

# History and release notes for the R&S® FSH3/6/18 Handheld Spectrum Analyzers

Note: This driver also supports R&S® FSH4/8 to allow the migration of legacy applications to new R&S® FSH instrument generation.

## Contents

FSH driver history .....	2
Getting Started with FSH3/6/18 .....	19
Interface Configuration of the FSH .....	19
NI VISA .....	19
Agilent VISA.....	20
LabWindows/CVI .....	21
Additional Help .....	21
VXIplug&play Instrument Driver for C#, C/C++, Visual Basic .NET, VEE, etc. ....	21
Additional Help .....	21
Additional Information.....	21

FSH driver history		
Revision	Date	Note
2.7.0	02/2014	<ul style="list-style-type: none"> <li>* Added support for R&amp;S FSH4/8 firmware 2.40</li> <li>* Added</li> <li>- rsfsh_setElectricalCableTimeState</li> <li>- rsfsh_getElectricalCableTimeState</li> <li>- rsfsh_getElectricalCableTimeLength</li> <li>- rsfsh_calibrationStart</li> <li>- rsfsh_calibrationContinue</li> <li>- rsfsh_calibrationAbort</li> <li>- rsfsh_setSystemTimeShift</li> <li>- rsfsh_getSystemTimeShift</li> <li>* Updated</li> <li>- Cosmetic changes in help</li> </ul>
2.6.0	10/2013	<ul style="list-style-type: none"> <li>* Added support for R&amp;S FSH4/8 firmware 2.30</li> <li>* Added</li> <li>- rsfsh_setSEMFrequencyCarrierStart</li> <li>- rsfsh_getSEMFrequencyCarrierStart</li> <li>- rsfsh_setSEMFrequencyCarrierStop</li> <li>- rsfsh_getSEMFrequencyCarrierStop</li> <li>- Data Capture</li> <li>- Saving Events</li> <li>* Updated</li> <li>- Cosmetic changes in help</li> <li>- rsfsh_setSEMSweepMode</li> <li>- rsfsh_getSEMSweepMode</li> </ul>
2.5.0	04/2013	<ul style="list-style-type: none"> <li>* Added support for R&amp;S FSH4/8 firmware 2.20</li> <li>* Added</li> <li>- rsfsh_SetTraceStyle</li> <li>- rsfsh_GetTraceStyle</li> <li>- rsfsh_ReadSEMPeakList</li> <li>* Modified</li> <li>- rsfsh_setMeasMode - new modes</li> <li>- rsfsh_defineLimitLine - FSH 4 support</li> </ul>
2.4.0	02/2013	<p>Modifications:</p> <ul style="list-style-type: none"> <li>* Added</li> <li>- rsfsh_setVSWRYScaleMin</li> <li>- rsfsh_getVSWRYScaleMin</li> <li>- rsfsh_setVSWRYScaleMax</li> <li>- rsfsh_getVSWRYScaleMax</li> <li>- rsfsh_setAntennaDirection</li> <li>- rsfsh_getAntennaDirection</li> <li>- rsfsh_setChannelTableLinkDirection</li> <li>- rsfsh_getChannelTableLinkDirection</li> <li>- rsfsh_setChannelTableULDLSignal</li> <li>- rsfsh_getChannelTableULDLSignal</li> <li>- rsfsh_getSystemMemoryInfo</li> <li>- rsfsh_getStoreMemoryInfo</li> <li>- rsfsh_SystemReboot</li> <li>- rsfsh_setRemoteDesktopPort</li> <li>- rsfsh_getRemoteDesktopPort</li> </ul>
2.3.0	04/2012	<p>Modifications:</p> <ul style="list-style-type: none"> <li>* Added support for R&amp;S FSH4/8 option K43 - Receiver Mode</li> <li>* Added</li> <li>- rsfsh_ReadReceiverTraceData</li> <li>- rsfsh_SelectTransducerFactor</li> </ul>

## FSH driver history

Revision	Date	Note
		<ul style="list-style-type: none"> <li>- rsfsh_getSelectedTransducerFactor</li> <li>- rsfsh_setTransducerFactorState</li> <li>- rsfsh_getTransducerFactorState</li> <li>- rsfsh_getTransducerFactorUnit</li> <li>* Modified</li> <li>- rsfsh_setTraceDetector</li> <li>- rsfsh_getTraceDetector</li> <li>- rsfsh_setTraceDetectorType</li> <li>- rsfsh_getTraceDetectorType</li> <li>- rsfsh_setMarkerPosition - help fixed</li> <li>- rsfsg_configureReceiver - help fixed</li> <li>- rsfsh_setReferenceLevelOffset - help fixed</li> <li>- rsfsh_setReceiverFrequency</li> <li>- rsfsh_getReceiverFrequency</li> <li>- rsfsh_setReceiverMeasurementTime</li> <li>- rsfsh_getReceiverMeasurementTime</li> <li>- rsfsh_setReceiverChannelMode</li> <li>- rsfsh_getReceiverChannelMode</li> <li>- rsfsh_setReceiverScanMode</li> <li>- rsfsh_getReceiverScanMode</li> <li>- rsfsh_setReceiverChannelNumber</li> <li>- rsfsh_getReceiverChannelNumber</li> <li>- rsfsh_setReceiverChannelTable</li> <li>- rsfsh_getReceiverChannelTable</li> <li>- rsfsh_setReceiverFreqScanStart</li> <li>- rsfsh_getReceiverFreqScanStart</li> <li>- rsfsh_setReceiverFreqScanStop</li> <li>- rsfsh_getReceiverFreqScanStop</li> <li>- rsfsh_setReceiverFreqScanStep</li> <li>- rsfsh_getReceiverFreqScanStep</li> <li>- rsfsh_setCISPRBandwidth</li> <li>- rsfsh_getCISPRBandwidth</li> <li>- rsfsh_setAutoCISPRBandwidth</li> <li>- rsfsh_getAutoCISPRBandwidth</li> <li>- rsfsh_setMeasurementMode - Receiver for FSH4/8</li> <li>- rsfsh_getMeasurementMode</li> </ul>
2.2.0	12/2011	<p>Modifications: Support for FSH4/8 Firmware V1.40</p> <p>* Added:</p> <ul style="list-style-type: none"> <li>- Harmonic Distortion measurement</li> <li>- AM Modulation Depth measurement</li> <li>- Network Analyzer markers</li> <li>- rsfsh_getNumberOfMeasurementPoints</li> <li>- rsfsh_screenshotAndCopyTrace</li> <li>- rsfsh_setReferenceOscillatorSource</li> <li>- rsfsh_getReferenceOscillatorSource <ul style="list-style-type: none"> <li>- rsfsh_setDeltamarkerFrequencyorTime</li> <li>- rsfsh_setMarkerCenterFrequency</li> <li>- rsfsh_setMarkerReferenceFrequency</li> <li>- rsfsh_setIsotropicAntenna</li> <li>- rsfsh_getIsotropicAntenna</li> <li>- rsfsh_set3GPPPowerMode</li> <li>- rsfsh_get3GPPPowerMode</li> <li>- rsfsh_get3GPPFDDBSWCDPRResult</li> <li>- rsfsh_setPrimaryScramblingCode</li> </ul> </li> </ul>

## FSH driver history

Revision	Date	Note
		<ul style="list-style-type: none"> <li>- rsfsh_getPrimaryScramblingCode</li> <li>- rsfsh_setSecondaryScramblingCode</li> <li>- rsfsh_getSecondaryScramblingCode</li> <li>- rsfsh_Search3GPPFDDBSScramblingCode</li> <li>- rsfsh_get3GPPFDDBSCDPScramblingCodeResults</li> <li>- rsfsh_setC2KBSTPowerMode</li> <li>- rsfsh_getC2KBSTPowerMode</li> <li>- rsfsh_getC2KBSTCodeDomainAnalyzerResultSummary</li> <li>- rsfsh_setC2KBSTCodeDomainAnalyzerResults</li> <li>- rsfsh_setSEMSweepMode</li> <li>- rsfsh_getSEMSweepMode</li> <li>- rsfsh_setSEMPresetStandard</li> <li>- rsfsh_setSEMPresetSettings</li> <li>- rsfsh_setEV- DOPowerReference</li> <li>- rsfsh_getEV- DOPowerReference</li> <li>- rsfsh_getEV- DOBSTCodeDomainAnalyzerGeneralResults</li> <li>- rsfsh_setEV- DOBSTCodeDomainAnalyzerResults</li> <li>- rsfsh_ConfigureExternalGate</li> <li>- rsfsh_setExternalGate</li> <li>- rsfsh_getExternalGate</li> <li>- rsfsh_setExternalGateHoldoff</li> <li>- rsfsh_getExternalGateHoldoff</li> <li>- rsfsh_setExternalGateLength</li> <li>- rsfsh_getExternalGateLength</li> <li>- rsfsh_setExternalGateTime</li> <li>- rsfsh_getExternalGateTime</li> <li>- rsfsh_getGPSAltitude</li> </ul>
2.1	01/2010	<p>Modifications: Support for FSH4/8 Firmware V1.21</p> <p>Added functions</p> <ul style="list-style-type: none"> <li>rsfsh_configureACPChannels</li> <li>rsfsh_configureACPChannelBandwidth</li> <li>rsfsh_configureACPSpacing</li> <li>rsfsh_setACPUnit</li> <li>rsfsh_getACPUnit</li> <li>rsfsh_setACPMode</li> <li>rsfsh_getACPMode</li> <li>rsfsh_setACPReferenceLevel</li> <li>rsfsh_setACPChannelsPair</li> <li>rsfsh_getACPChannelsPair</li> <li>rsfsh_setACPChannelBandwidth</li> <li>rsfsh_getACPChannelBandwidth</li> <li>rsfsh_setACPAdjacentChannelBandwidth</li> <li>rsfsh_getACPAdjacentChannelBandwidth</li> <li>rsfsh_setACPAlternateChannelBandwidth</li> <li>rsfsh_getACPAlternateChannelBandwidth</li> <li>rsfsh_setACPAutomaticReferenceChannelSelection</li> <li>rsfsh_getACPAutomaticReferenceChannelSelection</li> <li>rsfsh_setACPTransmissionChannel</li> <li>rsfsh_setACPReferenceTransmissionChannel</li> <li>rsfsh_getACPTransmissionChannel</li> <li>rsfsh_getACPReferenceTransmissionChannel</li> <li>rsfsh_setACPLimitLineState</li> <li>rsfsh_getACPLimitLineState</li> <li>rsfsh_setACPRelativeLimit</li> </ul>

## FSH driver history

Revision	Date	Note
		<p> rsfsh_getACPRelativeLimit  rsfsh_setACPRelaitveLimitLineState  rsfsh_getACPRelaitveLimitLineState  rsfsh_setACPAbsoluteLimit  rsfsh_getACPAbsoluteLimit  rsfsh_setACPAbsoluteLimitLineState  rsfsh_getACPAbsoluteLimitLineState  rsfsh_configureACPLimit  rsfsh_configuretACPLimitAlternate  rsfsh_getACPLimitLineCheckResult  rsfsh_setACPRelativeLimitAlternate  rsfsh_getACPRelativeLimitAlternate  rsfsh_setACPRelativeLimitAlternateState  rsfsh_getACPRelativeLimitAlternateState  rsfsh_setACPAbsoluteLimitAlternate  rsfsh_getACPAbsoluteLimitAlternate  rsfsh_setACPAbsoluteLimitAlternateState  rsfsh_getACPAbsoluteLimitAlternateState </p> <p> Updated functions  rsfsh_setMeasMode  rsfsh_setPowerSensorStandard  rsfsh_getPowerSensorStandard  rsfsh_setPowerMeasurementType  rsfsh_getPowerMeasurementType  rsfsh_setCableLength  rsfsh_getCableLength  rsfsh_selectDistancetoFaultCableModel </p> <p> * Added functions  rsfsh_setChennelNumber  rsfsh_getChennelNumber  rsfsh_setMemoryTraceState  rsfsh_getMemoryTraceState  rsfsh_setndBDownMarkerState  rsfsh_getndBDownMarkerState  rsfsh_setndBDownMarkerDistance  rsfsh_getndBDownMarkerDistance  rsfsh_getndBDownMarkerFrequency  rsfsh_getndBDownMarkerBandwidth  rsfsh_getIsotropicAntennaState  rsfsh_setPowerSensorFrequency  rsfsh_getPowerSensorFrequency  rsfsh_setPowerSensorRelativeReferenceLevel  rsfsh_getPowerSensorRelativeReferenceLevel  rsfsh_setPowerSensorRelative  rsfsh_setPowerSensorReferenceLevelOffset  rsfsh_getPowerSensorReferenceLevelOffset  rsfsh_setPowerSensorUnits  rsfsh_getPowerSensorUnits  rsfsh_getPowerSensorVideoBandwidth  rsfsh_setPowerSensorMeasurementTime  rsfsh_getPowerSensorMeasurementTime  rsfsh_setPowerSensorZeroing  rsfsh_setPowerSensorPowerDisplay  rsfsh_getPowerSensorPowerDisplay </p>

## FSH driver history

Revision	Date	Note
		rsfsh_getPowerSensorMeasurementsResults rsfsh_setPowerSensorUseStandard rsfsh_getPowerSensorUseStandard rsfsh_setGPSSState rsfsh_getGPSSState rsfsh_getGPSConnected rsfsh_getGPSFrequencyCorrection rsfsh_getGPSSignalQuality rsfsh_getGPSSatellites rsfsh_getGPSLatitude rsfsh_getGPSPositionInformation rsfsh_getGPSLongitude
2.0	07/2009	Modifications: Support for FSH4/8 Firmware V1.10  * Added functions: rsfsh_setMeasMode rsfsh_configureDisplayLine rsfsh_getMeasMode rsfsh_displayScreenshot rsfsh_setStepLink rsfsh_getStepLink rsfsh_setFrequencyInputMode rsfsh_getFrequencyInputMode rsfsh_configureTraceMath rsfsh_setTraceMathState rsfsh_getTraceMathState rsfsh_setTraceMathExpression rsfsh_getTraceMathExpression rsfsh_copyTraceToMemory rsfsh_setInputImpedance rsfsh_setInputImpedancePad rsfsh_getInputImpedancePad rsfsh_setAttenuationMode rsfsh_getAttenuationMode rsfsh_configureMarkerSearchLimit rsfsh_configureMarkerZoom rsfsh_configureMarkerDemodulation rsfsh_getMarkerPosition rsfsh_disableAllMarkers rsfsh_getDeltamarkerFrequencyorTime rsfsh_markerSearch rsfsh_setMarkerFrequencyCounter rsfsh_getMarkerFrequencyCounter rsfsh_getMarkerFrequencyCounterResult rsfsh_setMarkerDisplayMode rsfsh_getMarkerDisplayMode rsfsh_setMarkerOutputFormat rsfsh_getMarkerOutputFormat rsfsh_getMarkerY rsfsh_SetMarkerReferenceLeveltoMarker rsfsh_setMarkerZoomState rsfsh_getMarkerZoomState rsfsh_setMarkerZoomFactor rsfsh_getMarkerZoomFactor rsfsh_setMarkerZoomX

## FSH driver history

Revision	Date	Note
		rsfsh_getMarkerZoomX rsfsh_setMarkerZoomY rsfsh_getMarkerZoomY rsfsh_setMarkerSearchLimitState rsfsh_getMarkerSearchLimitState rsfsh_setMarkerSearchLimitLeft rsfsh_getMarkerSearchLimitLeft rsfsh_setMarkerSearchLimitRight rsfsh_getMarkerSearchLimitRight rsfsh_setMarkerDemodulationState rsfsh_getMarkerDemodulationState rsfsh_setMarkerDemodulationHoldTime rsfsh_getMarkerDemodulationHoldTime rsfsh_setMarkerDemodulationType rsfsh_getMarkerDemodulationType rsfsh_setMarkerNoiseState rsfsh_getMarkerNoiseState rsfsh_getMarkerNoiseResult rsfsh_setLimitLineAudioBeep rsfsh_getLimitLineAudioBeep rsfsh_getLimitLineDescription rsfsh_getLimitLineCheckResult rsfsh_selectLimitLineUpper rsfsh_selectLimitLineLower rsfsh_setLimitLineState rsfsh_getLimitLineState rsfsh_getLimitLineUnitX rsfsh_getLimitLineUnitY rsfsh_configureTrackingGeneratorReferenceLevel rsfsh_configureTrackingGeneratorYScale rsfsh_configureTrackingGeneratorCalibration rsfsh_setTrackingGeneratorOutputLevel rsfsh_getTrackingGeneratorOutputLevel rsfsh_setElectricalCableState rsfsh_getElectricalCableState rsfsh_setVSWRYScale rsfsh_getVSWRYScale rsfsh_getVSWRFail rsfsh_setSmithChartReferenceImpedance rsfsh_getSmithChartReferenceImpedance rsfsh_setCableLossReferenceLevel rsfsh_getCableLossReferenceLevel rsfsh_setCableLossReferencePosition rsfsh_getCableLossReferencePosition rsfsh_setCableLossYScale rsfsh_getCableLossYScale rsfsh_setMagnitudeReferenceLevel rsfsh_getMagnitudeReferenceLevel rsfsh_setMagnitudeReferencePosition rsfsh_getMagnitudeReferencePosition rsfsh_setMagnitudeYScale rsfsh_getMagnitudeYScale rsfsh_setMagnitudeSpacing rsfsh_getMagnitudeSpacing rsfsh_setPhaseReferenceLevel rsfsh_getPhaseReferenceLevel

## FSH driver history

Revision	Date	Note
		rsfsh_setPhaseReferencePosition rsfsh_getPhaseReferencePosition rsfsh_setPhaseYScale rsfsh_getPhaseYScale rsfsh_setPhaseUnwrap rsfsh_getPhaseUnwrap rsfsh_setReflectionCoefficientYScale rsfsh_getReflectionCoefficientYScale rsfsh_setReflectionCoefficientUnit rsfsh_getReflectionCoefficientUnit rsfsh_setTrackingGeneratorReferenceValue rsfsh_getTrackingGeneratorReferenceValue rsfsh_adjustYScale rsfsh_setTrackingGeneratorCalibrationTransducerState rsfsh_getTrackingGeneratorCalibrationTransducerState rsfsh_setTrackingGeneratorCalibrationTransducerSelect rsfsh_getTrackingGeneratorCalibrationTransducerSelect rsfsh_getTrackingGeneratorCalibrationTransducerUnit rsfsh_selectChannelTable rsfsh_setOccupiedBandwidthChannelBandwidthPercentage rsfsh_getOccupiedBandwidthChannelBandwidthPercentage rsfsh_setCarrierNoiseMode rsfsh_getCarrierNoiseMode rsfsh_configureGroupDelay rsfsh_setGroupDelayApertureSteps rsfsh_getGroupDelayApertureSteps rsfsh_setGroupDelayReferenceLevel rsfsh_getGroupDelayReferenceLevel rsfsh_setGroupDelayReferencePosition rsfsh_getGroupDelayReferencePosition rsfsh_setGroupDelayYScale rsfsh_getGroupDelayYScale rsfsh_setVectorVoltmeterReferenceState rsfsh_getVectorVoltmeterMagnitudeReferenceValues rsfsh_getVectorVoltmeterMagnitudeValues rsfsh_getVectorVoltmeterPhaseReferenceValues rsfsh_getVectorVoltmeterPhaseValues rsfsh_setPowerState rsfsh_loadPowerStandard rsfsh_powerStandardCheck rsfsh_powerStandardResult rsfsh_setPowerMeasurementType rsfsh_getPowerMeasurementType rsfsh_setChannelPowerMode rsfsh_getChannelPowerMode rsfsh_configureNetworkAnalyzerMeasurement rsfsh_configureNetworkAnalyzerReflectionMeasurement rsfsh_configureUserCalibrate rsfsh_setNetworkAnalyzerMeasurementMode rsfsh_getNetworkAnalyzerMeasurementMode rsfsh_setNetworkAnalyzerReflectionState rsfsh_getNetworkAnalyzerReflectionState rsfsh_setNetworkAnalyzerReflectionMeasurementFormat rsfsh_getNetworkAnalyzerReflectionMeasurementFormat rsfsh_setNetworkAnalyzerTransmissionState rsfsh_getNetworkAnalyzerTransmissionState



## FSH driver history

Revision	Date	Note
		rsfsh_setNetworkAnalyzerTransmissionMeasurementFormat rsfsh_getNetworkAnalyzerTransmissionMeasurementFormat rsfsh_setNetworkAnalyzerMeasurementPort rsfsh_getNetworkAnalyzerMeasurementPort rsfsh_setUserCalkit rsfsh_getUserCalkit rsfsh_setUserCalkitLength rsfsh_getUserCalkitLength rsfsh_userCalkitRename rsfsh_setUserCalkitOffsetLength rsfsh_getUserCalkitOffsetLength rsfsh_setDistancetoFaultMeasurementFormat rsfsh_getDistancetoFaultMeasurementFormat rsfsh_setMarkerDistancetoFaultThreshold rsfsh_getMarkerDistancetoFaultResult rsfsh_fileDirectoriesCatalog rsfsh_FileDirectory rsfsh_FileManagerOperations rsfsh_fileCreate rsfsh_setFileDate rsfsh_getFileDate rsfsh_setFileTime rsfsh_getFileTime rsfsh_DataSetFileOperations rsfsh_configureDisplay rsfsh_displayColorSchemeDefault rsfsh_configureEthernet rsfsh_configureVolume rsfsh_configureUnit rsfsh_setDisplayBrightness rsfsh_getDisplayBrightness rsfsh_setDisplayColorScheme rsfsh_getDisplayColorScheme rsfsh_setDisplayDateFormat rsfsh_getDisplayDateFormat rsfsh_setAudioVolume rsfsh_getAudioVolume rsfsh_setBeeperVolume rsfsh_getBeeperVolume rsfsh_setKeyVolume rsfsh_getKeyVolume rsfsh_setBNCMode rsfsh_getBNCMode rsfsh_getAutoOffTime rsfsh_getPowerSource rsfsh_getRemainingBatteryPower rsfsh_setLanguage rsfsh_getLanguage rsfsh_getLanguageCatalog rsfsh_getEthernetMACAddress rsfsh_setEthernetSubmask rsfsh_getEthernetSubmask rsfsh_setEthernetIPAddress rsfsh_getEthernetIPAddress rsfsh_setEthernetDHCPMode rsfsh_getEthernetDHCPMode

## FSH driver history

Revision	Date	Note
		rsfsh_setEthernetPort rsfsh_getEthernetPort rsfsh_setUnitLength rsfsh_getUnitLength rsfsh_setUnitPower rsfsh_getUnitPower rsfsh_getCalibrationMode rsfsh_getCalibrationStatus rsfsh_setStatusRegister rsfsh_getStatusRegister rsfsh_StatusQueueNext rsfsh_ReadToFileFromInstrument rsfsh_WriteFromFileToInstrument * Modified functions: rsfsh_readSpectrum rsfsh_setSerialBaudRate rsfsh_getSerialBaudRate rsfsh_getExternalReferenceStatus rsfsh_setRemoteLocalMode rsfsh_setExternalInputConnector rsfsh_getExternalInputConnector rsfsh_setAccessory rsfsh_getAccessory rsfsh_setDisplay rsfsh_getDisplay rsfsh_setAutoSpanMode rsfsh_getAutoSpanMode rsfsh_setLevelRange rsfsh_getLevelRange rsfsh_setDynamicRange rsfsh_getDynamicRange rsfsh_setLevelUnits rsfsh_getLevelUnits rsfsh_setRFInputImpedance rsfsh_getRFInputImpedance rsfsh_setCISPRBandwidth rsfsh_getCISPRBandwidth rsfsh_setAutoCISPRBandwidth rsfsh_getAutoCISPRBandwidth rsfsh_setSweepMode rsfsh_getSweepMode rsfsh_setTriggerDelay rsfsh_getTriggerDelay rsfsh_sendTrigger rsfsh_sendTriggerWopc rsfsh_configureTrace rsfsh_setTraceToMemory rsfsh_setTraceAverage rsfsh_getTraceAverage rsfsh_readTraceData rsfsh_readTraceDataASCII rsfsh_readComplexTraceData rsfsh_readComplexTraceDataASCII rsfsh_readTraceDataFromSavedDataSet rsfsh_readTraceDataFromSavedDataSetASCII rsfsh_readComplexCorrectedTraceData

## FSH driver history

Revision	Date	Note
		rsfsh_readComplexCorrectedTraceDataASCII rsfsh_setTraceMathMode rsfsh_getTraceMathMode rsfsh_configureAttenuation rsfsh_configureMarker rsfsh_setActiveMarker rsfsh_getActiveMarker rsfsh_setMarkerState rsfsh_getMarkerState rsfsh_setMarkerPosition rsfsh_getMarkerValue rsfsh_setActiveDeltaMarker rsfsh_getActiveDeltaMarker rsfsh_setDeltamarkerState rsfsh_getDeltamarkerState rsfsh_setDeltamarkerPosition rsfsh_getDeltamarkerValue rsfsh_setMarkerTo rsfsh_setMarkerMode rsfsh_getMarkerMode rsfsh_setMarkerDemodulationMode rsfsh_getMarkerDemodulationMode rsfsh_setMarkerDemodulationTime rsfsh_setMarkerDemodulationAFOutputVolume rsfsh_setMarkerImpedanceReference rsfsh_getMarkerImpedanceReference rsfsh_setMarkerMeasurementMode rsfsh_getMarkerMeasurementMode rsfsh_getMarkerList rsfsh_getDeltaMarkerList rsfsh_configureTransducer rsfsh_configureDirectionTransducer rsfsh_configureLimitLines rsfsh_setMeasurementMode rsfsh_setTransducer rsfsh_getTransducer rsfsh_setXTransducer rsfsh_getXTransducer rsfsh_setYTransducer rsfsh_getYTransducer rsfsh_setZTransducer rsfsh_getZTransducer rsfsh_setTransducerdB rsfsh_getTransducerdB rsfsh_setLowerLimitLine rsfsh_getLowerLimitLine rsfsh_setUpperLimitLine rsfsh_getUpperLimitLine rsfsh_getLimitCheckStatus rsfsh_setLowerThresholdLine rsfsh_getLowerThresholdLine rsfsh_setUpperThresholdLine rsfsh_getUpperThresholdLine rsfsh_getThresholdLineCheckStatus rsfsh_setThresholdOff rsfsh_defineLimitLine

## FSH driver history

Revision	Date	Note
		rsfsh_deleteLimitLine rsfsh_limitLinesList rsfsh_getElectricalCableLength rsfsh_getPowerLevel rsfsh_getReflection rsfsh_powerSensorZeroing rsfsh_powerToReference rsfsh_setMeasurementTime rsfsh_getMeasurementTime rsfsh_setReflectionUnit rsfsh_getReflectionUnit rsfsh_setPowerSensorStandard rsfsh_getPowerSensorStandard rsfsh_configureOccupiedBandwidth rsfsh_getOccupiedBandwidth rsfsh_setOccupiedBandwidthStandard rsfsh_getOccupiedBandwidthStandard rsfsh_setOccupiedBandwidthCustomizedStandard rsfsh_getOccupiedBandwidthCustomizedStandard rsfsh_setOccupiedBandwidthChBW rsfsh_getOccupiedBandwidthChBW rsfsh_occupiedBandwidthLevelAdjust rsfsh_configureTDMAPower rsfsh_getTDMAPower rsfsh_setTDMAPowerStandard rsfsh_getTDMAPowerStandard rsfsh_setTDMAPowerCustomizedStandard rsfsh_getTDMAPowerCustomizedStandard rsfsh_setTDMAPowerMeasurementTime rsfsh_getTDMAPowerMeasurementTime rsfsh_TDMAPowerLevelAdjust rsfsh_configureReceiver rsfsh_setReceiverFrequency rsfsh_getReceiverFrequency rsfsh_setReceiverChannelMode rsfsh_getReceiverChannelMode rsfsh_setReceiverChannelNumber rsfsh_getReceiverChannelNumber rsfsh_setReceiverChannelTable rsfsh_getReceiverChannelTable rsfsh_getReceiverSignalLevel rsfsh_setReceiverMeasurementTime rsfsh_getReceiverMeasurementTime rsfsh_setReceiverScanMode rsfsh_getReceiverScanMode rsfsh_setReceiverFreqScanStart rsfsh_getReceiverFreqScanStart rsfsh_setReceiverFreqScanStop rsfsh_getReceiverFreqScanStop rsfsh_setReceiverFreqScanStep rsfsh_getReceiverFreqScanStep rsfsh_setReceiverChannelScanStart rsfsh_getReceiverChannelScanStart rsfsh_setReceiverChannelScanStop rsfsh_getReceiverChannelScanStop rsfsh_configureCarrierNoise

## FSH driver history

Revision	Date	Note
		rsfsh_setCarrierNoiseChannelBandwidth rsfsh_getCarrierNoiseChannelBandwidth rsfsh_setCarrierNoiseManualRefPowerActive rsfsh_getCarrierNoiseManualRefPowerActive rsfsh_setCarrierNoiseMeasurementMode rsfsh_getCarrierNoiseMeasurementMode rsfsh_setCarrierNoiseNorm rsfsh_getCarrierNoiseNorm rsfsh_setCarrierNoisePilotFrequency rsfsh_getCarrierNoisePilotFrequency rsfsh_setCarrierNoisePowerDisplay rsfsh_getCarrierNoisePowerDisplay rsfsh_setCarrierNoiseRefPower rsfsh_getCarrierNoiseRefPower rsfsh_setCarrierNoiseUnit rsfsh_getCarrierNoiseUnit rsfsh_setCarrierNoiseVisionFrequency rsfsh_getCarrierNoiseVisionFrequency rsfsh_getCarrierNoiseMeasurementValue rsfsh_LevelAdjustment rsfsh_configureChannelPower rsfsh_getChannelPower rsfsh_setChannelPowerStandard rsfsh_getChannelPowerStandard rsfsh_setChannelPowerCustomizedStandard rsfsh_getChannelPowerCustomizedStandard rsfsh_setChannelPowerUnit rsfsh_getChannelPowerUnit rsfsh_setChannelPowerBandwidth rsfsh_getChannelPowerBandwidth rsfsh_channelPowerLevelAdjust rsfsh_configureDTFMeasurement rsfsh_setCableModel rsfsh_getCableModel rsfsh_setCableLength rsfsh_getCableLength rsfsh_setCableLengthUnit rsfsh_getCableLengthUnit rsfsh_setDTFMeasurementMode rsfsh_getDTFMeasurementMode rsfsh_calibrateDistanceToFault rsfsh_set3GPPAntennaDiversion rsfsh_get3GPPAntennaDiversion rsfsh_set3GPPScramblingCode rsfsh_get3GPPScramblingCode rsfsh_get3GPPMeasurement rsfsh_get3GPPSynchronizationResult
1.9	02/2009	Modifications: Support for FSH4/8 Firmware V1.0  - Added functions: rsfsh_setDisplayLinePosition rsfsh_getDisplayLinePosition rsfsh_setDisplayLineState rsfsh_getDisplayLineState rsfsh_setDisplayLogRange

## FSH driver history

Revision	Date	Note
		<p> rsfsh_getDisplayLogRange  rsfsh_configureFrequencyStartStop  rsfsh_configureFrequencySpanFull  rsfsh_setStepSizeFrequency  rsfsh_getStepSizeFrequency  rsfsh_setFrequencyMode  rsfsh_getFrequencyMode  rsfsh_setVerticalScale  rsfsh_getVerticalScale  rsfsh_setAmplitudeUnits  rsfsh_getAmplitudeUnits  rsfsh_configureTrigger  rsfsh_configureSweepCouplingAuto  rsfsh_configureSweepCoupling  rsfsh_configureAcquisition  rsfsh_setAutoSweepTime  rsfsh_setNumberOfSweeps  rsfsh_getNumberOfSweeps  rsfsh_setSweepModeContinuous  rsfsh_getSweepModeContinuous  rsfsh_setTriggerPolarity  rsfsh_getTriggerPolarity  rsfsh_setTriggerVideoLevel  rsfsh_getTriggerVideoLevel  rsfsh_configureTraceDetector  rsfsh_setTraceState  rsfsh_getTraceState  rsfsh_setTraceDetectorAuto  rsfsh_getTraceDetectorAuto  rsfsh_setTraceDetectorType  rsfsh_getTraceDetectorType  Input Settings  rsfsh_disableAllDeltaMarkers  rsfsh_deltaMarkerSearch  rsfsh_getAllErrors  rsfsh_systemVersion  rsfsh_presetFactory </p> <p> - Modified functions:  rsfsh_setCenterFrequency  rsfsh_getCenterFrequency  rsfsh_setFrequencySpan  rsfsh_getFrequencySpan  rsfsh_setFrequencyOffset  rsfsh_getFrequencyOffset  rsfsh_setStartFrequency  rsfsh_getStartFrequency  rsfsh_setStopFrequency  rsfsh_getStopFrequency  rsfsh_setReferenceLevel  rsfsh_getReferenceLevel  rsfsh_setReferenceLevelOffset  rsfsh_getReferenceLevelOffset  rsfsh_setPreamplifierState  rsfsh_getPreamplifierState  rsfsh_setResolutionBandwidth </p>

## FSH driver history

Revision	Date	Note
		rsfsh_getResolutionBandwidth rsfsh_setAutoResolutionBandwidth rsfsh_getAutoResolutionBandwidth rsfsh_setVideoBandwidth rsfsh_getVideoBandwidth rsfsh_setAutoVideoBandwidth rsfsh_getAutoVideoBandwidth rsfsh_setSweepTime rsfsh_getSweepTime rsfsh_getAutoSweepTime rsfsh_setTriggerSource rsfsh_getTriggerSource rsfsh_setTraceMode rsfsh_getTraceMode rsfsh_setTraceDetector rsfsh_getTraceDetector rsfsh_setDeltamarkerState rsfsh_getDeltamarkerState rsfsh_setDeltamarkerPosition rsfsh_getDeltamarkerValue rsfsh_setMeasurementMode rsfsh_getMeasurementMode
1.8	01/2007	Update for Firmware 11.20 Support for FSH3/FSH6 and FSH18  - Added functions: rsfsh_configureDirectionTransducer rsfsh_setDisplay rsfsh_getDisplay rsfsh_setMarkerImpedanceReference rsfsh_getMarkerImpedanceReference rsfsh_setMarkerMeasurementMode rsfsh_getMarkerMeasurementMode rsfsh_setXTransducer rsfsh_getXTransducer rsfsh_setYTransducer rsfsh_getYTransducer rsfsh_setZTransducer rsfsh_getZTransducer rsfsh_readComplexCorrectedTraceData rsfsh_readComplexCorrectedTraceDataASCII rsfsh_getElectricalCableLength - Modified functions: rsfsh_setLevelRange rsfsh_getLevelRange rsfsh_defineLimitLine rsfsh_setTrackingGeneratorMode rsfsh_getTrackingGeneratorMode rsfsh_readTraceData rsfsh_readTraceDataFromSavedDataSet
1.7	03/2006	Release for FSH firmware version 10.0  Modifications: - Added functions: rsfsh_setTraceToMemory rsfsh_trackingGeneratorScalarTransmissionCalibration

## FSH driver history

Revision	Date	Note
		rsfsh_trackingGeneratorInitiateCalibration rsfsh_trackingGeneratorNextPhaseCalibration rsfsh_defineLimitLine rsfsh_deleteLimitLine rsfsh_limitLinesList rsfsh_getExternalReferenceStatus rsfsh_setTraceMathMode rsfsh_getTraceMathMode rsfsh_calibrateDistanceToFault rsfsh_set3GPPAntennaDiversion rsfsh_get3GPPAntennaDiversion rsfsh_set3GPPScramblingCode rsfsh_get3GPPScramblingCode rsfsh_get3GPPMeasurement rsfsh_get3GPPSynchronizationResult - Modified functions: rsfsh_setMeasurementMode rsfsh_getMeasurementMode
1.6	08/2005	Modifications: - Added functions: rsfsh_setAccessory rsfsh_getAccessory - Modified functions: rsfsh_setMeasurementMode rsfsh_getMeasurementMode
1.5	02/2005	- Release for FSH firmware version 8.0  Modifications: - Added carrier / noise subsystem - Modified functions: setSerialBaudRate getSerialBaudRate setLevelUnits getLevelUnits setResolutionBandwidth getResolutionBandwidth setSweepTime setMarkerState getMarkerState setMarkerPosition getMarkerValue setDeltamarkerState getDeltamarkerState setDeltamarkerPosition getDeltamarkerValue setMarkerTo setMarkerMode getMarkerMode setMeasurementMode getMeasurementMode - Added functions: setExternalInputConnector getExternalInputConnector setAutoSpanMode getAutoSpanMode setDynamicRange



## FSH driver history

Revision	Date	Note
		getDynamicRange getAutoSweepTime setTriggerLevel getTriggerLevel setTraceAverage getTraceAverage readTraceDataFromSavedDataSet readTraceDataFromSavedDataSet (ASCII) setActiveMarker getActiveMarker setActiveDeltaMarker getActiveDeltaMarker setMarkerDemodulationMode getMarkerDemodulationMode setMarkerDemodulationTime setMarkerDemodulationAFOutputVolume getMarkerList getDeltaMarkerList setTrackingGeneratorLevelAttenuation getTrackingGeneratorLevelAttenuation getReflection setReflectionUnit getReflectionUnit setPowerSensorStandard getPowerSensorStandard setChannelPowerCustomizedStandard getChannelPowerCustomizedStandard setOccupiedBandwidthCustomizedStandard getOccupiedBandwidthCustomizedStandard setTDMAPowerCustomizedStandard getTDMAPowerCustomizedStandard
1.4	09/2004	Modifications: - Added receiver subsystem - Modified functions: rsfsh_setMeasurementMode rsfsh_getMeasurementMode rsfsh_setTraceDetector rsfsh_getTraceDetector - Added functions: rsfsh_setLowerThresholdLine rsfsh_getLowerThresholdLine rsfsh_setUpperThresholdLine rsfsh_getUpperThresholdLine rsfsh_setThresholdOff
1.3	04/2004	Modifications: - Added support for FSH6 (max frequency range up to 6 GHz) - Problem with precision of values fixed (loss of digits) Formatting functions uses for double values "%Lf" Scanning functions uses for double values "%Le"
1.2	02/2004	Release for FSH3 firmware version 6.0  Modifications: Modified functions: rsfsh_setLevelRange rsfsh_setResolutionBandwidth rsfsh_setFrequencyOffset

## FSH driver history

Revision	Date	Note
		Added functions: rsfsh_getMeasuredCableLoss rsfsh_setTrackingGeneratorMode rsfsh_getTrackingGeneratorMode
1.1	11/2003	Release for FSH3 firmware version 5.0 Modifications:  Added functions: rsfsh_setAutoResolutionBandwidth rsfsh_getAutoResolutionBandwidth rsfsh_setAutoVideBandwidth rsfsh_getAutoVideoBandwidth rsfsh_readComplexTraceData rsfsh_readComplexTraceDataASCII
1.0.1	07/2003	Modifications: For backward compatibility with <b>previous versions of VISA</b> library: - Macros VI_IO_IN_BUF_DISCARD, VI_IO_OUT_BUF_DISCARD are replaced with VI_ASRL_IN_BUF_DISCARD, VI_ASRL_OUT_BUF_DISCARD
1.0	06/2003	Created

## Getting Started with FSH3/6/18

### Interface Configuration of the FSH

To set up the connection successfully, the interface parameters of the instrument and the computer must correspond to each other. The interface is set as follows:

Parity: none

Data bits: 8

Stop bits: 1

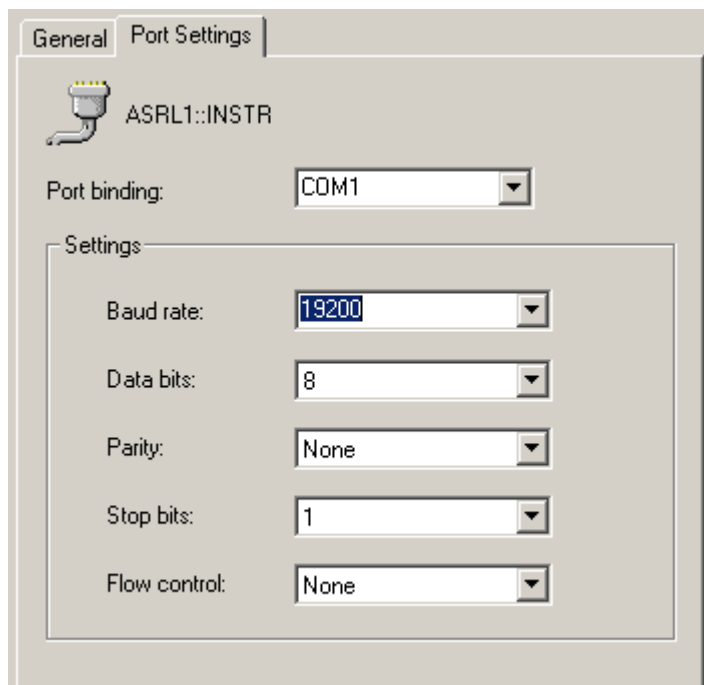
Start bits: 1

Protocol: None

The above settings are fixed except for the baud rate. The default baud rate setting is 19200 baud.

### NI VISA

Use the National Instruments Measurement & Automation Explorer to set the parameters.

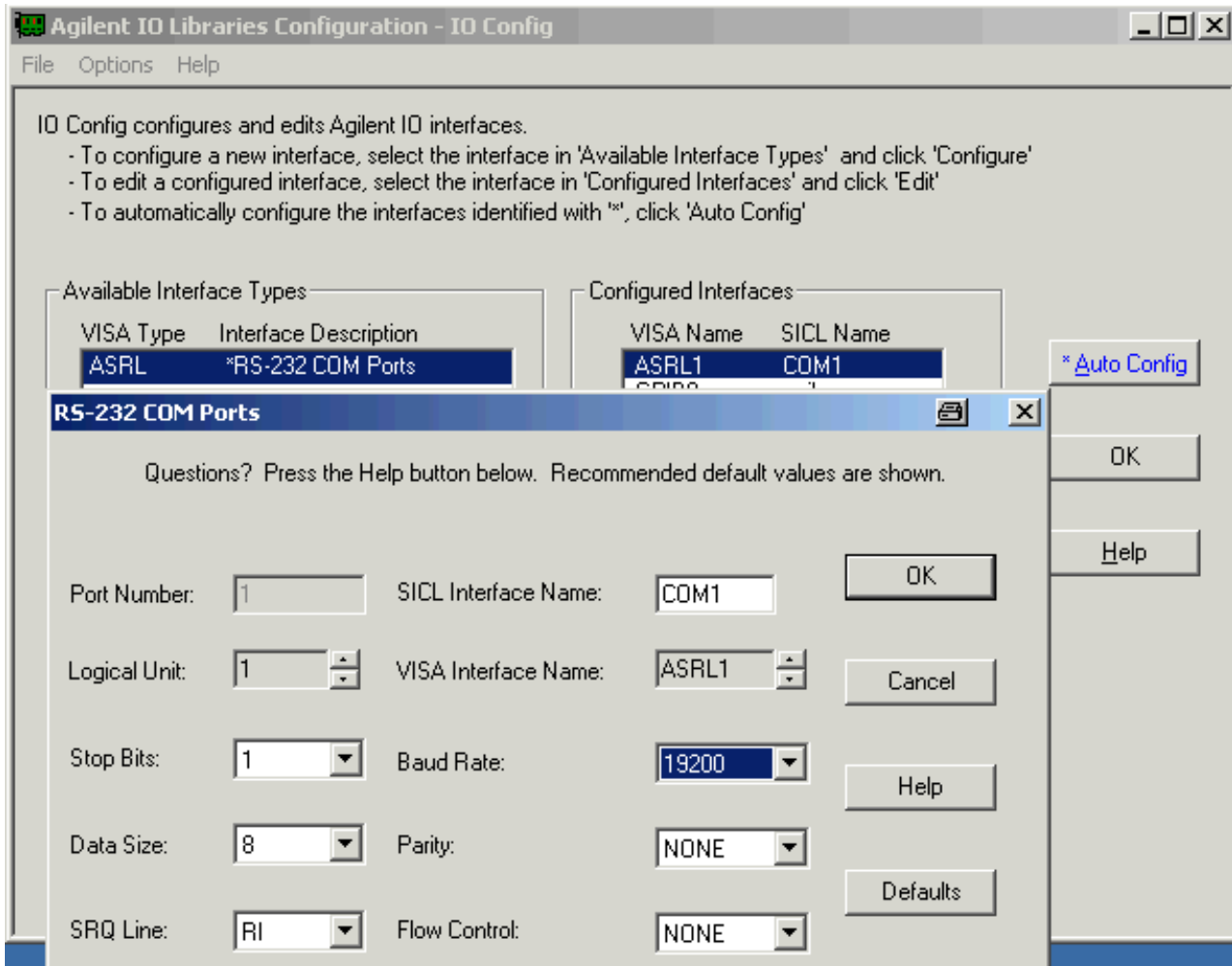


It is also possible to set the values with the viSetAttribute function.

## Agilent VISA

The IO Library M01.01 or higher is required.

Use the IO library to set the parameters.



It is also possible to set the values with the viSetAttribute function.

## **LabWindows/CVI**

### **Additional Help**

The LabWindows/CVI instrument driver consists of a ZIP archive containing the driver sources. In addition, the instrument driver documentation is also included in compressed HTML format (Windows CHM help file) and stored together with the driver sources.

## **VXIplug&play Instrument Driver for C#, C/C++, Visual Basic .NET, VEE, etc.**

### **Additional Help**

In addition, the instrument driver documentation is also included in compressed HTML format (Windows CHM help file) and stored together with the driver sources in the ~\VXIpnP\WinNT\rsfsh directory.

### **Additional Information**

For more information regarding the VXIPnP instrument drivers, please read the readme.txt file that comes with each driver.