

LabWindows/CVI, VxiPnp driver history for the R&S® FPH / FPC Signal Analyzers

Products:

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| [R&S®FPC](#)



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1 Supported Instruments

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

Which instruments are supported?		
Instrument	Supported Firmware	Remarks
FPH	2.40	
FPC	1.80	

2 Revision History

Version 1.80.0 / 10 – 2023

- * Support for FPH FW 2.40/FPC FW 1.80
- * Updated to RsCore version 4.5.0

* New:

- rsfph_QueryMemoryTraceData
- rsfph_ConfigureDigitalDemodulationStandard
- rsfph_ConfigureVNAInterferenceSuppresion
- rsfph_OPCTSyncWriteEnable
- rsfph_OPCTSyncQueryEnable

* Updated:

- rsfph_DataSetFileOperations - Added 'Save to CSV' option
- rsfph_QueryDTFPeakListResults - Off-by-one index bug fixed

* Deleted:

- rsfph_SetAttributeViSession
- rsfph_GetAttributeViSession
- rsfph_CheckAttributeViInt32
- rsfph_CheckAttributeViReal64
- rsfph_CheckAttributeViString
- rsfph_CheckAttributeViBoolean
- rsfph_CheckAttributeViSession

Version 1.40.0 / 08 – 2019

- * Support for FPH FW 1.70/FPC FW 1.40
- * Updated to RsCore version 3.6.1

* New:

- RSFPH_ATTR_SUBTRACT_TRACES
- RSFPH_ATTR_CHANNEL_TABLE_SELECT
- RSFPH_ATTR_ANALOG_MODULATION_AM_MODULATION_DEPTH_RESULT
- RSFPH_ATTR_ANALOG_MODULATION_FM_MODULATION_RATE_RESULT
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 - rsfph_ConfigureDigitalDemodulationFSKFrequencyDeviation
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 RSFPH_ATTR_RECEIVER_SYNCHRONIZE_BARGRAPH_FREQUENCY_TO_SPECIFIED_MARKER
 - rsfph_ConfigureReceiverFrequencyScale
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RSFPH_ATTR_VNA_PHASE_REFERENCE_POSITION
RSFPH_ATTR_VNA_PHASE_UNWRAPPING_ENABLED
RSFPH_ATTR_VNA_PHASE_Y_AXIS_RANGE
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- rsfph_ConfigureVNASWR_YAxisMinMax
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- rsfph_ConfigureStatusChecking
- rsfph_ConfigureRangeChecking
- rsfph_ConfigureAutoSystemErrQuery
- rsfph_ConfigureMultiThreadLocking

* Updated:

- rsfph_ConfigureReferenceLevelUnits - Range table updated
- rsfph_ConfigureVerticalRange - Range table and help updated
- rsfph_ConfigureVerticalScaling - Help updated
- rsfph_ConfigureTriggerSource - IQ Power and Gated trigger sources added
- rsfph_QueryTransducerFactorUnits - Range table updated
- rsfph_ConfigureTrace - Freeze, Infinite, and Blank trace modes added
- rsfph_ConfigureSubtractTraces - Updated to use RSFPH_ATTR_SUBTRACT_TRACES
- rsfph_ConfigureACLRPower - Range table and help updated
- rsfph_ConfigureACLRReferenceChannel - Range table and help updated
- rsfph_ConfigureACLRSpacing - Help updated
- rsfph_ConfigureACLRBandwidth - Help updated
- rsfph_QueryACLRTotalTXChannelPower - Help updated
- rsfph_ConfigureACLRLimitCheckState - Help updated
- rsfph_ConfigureACLRAdjacentChannelLimitCheck - Help updated
- rsfph_ConfigureACLRAlternateChannelLimitCheck - Help updated
- rsfph_QueryACLRAdjacentChannelLimitCheckResult - Help updated
- rsfph_QueryACLRAlternateChannelLimitCheckResult - Help updated

- rsfph_ConfigureHarmonicDistortionMeasurement - Help updated
- rsfph_AdjustHarmonicDistortionSettings - Help updated
- rsfph_QueryHarmonicDistortion - Help updated
- rsfph_QueryHarmonicDistortionPositionList - Help and default values updated
- rsfph_ConfigureOccupiedBandwidth - Help updated
- rsfph_ConfigureTDMABurstLength - Help and default value updated
- rsfph_ConfigureLimitLine - Help updated
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- rsfph_ConfigureLowerLimitThreshold - Help updated
- rsfph_ConfigureUpperLimitLine - Help updated
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- rsfph_DeleteLimitLine - Help updated
- rsfph_QueryLimitLineComment - Help updated
- rsfph_QueryLimitLineXUnits - Help updated
- rsfph_QueryLimitLineYUnits - Help updated
- rsfph_ConfigureDisplay - Help updated
- rsfph_DisplayColorDefault - Help updated
- rsfph_ConfigureDisplayLengthUnit - Help updated
- rsfph_QueryDetectedAccessory - Z44 and ZN_Z103 added to accessories
- rsfph_ConfigureIPAddress - Now works
- rsfph_DataSetFileOperations - Load dataset from PC operation added
- rsfph_GetLimitCheckResult - Help updated
- rsfph_ZeroPowerMeter - Help updated
- rsfph_ConfigurePowerMeterReferenceLevel - Help updated
- rsfph_ConfigurePowerMeterUnits - Range table updated
- rsfph_ConfigureAnalogModulationResultDisplay - Help updated
- rsfph_QueryAnalogModulationResults - AM Depth and FM Rate added
- rsfph_ConfigureDigitalDemodulationResultDisplay - Help updated
- rsfph_QueryDigitalDemodulationResults - Help updated
- rsfph_ReceiverResetMaxholdInformation - Help updated
- RSFPH_ATTR_FREQUENCY_OFFSET - Range table updated
- RSFPH_ATTR_AMPLITUDE_UNITS - Range table updated
- RSFPH_ATTR_NUMBER_OF_SWEEPS - Range table updated
- RSFPH_ATTR_SWEEP_POINTS - No longer read only, range table added, enabled for FPH
- RSFPH_ATTR_TRIGGER_SOURCE - IQ Power and Gated trigger sources added
- RSFPH_ATTR_TRIGGER_TYPE - Freeze, Infinite, and Blank trace modes added
- RSFPH_ATTR_MEAS_POW_STANDARD - Now write only
- RSFPH_ATTR_ACLR_RELATIVE_LIMIT_CHECK - Range table added
- RSFPH_ATTR_ACLR_ABSOLUTE_LIMIT_CHECK - Range table added
- RSFPH_ATTR_ACLR_RESULT_UNIT - Range table updated
- RSFPH_ATTR_ACLR_REFERENCE_CHANNEL_AUTOMATIC_SELECTION - Manual selection added
- RSFPH_ATTR_ACLR_TRANSMISSION_CHANNEL_AS_REFERENCE_CHANNEL - Range table added
- RSFPH_ATTR_ACLR_ALTERNATE_RELATIVE_LIMIT_CHECK - Range table added
- RSFPH_ATTR_ACLR_ALTERNATE_ABSOLUTE_LIMIT_CHECK - Range table added
- RSFPH_ATTR_CHANNEL_POWER_UNIT - Range table updated
- RSFPH_ATTR_TFAC_UNIT - Range table updated
- RSFPH_ATTR_SYST_ACCESSORY - Z44 and ZN_Z103 added to accessories
- RSFPH_ATTR_INSTRUMENT_MODE - Vector network analyzer added (for FPC)
- RSFPH_ATTR_DISP_REF_POSITION - Range table updated
- RSFPH_ATTR_PWM_UNIT - Range table updated
- RSFPH_ATTR_DIGITAL_DEMODULATION_MODULATION_DEPTH_RESULT - Corrected name (was MODULAITON)

* Removed:

- rsfph_ConfigureStatusRegisterFormat
- RSFPH_ATTR_STATUS_REGISTER_FORMAT

Version 1.30.0 / 08 – 2017

* New functions:

- rsfph_ConfigurePowerMeterForwardPowerDisplay
RSFPH_ATTR_PWM_FORWARD_POWER_DISPLAY
- rsfph_SelectPowerMeasurement
RSFPH_ATTR_MEAS_POW_SELECT
RSFPH_ATTR_MEAS_POW_OFF
- rsfph_ConfigurePowerStandard
RSFPH_ATTR_MEAS_POW_STANDARD
- rsfph_QueryPowerMeasurementsResults
- rsfph_QueryPowerStandardCheck
RSFPH_ATTR_MEAS_POW_STANDARD_CHECK
- rsfph_AdjustPowerReferenceLevel
RSFPH_ATTR_MEAS_POW_ADJUST_REFERENCE_LEVEL
- rsfph_SetAnalogModulationMode
RSFPH_ATTR_INSTRUMENT_MODE
- rsfph_ConfigureAnalogModulationLimitLine
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- rsfph_DeleteAnalogModulationLimitLine
RSFPH_ATTR_ANALOG_MODULATION_LIMIT_LINE_DELETE
- rsfph_QueryAnalogModulationLimitCheckResult
RSFPH_ATTR_ANALOG_MODULATION_LIMIT_LINE_CHECK_RESULT
- rsfph_ConfigureAnalogModulationResultDisplay
RSFPH_ATTR_ANALOG_MODULATION_RESULT_DISPLAY
- rsfph_QueryAnalogModulationResults
RSFPH_ATTR_ANALOG_MODULATION_FM_OFFSET
RSFPH_ATTR_ANALOG_MODULATION_CARRIER_POWER_RESULT
RSFPH_ATTR_ANALOG_MODULATION_SINAD_RESULT
RSFPH_ATTR_ANALOG_MODULATION_THD_RESULT
RSFPH_ATTR_ANALOG_MODULATION_AUDIO_FREQUENCY_RESULT
RSFPH_ATTR_ANALOG_MODULATION_FREQUENCY_ERROR_RESULT
RSFPH_ATTR_ANALOG_MODULATION_AM_MODULATION_INDEX_RESULT
RSFPH_ATTR_ANALOG_MODULATION_AM_MAX_RESULT
RSFPH_ATTR_ANALOG_MODULATION_AM_MIN_RESULT
RSFPH_ATTR_ANALOG_MODULATION_AM_AVERAGE_RESULT
RSFPH_ATTR_ANALOG_MODULATION_AM_RMS_RESULT
RSFPH_ATTR_ANALOG_MODULATION_FM_MAX_RESULT
RSFPH_ATTR_ANALOG_MODULATION_FM_MIN_RESULT
RSFPH_ATTR_ANALOG_MODULATION_FM_AVERAGE_RESULT
RSFPH_ATTR_ANALOG_MODULATION_FM_RMS_RESULT
- rsfph_ConfigureChannelPower
RSFPH_ATTR_CHANNEL_POWER_BANDWIDTH
RSFPH_ATTR_CHANNEL_POWER_DISPLAY_MODE
RSFPH_ATTR_CHANNEL_POWER_UNIT
RSFPH_ATTR_CHANNEL_POWER_PER_HERTZ
- rsfph_ReceiverSynchronizeBargraphFrequencyToMarker
RSFPH_ATTR_RECEIVER_SYNCHRONIZE_BARGRAPH_FREQUENCY_TO_MARKER
- rsfph_ConfigureAMModulationDepth
RSFPH_ATTR_MODULATION_DEPTH_STATE
- rsfph_QueryAMModulationDepthResult
RSFPH_ATTR_MODULATION_DEPTH_RESULT
- rsfph_ConfigureOccupiedBandwidth
RSFPH_ATTR_OCCUPIED_BANDWIDTH_CHANNEL_BANDWIDTH
RSFPH_ATTR_OCCUPIED_BANDWIDTH_POWER_PERCENTAGE
- rsfph_ReceiverResetMaxholdInformation
RSFPH_ATTR_RECEIVER_RESET_MAXHOLD_INFORMATION
- rsfph_ConfigureReceiverTraceStyle
RSFPH_ATTR_RECEIVER_TRACE_STYLE
- rsfph_ConfigureDeviationPerDivision
RSFPH_ATTR_DISPLAY_DEVIATION_PER_DIVISION

- rsfph_ConfigureIsotropicAntenna
RSFPH_ATTR_ISOTROPIC_ANTENNA_STATE
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- rsfph_ConfigureTransducerFactorIsotropicAntenna
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RSFPH_ATTR_ACLR_ADJACENT_CHANNEL_SPACING
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- rsfph_ConfigureACLRLimitCheckState
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- rsfph_ConfigureACLRAjacentChannelLimitCheck
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RSFPH_ATTR_ACLR_RELATIVE_LIMIT_CHECK
RSFPH_ATTR_ACLR_ABSOLUTE_LIMIT_CHECK_STATE
RSFPH_ATTR_ACLR_ABSOLUTE_LIMIT_CHECK
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RSFPH_ATTR_ACLR_ALTERNATE_RELATIVE_LIMIT_CHECK
RSFPH_ATTR_ACLR_ALTERNATE_ABSOLUTE_LIMIT_CHECK_STATE
RSFPH_ATTR_ACLR_ALTERNATE_ABSOLUTE_LIMIT_CHECK
- rsfph_QueryACLRAjacentChannelLimitCheckResult
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- rsfph_ConfigureTDMABurstLength
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RSFPH_ATTR_HARMONIC_DISTORTION_NO_OF_HARMONICS
- rsfph_AdjustHarmonicDistortionSettings
RSFPH_ATTR_HARMONIC_DISTORTION_ADJUST_SETTINGS
- rsfph_QueryHarmonicDistortion
- rsfph_QueryHarmonicDistortionPositionList
- rsfph_SetStatusRegisterBit
- rsfph_GetStatusRegisterBit

* Updated functions:

- rsfph_SetStatusRegister - added Sync
- rsfph_GetStatusRegister - added Sync
- rsfph_DataSetFileOperations - added 'Save dataset to PC', 'Save dataset and screenshot to PC'

Version 1.10.0 / 09 – 2016

* Initial release

3 Getting Started

LabWindows/CVI driver

The Rohde & Schwarz **rsfph** 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:

- *rsfph.c + rsfph.h*
- *rsfph_attributes.c + rsfph_attributes.h*
- *rsfph_utility.c + rsfph_utility.h*
- *rscore.c + rscore.h*
- *rsfph_callbacks.c*
- *rsfph.fp + rsfph.sub*

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

The compiled source code from LabWindows/CVI driver is used. The compiled ANSI-C libraries exist for Windows 7 64-bit and newer.

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

- C:\Program Files\IVI Foundation\VISA\Win64\Include\rsfph.h
- C:\Program Files\IVI Foundation\VISA\Win64\Lib_x64\msc\rsfph64.lib (static)
- C:\Program Files\IVI Foundation\VISA\Win64\Bin\rsfph_64.dll (dynamic)
- C:\Program Files\IVI Foundation\VISA\Win64\rsfph\rsfph.fp (in CVI only)
- C:\Program Files\IVI Foundation\VISA\Win64\rsfph\rsfph.sub (in CVI only)

VXIplug&play driver in MATLAB

MATLAB instrument driver **rsfph.mdd** can be found here:

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

For more, refer to [1MA171 - How to use R&S instrument in MATLAB](#)

Linux and Mac OS X

To be able to use Rohde & Schwarz **rsfph** Instrument driver in Linux or macOS, the functioning VISA is required. Check out [R&S VISA](#) for Linux or macOS.

Additional Help

LabWindows/CVI and VXIplug&play instrument driver contains the documentation in a compressed HTML format (Windows CHM help file **rsfph_vxi.chm**):

C:\Program Files\IVI Foundation\VISA\Win64\rsfph\rsfph_vxi.chm

4 Customer support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

Contact information

Contact our customer support center at www.rohde-schwarz.com/support or follow this QR code:

