ROHDE&SCHWARZ
Make ideas real

R&S®RTA4000
versus Tektronix 4 Series MSO

Designed with class-leading signal integrity and responsive ultra-deep memory, the R&S®RTA4000 brings the power of 10 to a new level. A Rohde & Schwarz 10-bit ADC with class-leading noise and memory depth gives you sharp waveforms in each instrument setting, as well as more accurate measurements and confidence when facing unexpected measurement challenges. The widely acclaimed user interface in a compact form factor with a high-resolution 10.1" capacitive touchscreen allows you to easily see and use these benefits.

Your benefit	Features
Sharp waveforms, more accurate measurements	10-bit ADC with class-leading noise performance gives you more accurate measurements and sharper waveforms in each instrument setting. Measure your signal, not the noise on your scope.
Capture long periods at high sample rate	The R&S®RTA4000 oscilloscope's standard deep memory gives you extra insurance for those difficult measurements where other scopes run out of capacity, and the excellent timebase accuracy means your deep memory measurements are more accurate.
Multiple ways to interact with the oscilloscope	Different users prefer different ways to interact with the scope. The R&S®RTA4000 features a high-resolution, capacitive touchscreen and a designed-for-touch GUI. Knobs/buttons are also available, along with the ability to control the scope via a keyboard/mouse and even remotely via any common web browser.

▷ For more information, visit www.rohde-schwarz.com/catalog/RTA4000

Parameter	R&S®RTA4000	Tektronix 4 Series MSO
Acquisition system		
Bandwidth	200/350/500/1000 MHz (1GHz) (upgradeable)	200/350/500/1000 MHz (1 GHz), 1500 MHz (1.5 GHz) (upgradeable)
Channels	4	4, 6
ADC resolution	10-bit	12-bit
ADC resolution at max. sample rate	10-bit	8-bit
Max. vertical resolution	16-bit with high resolution	16-bit with high resolution
Max. sampling rate	5 Gsample/s	6.25 Gsample/s
Memory depth	100 Msample per channel (all channels) 200 Msample (interleaved) Standard	31.25 Msample per channel (all channels) 62.5 Msample per channel (all channels) Option
Segmented memory depth/history mode	500 Msample per channel (all channels) 1 Gsample (interleaved)	62.5 Msample per channel (all channels)
Waveform update rate	64 000 waveforms/s standard 2 000 000 waveforms/s in fast segmented memory mode	100 waveforms/s standard (at 31.25 Msample memory) > 500 000 waveforms/s in fast acquisition mode (31.25 Msample)
MSO	Optional – 16 channels, doesn't take up an analog channel	Optional – up to 48 channels, each 8-channel pair takes up an analog channel
Scope base unit required for 16 digital + 4 analog channels	4 channel oscilloscope (lower price)	6 channel oscilloscope (higher price)
MSO memory depth	100 Msample per channel (all channels) 200 Msample (interleaved)	31.25 Msample per channel (all channels) 62.5 Msample per channel (all channels)
Hardware input sensitivity	500 µV/div to 10 V/div HW based, at full bandwidth	500 µV/div to 10 V/div (2 x digital zoom of 1 mV/div or 4 x zoom of 2 mV/div)
Signal integrity		
Noise 1 mV/div, 1 GHz, 50 Ω, % full scale	0.6 %	1.2 %
Timebase accuracy	±0.5 ppm	±5 ppm
Form factor		
Display	10.1" WXGA (1280 × 800) pixel resolution	13.1" HD (1920 × 1080) pixel resolution
Dimensions	390 mm × 220 mm × 152 mm	450 mm × 249 mm × 155 mm
Weight	3.3 kg	7.6 kg

A 10-bit ADC provides four times the vertical resolution of an 8-bit ADC

R&S®RTA4000 (4 channels)

+ 1 MSO option

Tektronix 4 Series MSO (6 channels)

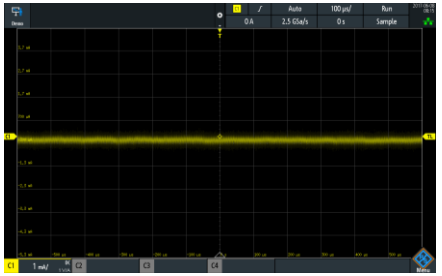
Price = A

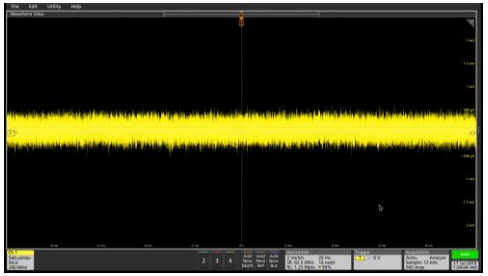
The typical MSO configuration consists of 4 analog and 16 digital channels. 16 digital channels can be retrofitted to the 4-channel R&S®RTA4000 base unit via the MSO interface at a very attractive price.

Price = ~ 1.8 x A

The typical MSO configuration for the Tektronix 4 Series MSO requires the 6-channel base unit. Two of the channels are used to connect the logic probes. Channels cannot be retrofitted to the 4 Series models.

Noise performance





The R&S®RTA4000 utilizes a low-noise frontend with HW based 500 µV/div, designed to provide in each instrument setting the advantage of the 10-bit ADC and allows you to see more signal detail

Memory depth comparison

Six times more standard memory allows you to capture long periods of time with a high sample rate. Optional 1 Gsample of memory with segmented memory/history gives you 16 times more memory.

R&S®RTA4000 standard 200 Msample memory | R&S®RTA4000 standard 1 Gsample segmented memory

← 16 times more than 62.5 Msample memory

Advantages of R&S®RTA4000 over Tektronix 4 Series MSO

~40 %
More cost efficient for 4-channel + MSO configurations

6 x
More standard memory

10 x
Better timebase accuracy

50 %
Less noise

16 x
More segmented memory

50 %
Less weight

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