 Mpoints/ch Max 250 Mpoints/ch (option)	Standard 50 Mpoints/ch Max 1 Gpoints/ch (option)
History segments	Up to 1,000,000	Up to 100,000	Up to 200,000
Waveform update rate	> 4.5 M waveforms/s, on ≤ 4 ch. Dead time of 0.02 ns	Not specified. Dead time of 0.9 us	
Spectrum analysis	HW-accelerated up to 4 channels >45 000 FFT/s (1 ch);	Up to 4 FFT analysis Slower due to dead time	
Offset range at 1 MΩ	<80 mV/div: ± 5 V <800 mV/div: ± 50 V	<50 mV/div: ± 1 V <500 mV/div: ± 10 V	
Signal integrity			
Noise (2 mV/div, 50 Ω)	350 MHz: 48 uV 500 MHz: 57 uV	The larger of 0.2 mVrms or 0.05 div rms (typical value)	350 MHz: 103 uV 500 MHz: 134 uV
Channel-to-channel isolation	≥ 60 dB (1:1000)	-34 dB	-65 dB
Trigger sensitivity	0.0001 div, user adjustable	Not specified	
Time base accuracy	± 0.2 ppm	± 2.5 ppm	
Hardware options			
Arbitrary function generator	2 channels, 100 MHz	Not available	
MSO logic channels	Standard 16 channels 400 MHz toggle rate	Standard, 16 channel	Optional, 32 channel 100 MHz ~ 250 MHz	
Display & I/O			
Display	15.6" full HD (1920 x 1080) pixel	12.1" XGA (1024 × 768) pixel	
I/O supported	3 x USB3.1 Gen1 port, 1 x Type-B RJ45 10/1000/1000Base-T HDMI / DP	2 x USB2.0 Type A, 1 x USB3.0 Type-B RJ45 10/1000/1000Base-T GPIB (optional)	

Memory depth comparison

The main highlight for the DLM5000HD is the 12-bit and deeper memory, which still falls short when compared to the R&S®MXO 5 Series.
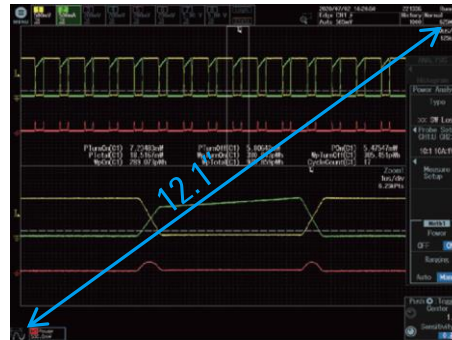

In segmented memory the R&S®MXO 5 can capture 1 million segments with 1 Mpoints while the DLM5000HD can only record a history of up to 200000 segments
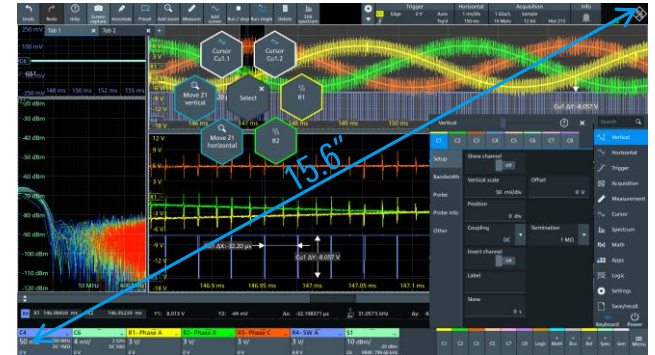
Acquisition using segmented memory

Acquisition of signal segments with activity

User Interface

Yokogawa DLM5000HD

R&S® MXO 5

12.1

15.6"

▶ The old 4:3 screen is smaller at 12.1" with an even smaller waveform display area
▶ Overlaid measurements and cursor results
▶ User interface not optimized for touch

▶ 16:9 wide screen on 15.6" display to show more waveforms
▶ Optimized for 8 channels and SmartGrid for user configurable display
▶ Dedicated grids and result tables for clear information display

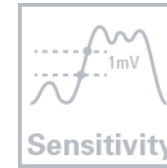## Advantages of the R&S®MXO 5 Series over the Yokogawa DLM5000HD

Next gen
latest performance capability

10 x
more standard memory

7000 x
better input sensitivity

90000 x
faster waveform update rate

4 x
more vertical resolution with HD resolution

4 x
less noise