ROHDE&SCHWARZ
Make ideas real

R&S®RTM3000
versus Tektronix 3 Series MDO

Designed with class-leading signal integrity and responsive ultra-deep memory, the R&S®RTM3000 brings the power of 10 to a new level. A Rohde & Schwarz 10-bit ADC and class-leading noise and memory depth gives you sharp waveforms, 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 the R&S®RTM3000 oscilloscope's low-noise frontend gives you more accurate measurements and sharper waveforms
Capture long periods at a high sample rate	The R&S®RTM3000 oscilloscope's standard deep memory gives you extra insurance for those difficult measurements where other scopes run out of capacity
Debug in the domain you're most comfortable with	Not only does the R&S®RTM3000 provide excellent time domain capabilities, it also offers advanced frequency domain analysis with simple RF setup, spectrogram and time-gated RF views

Memory depth comparison

Eight times more standard memory allows you to capture long periods of time with a high sample rate.
Optional 400 Msample of memory with segmented memory/history option gives you 40 times more memory.

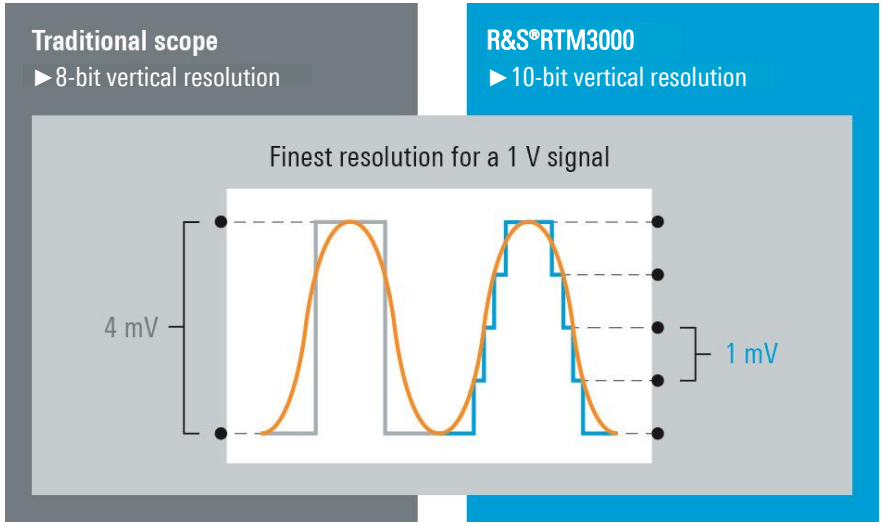
R&S®RTM3000 standard 80 Msample memory | R&S®RTM3000 standard 400 Msample segmented memory

← Tektronix 3 Series MDO 10 Msample memory

▷ For more information, visit www.rohde-schwarz.com/catalog/RTM3000

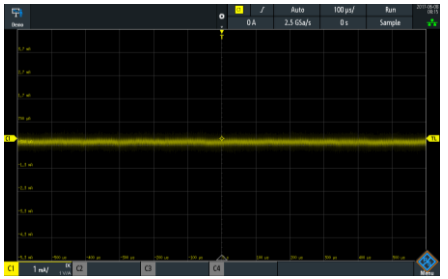
Parameter	R&S®RTM3000	Tektronix 3 Series MDO
Acquisition system		
Bandwidth	100/200/350/500/1000 MHz (1 GHz) (upgradeable)	100/200/350/500/1000 MHz (1 GHz) (upgradeable)
ADC resolution	10-bit	8-bit
Max. resolution	16-bit with high resolution	11-bit with high resolution
Max. sampling rate	5 Gsample/s (all models)	2.5 Gsample/s (100/200/350/500 MHz) 5 Gsample/s (only 1 GHz models)
Standard memory depth	40 Msample per channel (all channels) 80 Msample (interleaved)	10 Msample per channel (all channels)
Segmented memory depth/history mode	Optional – 400 Msample	no
Waveform update rate	64 000 waveforms/s standard 2 000 000 waveforms/s in fast segmented memory mode	50 000 waveforms/s standard Up to 280 000 waveforms/s in special DPX mode
MSO sampling rate / memory	5 Gsample/s / 80 Msample	500 Msample/s / 10 Msample
Hardware input sensitivity	500 µV/div to 10 V/div HW based, at full bandwidth	1 mV/div (bandwidth limited) to 10 V/div
Frequency domain analysis	yes, 4 inputs up to bandwidth of base unit	yes, 1 input up to bandwidth of base unit optional up to 3 GHz
Accuracy		
DC gain accuracy	1.5 % to 3 %	1.5 % to 3 %
Channel-to-channel isolation	> 50 dB up to bandwidth of scope	> 40 dB at ≤ 100 MHz > 30 dB at > 100 MHz BW
Form factor		
Display	10.1" (1280 × 800) pixel resolution	11.6" (1920 × 1080) pixel resolution
Touchscreen	yes – capacitive	yes – capacitive
Grid annotation	yes	yes
Boot time	~ 10 s	~ 45 s
Dimensions	390 mm × 220 mm × 152 mm	370 mm × 252 mm × 148 mm
Weight	3.3 kg	5.31 kg

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

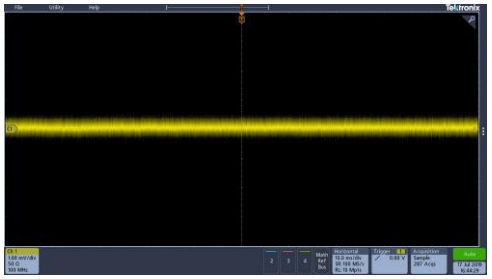


The R&S®RTM3000 features a customized Rohde & Schwarz 10-bit A/D converter that delivers a fourfold improvement over conventional 8-bit A/D converters

Noise performance



The R&S®RTM3000 features a low-noise frontend designed to take advantage of the 10-bit ADC and allow you to see more signal detail.



The 3 Series MDO has 50 % more noise than the R&S®RTM3000. Higher noise lowers the accuracy of measurements and makes it more difficult to see small details.

Noise comparison

50 % less noise ensures more accurate measurements and makes it easier to see events that might be hidden by the 3 Series MDO's noise.

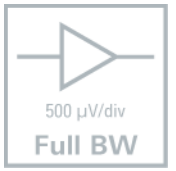
R&S®RTM3000 0.6 %

Tektronix 3 Series MDO 1.2 %

Advantages of R&S®RTM3000 over Tektronix 3 Series MDO

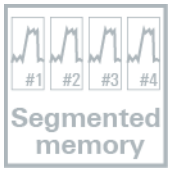
4 x
More ADC resolution

8 x
More memory



10 x
Hardware dynamic range (full bandwidth)

50 %
Less noise



∞
More segmented memory

~10 %
More cost effective in similar configuration

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