

LabWindows/CVI, VXIplug driver history for the R&S® RTB2000 / RTM3000 / RTA4000 Digital Oscilloscopes Driver Documentation

Products:

| R&S® RTB2000 / RTM3000 / RTA4000



Driver history for LabWindows/CVI and VXIplug&play
Instrument Driver for C/C++, MATLAB®, VEE, etc.

Table of Contents

1	Supported Instruments.....	3
2	Getting Started	4
2.1	LabWindows/CVI driver	4
2.2	VXIplug&play driver in C/C++, LabWindows/CVI	4
2.3	VXIplug&play driver in MATLAB	5
2.4	Linux and Mac OS X	5
2.5	Additional Help	5
3	LabWindows/CVI and VXIplug&play driver history	6

1 Supported Instruments

In the following table, the supported R&S instruments and firmware versions are listed:

Which instruments are supported?		
Current revision of instrument driver supports these instruments and firmware versions:		
Instrument	Supported Firmware	Remarks
RTB2000	2.000	
RTM2000	6.010	
RTM3000	1.100	First Release
RTA4000	1.100	First Release

2 Getting Started

2.1 LabWindows/CVI driver

The Rohde & Schwarz **rsrtx** Instrument driver can be used in LabWindows/CVI 6 and later. In order to be able to compile an application it is required to add following files to your LabWindows/CVI project:

- *rsrtx.c + rsrtx.h*
- *rsrtx_attributes.c + rsrtx_attributes.h*
- *rsrtx_utility.c + rsrtx_utility.h*
- *rsidr_core.c + rsidr_core.h*
- *rsrtx_callbacks.c*
- *rsrtx.fp + rsrtx.sub*

2.2 VXIplug&play driver in C/C++, LabWindows/CVI

In this case, the compiled source code from LabWindows/CVI driver is used. The compiled ANSI-C libraries exist for Windows XP and newer, 32-bit / 64-bit.

Add the following files to your 32-bit target project:

- C:\Program Files (x86)\IVI Foundation\VISA\WinNT\include\rsrtx.h
- C:\Program Files (x86)\IVI Foundation\VISA\WinNT\lib\msc\rsrtx.lib (static)
- C:\Program Files (x86)\IVI Foundation\VISA\WinNT\Bin\rsrtx_32.dll (dynamic)
- C:\Program Files (x86)\IVI Foundation\VISA\WinNT\rsrtx\rsrtx.fp (in CVI only)
- C:\Program Files (x86)\IVI Foundation\VISA\WinNT\rsrtx\rsrtx.sub (in CVI only)

Add the following files to your 64-bit target project:

- C:\Program Files\IVI Foundation\VISA\Win64\Include\rsrtx.h
- C:\Program Files\IVI Foundation\VISA\Win64\Lib_x64\msc\rsrtx64.lib (static)
- C:\Program Files\IVI Foundation\VISA\Win64\Bin\rsrtx_64.dll (dynamic)
- C:\Program Files\IVI Foundation\VISA\Win64\rsrtx\rsrtx.fp (in CVI only)
- C:\Program Files\IVI Foundation\VISA\Win64\rsrtx\rsrtx.sub (in CVI only)

2.3 VXIplug&play driver in MATLAB

MATLAB instrument driver **rsrtx.mdd** can be found in:

32-bit driver

C:\Program Files (x86)\IVI Foundation\VISA\WinNT\rsrtx\rsrtx.mdd

64-bit driver

C:\Program Files\IVI Foundation\VISA\Win64\rsrtx\rsrtx.mdd

For detailed description on how to use the driver in MATLAB please refer to the Application Note [1MA171 - How to use R&S instrument in MATLAB](#)

2.4 Linux and Mac OS X

To be able to use Rohde & Schwarz **rsrtx** Instrument driver in Linux or Mac OSX, the functioning VISA is required. Then, the process is the same as using LabWindows/CVI driver.

2.5 Additional Help

LabWindows/CVI and VXIplug&play instrument driver contains in addition the instrument driver documentation in compressed HTML format (Windows CHM help file **rsrtx_vxi.chm**) and stored together with the driver sources or in the following folder:

32-bit driver

C:\Program Files (x86)\IVI Foundation\VISA\WinNT\rsrtx\rsrtx_vxi.chm

64-bit driver

C:\Program Files\IVI Foundation\VISA\Win64\rsrtx\rsrtx_vxi.chm

3 LabWindows/CVI and VXIplug&play driver history

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
1.2.0	01/2018	- Added support for RTM3000 and RTA4000 instruments
1.1.0	10/2017	<ul style="list-style-type: none"> * First official release * New Subsystems - Configuration >> Digital Channel - History >> Logic - Search >> Export - Protocols >> UART - Protocols >> MILSTD - Simple Mathematics (RTB) - Waveform Acquisition >> Simple Math (RTB) - Waveform Acquisition >> Digital Data - Waveform Acquisition >> Logic - Waveform Export - Generator - Logic - System * New - rsrtx_ConfigureRecordLength - rsrtx_ConfigureAcquireMode - rsrtx_ConfigurePeakDetect - rsrtx_ConfigureHighResolution - rsrtx_NumberofAveragesReset - rsrtx_ConfigureWaveformRateMaximum - rsrtx_ConfigureHorizontalReference - rsrtx_ConfigureProbeCMOffset - rsrtx_ConfigureTriggerOutMode - rsrtx_RuntTriggerRange - rsrtx_ConfigureRuntTriggerWidth - rsrtx_ConfigureRuntTriggerDelta - rsrtx_ConfigureWindowTriggerRange - rsrtx_ConfigureWindowTriggerWidth - rsrtx_ConfigureWindowTriggerTimeRange - rsrtx_ConfigureTimeoutTriggerTime - rsrtx_ConfigureDisplayLanguage - rsrtx_ConfigureDiagramAnnotationState - rsrtx_ConfigureDiagramAnnotationTrack

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - rsrtx_DisplayClearScreen - rsrtx_ConfigureDisplayPersistenceType - rsrtx_ConfigureDisplaySegmentationRecordMaximumSegments - rsrtx_QueryHistoryChannelTableMode - rsrtx_HistoryChannelExportSave - rsrtx_DigitalHistoryExportSave - rsrtx_HistoryMathExportSave - rsrtx_HistoryProtocolExportSave - rsrtx_ConfigureCursorMeasurementType - rsrtx_ConfigureCursorSource - rsrtx_CursorLineNextPeak - rsrtx_CursorLinePreviousPeak - rsrtx_ConfigureQuickMeasurementState - rsrtx_ConfigureMaskTestActionScreenshotDestination - rsrtx_ConfigureMaskTestActionSavesWaveformDestination - rsrtx_ConfigureMaskTestActionAUXOutputState - rsrtx_ConfigureMaskScaling - rsrtx_ConfigureSearchCondition - rsrtx_ConfigureSearchSource - rsrtx_ConfigureSearchTriggerWindowLevel - rsrtx_ConfigureSearchTriggerWindowDelta - rsrtx_ConfigureSearchTriggerWindowPolarity - rsrtx_ConfigureSearchTriggerWindowRange - rsrtx_ConfigureSearchTriggerWindowTimeRange - rsrtx_ConfigureSearchTriggerWindowWidth - rsrtx_ConfigureProtocolDisplayVertical - rsrtx_ConfigureProtocolSPICSPolarity - rsrtx_ConfigureSPITriggerSource - rsrtx_ConfigureHardcopyOutputFormat - rsrtx_QueryHardcopyData - rsrtx_ConfigureHardcopyPageSize - rsrtx_QueryHardcopyPageSize - rsrtx_ConfigureReferenceWaveformSource - rsrtx_InitiateAcquisitionAndWait - rsrtx_ConfigureAcquisitionState - rsrtx_PowerAnalysisAutoset - rsrtx_PowerAnalysisAutosetCurrent - rsrtx_PowerAnalysisAutosetVoltage - rsrtx_QueryPowerCurrentHarmonicsMeasurementDuration - rsrtx_QueryPowerCurrentHarmonicsMeasurementRealPowerCurrent - rsrtx_ReadPowerSafeOperatingAreaAcquisitionData

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - rsrtx_FetchPowerSafeOperatingAreaAcquisitionData - rsrtx_FetchPowerSafeOperatingAreaAcquisitionDataHeader - rsrtx_FetchPowerSafeOperatingAreaAcquisitionConversionData - rsrtx_ConfigureSpectrumAnalysisMode - rsrtx_ConfigureSpectrumAnalysisFrequencyCenterSpan - rsrtx_SpectrumMarkerSetupCenterScreen - rsrtx_SpectrumMarkerSetupRangeToPeak - rsrtx_QuerySpectrumReferenceMarkerResults - rsrtx_QuerySpectrumMarkerResults - rsrtx_QuerySpectrumMarkerDeltaResults - rsrtx_QuerySpectrumMarkerAllResults - rsrtx_QuerySpectrumMarkerAllDeltaResults - rsrtx_QueryCounterFrequency - rsrtx_QueryCounterPeriod * Modified - rsrtx_ConfigureChannel - default for coupling changed - rsrtx_ConfigureTrigger - line trigger type added - rsrtx_ConfigureEdgeTriggerFilter - HF Reject added, low removed - rsrtx_ConfigureMeasurementSource - QMA source added - rsrtx_QuerySearchResult - more result types - rsrtx_QueryAllSearchResults - more result types - rsrtx_ConfigureHardcopySettings - new formats, control includeMenuInScreenshot is obsolete - rsrtx_QueryPowerConsumptionMeasurementResults - new results - rsrtx_PowerSafeOperatingAreaLinPointValue - Current added - rsrtx_PowerSafeOperatingAreaLogPointValue - Current added - rsrtx_ConfigureSpectrumAnalysisFrequency removed controls for center and span - rsrtx_ConfigureCounterState - conter range changed - rsrtx_ReadMainWaveformMeasurement - removed some measurement functions - rsrtx_FetchMainWaveformMeasurement - removed some measurement functions * Deleted attributes: - RSRTX_ATTR_FILTER_FREQUENCY (Filter Frequency) - RSRTX_ATTR_WAVEFORM_RATE (Waveform Rate) - RSRTX_ATTR_TRIGGER_FILTER_LOW (Trigger Filter Low) - RSRTX_ATTR_ENVELOPE_WAVEFORM_DATA_POINTS (Envelope Waveform Data Points) - RSRTX_ATTR_CURSOR_VOLTAGE_INVERSE_DISTANCE_HORIZONTAL (Cursor Voltage Inverse Distance Horizontal) - RSRTX_ATTR_MAIN_MEASUREMENT_RESULT_TRIGGER_FREQUENCY (Main Measurement Result Trigger Frequency) - RSRTX_ATTR_MAIN_MEASUREMENT_RESULT_TRIGGER_PERIOD (Main Measurement Result Trigger Period) - RSRTX_ATTR_MAIN_MEASUREMENT_RESULT_B_TRIGGER_FREQUENCY (Main Measurement

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<p>Result B Trigger Frequency)</p> <ul style="list-style-type: none"> - RSRTX_ATTR_MAIN_MEASUREMENT_RESULT_B_TRIGGER_PERIOD (Main Measurement Result B Trigger Period) - RSRTX_ATTR_PERSISTENCE_TIME_AUTO (Persistence Time Auto) - RSRTX_ATTR_HARDCOPY_INCLUDE_MENU_IN_SCREENSHOT (Hardcopy Include Menu In Screenshot) <p>* New attributes:</p> <ul style="list-style-type: none"> - RSRTX_ATTR_ID_QUERY_RESPONSE (ID Query Response) - RSRTX_ATTR_RECORD_LENGTH_AUTOMATIC (Record Length Automatic) - RSRTX_ATTR_RECORD_LENGTH (Record Length) - RSRTX_ATTR_ACQUIRE_MODE (Acquire Mode) - RSRTX_ATTR_PEAK_DETECT (Peak Detect) - RSRTX_ATTR_HIGH_RESOLUTION (High Resolution) - RSRTX_ATTR_NUM_AVERAGES_RESET (Number of Averages Reset) - RSRTX_ATTR_WAVEFORM_RATE_MAXIMUM (Waveform Rate Maximum) - RSRTX_ATTR_PROBE_CM_OFFSET (Probe CM Offset) - RSRTX_ATTR_DIGITAL_PROBE_ENABLED (Digital Probe Enabled) - RSRTX_ATTR_DIGITAL_POINT_SELECTION (Digital Point Selection) - RSRTX_ATTR_LOGIC_STATE (Logic State) - RSRTX_ATTR_LOGIC_TYPE (Logic Type) - RSRTX_ATTR_LOGIC_THRESHOLD (Logic Threshold) - RSRTX_ATTR_LOGIC_THRESHOLD_USER_LEVEL (Logic Threshold User Level) - RSRTX_ATTR_LOGIC_HYSTERESIS (Logic Hysteresis) - RSRTX_ATTR_LOGIC_ARITHMETICS (Logic Arithmetics) - RSRTX_ATTR_LOGIC_CURRENT_MAXIMUM (Logic Current Maximum) - RSRTX_ATTR_LOGIC_CURRENT_MINIMUM (Logic Current Minimum) - RSRTX_ATTR_TRIGGER_FILTER_HF_REJECT (Trigger Filter HF Reject) - RSRTX_ATTR_TRIGGER_WINDOW_RANGE (Trigger Window Range) - RSRTX_ATTR_TRIGGER_WINDOW_WIDTH (Trigger Window Width) - RSRTX_ATTR_TRIGGER_WINDOW_TIME_RANGE (Trigger Window Time Range) - RSRTX_ATTR_RUNT_TRIGGER_WIDTH (Runt Trigger Width) - RSRTX_ATTR_RUNT_TRIGGER_DELTA (Runt Trigger Delta) - RSRTX_ATTR_RUNT_TRIGGER_RANGE (Runt Trigger Range) - RSRTX_ATTR_TIMEOUT_TRIGGER_TIME (Timeout Trigger Time) - RSRTX_ATTR_TIMEOUT_TRIGGER_RANGE (Timeout Trigger Range) - RSRTX_ATTR_PROTOCOL_SPI_TRIGGER_SOURCE (Protocol SPI Trigger Source) - RSRTX_ATTR_PROTOCOL_UART_TRIGGER_SOURCE (Protocol UART Trigger Source) - RSRTX_ATTR_MILSTD_TRIGGER_MODE (MILSTD Trigger Mode) - RSRTX_ATTR_MILSTD_TRIGGER_FRAME (MILSTD Trigger Frame) - RSRTX_ATTR_ACQUISITION_STATE (Acquisition State) - RSRTX_ATTR_WAVEFROM_EXPORT_NAME (Wavefrom Export Name)

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - RSRTX_ATTR_WAVEFORM_EXPORT_SOURCE (Waveform Export Source) - RSRTX_ATTR_WAVEFORM_EXPORT_SAVE (Waveform Export Save) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_CONVERSION_X_START (Simple Math Waveform Conversion X Start) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_CONVERSION_X_INCREMENT (Simple Math Waveform Conversion X Increment) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_CONVERSION_Y_START (Simple Math Waveform Conversion Y Start) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_CONVERSION_Y_INCREMENT (Simple Math Waveform Conversion Y Increment) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_CONVERSION_Y_RESOLUTION (Simple Math Waveform Conversion Y Resolution) - RSRTX_ATTR_LOGIC_DATA_CONVERSION_X_START (Logic Data Conversion X Start) - RSRTX_ATTR_LOGIC_DATA_CONVERSION_X_INCREMENT (Logic Data Conversion X Increment) - RSRTX_ATTR_LOGIC_DATA_CONVERSION_Y_START (Logic Data Conversion Y Start) - RSRTX_ATTR_LOGIC_DATA_CONVERSION_Y_INCREMENT (Logic Data Conversion Y Increment) - RSRTX_ATTR_LOGIC_DATA_CONVERSION_Y_RESOLUTION (Logic Data Conversion Y Resolution) - RSRTX_ATTR_DIGITAL_DATA_CONVERSION_X_START (Digital Data Conversion X Start) - RSRTX_ATTR_DIGITAL_DATA_CONVERSION_X_INCREMENT (Digital Data Conversion X Increment) - RSRTX_ATTR_DIGITAL_DATA_CONVERSION_Y_START (Digital Data Conversion Y Start) - RSRTX_ATTR_DIGITAL_DATA_CONVERSION_Y_INCREMENT (Digital Data Conversion Y Increment) - RSRTX_ATTR_DIGITAL_DATA_CONVERSION_Y_RESOLUTION (Digital Data Conversion Y Resolution) - RSRTX_ATTR_CURSOR_LINE_NEXT_PEAK (Cursor Line Next Peak) - RSRTX_ATTR_CURSOR_LINE_PREVIOUS_PEAK (Cursor Line Previous Peak) - RSRTX_ATTR_QUICK_MEASUREMENT_STATE (Quick Measurement State) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_ENABLED (Simple Math Waveform Enabled) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_POSITION (Simple Math Waveform Position) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_VERTICAL_SCALE (Simple Math Waveform Vertical Scale) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_OPERATION (Simple Math Waveform Operation) - RSRTX_ATTR_SIMPLE_MATH_WAVEFORM_SOURCE (Simple Math Waveform Source) - RSRTX_ATTR_MASK_TEST_ACTION_SCREENSHOT_DESTINATION (Mask Test Action Screenshot Destination) - RSRTX_ATTR_MASK_TEST_ACTION_SAVES_WAVEFORM_DESTINATION (Mask Test Action Saves Waveform Destination) - RSRTX_ATTR_MASK_TEST_ACTION_AUX_OUTPUT_ENABLED (Mask Test Action AUX Output Enabled) - RSRTX_ATTR_SEARCH_TRIGGER_WINDOW_LEVEL_LOWER (Search Trigger Window Level Lower) - RSRTX_ATTR_SEARCH_TRIGGER_WINDOW_LEVEL_UPPER (Search Trigger Window Level Upper) - RSRTX_ATTR_SEARCH_TRIGGER_WINDOW_DELTA (Search Trigger Window Delta) - RSRTX_ATTR_SEARCH_TRIGGER_WINDOW_POLARITY (Search Trigger Window Polarity) - RSRTX_ATTR_SEARCH_TRIGGER_WINDOW_RANGE (Search Trigger Window Range) - RSRTX_ATTR_SEARCH_TRIGGER_WINDOW_TIME_RANGE (Search Trigger Window Time Range)

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - RSRTX_ATTR_SEARCH_TRIGGER_WINDOW_WIDTH (Search Trigger Window Width) - RSRTX_ATTR_SEARCH_EXPORT_NAME (Search Export Name) - RSRTX_ATTR_SEARCH_EXPORT_SAVE (Search Export Save) - RSRTX_ATTR_PROTOCOL_SPI_CS_POLARITY (Protocol SPI CS Polarity) - RSRTX_ATTR_PROTOCOL_UART_FRAME_COUNT (Protocol UART Frame Count) - RSRTX_ATTR_PROTOCOL_UART_WORD_COUNT (Protocol UART Word Count) - RSRTX_ATTR_PROTOCOL_UART_WORD_VALUE (Protocol UART Word Value) - RSRTX_ATTR_PROTOCOL_UART_WORD_START (Protocol UART Word Start) - RSRTX_ATTR_PROTOCOL_UART_WORD_END (Protocol UART Word End) - RSRTX_ATTR_PROTOCOL_UART_WORD_ENABLED (Protocol UART Word Enabled) - RSRTX_ATTR_PROTOCOL_UART_WORD_SOURCE (Protocol UART Word Source) - RSRTX_ATTR_PROTOCOL_MILSTD_INTER_MESSAGE_GAP_TIME_INFINITE (Protocol MILSTD Inter Message Gap Time Infinite) - RSRTX_ATTR_PROTOCOL_MILSTD_INTER_MESSAGE_GAP_TIME_MINIMUM (Protocol MILSTD Inter Message Gap Time Minimum) - RSRTX_ATTR_PROTOCOL_MILSTD_INTER_MESSAGE_GAP_TIME_MAXIMUM (Protocol MILSTD Inter Message Gap Time Maximum) - RSRTX_ATTR_PROTOCOL_MILSTD_RESPONSE_TIME_INFINITE (Protocol MILSTD Response Time Infinite) - RSRTX_ATTR_PROTOCOL_MILSTD_RESPONSE_TIME_MINIMUM (Protocol MILSTD Response Time Minimum) - RSRTX_ATTR_PROTOCOL_MILSTD_RESPONSE_TIME_MAXIMUM (Protocol MILSTD Response Time Maximum) - RSRTX_ATTR_POWER_ANALYSIS_AUTOSET (Power Analysis Autoset) - RSRTX_ATTR_POWER_ANALYSIS_AUTOSET_CURRENT (Power Analysis Autoset Current) - RSRTX_ATTR_POWER_ANALYSIS_AUTOSET_VOLTAGE (Power Analysis Autoset Voltage) - RSRTX_ATTR_POWER_CONSUMPTION_MEASUREMENT_APPARENT_POWER_RESULT (Power Consumption Measurement Apparent Power Result) - RSRTX_ATTR_POWER_CONSUMPTION_MEASUREMENT_POWER_FACTOR_RESULT (Power Consumption Measurement Power Factor Result) - RSRTX_ATTR_POWER_CONSUMPTION_MEASUREMENT_PHASE_RESULT (Power Consumption Measurement Phase Result) - RSRTX_ATTR_POWER_CONSUMPTION_MEASUREMENT_REACTIVE_POWER_RESULT (Power Consumption Measurement Reactive Power Result) - RSRTX_ATTR_POWER_CURRENT_HARMONICS_MEASUREMENT_DURATION (Power Current Harmonics Measurement Duration) - RSRTX_ATTR_POWER_CURRENT_HARMONICS_MEASUREMENT_REAL_POWER_CURRENT (Power Current Harmonics Measurement Real Power Current) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_LINEAR_POINT_CURRENT (Power Safe Operating Area Linear Point Current) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_LOGARITHMIC_POINT_CURRENT (Power Safe Operating Area Logarithmic Point Current) - - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_VOLTAGE_DATA_CONVERSION_X_START (Power Safe Operating Area Result Acquisition Voltage Data Conversion X Start)

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_VOLTAGE_DATA_CONVERSION_X_INCREMENT (Power Safe Operating Area Result Acquisition Voltage Data Conversion X Increment) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_VOLTAGE_DATA_CONVERSION_Y_START (Power Safe Operating Area Result Acquisition Voltage Data Conversion Y Start) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_VOLTAGE_DATA_CONVERSION_Y_INCREMENT (Power Safe Operating Area Result Acquisition Voltage Data Conversion Y Increment) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_VOLTAGE_DATA_CONVERSION_Y_RESOLUTION (Power Safe Operating Area Result Acquisition Voltage Data Conversion Y Resolution) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_CURRENT_DATA_CONVERSION_X_START (Power Safe Operating Area Result Acquisition Current Data Conversion X Start) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_CURRENT_DATA_CONVERSION_X_INCREMENT (Power Safe Operating Area Result Acquisition Current Data Conversion X Increment) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_CURRENT_DATA_CONVERSION_Y_START (Power Safe Operating Area Result Acquisition Current Data Conversion Y Start) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_CURRENT_DATA_CONVERSION_Y_INCREMENT (Power Safe Operating Area Result Acquisition Current Data Conversion Y Increment) - RSRTX_ATTR_POWER_SAFE_OPERATING_AREA_RESULT_ACQUISITION_CURRENT_DATA_CONVERSION_Y_RESOLUTION (Power Safe Operating Area Result Acquisition Current Data Conversion Y Resolution) - RSRTX_ATTR_SPECTRUM_ANALYSIS_MODE (Spectrum Analysis Mode) - RSRTX_ATTR_SPECTRUM_MARKER_SETUP_CENTER_SCREEN (Spectrum Marker Setup Center Screen) - RSRTX_ATTR_SPECTRUM_MARKER_SETUP_RANGE_TO_PEAK (Spectrum Marker Setup Range To Peak) - RSRTX_ATTR_WAVEFORM_GENERATOR_FUNCTION_TYPE (Waveform Generator Function Type) - RSRTX_ATTR_WAVEFORM_GENERATOR_FREQUENCY (Waveform Generator Frequency) - RSRTX_ATTR_WAVEFORM_GENERATOR_PULSE_DUTY_CYCLE (Waveform Generator Pulse Duty Cycle) - RSRTX_ATTR_WAVEFORM_GENERATOR_PULSE_EDGE_TIME (Waveform Generator Pulse Edge Time) - RSRTX_ATTR_WAVEFORM_GENERATOR_RAMP_POLARITY (Waveform Generator Ramp Polarity) - RSRTX_ATTR_WAVEFORM_GENERATOR_EXPONENTIAL_POLARITY (Waveform Generator Exponential Polarity) - RSRTX_ATTR_WAVEFORM_GENERATOR_MODULATION_ENABLED (Waveform Generator Modulation Enabled)

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - RSRTX_ATTR_WAVEFORM_GENERATOR_MODULATION_TYPE (Waveform Generator Modulation Type) - RSRTX_ATTR_WAVEFORM_GENERATOR_MODULATION_FUNCTION_TYPE (Waveform Generator Modulation Function Type) - RSRTX_ATTR_WAVEFORM_GENERATOR_MODULATION_RAMP_POLARITY (Waveform Generator Modulation Ramp Polarity) - RSRTX_ATTR_WAVEFORM_GENERATOR_AM_MODULATION_FREQUENCY (Waveform Generator AM Modulation Frequency) - RSRTX_ATTR_WAVEFORM_GENERATOR_AM_MODULATION_DEPTH (Waveform Generator AM Modulation Depth) - RSRTX_ATTR_WAVEFORM_GENERATOR_FM_MODULATION_FREQUENCY (Waveform Generator FM Modulation Frequency) - RSRTX_ATTR_WAVEFORM_GENERATOR_FM_MODULATION_FREQUENCY_DEVIATION (Waveform Generator FM Modulation Frequency Deviation) - RSRTX_ATTR_WAVEFORM_GENERATOR_ASK_MODULATION_FREQUENCY (Waveform Generator ASK Modulation Frequency) - RSRTX_ATTR_WAVEFORM_GENERATOR_ASK_MODULATION_DEPTH (Waveform Generator ASK Modulation Depth) - RSRTX_ATTR_WAVEFORM_GENERATOR_FSK_MODULATION_HOPPING_FREQUENCY (Waveform Generator FSK Modulation Hopping Frequency) - RSRTX_ATTR_WAVEFORM_GENERATOR_FSK_MODULATION_RATE (Waveform Generator FSK Modulation Rate) - RSRTX_ATTR_WAVEFORM_GENERATOR_SWEEP_ENABLED (Waveform Generator Sweep Enabled) - RSRTX_ATTR_WAVEFORM_GENERATOR_SWEEP_TYPE (Waveform Generator Sweep Type) - RSRTX_ATTR_WAVEFORM_GENERATOR_SWEEP_START_FREQUENCY (Waveform Generator Sweep Start Frequency) - RSRTX_ATTR_WAVEFORM_GENERATOR_SWEEP_STOP_FREQUENCY (Waveform Generator Sweep Stop Frequency) - RSRTX_ATTR_WAVEFORM_GENERATOR_SWEEP_TIME (Waveform Generator Sweep Time) - RSRTX_ATTR_WAVEFORM_GENERATOR_ARBITRARY_FILE_NAME (Waveform Generator Arbitrary File Name) - RSRTX_ATTR_WAVEFORM_GENERATOR_ARBITRARY_OPEN_FILE (Waveform Generator Arbitrary Open File) - RSRTX_ATTR_WAVEFORM_GENERATOR_ARBITRARY_SOURCE (Waveform Generator Arbitrary Source) - RSRTX_ATTR_WAVEFORM_GENERATOR_ARBITRARY_UPDATE (Waveform Generator Arbitrary Update) - RSRTX_ATTR_WAVEFORM_GENERATOR_OUTPUT_ENABLED (Waveform Generator Output Enabled) - RSRTX_ATTR_WAVEFORM_GENERATOR_OUTPUT_AMPLITUDE (Waveform Generator Output Amplitude) - RSRTX_ATTR_WAVEFORM_GENERATOR_OUTPUT_OFFSET (Waveform Generator Output Offset) - RSRTX_ATTR_WAVEFORM_GENERATOR_OUTPUT_USER_LOAD (Waveform Generator Output User Load) - RSRTX_ATTR_WAVEFORM_GENERATOR_OUTPUT_DESTINATION (Waveform Generator Output Destination)

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - RSRTX_ATTR_WAVEFORM_GENERATOR_NOISE_LEVEL_PERCENT (Waveform Generator Noise Level Percent) - RSRTX_ATTR_WAVEFORM_GENERATOR_NOISE_ABSOLUTE_LEVEL (Waveform Generator Noise Absolute Level) - RSRTX_ATTR_PATTERN_GENERATOR_ENABLED (Pattern Generator Enabled) - RSRTX_ATTR_PATTERN_GENERATOR_FUNCTION_TYPE (Pattern Generator Function Type) - RSRTX_ATTR_PATTERN_GENERATOR_FREQUENCY (Pattern Generator Frequency) - RSRTX_ATTR_PATTERN_GENERATOR_PERIOD (Pattern Generator Period) - RSRTX_ATTR_PATTERN_GENERATOR_POLARITY (Pattern Generator Polarity) - RSRTX_ATTR_PATTERN_GENERATOR_DUTY_CYCLE (Pattern Generator Duty Cycle) - RSRTX_ATTR_PATTERN_GENERATOR_SAMPLE_TIME (Pattern Generator Sample Time) - RSRTX_ATTR_PATTERN_GENERATOR_COUNTER_DIRECTION (Pattern Generator Counter Direction) - RSRTX_ATTR_PATTERN_GENERATOR_COUNTER_FREQUENCY (Pattern Generator Counter Frequency) - RSRTX_ATTR_PATTERN_GENERATOR_BURST_ENABLED (Pattern Generator Burst Enabled) - RSRTX_ATTR_PATTERN_GENERATOR_BURST_CYCLES (Pattern Generator Burst Cycles) - RSRTX_ATTR_PATTERN_GENERATOR_IDLE_TIME (Pattern Generator Idle Time) - RSRTX_ATTR_PATTERN_GENERATOR_TRIGGER_MODE (Pattern Generator Trigger Mode) - RSRTX_ATTR_PATTERN_GENERATOR_TRIGGER_RUN_SINGLE (Pattern Generator Trigger Run Single) - RSRTX_ATTR_PATTERN_GENERATOR_ARB_PATTERN_LENGTH (Pattern Generator ARB Pattern Length) - RSRTX_ATTR_PATTERN_GENERATOR_ARB_INDEX (Pattern Generator ARB Index) - RSRTX_ATTR_PATTERN_GENERATOR_MANUAL_STATE (Pattern Generator Manual State) - RSRTX_ATTR_DIAGRAM_ANNOTATION_ENABLED (Diagram Annotation Enabled) - RSRTX_ATTR_DIAGRAM_ANNOTATION_TRACK (Diagram Annotation Track) - RSRTX_ATTR_DISPLAY_CLEAR_SCREEN (Display Clear Screen) - RSRTX_ATTR_PERSISTENCE_TYPE (Persistence Type) - RSRTX_ATTR_HISTORY_CHANNEL_TABLE_MODE (History Channel Table Mode) - RSRTX_ATTR_HISTORY_CHANNEL_EXPORT_NAME (History Channel Export Name) - RSRTX_ATTR_HISTORY_CHANNEL_EXPORT_SAVE (History Channel Export Save) - RSRTX_ATTR_DIGITAL_HISTORY_EXPORT_NAME (Digital History Export Name) - RSRTX_ATTR_DIGITAL_HISTORY_EXPORT_SAVE (Digital History Export Save) - RSRTX_ATTR_HISTORY_MATH_EXPORT_NAME (History Math Export Name) - RSRTX_ATTR_HISTORY_MATH_EXPORT_SAVE (History Math Export Save) - RSRTX_ATTR_HISTORY_PROTOCOL_EXPORT_NAME (History Protocol Export Name) - RSRTX_ATTR_HISTORY_PROTOCOL_EXPORT_SAVE (History Protocol Export Save) - RSRTX_ATTR_HISTORY_LOGIC_CURRENT_ACQUISITION (History Logic Current Acquisition) - RSRTX_ATTR_HISTORY_LOGIC_PLAYER (History Logic Player) - RSRTX_ATTR_HISTORY_LOGIC_START_ACQUISITION (History Logic Start Acquisition) - RSRTX_ATTR_HISTORY_LOGIC_STOP_ACQUISITION (History Logic Stop Acquisition) - RSRTX_ATTR_HISTORY_LOGIC_PLAY_ALL (History Logic Play All)

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<ul style="list-style-type: none"> - RSRTX_ATTR_HISTORY_LOGIC_SPEED (History Logic Speed) - RSRTX_ATTR_HISTORY_LOGIC_REPEAT (History Logic Repeat) - RSRTX_ATTR_HISTORY_LOGIC_ACQUISITON_RELATIVE_TIME (History Logic Acquisiton Relative Time) - RSRTX_ATTR_HISTORY_LOGIC_ALL_DATES (History Logic All Dates) - RSRTX_ATTR_HISTORY_LOGIC_ALL_TIME_DIFFERENCES (History Logic All Time Differences) - RSRTX_ATTR_HISTORY_LOGIC_ALL_DAYTIMES (History Logic All Daytimes) - RSRTX_ATTR_HISTORY_LOGIC_EXPORT_NAME (History Logic Export Name) - RSRTX_ATTR_HISTORY_LOGIC_EXPORT_SAVE (History Logic Export Save) - RSRTX_ATTR_SEGMENTATION_RECORD_MAXIMUM_SEGMENTS (Segmentation Record Maximum Segments) - RSRTX_ATTR_HARDCOPY_OUTPUT_FORMAT (Hardcopy Output Format) - RSRTX_ATTR_HARDCOPY_PAGE_SIZE_X (Hardcopy Page Size X) - RSRTX_ATTR_HARDCOPY_PAGE_SIZE_Y (Hardcopy Page Size Y) - RSRTX_ATTR_DEVICE_MODE (Device Mode) - RSRTX_ATTR_INTERFACE_SELECT (Interface Select) - RSRTX_ATTR_USB_CLASS (USB Class) - RSRTX_ATTR_ETHERNET_DHCP (Ethernet DHCP) - RSRTX_ATTR_ETHERNET_IP_PORT (Ethernet IP Port) - RSRTX_ATTR_ETHERNET_VXI11_PORT (Ethernet VXI11 Port) - RSRTX_ATTR_ETHERNET_TRANSFER (Ethernet Transfer) - RSRTX_ATTR_ETHERNET_MAC_ADDRESS (Ethernet MAC Address) - RSRTX_ATTR_PRESET_EDUCATION (Preset Education) - RSRTX_ATTR_DEVICE_FOOTPRINT (Device Footprint) <p>* Modified attributes:</p> <ul style="list-style-type: none"> - RSRTX_ATTR_HORZ_DIVISIONS (Horizontal Divisions) - Data type changed. - RSRTX_ATTR_HORZ_REFERENCE (Horizontal Reference) - Range - RSRTX_ATTR_VERTICAL_COUPLING (Vertical Coupling) - Default changed. - RSRTX_ATTR_DIGITAL_HYSTERESIS (Digital Hysteresis) - Changed range values. - RSRTX_ATTR_DIGITAL_VERTICAL_CHANNEL_SIZE (Digital Vertical Channel Size) - Changed from enum to real. - RSRTX_ATTR_TRIGGER_LEVEL_B (Trigger Level B) - Range table removed. - RSRTX_ATTR_TRIGGER_COUPLING (Trigger Coupling) - Command string changed - RSRTX_ATTR_PROTOCOL_AUDIO_TRIGGER_RIGHT_MINIMUM (Protocol Audio Trigger Right Minimum) - Range table removed. - RSRTX_ATTR_PROTOCOL_AUDIO_TRIGGER_RIGHT_MAXIMUM (Protocol Audio Trigger Right Maximum) - Range table removed. - RSRTX_ATTR_PROTOCOL_AUDIO_TRIGGER_LEFT_MINIMUM (Protocol Audio Trigger Left Minimum) - Range table removed. - RSRTX_ATTR_PROTOCOL_AUDIO_TRIGGER_LEFT_MAXIMUM (Protocol Audio Trigger Left Maximum) - Range table removed. - RSRTX_ATTR_PROTOCOL_AUDIO_TRIGGER_CHANNEL_MINIMUM (Protocol Audio Trigger Channel

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<p>Minimum) - Range table removed.</p> <ul style="list-style-type: none"> - RSRTX_ATTR_PROTOCOL_AUDIO_TRIGGER_CHANNEL_MAXIMUM (Protocol Audio Trigger Channel Maximum) - Range table removed. - RSRTX_ATTR_CURSOR_MEASUREMENT_TYPE (Cursor Measurement Type) - HorizontalVertical - RSRTX_ATTR_CURSOR_SOURCE (Cursor Source) - QMA - RSRTX_ATTR_MASK_VERTICAL_OFFSET (Mask Vertical Offset) - removed range - RSRTX_ATTR_MASK_VERTICAL_SCALING (Mask Vertical Scaling) - removed range - RSRTX_ATTR_MASK_VERTICAL_WIDTH (Mask Vertical Width) - Removed range - RSRTX_ATTR_MASK_HORIZONTAL_WIDTH (Mask Horizontal Width) - removed range. - RSRTX_ATTR_PROTOCOL_DISPLAY_VERTICAL (Protocol Display Vertical) - Default, range changed. - RSRTX_ATTR_HARDCOPY_COLOR_SCHEME (Hardcopy Color Scheme) - Short command modified. <p>* Deleted Repeated Capabilities:</p> <p>* Modified Repeated Capabilities:</p> <ul style="list-style-type: none"> - Counter - Identifiers ("Counter0,Counter1,Counter2", "Counter1,Counter2") - Counter - Command Values ("1,2", "1,2") <p>* Modified Range Tables:</p> <ul style="list-style-type: none"> - rsrtx_rngHorzReference - RSRTX_ATTR_HORZ_REFERENCE Range changed to <8.33;91.67> - rsrtx_rngLineNumber - RSRTX_ATTR_TV_TRIGGER_LINE_NUMBER Range changed to <1;1125> - rsrtx_rngCursorFunction - RSRTX_ATTR_CURSOR_MEASUREMENT_TYPE New items: RSRTX_VAL_CURSOR_HVER - rsrtx_rngWaveformParameter - RSRTX_ATTR_WAVEFORM_EXPORT_SOURCE, RSRTX_ATTR_CURSOR_SOURCE, RSRTX_ATTR_REFERENCE_WAVEFORM_SOURCE New items: RSRTX_VAL_WAV_QMA, RSRTX_VAL_WAV_XY1 - rsrtx_rngLanguage - RSRTX_ATTR_DISPLAY_LANGUAGE New items: RSRTX_VAL_DISPLAY_ITALIAN, RSRTX_VAL_DISPLAY_PORTUGUESE, RSRTX_VAL_DISPLAY_POLISH, RSRTX_VAL_DISPLAY_CZECH - rsrtx_rngHardcopyDeviceLang - RSRTX_ATTR_HARDCOPY_DEVICE_LANGUAGE_OUTPUT_FORMAT New items: RSRTX_VAL_HARDCOPY_DEVICE_LANG_GDI, RSRTX_VAL_HARDCOPY_DEVICE_LANG_GIF - rsrtx_rngPageSize - RSRTX_ATTR_HARDCOPY_PAGE_SIZE New items: RSRTX_VAL_PAGE_LEGAL, RSRTX_VAL_PAGE_LETTER - rsrtx_rngTriggerCoupling - RSRTX_ATTR_TRIGGER_COUPLING Command changed ("LFR", "HF") - rsrtx_rngTriggerType - RSRTX_ATTR_TRIGGER_TYPE_A

rsrtx Instrument Driver		
Driver history		
Revision	Date	Note
		<p>New items: RSRTX_VAL_LINE_TRIGGER</p> <p>- rsrtx_rngProtocolVertical - RSRTX_ATTR_PROTOCOL_DISPLAY_VERTICAL</p> <p>Range changed to <-5;5></p> <p>- rsrtx_rngSearchCondition - RSRTX_ATTR_SEARCH_CONDITION</p> <p>New items: RSRTX_VAL_SEARCHCOND_WINDOW</p> <p>- rsrtx_rngSearchSource - RSRTX_ATTR_SEARCH_SOURCE, RSRTX_ATTR_SEARCH_TRIGGER_D2C_CLOCK_SOURCE</p> <p>New items: RSRTX_VAL_MEASUREMENT_SOURCE_QMA</p> <p>- rsrtx_rngDigitalHysteresis - RSRTX_ATTR_DIGITAL_HYSTERESIS</p> <p>New items: RSRTX_VAL_DIGITAL_HYSTERESIS_SMALL, RSRTX_VAL_DIGITAL_HYSTERESIS_MEDIUM, RSRTX_VAL_DIGITAL_HYSTERESIS_LARGE</p> <p>- rsrtx_rngDigitalHysteresis - RSRTX_ATTR_DIGITAL_HYSTERESIS</p> <p>Deleted items: RSRTX_VAL_DIGITAL_HYSTERESIS_MAX, RSRTX_VAL_DIGITAL_HYSTERESIS_ROB, RSRTX_VAL_DIGITAL_HYSTERESIS_NORM</p> <p>- rsrtx_rngTriggerOutMode - RSRTX_ATTR_TRIGGER_OUT_MODE</p> <p>New items: RSRTX_VAL_TRIGGER_OUT_MODE_REF, RSRTX_VAL_TRIGGER_OUT_MODE_GEN</p> <p>- rsrtx_rngMeasurementSource -</p> <p>New items: RSRTX_VAL_MEASUREMENT_SOURCE_QMA</p> <p>- rsrtx_rngMILSTDCodeType.RSRTX_VAL_MILSTD_CODE_TYPE_SEL - RSRTX_ATTR_MILSTD_TRIGGER_COMMAND_MODE_CODE, RSRTX_ATTR_MILSTD_SEARCH_COMMAND_MODE_CODE, RSRTX_ATTR_PROTOCOL_MILSTD_COMMAND_WORD_MODE_CODE_TYPE</p> <p>Command changed ("ISEL", "SEL")</p> <p>- rsrtx_rngMILSTDTriggerType - RSRTX_ATTR_MILSTD_TRIGGER_TYPE, RSRTX_ATTR_MILSTD_TRIGGER_MODE</p> <p>New items: RSRTX_VAL_MILSTD_TRIGGER_TYPE_CDATA</p> <p>- rsrtx_rngProbeInputImpedance.RSRTX_VAL_UNKNOWN - RSRTX_ATTR_PROBE_INPUT_IMPEDANCE</p> <p>Command changed ("UNKN", "UNKNown")</p> <p>- rsrtx_rngProbeInputImpedance.RSRTX_VAL_50OHM - RSRTX_ATTR_PROBE_INPUT_IMPEDANCE</p> <p>Command changed ("50OH", "50OHm")</p> <p>- rsrtx_rngProbeInputImpedance.RSRTX_VAL_1MOHM - RSRTX_ATTR_PROBE_INPUT_IMPEDANCE</p> <p>Command changed ("1MOH", "1MOHm")</p>
1.0.0	02/2017	* First Beta Version created based on the RsRtm20xx driver

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 80 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



Regional contact

Europe, Africa, Middle East

+49 89 4129 12345

customersupport@rohde-schwarz.com

North America

1-888-TEST-RSA (1-888-837-8772)

customer.support@rsa.rohde-schwarz.com

Latin America

+1-410-910-7988

customersupport.la@rohde-schwarz.com

Asia/Pacific

+65 65 13 04 88

customersupport.asia@rohde-schwarz.com

R&S® is a registered trademark of Rohde & Schwarz GmbH & Co. KG; Trade names are trademarks of the owners.

Rohde & Schwarz GmbH & Co. KG

Mühl Dorfstraße 15 | D - 81671 München

Phone + 49 89 4129 - 0 | Fax + 49 89 4129 - 13777

www.rohde-schwarz.com