R&S®RTM
Digital Oscilloscope
Scope of the art

ROHDE & SCHWARZ

R&S®RTM
Digital Oscilloscope
At a glance

Due to their excellent measurement properties and wide variety of practical functions, the R&S®RTM oscilloscopes facilitate daily work, whether in product development or service. Their compact dimensions, simple operation and brilliant display make them the first choice for everyday test and measurement tasks.

The R&S®RTM oscilloscopes offer 500 MHz bandwidth, a maximum sampling rate of 5 Gsample/s and 8 Msample maximum memory depth. As a result, they can display signals accurately, right down to the details, as well as provide high time resolution, even for long sequences. Furthermore, characteristics such as a very low inherent noise level and good channel-to-channel isolation ensure that the R&S®RTM oscilloscopes deliver precise and reliable measurement results.

Besides the customary measurement and analysis tools, these oscilloscopes feature several special highlights that help users to achieve the desired results quickly during debugging and signal analysis. At the push of a button, for example, the QuickMeas function graphically displays the key measurement values for the signal that is currently active and updates them continuously. For cursor measurements, too, these oscilloscopes offer more than the conventional vertical and horizontal cursors. For instance, they provide functions for measuring peak voltages or for automatically counting the number of pulses.

Although the R&S®RTM oscilloscopes feature a wide variety of measurement functions, they are easy and straightforward to use. Their brilliant and very sharp 8.4" color XGA TFT display with high resolution makes even the smallest signal details visible. Despite the large display, these instruments are among the smallest and most lightweight in their class. All this makes them attractive, universal oscilloscopes suitable for versatile and portable use.

R&S®RTM Digital Oscilloscope Benefits and key features

Finding signal faults quickly and effectively
❙ Extensive triggering options for keeping track of important signal events
❙ Highlighting of rare events for easy debugging
❙ Optimal overview: X-Y(-Z) mode
❙ Versatile selection of signal acquisition modes
❙ Smooth mode for smoothing non-periodic signals
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Tools for fast signal analysis
❙ Detailed analysis made easy: with zoom function and event marker
❙ QuickMeas – key results at the push of a button
❙ Extensive cursor-based measurement functions
❙ FFT – signal analysis in the frequency domain
❙ Mask tests for revealing signal deviations
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Smart operating concept
❙ Color-coded controls for clear overview
❙ Flat menu structures and dedicated buttons for getting work done quickly
❙ High-resolution XGA display – perfect for even the smallest details
❙ Connectivity
❙ Portable due to compact design
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Reliable results for stringent demands
❙ High time resolution – even for long signal sequences
❙ Excellent measurement accuracy due to low-noise frontends
❙ Full measurement bandwidth, even at 1 mV/div
❙ No crosstalk thanks to good channel-to-channel isolation
❙ Precise measurement of steep edges using passive probes
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Triggering and decoding of serial protocols
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High-performance probes with extensive accessories
❙ High signal fidelity due to excellent specifications
❙ Practical for use – robust and ergonomic
❙ Micro button for convenient instrument control
❙ R&S®ProbeMeter: integrated voltmeter for precise DC measurements
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Models		
Base unit	**Bandwidth**	**Channels**
R&S®RTM1054	500 MHz	4
R&S®RTM1052	500 MHz	2

Finding signal faults quickly and effectively

The R&S®RTM oscilloscopes include a diverse and extensive range of options for triggering and displaying signals, which enables users to quickly find and diagnose errors in circuits.

Extensive triggering options for keeping track of important signal events

Without a valid trigger, the signal display on the screen will not be stable, and important signal events cannot be isolated quickly. For this reason, the R&S®RTM oscilloscopes include a wide range of triggering options: Besides the standard edge and video (including HDTV) trigger modes, a logical and a pulse width trigger are also available. The pulse width trigger responds to signal pulses whose width deviates from the nominal width. The B trigger allows either time-delayed or event-delayed sequence triggering.

In many cases, users have to switch back and forth between AUTO and NORM trigger or must select the trigger edge and trigger source. Individual buttons on the front panel of the R&S®RTM oscilloscopes are dedicated to these tasks. For instance, users only need to push the Trigger Level button to set the instrument to 50% of the signal amplitude.

Highlighting of rare events for easy debugging

Different options for highlighting rare events help users to detect signal faults more quickly:
- Persistence mode: In this mode, many waveforms are displayed superimposed so that sporadic signal deviations are easy to recognize
- Inverse-brightness display: In the normal display mode, display points that have been overwritten frequently are bright, and rarely used points appear darker. The inverse-brightness display reverses this effect, which makes rare events easier to see
- Temperature color gradient: This mode uses the temperature color scale to color-code the frequency distribution of display points

The temperature color gradient highlights rare events.
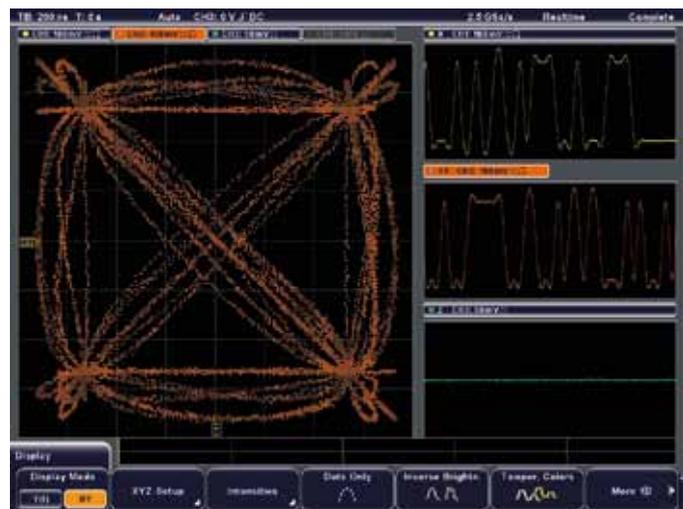
X-Y display of two signals.

Optimal overview: X-Y(-Z) mode

The X-Y(-Z) mode, which can be selected for analyzing the frequency and phase relationships between two signals, offers several convenient features: The X-Y graph appears in a square main window. Additionally, small preview windows display the X and Y signals versus time, which makes for good overview. The intensity of the X-Y curve can be modulated dynamically by the amplitude variations of a third signal, which is referred to as the Z signal. When the Z input is active, a preview window shows the Z signal versus time.

Versatile selection of signal acquisition modes

Signal acquisition modes are important tools for signal analysis and debugging. In the R&S®RTM oscilloscopes' Acquisition menu, users can choose between different decimation modes (sample, peak detect, high resolution) and waveform arithmetics (envelope, average, smooth) and combine them – a feature not offered by conventional oscilloscopes.

Smooth mode for smoothing non-periodic signals

In addition to the traditional waveform arithmetics, the R&S®RTM oscilloscopes offer the smooth mode as a particularly helpful feature. The acquired signal is smoothed by sliding averaging in order to suppress higher frequency components. The average mode has a similar effect. However, while the average mode can only be used for periodic signals, the smooth mode now makes it possible to analyze even non-periodic signals.

Decimation algorithms and waveform arithmetics in the signal flow

Signal pre-processing → Sampling → Acquisition → Processing → Display

Decimation → Acquisition memory → Interpolation → Waveform arithmetics

Decimation:
- Sample
- Peak detect
- High resolution

Waveform arithmetics:
- Envelope
- Average
- Smooth
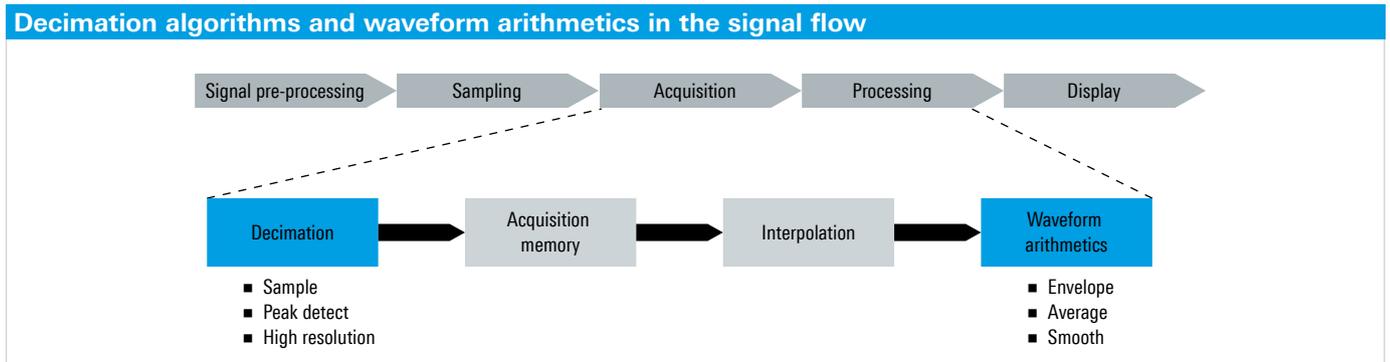
The smooth mode allows noisy non-periodic signals (left) to be smoothed (right).

Tools for fast signal analysis

Frequently, measurement signals need to be analyzed in detail, and their properties (e.g. frequency or rise and fall times) have to be determined. The R&S®RTM oscilloscopes offer various powerful tools that facilitate signal analysis and deliver precise results.

Detailed analysis made easy: with zoom function and event marker

The R&S®RTM oscilloscopes' sampling rate of up to 5 Gsample/s enables them to achieve a high time resolution. In combination with the zoom function, this allows the signal to be expanded up to 200 000:1 in order to investigate interesting events in detail.

The memory depth of max. 8 Msample makes it possible to capture long sequences. Normally, scrolling to a specific point in the signal using the position knob would be very tedious. The R&S®RTM oscilloscopes are different: They offer eight user-definable event markers that can be used to highlight any points in the signal. Users can then navigate between the markers conveniently using the Next and Prev buttons.

QuickMeas – key results at the push of a button

The QuickMeas measurement function offered by the R&S®RTM oscilloscopes is unique. At the push of a button, it displays the key measurement values (see table) for a currently active signal simultaneously on the waveform using auxiliary lines and markers and also updates these values continuously.

Furthermore, the oscilloscopes also provide the customary automatic measurement functions such as measurement of the peak-to-peak voltage or the signal frequency. In addition to the QuickMeas results, four measurements can be displayed simultaneously in tabular form.

QuickMeas: key results at the push of a button		
Measurement value		**Display**
Vp_+	Positive peak voltage	Graphical display directly on the waveform
Vp_-	Negative peak voltage	
tr	Rise time	
tf	Fall time	
Mean	Mean voltage	
V_{pp}	Peak-to-peak voltage	Tabular display on the bottom right of the screen
RMS	RMS value	
T	Time	
f	Frequency	

QuickMeas: automatic measurement and graphical display at the push of a button.

Extensive cursor-based measurement functions

Cursor-based measurements are normally limited to horizontal or vertical cursors. Not with the R&S®RTM oscilloscopes: Their cursor menu offers additional functions that are familiar from the automatic measurement functions, e.g. measurement of the mean voltage or RMS value, as well as a pulse counter. The advantage here is that users can limit measurements to a specific section of the signal.

Three cursors are used for measuring ratios. The RatioX measurement, for example, determines the duty cycle of a pulsed signal conveniently and in a single step. Another useful function is "Set to Wave". At the push of a button, this function automatically assigns the cursors to the corresponding signal, without users having to select and position the cursors.

FFT – signal analysis in the frequency domain

The FFT function – which is started via a special button – enables users to detect and analyze faults within a signal's spectrum. Besides the signal spectrum display, the FFT mode simultaneously shows a small time-domain window, which is useful for verifying the sampling interval. The Autoset button offers outstanding convenience: The instrument automatically sets the amplitude and frequency scaling to optimally match the measurement signal.

Mask tests for revealing signal deviations

Mask tests use a statistical evaluation of pass/fail tests to validate the quality and stability of a DUT and quickly show whether a specific signal lies within the defined tolerance limits. This makes it easy to isolate and diagnose signal anomalies and unexpected events.

The mask tests included in the R&S®RTM oscilloscopes as standard are versatile and easy to use. With just a few keystrokes, users can generate new masks from a reference signal. Of course, they can also load existing masks from the internal memory or from a USB stick. The violation of an active mask can lead to different actions. For example, the acquisition can be stopped automatically, or an acoustic signal can be output. A test delivers the following results: the overall number of acquired waveforms, the overall length of the test period, as well as the number of successful and faulty sweeps. When using the instrument for quality tests in automated production applications it is particularly helpful that the mask tests can be completely remote-controlled.

Cursor for determining the duty cycle of a pulsed signal.

Smart operating concept

The R&S®RTM oscilloscopes are easy and straightforward to use. They turn user wishes reality: Just unpack the instrument, switch it on – and get started.

Color-coded controls for clear overview
The controls for the vertical settings and the trigger are color-coded. Multicolor LEDs around the rotary knobs visualize the channel that is currently in focus. The color coding corresponds to the signal display on the screen. This clear allocation enables smooth work, even with complex test and measurement tasks.

Flat menu structures and dedicated buttons for getting work done quickly
The logically grouped menus with flat structures provide a fast overview of the instrument settings. There are dedicated buttons for functions that are used frequently, such as Run/Stop or the trigger source. Numerous settings such as the logic trigger or measurement functions have graphical support. Restoring previous settings is no problem using the multilevel undo/redo function.

Control elements of the R&S®RTM oscilloscopes

Return to presettings at the push of a button

Brilliant XGA color display

Help: contextual and always available

Logically grouped menus with flat structure

Quickly ready for use thanks to fast booting
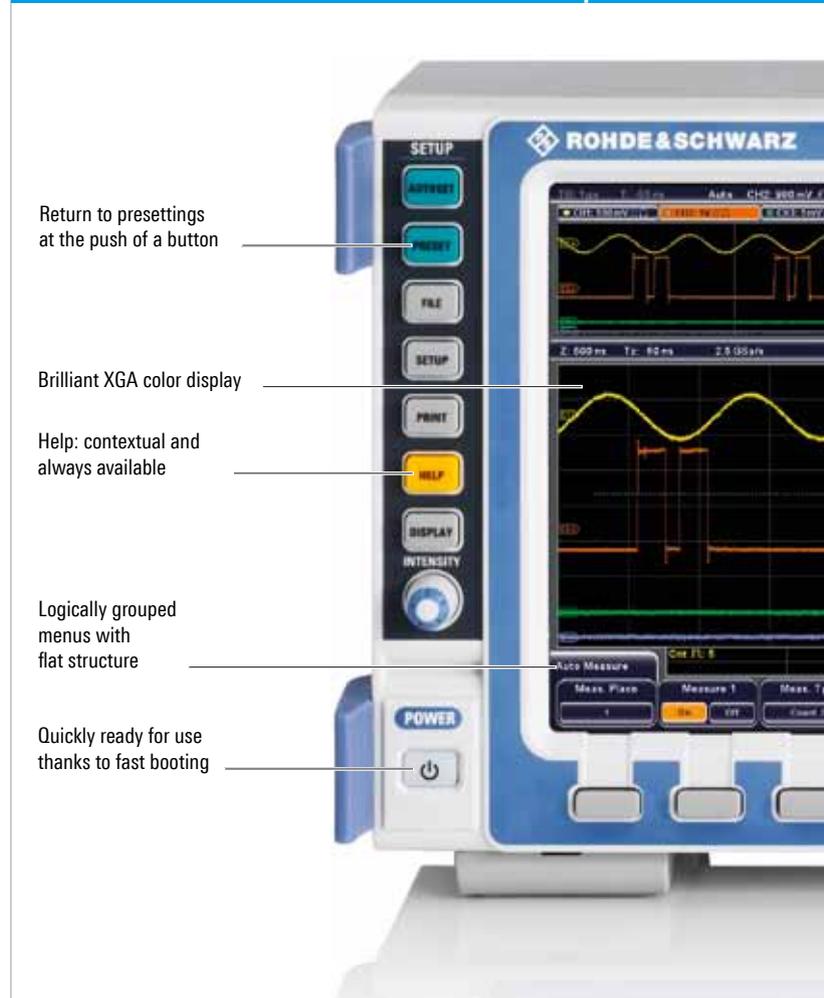
High-resolution XGA display – perfect for even the smallest details

The high-resolution 8.4" color XGA TFT display is one of the R&S®RTM oscilloscopes' highlights. This brilliant, sharp display clearly shows all important signal characteristics, right down to the smallest details.

Connectivity

Three USB interfaces are available on the R&S®RTM oscilloscopes: two USB host ports – which can be used, for instance, to transfer screenshots or instrument settings to a USB stick – and one USB device port for remote control of the oscilloscopes. The LAN interface for remote control or for accessing the instrument via a web browser comes as standard. A GPIB interface is available as an option. The DVI output controls a monitor or a data projector.

Portable due to compact design

Despite the large, high-resolution XGA display, the R&S®RTM oscilloscopes are among the smallest and most lightweight instruments in their class. They save valuable space in the test system or on the lab bench. Furthermore, these highly versatile instruments can be exchanged quickly between different workstations.


Key measurement results at the push of a button

Fast access to essential functions via dedicated buttons

Multilevel undo/redo function for easily restoring previous settings

Extensive cursor-based measurement functions

USB port for data exchange, documentation or firmware updates

Color-coded control elements create a visual link to the current channel
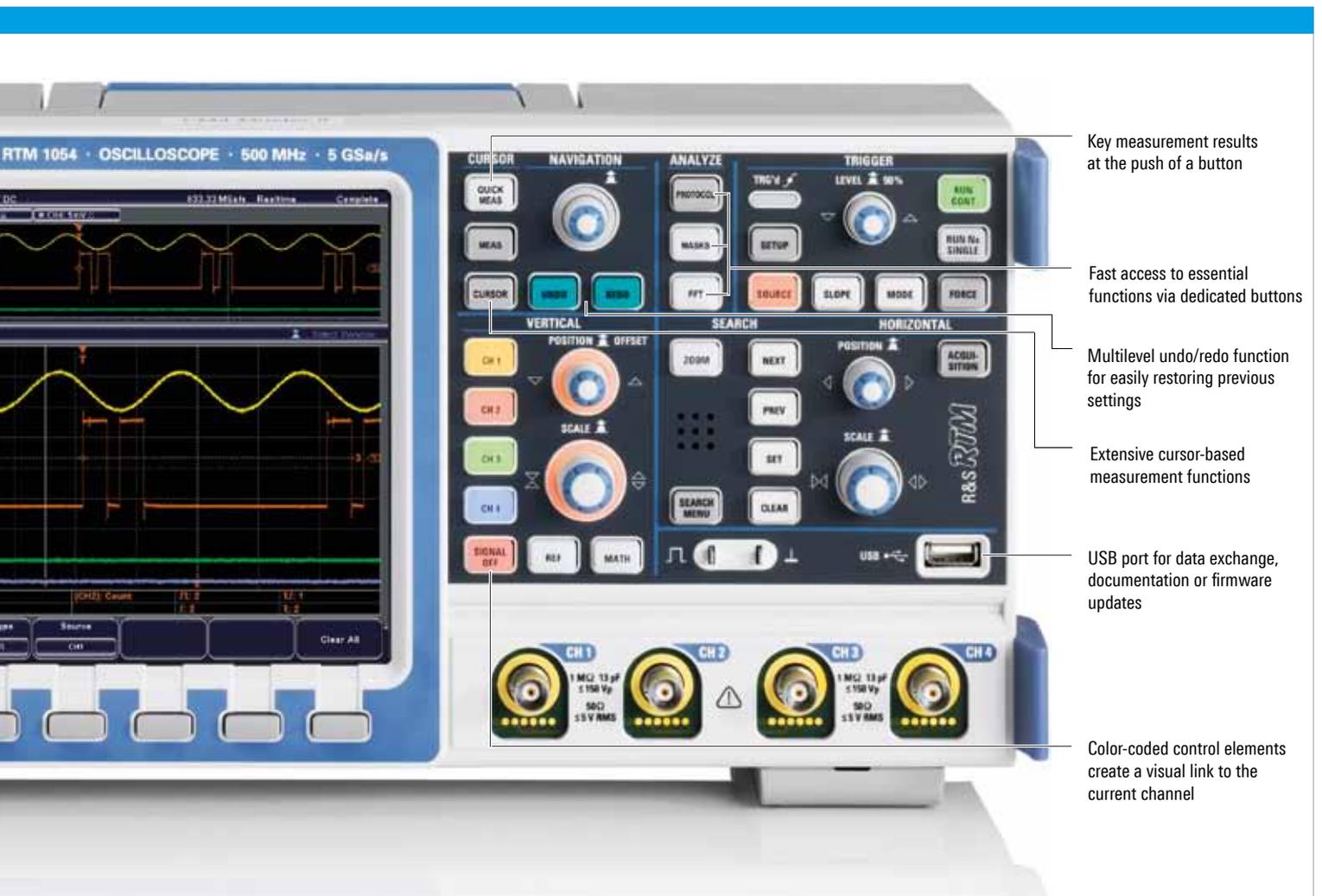
Reliable results for stringent demands

Rohde & Schwarz has many years of experience in the development of high-end RF test and measurement equipment, which also benefits the R&S®RTM oscilloscopes. They offer tried-and-tested Rohde & Schwarz quality for meeting stringent requirements.

High time resolution – even for long signal sequences

The more details an oscilloscope can show, the higher the probability that the user will be able to find signal faults or important events. As a prerequisite, the oscilloscope must have a high time resolution, i.e. a high sampling rate. In addition, many applications also require long acquisition cycles, for instance for the analysis of transients. This is where the R&S®RTM oscilloscopes come into their own: With their sampling rate of up to 5 Gsample/s and a memory depth of up to 8 Msample, they offer a good balance between these two requirements. Moreover, the memory depth is always available, regardless of the other instrument settings.

Excellent measurement accuracy due to low-noise frontends

The accuracy of a signal displayed on the screen heavily depends on the oscilloscope's inherent noise. For this reason, the R&S®RTM oscilloscopes have very low-noise frontends and a low-noise A/D converter. As a result, they are able to measure precisely, even at the smallest vertical resolutions.

Full measurement bandwidth, even at 1 mV/div

With their input sensitivity of up to 1 mV/div, the R&S®RTM oscilloscopes offer high vertical resolution. Some oscilloscopes are only able to reach such a high input sensitivity by employing software-based zooming or by limiting the bandwidth. In contrast, the R&S®RTM oscilloscopes show the signal's real test points, even at 1 mV/div. In addition, their full measurement bandwidth can be used. As a result, they feature high measurement accuracy, even for the smallest signal details.

No crosstalk thanks to good channel-to-channel isolation

In some oscilloscopes, measurement accuracy deteriorates when additional channels are used. The R&S®RTM oscilloscopes have very good channel-to-channel isolation of > 50 dB up to 500 MHz. This characteristic ensures that the measurement signal from one channel has the lowest possible influence on the signals from the other channels.

Precise measurement of steep edges using passive probes

For compensating passive probes, the R&S®RTM oscilloscopes boast a special feature: The probe compensation source not only supplies the customary 1 kHz square-wave signal, but also one with 1 MHz. This allows finer tuning of the probes for measurements on steep-edge signals, and the measurement signal display is more realistic.

Acquisition cycle (as a function of sampling rate and memory depth)				
	10 ksample	1 Msample	5 Msample	8 Msample
5 Gsample/s	2 µs	200 µs	1000 µs	1600 µs
2.5 Gsample/s	4 µs	400 µs	2000 µs	3200 µs

RMS: 82.46 µV   Vpp: 560.00 µV
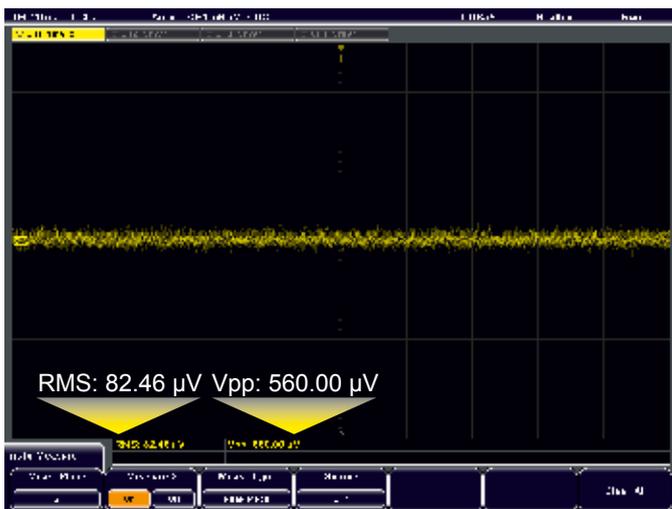
Extremely low inherent noise, even for a vertical input sensitivity of 1 mV/div.

Triggering and decoding of serial protocols

As an option, the R&S®RTM oscilloscopes can support triggering and decoding of the protocols for widely used serial interfaces such as I²C, SPI, UART/RS-232 and CAN/LIN. This capability makes them outstanding tools for verifying and debugging embedded designs.

Tools for protocol-specific triggering and decoding

Serial bus signals frequently contain not only user data, but also control, address and clock information. Consequently, additional software support is often required for debugging systems that use serial data buses. Isolating important events becomes easier if the oscilloscope triggers on the content of the serial protocol being used and is able to decode the protocol.

The R&S®RTM oscilloscopes offer versatile tools for protocol-specific triggering and decoding of widely used serial interfaces such as I²C, SPI, UART/RS-232 and CAN/LIN. Extensive triggering options help to acquire all important events. With an I²C message, for instance, the oscilloscopes can trigger on a specific address with specific data content. Following successful decoding, the protocols are displayed as ASCII, binary, hexadecimal or decimal data. The different sections of the message (address, data, start, etc.) are highlighted with colors to make analysis easier. Another helpful feature is that the display of the decoding information becomes more detailed as the zoom factor increases.

Options for triggering and decoding	
Serial standard	**Option** (only available for the four-channel model)
I²C/SPI	R&S®RTM-K1
UART/RS-232	R&S®RTM-K2
CAN/LIN	R&S®RTM-K3
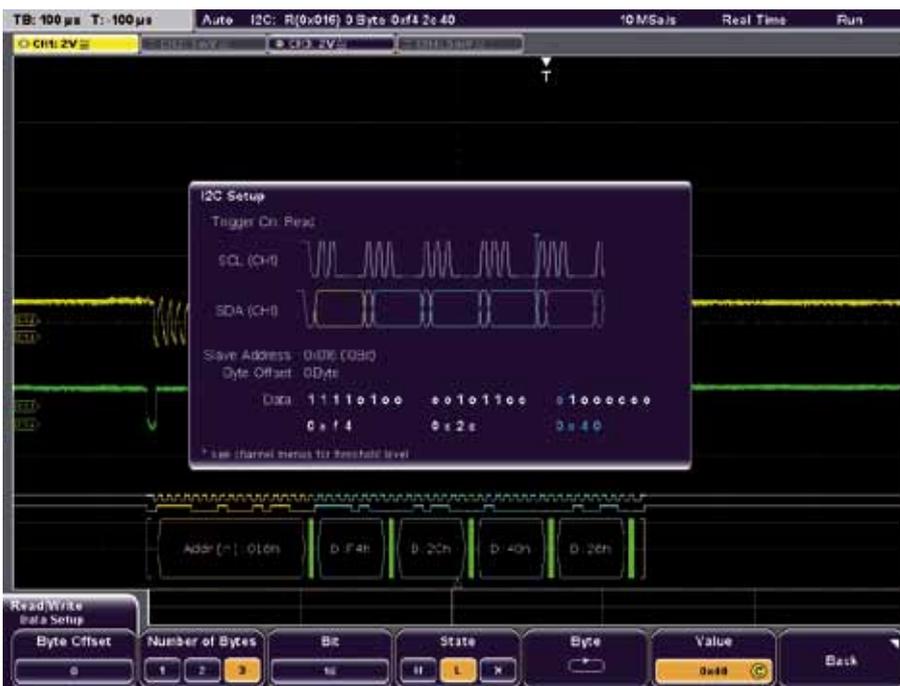
Decoded hexadecimal I²C message.

High-performance probes with extensive accessories

High-quality active and passive probes complete the R&S®RTM oscilloscopes. Besides excellent specifications, they feature reliability and ease of use.

The R&S®RTM probe family

Passive probes are suited for general measurements on low-frequency signals with less stringent accuracy requirements. The R&S®RTM oscilloscopes come standard with one R&S®RTM-ZP10 passive probe (500 MHz bandwidth) per oscilloscope channel. The passive R&S®RT-ZH10/-ZH11 high-voltage probes are used for voltages over 400 V.

Active probes are required whenever the load on the device under test must be low, or when the measurement signal contains high-frequency components that should not be distorted. Even signals in the kilohertz range can contain high-frequency components of well over 100 MHz on their edges. Rohde & Schwarz offers an entire family of high-quality active probes. Due to their bandwidth, the R&S®RT-ZS10E and R&S®RT-ZS10 single-ended probes are ideal for the R&S®RTM oscilloscopes. Both probes feature the same outstanding specifications; they only differ in the functions that they provide. The R&S®RT-ZS10E with solid basic functionality offers an attractive price/performance ratio. In addition to that, the R&S®RT-ZS10 offers not only more extensive accessories, but also some useful extras: an integrated voltmeter and a micro button on the probe tip for convenient control of the instrument.

Differential measurements can be performed using the R&S®RT-ZD20 probe, which features an integrated voltmeter and a micro button for instrument control.

High signal fidelity due to excellent specifications

Besides bandwidth, input impedance and dynamic range are crucial parameters for probes. With their input impedance of 1 MΩ, the active probes put only a minimal load on the signal source's operating point. And the very large vertical dynamic range, even at high frequencies, prevents signal distortion (e.g. 16 V (V_{pp}) at 1 GHz for the R&S®RT-ZS10E/-ZS10 single-ended probes). There are no annoying interruptions of the measurements for compensation processes, because the offset and gain errors of the probes are almost completely independent of the temperature (for example, zero error < 90 µV/°C for the R&S®RT-ZS10E/-ZS10 single-ended probes).

Practical design: micro button for convenient control of the instrument. Diverse probe tips and ground cables are included supplied as standard.
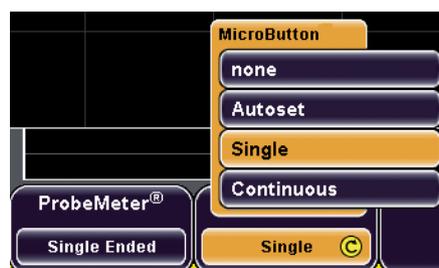
Menu for configuring the micro button.

Practical for use – robust and ergonomic

What do you expect from a good probe? Reliable connection with the test point and the base unit, mechanical robustness, electrical reliability, as well as a practical design for ease of operation. That is exactly what the probes for the Rohde & Schwarz oscilloscopes offer.

Micro button for convenient instrument control

The situation is all too familiar: The user has carefully positioned the probes on the device under test and now wants to start measuring – but doesn't have a free hand. That will not happen with the active probes from Rohde & Schwarz. They are equipped with a micro button on the probe tip. Different functions such as Run/Stop or Autoset can be assigned to this button.

R&S®ProbeMeter: integrated voltmeter for precise DC measurements

Is the supply voltage correct? Is DC voltage superimposed? These questions from everyday practice are answered by the active probes' integrated voltmeter (R&S®ProbeMeter). It always shows the DC value of a measurement signal with the full dynamic range – regardless of the other instrument settings. Compared to a tra-

ditional oscilloscope channel, the R&S®ProbeMeter offers higher DC measurement accuracy. Altogether, it offers various advantages that make everyday test and measurement tasks easier:

▪ Fast verification of supply voltages and signal levels without changing the oscilloscope's settings
▪ Automatic compensation of the DC component for AC measurements with optimal dynamic range
▪ The DC value of a measurement signal often provides a good reference point for trigger level setting

Extensive standard accessories for the R&S®RT-ZD20 differential probe.

R&S®RT-ZS10/-ZS10E active probe (1.0 GHz).

R&S®RT-ZD20 active differential probe (1.5 GHz).

Probe	Bandwidth	Divider ratio	Input impedance	Input capacitance	Dynamic range	Extras
Passive probes						
R&S®RTM-ZP10	500 MHz	10:1	10 MΩ	≈ 10 pF	400 V (RMS)	
High-voltage probes						
R&S®RT-ZH10	400 MHz	100:1	50 MΩ	7.5 pF	1 kV (RMS)	
R&S®RT-ZH11	400 MHz	1000:1				
Active probes						
R&S®RT-ZS10E	1.0 GHz	10:1	1 MΩ	0.8 pF	±8 V	
R&S®RT-ZS10	1.0 GHz					R&S®ProbeMeter and micro button for instrument control
Differential probes						
R&S®RT-ZD20	1.5 GHz	10:1	1 MΩ	0.6 pF	±5 V	R&S®ProbeMeter and micro button for instrument control

Specifications in brief

Specifications in brief		
Vertical system		
Input channels	R&S®RTM1052	2
	R&S®RTM1054	4
Bandwidth (–3 dB) at 50 Ω		500 MHz
Rise time (calculated)		700 ps
Input impedance		50 Ω ± 1.5% or
		1 MΩ ± 1% with 13 pF ± 1 pF
Input sensitivity	max. bandwidth in all ranges	50 Ω: 1 mV/div to 1 V/div
		1 MΩ: 1 mV/div to 10 V/div
Resolution		8 bit
Acquisition system		
Maximum realtime sampling rate		2.5 Gsample/s; 5 Gsample/s interleaved
Memory depth		4 Msample; 8 Msample interleaved
Decimation modes	combination of decimation mode and waveform arithmetics possible	sample, peak detect, high resolution
Waveform arithmetics		off, envelope, average, smooth, filter
Interpolation		sin(x)/x
Horizontal system		
Time base range		1 ns/div to 50 s/div
Time base accuracy		10 ppm
Channel deskew		±100 ns
Trigger system		
Trigger types		Edge, Width, Video, Pattern, B-Trigger optional: I²C, SPI, UART/RS-232, CAN/LIN
Trigger level		±10 div from center of screen
Analysis and measurement functions		
QuickMeas	at the push of a button, measurement values available internally are written directly onto the waveform and updated continuously	peak-to-peak voltage, pos. peak, neg. peak, rise time, fall time, mean value, RMS value, period, frequency
Automatic measurements		mean value, RMS value, mean cycle, RMS cycle, standard deviation wave, standard deviation cycle, amplitude, top level, base level, pos. overshoot, neg. overshoot, peak-to-peak voltage, pos. peak, neg. peak, period, frequency, delay, phase, burst width, number of pulses, number of neg. pulses, number of rising edges, number of falling edges, pulse width, inverted pulse width, duty cycle, neg. duty cycle, rise time, fall time, trigger period, trigger frequency
Cursor measurements		voltage, time, voltage and time, ratio X, ratio Y, number of pulses, peak value, RMS value, mean value, duty ratio, burst width, rise time, fall time, vertical marker
Waveforms mathematics		addition, subtraction, multiplication, division, maximum, minimum, square, square root, magnitude, positive wave, negative wave, reciprocal, inverse, integral, differentiation, log_{10}, ln, lowpass filter, highpass filter, FFT
General data		
Dimensions	W × H × D	403 mm × 189 mm × 142 mm (15.87 in × 7.44 in × 5.59 in)
Weight		4.9 kg (10.8 lb)
Display		8.4" XGA TFT color display (1024 × 768 pixel)
Connectivity		2 × USB host, USB device, LAN, GPIB (optional), DVI-D for external monitor

For data sheet see PD 5214.0276.22 and www.rohde-schwarz.com.

Ordering information

Designation	Type	Order No.
Base unit (including standard accessories: per channel: 500 MHz passive probe (10:1), quick start guide, CD-ROM (with operating and service manual), power cord)		
Digital Oscilloscope		
500 MHz, 2.5/5 Gsample/s, 4/8 Msample, 2 channels	R&S®RTM1052	1305.0008.52
500 MHz, 2.5/5 Gsample/s, 4/8 Msample, 4 channels	R&S®RTM1054	1305.0008.54
Hardware options		
GPIB Interface	R&S®RTM-B10	1305.0014.02
Software options		
I²C/SPI Serial Triggering and Decoding (only for R&S®RTM1054)	R&S®RTM-K1	1305.0295.02
UART/RS-232 Serial Triggering and Decoding (only for R&S®RTM1054)	R&S®RTM-K2	1305.0308.02
CAN/LIN Serial Triggering and Decoding (only for R&S®RTM1054)	R&S®RTM-K3	1317.3065.02
Probes		
500 MHz, passive, 10:1, 10 MΩ, 9.5 pF, max. 400 V	R&S®RTM-ZP10	1409.7708.02
400 MHz, passive, high-voltage, 100:1, 50 MΩ, 7.5 pF, 1 kV (RMS)	R&S®RT-ZH10	1409.7720.02
400 MHz, passive, high-voltage, 1000:1, 50 MΩ, 7.5 pF, 1 kV (RMS)	R&S®RT-ZH11	1409.7737.02
1.0 GHz, active, 1 MΩ, 0.8 pF	R&S®RT-ZS10E	1418.7007.02
1.0 GHz, active, 1 MΩ, 0.8 pF, R&S®ProbeMeter, micro button	R&S®RT-ZS10	1410.4080.02
1.5 GHz, active, differential, 1 MΩ, 0.6 pF, R&S®ProbeMeter, micro button	R&S®RT-ZD20	1410.4409.02
10 MHz, current, AC/DC, 0.01 V/A, 150 A (RMS)	R&S®RT-ZC10	1409.7750.02
100 MHz, current, AC/DC, 0.1 V/A, 30 A (RMS)	R&S®RT-ZC20	1409.7766.02
Probe accessories		
Accessory Set for R&S®RTM-ZP10 passive probe	R&S®RT-ZA1	1409.7566.02
Spare Accessory Set for R&S®RT-ZS10/R&S®RT-ZS10E	R&S®RT-ZA2	1416.0405.02
Pin Set for R&S®RT-ZS10/R&S®RT-ZS10E	R&S®RT-ZA3	1416.0411.02
Mini Clips	R&S®RT-ZA4	1416.0428.02
Micro Clips	R&S®RT-ZA5	1416.0434.02
Lead Set	R&S®RT-ZA6	1416.0440.02
Pin Set for R&S®RT-ZD20	R&S®RT-ZA7	1417.0609.02
Probe Power Supply	R&S®RT-ZA13	1409.7789.02
Accessories		
Front Cover	R&S®RTM-Z1	1305.0272.02
Soft Case for R&S®RTM oscilloscopes and accessories	R&S®RTM-Z3	1305.0289.02
Rackmount Kit	R&S®ZZA-RTM	1304.8292.02

Service options		
Extended Warranty, one year	R&S®WE1RTM	Please contact your local Rohde&Schwarz sales office.
Extended Warranty, two years	R&S®WE2RTM	
Extended Warranty, three years	R&S®WE3RTM	
Extended Warranty, four years	R&S®WE4RTM	
Extended Warranty with Calibration Coverage, one year	R&S®CW1RTM	
Extended Warranty with Calibration Coverage, two years	R&S®CW2RTM	
Extended Warranty with Calibration Coverage, three years	R&S®CW3RTM	
Extended Warranty with Calibration Coverage, four years	R&S®CW4RTM	

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To find your nearest Rohde&Schwarz representative, visit
www.sales.rohde-schwarz.com

About Rohde & Schwarz

Rohde & Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established more than 75 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

Environmental commitment
∎ Energy-efficient products
∎ Continuous improvement in environmental sustainability
∎ ISO 14001-certified environmental management system

Certified Quality System
ISO 9001

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