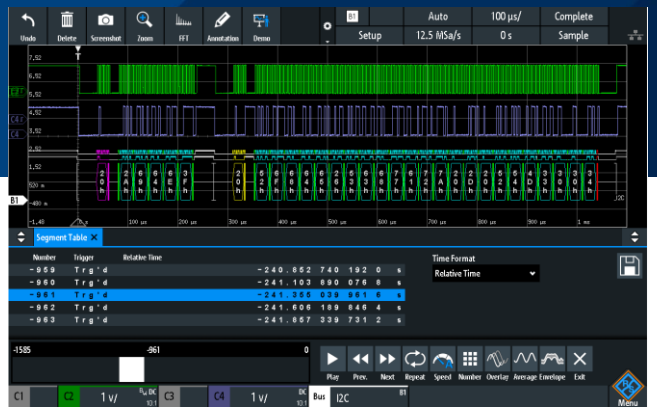
ROHDE&SCHWARZ
Make ideas real

R&S®RTx-K15: HISTORY AND SEGMENTED MEMORY

For R&S®RTB2000 and R&S®RTM3000 oscilloscopes



Key specifications	R&S®RTB2000 – R&S®RTB-K15	R&S®RTM3000 – R&S®RTM-K15	R&S®RTA4000 – standard
Min. segment size	10 ksample	5 ksample	5 ksample
Max. segment size	20 Msample	80 Msample	200 Msample
Acquisition rate	300 000 waveforms/s	2 000 000 waveforms/s	2 000 000 waveforms/s
Min. blind time	< 2.5 µs	< 0.5 µs	< 0.5 µs
Standard memory	20 Msample	80 Msample	200 Msample
Total memory	160 Msample	400 Msample	1000 Msample

Your benefit	Features
Capture a longer period of time	Deep acquisition memory enables a longer period of time to be captured. Deep memory helps in instances where the cause and effect may be separated by a significant time period, and plays a key role in viewing events that simply take longer to transpire
Retain maximum bandwidth while capturing more time	The oscilloscope's deep memory can maintain a maximum sample rate as the amount of captured time increases. Oscilloscopes with less memory are forced to reduce sample rates sooner and thus have reduced bandwidths at slower timebases, whereas deeper memory oscilloscopes retain full bandwidth

Customize your oscilloscope with the history and segmented memory option

Analyze past acquisitions before the error occurred

The history function ensures that previous waveforms stored in memory can always be accessed. A trigger timestamp allows time correlation. You can view all saved signals and analyze them with tools such as zoom, measurement, math and spectrum analysis functions.

Substantially deeper memory

R&S®RTB2000 – 20 Msample standard memory to 160 Msample segmented memory
R&S®RTM3000 – 80 Msample standard memory to 400 Msample segmented memory
R&S®RTA4000 – 200 Msample standard memory to 1000 Msample segmented memory

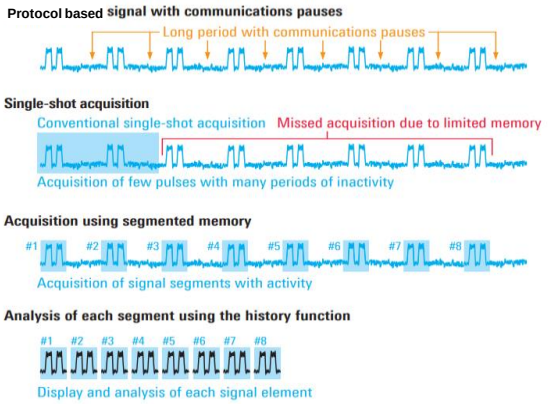
Higher update rate in fast segmentation mode

In fast segmentation mode, the minimum blind time is diminished. Serial protocol and pulse sequences can be recorded practically without interruptions. In history mode, users can easily navigate – either manually or automatically – through all recorded segments and reconstruct the history.

Benefits of deep memory

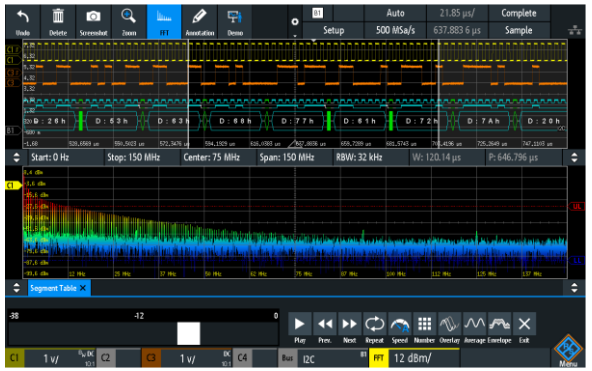
With sufficient memory, the oscilloscope can retain the maximum sample rate (and rated bandwidth) to accurately show the signal. With insufficient memory, the oscilloscope begins reducing the sample rate in order to capture more time. This can lead to insufficient sample rates to accurately show signals.

Single-shot versus segmented acquisition



Long data sequences are usually acquired in a seamless single shot. With a maximum record length of only a few milliseconds, acquisition is often limited to a single event or protocol packet. The memory can be divided into several steps. When the fast segmented memory mode is activated, the blind time is reduced to 0.5 µs.

History and segmented memory



In history mode, all acquisitions can be analyzed at a later time. Individual marked segments can be selected in the acquisition table for display. In addition, the history function can be used to automatically play back all segments. All measurement tools, including the QuickMeas function, mask tests, protocol decoding and FFT are available to analyze the faulty segment.

Easy configuration and fast results

The history and segmented memory offer various user options, providing more flexibility for your applications. Automatic and manual memory configuration are available. In automatic mode, the instrument automatically defines the record length (number of waveform samples that are stored) and the number of history segments. In manual mode, you can set these parameters yourself.

Model configuration information

Base model	Order No.
R&S®RTB2002 oscilloscope, 70 MHz, 2 channels	1333.1005.02
R&S®RTB2004 oscilloscope, 70 MHz, 4 channels	1333.1005.04
R&S®RTM3002 oscilloscope, 100 MHz, 2 channels	1335.8794.02
R&S®RTM3004 oscilloscope, 100 MHz, 4 channels	1335.8794.04
R&S®RTA4004 oscilloscope, 200 MHz, 4 channels	1335.7700.04
Software option	**Order No.**
R&S®RTB-K15 history and segmented memory	1333.1040.02
R&S®RTM-K15 history and segmented memory	1335.8907.02
Application bundle	**Order No.**
R&S®RTB-PK1 consists of the following options: -K1, -K2, -K3, -K15, -K36, -B6	1333.1092.02
R&S®RTM-PK1 consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K15, -K18, -K31, -K36, -B6	1335.8942.02
R&S®RTM-PK1US consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K15, -K31, -K36, -B6	1335.9190.02
R&S®RTA-PK1 consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K18, -K31, -K36, -B6	1335.7775.02
R&S®RTA-PK1US consists of the following options: -K1, -K2, -K3, -K5, -K6, -K7, -K31, -K36, -B6	1335.7998.02

All options can be retrofitted