# **R&S<sup>®</sup>RTM-B1 mixed signal option** Fast and precise testing of embedded designs





For more information, see www.rohde-schwarz.com/product/rtmb1

# The perfect choice

General debugging of	Protocol traffic
embedded designs	analysis

Key specifications of the R&S®RTM-B1	
Channels	16 divided over two logic probes
Sampling rate	5 Gsample/s (max.)
Memory depth	20 Msample (max.), 460 Msample segmented memory (optional)
Max. input frequency	400 MHz (meas.)
Vlax. input voltage	±40 V (V <sub>p</sub> )
Vlin. input voltage swing	500 mV ( $V_{pp}$ ) (meas.)
Threshold level range	±8 V in 25 mV steps
Channel deskew range	±200 ns
Channel-to-channel skew	< 200 ps (meas.) for same verti- cal settings on the channels
Trigger types	edge, width, pattern, serial bus (I²C/SPI, UART/RS-232/RS-422/ RS-485, CAN, LIN, AUDIO)
Automatic measurements	positive/negative pulse width, period, frequency, burst width, delay, phase, positive/negative duty cycle, positive/negative pulse count, rising/falling edge count

# Find timing errors fast and reliably

- Class leading 5 Gsample/s for 200 ps time resolution
  Automatic alignment between analog and digital
- channels
- I Noise rejection with selectable comparator hysteresis

## Full resolution, even for long sequences

- Class leading 20 Msample memory for full resolution
  even far from the trigger point
- I Class leading 460 Msample segmented memory
- I Class leading 45000 segments
- Maintain highest time resolution within the segment with up to 5 Gsample/s

# Better overview and flexibility

- Easy upgrade via option key to a mixed signal oscilloscope with 16 digital channels
- I VirtualScreen doubles the usable screen area
- Everything at a glance: activity display for detailed status overview

# Direct insight into the decoded data

- Combinable with serial triggering and decoding options
- I Automatic measurements also on digital channels



est & Measurement Fact Sheet | 01.00 R&S®RTM-B1



Class leading MSO that does not share memory with analog channels: 400 MHz with 20 Msample at 5 Gsample/s; zoomed: activity view with \$ toggle; - high; \_ low.



Digital communications using serial protocol triggering and decoding options (see table for a wide range of protocols).

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# Acquisition of long sequences with segmented memory option

#### Protocol-based signal with communications pauses

Long period with communications pauses

Single-shot acquisition recording only few pulses with plenty of inactivity Conventional single-shot acquisition Missed acquisition due to limited memory

 $M_{\rm system} M_{\rm system} M_{$ 

#### Acquisition of activity using the segmented memory

#1 M\_\_\_\_\_#2 M\_\_\_\_#3 M\_\_\_#4 M\_\_\_\_#5 M\_\_\_\_\_#6 M\_\_\_\_7 M\_\_\_\_\*8 M\_\_\_\_\_

Analysis and display of each segment using the history function

#1 #2 #3 #4 #5 #6 #7 #8 M M M M M M M M M M

### At a glance

High sampling rate and minimal channel skew for perfect horizontal alignment. Deep memory of 20 Msample allows the highest sampling rates to be maintained also far from the trigger point. Adjustable hysteresis for easy noise rejection



**Recommended for use with** Designation Type R&S®RTM2000 Digital oscilloscope, base unit Software options I<sup>2</sup>C/SPI serial triggering and decoding R&S®RTM-K1 UART/RS-232/RS-422/RS-485 serial triggering R&S®RTM-K2 and decoding R&S®RTM-K3 CAN/LIN serial triggering and decoding I<sup>2</sup>S/LJ/RJ/TDM serial triggering and decoding R&S®RTM-K5 History and segmented memory R&S®RTM-K15



R&S®RTM oscilloscopes: prepared for logic analysis. Installation is a simple on-site process without shipping back the instrument.

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