History and release notes for the Rohde & Schwarz FSU Spectrum Analyzer

Contents

FSU driver history

Revision	Date	Note
1.8.1	08/2005	Bug fixed functions: rsfsu_confNoise2ndStageCorrectionState rsfsu_confNoiseTraceSettings rsfsu_confNoiseGainTraceSettings
1.8	06/2005	- Driver update for FSU Spectrum Analyzer Firmware 3.61 - List of options: - K5 GSM/EDGE (3.60) - K7 FM-Demodulator - K9 Power sensor measurements - K30 Noise Figure and Gain Measurements (3.60) - K40 Phase Noise Measurements (3.60) - K72 3GPP FDD Base Station Test (3.60) - K73 3GPP FDD User Equipment Test (3.60) - K74 3GPP HSDPA Base Station Test (3.60) - K76 TD-SCDMA Base Station Test (3.60) - K77 TD-SCDMA Mobile Station Test (3.60) - K82 cdma2000 Base Station Test (3.60) - K83 cdma2000/1xEV-DV Mobile Station Test (3.60) - K84 1xEV-DO Base Station Test (3.60) - K85 1xEV-DO Mobile Station Test (3.60) - New functions: External Trigger Level (rsfsu_confExtTrgLevel) FFT Filter Mode (rsfsu_confFFTFilterMode) Harmonic Distortion State (rsfsu_confHarmDistStat) Number Of Harmonics (rsfsu_confHarmDistCount) Harmonic Resolution BW Auto (rsfsu_confHarmDistRbwAuto) Channel Power Separate Channel Spacing (rsfsu_confSAMSeparateChannelSpacing) PWR Meter External Sensor (rsfsu_confPWRMeterExtSensor) PWR Meter Type (rsfsu_confPWRMeterType) PWR Meter Address (rsfsu_confPWRMeterAddress) PWR Meter Sensor Cal Factor (rsfsu_confPWRMeterSensorCalFactor) PWR Meter Sensor Label (rsfsu_confPWRMeterSensorLabel)

FSU driver history		
Revision	**Date**	**Note**
		PWR Meter Sensor Select (rsfsu_confPWRMeterSensorSelect) Harmonic Distortion Adjust Settings (rsfsu_actHarmDistPreset) Get Harmonic Distortion Result Values (rsfsu_getHarmDistResultValues) Get First Harmonic Frequency (rsfsu_actHarmDistFirstFreq) Power Splitter State (rsfsu_confPowerSplitterState) Power Splitter Insertion Loss (rsfsu_confPowerSplitterInsertionLoss) Power Splitter Path Loss (rsfsu_confPowerSplitterPathLoss) - Updated functions: Trace IQ Set (rsfsu_confTraceIQ) Set Status Register (rsfsu_setStatusRegister) Get Status Register (rsfsu_getStatusRegister) Vector Signal Analysis Mode (rsfsu_confVSAMDemodMode) Enable VXI-11 rsfsu_init() Changes for VXI-11 rsfsu_close() - Moved to Obsolete functions: Channel Power Channel Spacing (confSAMChannelSpacing) - Option FS-K40 (Phase Noise Measurements) - New functions: Phase Noise Scale (rsfsu_confPhasNoisScale) Phase Noise Autoscale Y (rsfsu_confPhasNoisAutoscaleY) Phase Noise Center Freq (rsfsu_confPhasNoisCenterFrq) Phase Noise Start And Stop Freq (rsfsu_confPhasNoisStartStopFrq) Phase Noise Resolution BW Type (rsfsu_confPhasNoisResBwType) Phase Noise Resolution BW Ratio (rsfsu_confPhasNoisResBwRatio) Phase Noise Ref Level (rsfsu_confPhasNoisRefLevel) Phase Noise Ref Level Offset (rsfsu_confPhasNoisRefLevelOffset) Phase Noise Auto Level (rsfsu_confPhasNoisAutoLevel) Phase Noise Signal Level (RF) (rsfsu_confPhasNoisSignalLevelRF) Phase Noise Sweep (rsfsu_confPhasNoisSweep) Phase Noise Sweep Count (rsfsu_confPhasNoisSweepCount) Phase Noise Sweep Direction (rsfsu_confPhasNoisSweepDirect) Phase Noise Sweep Display (rsfsu_confPhasNoisSweepDisplay) Phase Noise Sweep Mode (rsfsu_confPhasNoisSweepMode) Phase Noise Sub Channel RBW (rsfsu_confPhasNoisSubChanResBw) Phase Noise Sub Channel RBW Type (rsfsu_confPhasNoisSubChanResBwType) Phase Noise Sub Channel Sweep Count (rsfsu_confPhasNoisSubChanSweepCount) Phase Noise Verification State (rsfsu_confPhasNoisVerifState) Phase Noise Frequency Tolerance (rsfsu_confPhasNoisFreqTol) Phase Noise Power Tolerance (rsfsu_confPhasNoisPowerTol) Evaluation Range State (rsfsu_confPhasNoiseEvalRangeState) Evaluation Range Frequency (rsfsu_confPhasNoiseEvalRangeFreq) Phase Noise Limit Lines State (rsfsu_confPhasNoisLimitLineState) Phase Noise Limit Lines Operation (rsfsu_confPhasNoiseLimitLineOper) Phase Noise Limit Lines Data (rsfsu_confPhasNoisLimitLineData) Phase Noise Limit Lines Switch (rsfsu_confPhasNoisLimitLineSwitch) Phase Noise Limit Lines Shift (rsfsu_confPhasNoisLimitLineShift) Phase Noise Limit Lines Trace (rsfsu_confPhasNoiseLimitLineTrace) Phase Noise Marker State (rsfsu_confPhasNoisMarkState) Phase Noise Marker Position (x) (rsfsu_confPhasNoisMarkPosX) Phase Noise Marker Position (y) (rsfsu_confPhasNoisMarkPosY) Phase Noise Marker to Trace (rsfsu_confPhasNoisMarkTrace) Phase Noise Marker All Off (rsfsu_confPhasNoisMarkerAllOff)

FSU driver history		
Revision	**Date**	**Note**
		Phase Noise Delta Marker State (rsfsu_confPhasNoisDeltaMarkState) Phase Noise Delta Marker Position (x) (rsfsu_confPhasNoisDeltaMarkPosX) Phase Noise Delta Marker Position (y) (rsfsu_confPhasNoisDeltaMarkPosY) Phase Noise Delta Marker to Trace (rsfsu_confPhasNoisDeltaMarkTrace) Phase Noise Delta Marker All Off (rsfsu_confPhasNoisDeltaMarkerAllOff) Phase Noise Spot Noise State (rsfsu_confPhasNoisSpotNoiseState) Phase Noise Spot Noise Position (x) (rsfsu_confPhasNoisSpotNoisePosX) Phase Noise Spot Noise All Off (rsfsu_confPhasNoisSpotNoiseAllOff) Phase Noise Trace State (rsfsu_confPhasNoisTraceState) Phase Noise Trace Mode (rsfsu_confPhasNoisTraceMode) Phase Noise Smoothing State (rsfsu_confPhasNoisSmoothState) Phase Noise Smoothing Aperture (rsfsu_confPhasNoisSmoothAper) Phase Noise Mode (rsfsu_actPhasNoisMode) Phase Noise Scale Auto Adjust (rsfsu_actPhasNoisScaleAutoAdj) Phase Noise Start Measurement (rsfsu_actPhasNoisStartMeasurement) Phase Noise Start Measurement And Wait for OPC (rsfsu_actPhasNoisStartMeasurementWopc) Phase Noise Stop Measurement (rsfsu_actPhasNoisStopMeasurement) Get Phase Noise Measurement Time (rsfsu_actPhasNoisMeasTime) Phase Noise Limit Check Result (rsfsu_actPhasNoisLimitCheckResult) Phase Noise Limit Check Result Clear (rsfsu_actPhasNoisLimitCheckClear) Get Phase Noise Spot Noise Position (y) (rsfsu_confPhasNoisSpotNoisPosY) Fetch Phase Noise Result (rsfsu_dataFetchPhasNoisResult)
1.7	04/2005	- Driver update for FSU Spectrum Analyzer Firmware 3.50 - List of options: - K5 GSM/EDGE (3.50) - K9 Power sensor measurements - K30 Noise Figure and Gain Measurments (3.50) - K70 Vector Signal Analysis (3.50) - K72 3GPP FDD Base Station Test (3.50) - K73 3GPP FDD User Equipment Test (3.50) - K74 3GPP HSDPA Base Station Test (3.50) - K76 TD-SCDMA Base Station Test (3.50) - K77 TD-SCDMA Mobile Station Test (3.50) - K82 cdma2000 Base Station Test (3.50) - K83 cdma2000/1xEV-DV Mobile Station Test (3.50) - K84 1xEV-DO Base Station Test (3.50) - K85 1xEV-DO Mobile Station Test (3.50) - Added software support for option FSU-B21 - List of updated and new functions follow: Configuration Functions General Device Settings Input Group External Mixer External Mixer (rsfsu_confExtMix) External Mixer LO Level (rsfsu_confExtMixerLOLevel) External Mixer Signal (rsfsu_confExtMixSignal) External Mixer Parameters (rsfsu_confExtMixParameters) Default Conversion Loss (rsfsu_confDefConvLoss)

FSU driver history		
Revision	**Date**	**Note**
		Conversion Loss Table (rsfsu_confExtMixLossTab) Conversion Loss Table Delete (rsfsu_confExtMixLossTabDelete) Sweep Group Sweep Time (rsfsu_confSweepTime) Sweep Time Auto (rsfsu_confSweepTimeAuto) System Setup Group Reference Oscillator (rsfsu_confReferenceOsc) Generate Transducer Factor (rsfsu_confTransducerFactor) Tracking Generator Mode Tracking Generator Ext Select (rsfsu_confTrackExtSel) Tracking Generator Ext Src Ref (rsfsu_confTrackExtSrcRef) Vector Signal Analysis Mode Config Group - Analog Demod Analog Demodulation Filter (rsfsu_confVSAMDemodFilt) FM Analog Demodulation FM Demodulation (rsfsu_confFMDemod) FM Demodulation Output Filter (rsfsu_confFMDemodFilt) FM Demodulation LowPass Filter Auto (rsfsu_confFMDemodLPFiltAuto) FM Demodulation Output Range (rsfsu_confFMDemodRange) FM Demodulation Output Range Auto (rsfsu_confFMDemodRangeAuto) GSM / EDGE MS/BTS Analysis Mode GSM Burst Zoom Transition Number (rsfsu_confGSMBurstZoomTransitionNumber) GSM Multi Carrier Mode State (rsfsu_confGSMMultiCarrierModeState) Cdma2000 / 1xEV-DO / 3GPP WCDMA / TD-SCDMA MS/BTS Configure WCDPower Measurement (rsfsu_confWCDPMeas) WCDP Measurement Mode (rsfsu_confWCDPMeasMode) CDP Measurement Setting CDP RRC Filter (rsfsu_confCDPRrcFilter) CDP Eliminate Tail Chips (rsfsu_confCDPEliminateTailChips) CDP Slot Difference (rsfsu_confCDPSlotDifference) CDP Slot Sets Count (rsfsu_confCDPSlotSetsCount) CDP Slot Set To Analyze (rsfsu_actCDPSlotSetToAnalyze) CDP Scrambling Code (rsfsu_confCDPLCode) CDP Long Code Mode (rsfsu_confCDPLCodeMode) CDP Constellation Parameter B (rsfsu_confCDPConstellationParameterB) CDP Power Control (rsfsu_confCDPPControl) WCDP Channel Table (MS) WCDP MS Channel HS-DPCCH (rsfsu_confWCDPMSChHSDPCCH) WCDP Channel Table (BTS) WCDP Channel Table (rsfsu_confWCDPChTable) WCDP Channel Table File (rsfsu_confWCDPChTableFile) WCDP Channel Table Name (rsfsu_confWCDPChTableName) WCDP Channel Table Copy (rsfsu_confWCDPChTableCopy) WCDP Channel Table Delete (rsfsu_confWCDPChTableDelete) WCDP Channel Table Comment (rsfsu_confWCDPChTableComment) WCDP Channel Table Data (rsfsu_confWCDPChTableData) WCDP Channel Table Catalog (rsfsu_confWCDPChTableCatalog) Spurious Emissions SE Resolution Bandwidth (rsfsu_confSEResolutionBW) SE Video Bandwidth (rsfsu_confSEVideoBW) SE Break Sweep (rsfsu_confSEBreakSweep) SE Detector (rsfsu_confSEDetector) SE Filter (rsfsu_confSEFilter) SE Start And Stop Freq (rsfsu_confSEStartStopFrq) SE Attenuator (rsfsu_confSEAtt)

FSU driver history		
Revision	**Date**	**Note**
		SE Attenuator Auto (rsfsu_confSEAttAuto) SE Pre-amplifier (rsfsu_confSEPreamplifier) SE Sweep Points (rsfsu_confSESweepPoints) SE Ref Level (rsfsu_confSERefLevel) SE Sweep Mode (rsfsu_confSESweepMode) SE Sweep Time (rsfsu_confSESweepTime) SE Sweep Time Auto (rsfsu_confSESweepTimeAuto) SE Transducer (rsfsu_confSETransducer) SE Delete Range (rsfsu_confSEDeleteRange) SE Search Peaks (rsfsu_confSESearchPeaks) Action/Status Functions General Device Settings Marker Group Delta Marker Link (rsfsu_actDMarkLink) Trigger Group Continue Measurement (rsfsu_actContinueMeasurement) File Group File Decimal Separator (rsfsu_confFileDecSep) Store Trace to File (rsfsu_actSAMStoreTraceToFile) Store Spurious Emissions to File (rsfsu_actSAMStoreSEToFile) File Directory Path (rsfsu_actFileCatPath) Signal Analysis Mode Measure Group Channel Power / ACP Adapt to Signal Channel Power Start Slot (rsfsu_actSAMChannelPowerStartSlot) Channel Power Stop Slot (rsfsu_actSAMChannelPowerStopSlot) Channel Power Autorange (rsfsu_actSAMChannelPowerAutorange) Channel Power Autorange Result (rsfsu_actSAMChannelPowerAutorangeResult) Channel Power Auto Adjust (rsfsu_actSAMChannelPowerAutoAdjust) Channel Power Auto Adjust Result (rsfsu_actSAMChannelPowerAutoAdjustResult) GSM / EDGE MS/BTS Analysis Mode GSM Burst Section (rsfsu_actGSMBurstSection) Lines Group SEM Limit Line Check (rsfsu_actSEMLimitLineCheck) Spurious Emissions SE Send Trigger (rsfsu_actSESendTrigger) SE Send Trigger And Wait for OPC (rsfsu_actSESendTrgWopc) Data Functions Read Trace IQ Data (rsfsu_dataReadTraceIQ) Cdma2000 / 1xEV-DO / 3GPP WCDMA / TD-SCDMA MS/BTS Read WCDP Trace Data (rsfsu_dataReadTraceWCDP) Spurious Emissions Measurement SE Measurement Results (rsfsu_dataSEMeasurementResults) - Code maintenance: - I/O conversion specification fixed: Input: "%le" for ViReal64, "%ld" for ViInt32, "%hu" for ViBoolean Output: "%.12f" for ViReal64, "%ld" for ViInt32, "%hu" for ViBoolean - System locale are set to default "C" - Renamed functions (old prototypes are moved to compatibility group): Channel Power Trigger Spacing (rsfsu_confSAMTrigSpacing) changed to Channel Power Channel Spacing (rsfsu_confSAMChannelSpacing) Channel Power Trigger Count (rsfsu_confSAMTrigCount) changed to Channel Power Carrier Count (rsfsu_confSAMCarrierCount)

FSU driver history		
Revision	**Date**	**Note**
		- Description of Channel Power Type parameter changed, code improved Channel Power Meas Mode (rsfsu_confSAMMarkChPowMeas) Adjust Channel Power Settings (rsfsu_actSAMCPSet) Get Channel Power Value (rsfsu_actSAMMarkPowerValueExt) Get Occupied Bandwidth Value (rsfsu_actSAMMarkPowerBandValue) - Parameter range extended, description changed Channel Power Reference Manual (rsfsu_confSAMReferenceMan) Resolution BW (rsfsu_confResbw) - Trace IQ Group moved in the FP to Trace Group - Fixed code (description) Channel Power Standard (rsfsu_confSAMMarkChPowChanStandard) Channel Power Auto Adjust Result (rsfsu_actSAMChannelPowerAutoAdjustResult) Channel Power Auto Adjust Result (rsfsu_actSAMChannelPowerAutorangeResult) Get Peaks Values (rsfsu_getPeaksValues) Read C2k CDP Trace Data (rsfsu_dataReadTraceC2kCDP) Read Burst Values (rsfsu_dataReadBurst) - New additional functions SE Start Measurement (rsfsu_actSEStartMeasurement) SE Start Measurement And Wait for OPC (rsfsu_actSEStartMeasurementWopc) SE Stop Measurement (rsfsu_SEStopMeasurement)
1.6	09/2004	Modifications: - New functions: rsfsu_actHCopyToFile - Fixed functions: rsfsu_confNoiseGainTraceSettings rsfsu_confNoiseTraceSettings rsfsu_confListPwrState rsfsu_confNoiseLossInputSettings rsfsu_confNoiseLossOutputSettings rsfsu_confNoiseRefLevel rsfsu_confSAMMarkChPowMeas rsfsu_setStatusRegister
1.5	04/2004	Driver update for FSU Spectrum Analyzer (Firmware 2.31/3.31 Support for FSU3, FSU8, FSU26, FSU46 and FSU50 List of updated options - K5 GSM/EDGE (2.30/3.30) - K72 3GPP FDD Base Station Test (2.30/3.30) - K73 3GPP FDD User Equipment Test (2.30/3.30) - K82 cdma2000 Base Station Test (2.30/3.30) List of new options: - K9 Power sensor measurements - K30 Noise Figure and Gain Measurments (2.30/3.30) - K74 3GPP HSDPA Base Station Test (2.30/3.30) - K76 TD-SCDMA Base Station Test (2.30/3.30) - K77 TD-SCDMA Mobile Station Test (2.30/3.30) - K83 cdma2000/1xEV-DV Mobile Station Test (2.30/3.30) - K84 1xEV-DO Base Station Test (2.30/3.30) - K85 1xEV-DO Mobile Station Test (2.30/3.30) --- General Issues --- - Status checking added to the functions where it was missing rsfsu_sysStatus) - Problem with precision of values fixed (loss of digits)

FSU driver history		
Revision	**Date**	**Note**
		Formating functions uses for double values "%Lf" Scanning funcions uses for double values "%Le" --- Updated functions (Base + Misc) --- Channel Power Trigger Count (rsfsu_confSAMTrigCount) - value range extended Channel Power Standard (rsfsu_confSAMMarkChPowChanStandard) - new WLAN standards added Coupling Settings (rsfsu_confCoupExt) - Filter Type range extended Analog Demodulation Type (rsfsu_confVSAMADemodType) - PM modulation added Get Analog Demod Value (rsfsu_actVSAMMarkerADemod) - AM and PM modulation added Signal Statistics (rsfsu_confSAMSigStat) - added additional parameter's items Get N dB Down Marker Value (rsfsu_actSAMMarkNdBDValue) - Also available in zero span mode Emulation (rsfsu_confEmulation) - parameter values added Analog Demodulation Demod BW (rsfsu_confVSAMDemodBW) - parameter values added Analog Demodulation BW (rsfsu_setADEMBandwidth) - parameter values added Analog Demod RF Param (rsfsu_confVSAMADemodRFParam) - parameter values added Limit Lines State (rsfsu_confLimitLineState) - added 'comment' parameter value Limit Lines Parameters (rsfsu_confLimitLineParamExt) - moved to obsolete functions Set Limit Lines Offset (rsfsu_actSetLimitLinesOffset) - moved to obsolete functions Marker Opt (rsfsu_confMarkOpt) - fixed control description --- New functions (Base + Misc) --- Trigger Delay Compensation (rsfsu_confTrgDelayComp) Get Sweep Count (rsfsu_getSweepCount) Frequency Axis Mode (rsfsu_confFreqAxisMode) Setup Transducer Ref Level Adj (rsfsu_confTransducerRefLevAdj) Analog Demod Zero Phase Ref Point (rsfsu_confVSAMADemodZeroPhase) Analog Demod Phase Wrap (rsfsu_confVSAMADemodPhaseWrap) Analog Demod PM Units (rsfsu_confVSAMADemodPMUnits) Limit Lines Data (rsfsu_confLimitLineData) Limit Lines Shift (rsfsu_confLimitLineShift) Limit Lines Switch (rsfsu_confLimitLineSwitch) Limit Lines Trace (rsfsu_confLimitLineTrace) Limit Lines Mode (rsfsu_confLimitLineMode) Limit Lines Units (rsfsu_confLimitLineUnits) Limit Lines Domain (rsfsu_confLimitLineDomain) Limit Lines Offset (rsfsu_confLimitLineOffset) Limit Lines Margin (rsfsu_confLimitLineMargin) Limit Lines Threshold (rsfsu_confLimitLineThreshold) Limit Check Result Clear (rsfsu_actLimitCheckClear) Limit Lines Measurement Type (rsfsu_confLimitLineMeasType) --- Renamed (thus new) functions (obsolete group) ---

FSU driver history		
Revision	**Date**	**Note**
		CDP Slot (rsfsu_confCDPSlot) - formerly known as CDP CPICH Slot - option added CDP PN Offset (rsfsu_confCDPPNOffset) - formerly known as CDP C2k PN Offset (rsfsu_confC2kCDPPNOffset) - created alias, option added CDP IQ Length (rsfsu_confCDPIQLength) - formerly known as CDP C2k IQ Length (rsfsu_confC2kCDPIQLength) - created alias, option added CDP Order (rsfsu_confCDPOrder) - formerly known as CDP C2k Order (rsfsu_confC2kCDPOrder) - created alias, option added CDP Timing And Phase Offset (rsfsu_confCDPTPM) - formerly known as CDP C2k Timing And Phase Offs (rsfsu_confC2kCDPTPM) - created alias, option added --- Updated functions (K5) --- MS Set Channel (rsfsu_actMSChannel) - description changed --- New functions (K5) --- GSM Sync Search (rsfsu_confGSMSyncSearch) GSM Burst Search (rsfsu_confGSMBurstSearch) GSM Burst Search Threshold (rsfsu_confGSMBurstSearchThreshold) GSM Burst Time Meas High Resolution (rsfsu_confGSMBurstTimeMeasHighResolution) GSM Burst Meas Filter (rsfsu_confGSMBurstMeasFilter) GSM Trigger Free Run (rsfsu_actGSMTriggerFreeRun) Read Multi Frame Data (rsfsu_readMultiFrameData) --- Updated functions (K72/73/K74) --- WCDP Channel Table Data (rsfsu_confWCDPChTableData) - channel type (former pitch flag) is improved Read WCDP Trace Data (rsfsu_dataReadTraceWCDP) - CWCDp and ABITstream added, functionality improved Read WCDMA Trace Data (rsfsu_dataReadTraceWCDMA) - description update, functionality improved WCDP Measurement Mode (rsfsu_confWCDPMeasMode) - new modes added, description changed Get WCDP Measurement (rsfsu_actWCDPMarkMeas) - new meas added, description changed WCDPower Mode (rsfsu_actWCDPMode) - option added, description changed WCDPower MS Mode (rsfsu_actWCDPMSMode) - option added, description changed --- New functions (K72/73/K74) --- CDP Frame to Analyze (rsfsu_confCDPFrameAnalyze) SEM Limit Line Check (rsfsu_actSEMLimitLineCheck) CDP Analysis Base (rsfsu_confCDPAnalysisBase) CDP Overview Display (rsfsu_confCDPOverviewDisplay) --- Updated functions (K82/K83/K84/K85) --- Get C2k CDP Measurement (rsfsu_actC2kCDPMarkMeas) - description changed Configure C2k Band Class (rsfsu_confC2kBandClass) - additional classes added, skipped optional "[:BTS]", option added

FSU driver history		
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		Configure C2k Measurement (rsfsu_confC2kCDPMeas) - skipped optional "[:BTS]", option added, parameter's item added CDP Measurement Mode (rsfsu_confC2kCDPMeasMode) - option added, parameter items added SEM Limit Line (rsfsu_confSEMLimitLine) - option added CDP Marker To (rsfsu_actCDPMarkTo) - option added CDP C2k Channel Table File (rsfsu_confC2kCDPChTableFile) - option added CDP C2k Channel Table Name (rsfsu_confC2kCDPChTableName) - option added CDP C2k Channel Table Data (rsfsu_confC2kCDPChTableData) - option added, parameters adjusted for options CDP C2k Channel Table Comment (rsfsu_confC2kCDPChTableComment) - option added CDP C2k Channel Table Copy (rsfsu_confC2kCDPChTableCopy) - option added CDP C2k Channel Table Delete (rsfsu_confC2kCDPChTableDelete) - option added CDP C2k Channel Table Catalog (rsfsu_confC2kCDPChTableCatalog) - option added CDP C2k Channel Table (rsfsu_confC2kCDPChTable) - option added C2k CDPower Mode (rsfsu_actC2kCDPMode) - description changed CDP Inactive Channel Treshold (rsfsu_confCDPICT) - option added CDP Side Band (rsfsu_confCDPSBand) - option added CDP Level Auto Adjust (rsfsu_actCDPAutoAdj) - option added CDP Code Number (rsfsu_confCDPCodeNum) - option added CDP Signal Mapping (rsfsu_confCDPSigMap) - option added CDP Spreading Factor (rsfsu_confCDPSFactor) - option added CDP Normalize (rsfsu_confCDPNormalize) - option added CDP Q Invert (rsfsu_confCDPQInvert) - option added CDP Preference (rsfsu_confCDPPref) - option added, additional item added CDP C2k IQ Length (rsfsu_confC2kCDPIQLength) - option added, range checking changed CDP C2k Order (rsfsu_confC2kCDPOrder) - option added CDP C2k Timing And Phase Offs (rsfsu_confC2kCDPTPM) - option added Read C2k Trace Data (rsfsu_dataReadTraceC2k) - option added, functionality improved --- New functions (K82/K83/K84/K85) --- Read C2k CDP Trace Data (rsfsu_dataReadTraceC2kCDP) CDP C2k Channel Table Restore (rsfsu_confC2kCDPChTableRestore) C2k CDPower MS Mode (rsfsu_actC2kCDPMSMode)

FSU driver history		
Revision	**Date**	**Note**
		CDP Long Code Mask (rsfsu_confCDPLCodeMask) CDP Long Code Offset (rsfsu_confCDPLCodeOffset) Get 1xEV-DO CDP Measurement (rsfsu_actEVDOCDPMarkMeas) Get 1xEV-DO CDP MS Measurement (rsfsu_actEVDOCDPMSMarkMeas) PVT Limit Line (rsfsu_confPVTLimitLine) CDP RF Slot (rsfsu_confCDPRFSlot) 1xEV-DO CDPower Mode (rsfsu_actEVDOCDPMode) 1xEV-DO CDPower MS Mode (rsfsu_actEVDOCDPMSMode) CDP Signal Mapping Mode (rsfsu_confCDPSigMapMode) CDP Channel Type (rsfsu_confCDPChannelType) CDP Averaging (rsfsu_confCDPAveraging) CDP Operation Mode (rsfsu_confCDPOperationMode) --- Updated functions (K76/K77) --- CDP Scrambling Code (rsfsu_confCDPLCode) - option added --- New functions (K76/K77) --- Get TD-SCDMA CDP Measurement (rsfsu_actTDSCDMACDPMarkMeas) Configure CDP Measurement (rsfsu_confCDPMeas) CDP Channel Table Order (rsfsu_confCDPChTableOrder) CDP Channel Table (rsfsu_confCDPChTable) CDP Channel Table File (rsfsu_confCDPChTableFile) CDP Channel Table Name (rsfsu_confCDPChTableName) CDP Channel Table Copy (rsfsu_confCDPChTableCopy) CDP Channel Table Delete (rsfsu_confCDPChTableDelete) CDP Channel Table Comment (rsfsu_confCDPChTableComment) CDP Channel Table Data (rsfsu_confCDPChTableData) CDP Channel Table Catalog (rsfsu_confCDPChTableCatalog) CDP Channel Table Midamble Shift (rsfsu_confCDPChTableMidambleShift) CDP Switching Point (rsfsu_confCDPSwitchingPoint) CDP Subframes (rsfsu_confCDPSubframes) TD-SCDMA CDPower Mode (rsfsu_actTDSCDMACDPMode) TD-SCDMA CDPower MS Mode (rsfsu_actTDSCDMACDPMSMode) CDP Standard (rsfsu_confCDPStandard) CDP Midamble Shift (rsfsu_confCDPMidambleShift) Read CDP Trace Data (rsfsu_dataReadTraceCDP) --- New functions (K9) --- PWR Meter Frequency (rsfsu_confPMetFrequency) PWR Meter Frequency Coupling (rsfsu_confPMetFrequencyCoupling) PWR Meter Units (rsfsu_confPMetUnits) PWR Meter Meas Time (rsfsu_confPMetMeasTime) PWR Meter Result Display (rsfsu_confPMetResultDisplay) PWR Meter State (rsfsu_actPMetState) PWR Meter Sensor Zeroing (rsfsu_actPMetSensorZeroing) PWR Meter Reference Value (rsfsu_actPMetReferenceValue) Fetch PWR Meter Result (rsfsu_dataFetchPMetResult) Read PWR Meter Result (rsfsu_dataReadPMetResult) --- New functions (K30) --- Noise Measurement Mode (rsfsu_actNoiseMeasMode) Fetch Noise Measurement Result (Array) (rsfsu_dataFetchNoiseMeasArray) Fetch Noise Measurement Result (Scalar) (rsfsu_dataFetchNoiseMeasScalar) Noise Frequency Measurement (rsfsu_confNoiseFrequencyMeasurement) Noise Frequency (rsfsu_confNoiseFrequency) Noise Start Frequency (rsfsu_confNoiseStartFrequency)

FSU driver history		
Revision	**Date**	**Note**
		Noise Stop Frequency (rsfsu_confNoiseStopFrequency) Noise Step Frequency (rsfsu_confNoiseStepFrequency) Noise Frequency Table (rsfsu_confNoiseFrequencyTable) Noise Fixed IF Frequency (rsfsu_confNoiseFixedIFFrequency) Noise LO Frequency (rsfsu_confNoiseLOFrequency) Noise Image Rejection (rsfsu_confNoiseImageRejection) Noise DUT Type (rsfsu_confNoiseDUTType) Noise 2nd Stage Correction (rsfsu_confNoise2ndStageCorrection) Noise 2nd Stage Correction State (rsfsu_confNoise2ndStageCorrectionState) Noise Resolution Bandwidth (rsfsu_confNoiseRBW) Noise Sweep Time (rsfsu_confNoiseSweepTime) Noise DUT Settling Time (rsfsu_confNoiseDUTSettlingTime) Noise DUT Range (rsfsu_confNoiseDUTRange) Noise Average (rsfsu_confNoiseAverage) Noise RF Attenuation (rsfsu_confNoiseRFAttenuation) Noise Ref Level (rsfsu_confNoiseRefLevel) Noise Pre-selector (rsfsu_confNoisePreselector) Noise Pre-amplifier (rsfsu_confNoisePreamplifier) Noise Generator Automatic Control (rsfsu_confNoiseGeneratorAuto) Noise Generator Settings (rsfsu_confNoiseGeneratorSettings) Noise Generator Level (rsfsu_confNoiseGeneratorLevel) Noise Generator Frequency (rsfsu_confNoiseGeneratorFrequency) Noise ENR Settings (rsfsu_confNoiseENRSettings) Noise ENR Table (rsfsu_confNoiseENRTable) Noise Loss Input Settings (rsfsu_confNoiseLossInputSettings) Noise Loss Input Table (rsfsu_confNoiseLossInputTable) Noise Loss Output Settings (rsfsu_confNoiseLossOutputSettings) Noise Loss Output Table (rsfsu_confNoiseLossOutputTable) Noise Trace Display (rsfsu_confNoiseTraceDisplay) Noise Trace Settings (rsfsu_confNoiseTraceSettings) Noise Gain Trace Settings (rsfsu_confNoiseGainTraceSettings)
1.4.3	01/2004	Modifications: - Added Remote-control command(s) to each FP function description - Sample rate value range changed rsfsu_confTraceIQ and rsfsu_confTraceIQSrate) - File transfer from FSU to the PC and vice versa: rsfsu_readToFile rsfsu_writeFromFile
1.4.2	11/2003	Modifications: Changed function: rsfsu_confTrg
1.4.1	06/2003	Modifications: Modified structure of the FP Tree -For Agilent VISA Version L01 or higer and Agilent GPIB board added "/n" in I/O functions -The associated measurement window can be selected with the numeric suffix of comand TRACe<1|2>. Global variable is added to allow select measurement window with the existing trace data functions. -Changed functions are: rsfsu_confSetActiveWindow rsfsu_actSAMCopyTrace rsfsu_dataReadTrace rsfsu_dataWriteTrace rsfsu_dataReadTraceWCDMA -New functions are: rsfsu_dataReadTraceWCDP

FSU driver history		
Revision	**Date**	**Note**
		This driver supports the options: B4, B9, B10, B12 B16, B25, K5, K7, K8, K72, K73, K82
1.4	04/2003	Modifications: - Get Peaks Values (rsfsu_getPeaksValues) fixed command string - Marker Search Parameter (rsfsu_confSAMMarkSearchParamExt) Range checkig for Search Limits is skipped. - New function: Marker Search Limits (rsfsu_confSAMMarkSearchL imits) This driver supports the options: B4, B9, B10, B12 B16, B25, K5, K7, K8, K72, K73, K82
1.3.2	02/2´003	Modifications: - Changed help texts of FSEx compatibility functions in fp file This driver supports the options: B4, B9, B10, B12 B16, B25, K5, K7, K8, K72, K73, K82
1.3.1	02/2003	Modifications: - Fixed for use in earlier versions of VISA without TCPIP support This driver supports the options: B4, B9, B10, B12 B16, B25, K5, K7, K8, K72, K73, K82
1.3	01/2003	Modifications: Added support for K82 and new functions for K72/K73 New functions: RF Input YIG Filter Temp Corr (rsfsu_setRFInYIGFilterTempCorr) Set Limit Line Spacing (rsfsu_actSetLimitLineSpacing) Set Param Limit Line Spacing (rsfsu_actSetParamLimitLineSpacing) Display Size (rsfsu_confDisplaySize) Emulation (rsfsu_confEmulation) Channel Power Trigger Spacing (rsfsu_confSAMTrigSpacing) Channel Power Trigger Count (rsfsu_confSAMTrigCount) Channel Power Reference Auto (rsfsu_confSAMReferenceAuto) Channel Power Reference Man (rsfsu_confSAMReferenceMan) Configure C2k Band Class (rsfsu_confC2kBandClass) CDP Power Control (rsfsu_confCDPPControl) Configure C2k Measurement (rsfsu_confC2kCDPMeas) CDP Measurement Mode (rsfsu_confC2kCDPMeasMode) CDP C2k PN Offset (rsfsu_confC2kCDPPNOffset) CDP C2k IQ Length (rsfsu_confC2kCDPIQLength) CDP C2k Order (rsfsu_confC2kCDPOrder) CDP C2k Timing And Phase Offs (rsfsu_confC2kCDPTPM) CDP C2k Channel Table (rsfsu_confC2kCDPChTable) CDP C2k Channel Table File (rsfsu_confC2kCDPChTableFile) CDP C2k Channel Table Name (rsfsu_confC2kCDPChTableName) CDP C2k Channel Table Copy (rsfsu_confC2kCDPChTableCopy) CDP C2k Channel Table Delete (rsfsu_confC2kCDPChTableDelete) CDP C2k Channel Table Comment fsu_confC2kCDPChTableComment) CDP C2k Channel Table Data (rsfsu_confC2kCDPChTableData) CDP C2k Channel Table Catalog (rsfsu_confC2kCDPChTableCatalog) C2k CDPower Mode (rsfsu_actC2kCDPMode) Get C2k CDP Measurement (rsfsu_actC2kCDPMarkMeas) Modified functions: Channel Power Meas Mode (rsfsu_confSAMMarkChPowMeas) Level Range (rsfsu_confLevelRange) CDP Inactive Channel Treshold (rsfsu_confCDPICT) CDP Side Band (rsfsu_confCDPSBand) CDP Spreading Factor (rsfsu_confCDPSFactor)

FSU driver history		
Revision	**Date**	**Note**
		CDP Code Number (rsfsu_confCDPCodeNum) CDP CPICH Slot (rsfsu_confCDPSlot) CDP Normalize (rsfsu_confCDPNormalize) CDP Q Invert (rsfsu_confCDPQInvert) CDP Antenna Type (rsfsu_confCDPAntennaType) Get Channel Power Value (rsfsu_actSAMMarkPowerValueExt) Adjust Channel Power Settings (rsfsu_actSAMCPSet) MS Set Channel (rsfsu_actMSChannel) CDP Level Auto Adjust (rsfsu_actCDPAutoAdj) CDP Marker To (rsfsu_actCDPMarkTo) --- Get Module Info (rsfsu_actServiceModuleInfo) Display Update (rsfsu_dispUpdate) Trace I/Q Sampling Rate (rsfsu_confTraceIQSrate) Service Source Cal Signal (rsfsu_actServiceSourceCalSignal) Get WCDP MS Measurement (rsfsu_actWCDPMSMarkMeas) Read Trace I/Q Data (rsfsu_dataReadTraceIQ) Read Memory I/Q Data (rsfsu_dataReadMemoryIQ) Read Trace IQ Data From Mem (rsfsu_dataReadTraceIQFromMemory) This driver supports the options: B4, B9, B10, B12 B16, B25, K5, K7, K8, K72, K73, K82
1.2	09/2ßß2	Modifications: - Removed #include <cvidef.h> from header file
1.1	07/2002	Modifications: - code changed to improve stability of the driver - fixed help texts in fp file - added functions to support new instrument and firmware options: rsfsu_setRFInYIGFilterState rsfsu_confDLines rsfsu_configureTraceIQAver rsfsu_confSweepPoints rsfsu_setVideoBWType rsfsu_setADEMBandwidth rsfsu_confTransducer rsfsu_confTransducerDef rsfsu_confExternGainCorrect rsfsu_configHardcopyColors rsfsu_confSAMDeltaMarkFixRefMax rsfsu_confTrackRefLevel rsfsu_confVSAMDemodMode rsfsu_confVSAMDisp rsfsu_confVSAMDigiDemodFilter rsfsu_confVSAMDigiSearchTime rsfsu_confVSAMADemod rsfsu_confVSAMADemodParam rsfsu_confVSAMADemodMeasTime rsfsu_confVSAMADemodType rsfsu_confVSAMADemodRFParam rsfsu_confVSAMDemodBW rsfsu_confVSAMDemodZoom rsfsu_confVSAMDigiTrg rsfsu_confVSAMDigiSeqOffset rsfsu_confVSAMDigiSeqPulseOffset rsfsu_confGSMSamplesPerSymbol rsfsu_confWCDPMeas rsfsu_confWCDPMSMeas

FSU driver history		
Revision	**Date**	**Note**
		rsfsu_confWCDPMeasMode rsfsu_confCDPSetStd rsfsu_confCDPICT rsfsu_confCDPSBand rsfsu_confCDPSFactor rsfsu_confCDPCodeNum rsfsu_confCDPSlot rsfsu_confCDPLCode rsfsu_confCDPLType rsfsu_confCDPNormalize rsfsu_confCDPQInvert rsfsu_confCDPPref rsfsu_confCDPSyncType rsfsu_confCDPSigMap rsfsu_confCDPAntennaType rsfsu_confWCDPChTable rsfsu_confWCDPChTableFile rsfsu_confWCDPChTableName rsfsu_confWCDPChTableCopy rsfsu_confWCDPChTableDelete rsfsu_confWCDPChTableComment rsfsu_confWCDPChTableData rsfsu_confWCDPChTableCatalog rsfsu_confWCDPMSChTable rsfsu_confWCDPMSChTableFile rsfsu_confWCDPMSChTableName rsfsu_confWCDPMSChTableCopy rsfsu_confWCDPMSChTableDelete rsfsu_confWCDPMSChTableComment rsfsu_confWCDPMSChTableData rsfsu_confWCDPMSChTableCatalog rsfsu_confWCDPMSChEvaluation rsfsu_confBToothChannel rsfsu_confBToothPacketType rsfsu_confBToothAdjacentChannels rsfsu_confBTSamplesPerSymbol rsfsu_confBToothOutpPowerClass rsfsu_confBToothAveragePower rsfsu_confVSAMDigiSetSyncLap rsfsu_confBToothResBW rsfsu_confBToothViBW rsfsu_confBToothTrace rsfsu_confBToothTraceSelect rsfsu_confBToothDetector rsfsu_confBToothSweep rsfsu_confBToothSweepTime rsfsu_confSEMLimitLine rsfsu_getPowerOfSignalPulses rsfsu_searchPeaks rsfsu_getPeaksValues rsfsu_getPeaksCount rsfsu_actServiceModuleInfo rsfsu_actFileCat rsfsu_actVSAMMode rsfsu_actVSAMMarkerADemod rsfsu_getADemodResultValues rsfsu_getVSAMParam

FSU driver history		
Revision	**Date**	**Note**
		rsfsu_getVSFMOffset rsfsu_actTVTriggerSrc rsfsu_actMSChannelMultiSlot rsfsu_actMSLimitRestore rsfsu_actGSMModAccuracy rsfsu_actBToothMode rsfsu_actBToothMeasMode rsfsu_actVSBToothOutputPower rsfsu_actVSBToothParameter rsfsu_actVSBToothPowerControl rsfsu_actVSBToothPowerOfChannels rsfsu_actVSBToothException rsfsu_actVSBToothDM rsfsu_actVSBToothPercentageDev rsfsu_actVSBToothCarrierFreqParam rsfsu_actVSBToothPacketLength rsfsu_actVSBToothPacketType rsfsu_actWCDPMode rsfsu_actWCDPMSMode rsfsu_actCDPAutoAdj rsfsu_actCDPMarkTo rsfsu_actWCDPMarkMeas rsfsu_actWCDPMSMarkMeas rsfsu_dataReadTraceWCDMA rsfsu_dataReadBurstIQ rsfsu_dataFetchBurstIQ rsfsu_self_test_result rsfsu_dataReadBurstRef - functions modified to support new features rsfsu_confTrg rsfsu_confSAMMarkSearchParamExt rsfsu_confSAMMarkChPowChanStandard rsfsu_actSAMMarkPowerValueExt rsfsu_setStatusRegister rsfsu_getStatusRegister - function rsfsu_confTrackDisp splitted to two functions: rsfsu_confTrackRefLevel and rsfsu_confTrackRefPosition
1.0.	01/2001	Created based on FSP instrument driver "Rev 1.2, 03/2001, CVI 5.5.1"

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 VEE, Visual Basic, Visual C++, Borland C++ 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\rsfsu directory.

Additional Information

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

Remote control via LAN

Instrument Name and IP Address

In order to connect the instrument using VXI-11 or RSIB use the instrument name or the IP address.

Default Name of the Instrument

There is a default name for any instrument. If you are sure it has not been changed, you need not to find the name.

As **default** the name is composed of:
FSUx- (FSU3, FSU8, FSU26, FSU46 or FSU50)
Serial number (on the rear panel of the instrument)

Example: FSU8-100165

To find the instrument name and IP address with a keyboard connected to the instrument

For XP (Firmware 3.xx):
Instrument name: Start => Settings =>Control Panel => System => Computer Name
IP Address: Start => Settings =>Network Connections =>
Local Area Connection => Support
For NT (Firmware2.xx):
Instrument name: Start => Settings =>Control Panel => System => Network
IP Address: Start => Settings =>Control Panel => System => Network => Protocols => TCP/IP Protocol => Properties

To find the IP Address without a Keyboard connected to the instrument

If you need the IP-Address of the instrument send a “ping” command in the command prompt window.
Example
Ping FSU8-100265

If you do not know the name, connect a keyboard and use the procedure above.

VXI-11 Support

VXI-11 support since Firmware 3.6x (XP).

Use the instrument name or the IP address as **resourceName** in the rsfsu_init function.

Example TCPIP::FSU8-100265::INSTR
TCPIP::192.168.1.33::INSTR

RSIB Interface

This driver supports remote control via RSIB. For more information see application note 1EF47

Use the instrument name or the IP address as **resourceName** in the rsfsu_init function.

Example RSIB::FSU8-100265::INSTR or
RSIB::192.168.1.33::INSTR