Release Notes

Revision: 1.0

R&S®FSV
Signal Analyzer
Firmware Release V1.05SP1

These Release Notes describe the following models and options of the R&S®**FSV**:

- R&S® **FSV** 3, order no. 1307.9002.03
- R&S® **FSV** 7, order no. 1307.9002.07

New Features of V1.05:

- Support for R&S FSV 3 and R&S FSV 7
- Support for R&S FSV-K7 Analoge Demodulation
- Support for R&S FSV-K9 Power Sensor Measurement
- Support for R&S FSV-K72 3GPP FDD BS Analysis
- Support for R&S FSV-K91 WLAN IEEE 802.11a/b/g/j Analysis
- Support for R&S FSV-K93 WiMAX IEEE 802.16 OFDM/OFDMA Analysis
- Support for EUTRA/LTE in ACLR and SEM measurement
- Supports Gated Trigger in APD and CCDF measurement
- Supports Focus Frames and Maximize/Split and Change Focus key to resize diagrams and tables

NOTES FOR R&S FSP USERS CAN BE FOUND IN CHAPTER 9 ON PAGE 10

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1 Revision History

Date	Rel. Note rev.	Changes
23 July 2008	1.0	First version for FSV firmware V1.05SP1

2 Installation Information

2.1 Firmware Update

The firmware update file for the R&S FSV is one file including the main firmware version number e.g. `FSVSetup_V1.05SP1.exe`. It will be referred as `FSVSetup.exe` later in the text. The file can be found on Rohde & Schwarz web page.

2.1.1 Preparing the Installation

There are several ways how to update the device after downloading the `FSVSetup.exe` installation file.

Using a memory stick:

1. Copy the file to a directory of the memory stick and insert the memory stick into one of the USB sockets of the R&S FSV.

Using the remote desktop and copying the installation files to a directory of the instrument:

1. Connect the R&S FSV to your LAN.
2. Start the remote desktop on your PC (`C:\winnt\system32\mstsc.exe`).
3. Enter the TCP/IP address of the instrument, you want to update. Ensure that the "local resources" > "drives" option is selected and press the "Connect" button. (To get the TCP/IP address of the R&S FSV press the hard key “Setup” and then the softkeys “General Setup”, “Network Address”, “IP Address”. The IP address consists of 4 numbers between 0 and 255)
4. Login to the instrument (user name: “instrument” and password “123456” by default).
5. Copy the `FSVSetup.exe` from your PC to a new folder e.g. C:\FWUpdate.
6. You can now access this directory with the `FSVSetup.exe` from the R&S FSV analyzer firmware.

Using a network drive:

1. Connect your R&S FSV to your LAN, and establish a connection to one of your servers. (Please ask you local IT administrator for support)
2. Copy the `FSVSetup.exe` from your PC to a directory on this server
3. You can now access the directory with the `FSVSetup.exe` from the R&S FSV analyzer firmware.

2.1.2 Performing the Firmware Update on the Instrument

The firmware update process is performed by the following steps:

1. Switch the instrument on and wait until the Analyzer has resumed operation.

2. Press the "SETUP" hard key, go to the side menu using the "More" softkey, and press the softkeys "Firmware Update".
   A dialog box is displayed to select the proper FSV*.exe setup file. Change the path to the drive and directory which you prepared in the step 2.1.1 (USB stick directory, remote PC directory or directory on a server) and close the dialog with the “Select” button.

3. Press the "Next" button to come to the selection of the firmware packages. By default all application should be installed. Ensure that the applications needed are selected.

4. Press the "Install" button.
   The firmware will be stopped and the installation starts. After a few minutes the system restarts automatically. After the restart the firmware installation is complete.

5. After the firmware update the "UNCAL" flag appears. A self alignment is necessary. Press the "SETUP" hard key, then "Alignment" and the "Self Alignment" softkey to start the alignment procedure.

6. Depending on the previous firmware version, a reconfiguration of the hardware may be required during the first start of the firmware. In this case the following message box is displayed:
   `"FPGA Update. A system shutdown is necessary”`
   Accept this and the device will be shut down. It is then necessary to start the device on the front panel. A automatically restart is not possible because the FPGA needs a complete boot cycle from power off.

2.2 Installing Firmware Options

2.2.1 Firmware R&S FSV-K7 Analog Demodulation and R&S FSV-K9 Power Sensor Measurement

The R&S FSV-K7 and R&S FSV-K9 application software packages are included in the basic instrument firmware. Therefore they do not have a separate item in the installer to be selected.

2.2.2 Firmware R&S FSV-K72 WCDMA BS, R&S FSV-K91 WLAN and FSV-K93 WiMAX

The R&S FSV-K72, R&S FSV-K91 and R&S FSV-K93 application software packages have their own installation file and are therefore added to the selection list during the firmware update. Ensure that the checkbox is checked ☑ if their installation is requested.

2.2.3 Compatibility of Firmware R&S FSV-K72 WCDMA BS, R&S FSV-K91 WLAN and FSV-K93 WiMAX

The R&S FSV Signal Analyzer Firmware V1.05 SP1 is compatible to the following option:

FSV-K72	FSV-K91	FSV-K93
V1.05	V1.05	V1.05

2.2.4 Compatibility with external PC programs

The R&S FSV Signal Analyzer Firmware V1.05 is compatible to the following external PC option:

- R&S FSV-K100 EUTRA/LTE BS Analysis
- R&S FSV-K101 EUTRA/LTE UE Analysis

2.2.5 Enabling Options by Entering Option Key Codes

This section can be skipped if the option key was entered once.

To activate application software packages, you must enter a license key for validation. The license key is in the device certificate or delivered as a part of the software package. The process is performed in the following steps:

1. Press the "SETUP" hard key.
2. Go to the side menu using the "More" softkey.
3. Press the "Option Licenses" softkey.
4. Press the "Install Option" softkey.
   A dialog box is displayed.
5. Enter the option key number using the keypad.
6. Press "ENTER".
   After a successful validation the message "option key valid" is displayed. If the validation failed, the option software is not installed.
7. Reboot the device.

3 New Functions

The following table lists the new functions and indicates the version in which the new function was introduced:

Version	Function
V1.00	Support for R&S FSV 3 and R&S FSV 7.
V1.00	Support for R&S FSV-K7 Analoge Demodulation
V1.00	Support for R&S FSV-K9 Power Sensor Measurement
V1.05	Support for R&S FSV-K72 3GPP FDD BS Analysis
V1.05	Support for R&S FSV-K91 WLAN IEEE 802.11a/b/g/j Analysis
V1.05	Support for R&S FSV-K93 WiMAX IEEE 802.16 OFDM/OFDMA Analysis
V1.05	Support for EUTRA/LTE in ACLR and SEM measurement.
V1.05	Supports Gated Trigger in APD and CCDF measurement
V1.05	Supports Focus Frames and Maximize/Split and Change Focus key to resize diagrams and tables

4 Modified Functions

The following table lists the modified functions and indicates the version in which the modification was carried out:

Version	Function
V1.05	The save set format changed from V1.00 therefore save sets of the V1.00 are not working with V1.05.

5 Eliminated Problems in V1.05SP1

The following table lists the eliminated problems and indicates the version in which the problem was observed for the first time:

Version	Function
V1.05	Synthesizer setup table modified.

6 Eliminated Problems in V1.05

The following table lists the eliminated problems and indicates the version in which the problem was observed for the first time:

Version	Function
V1.00	All known problems of V1.00 are solved with 1.05.

7 Known Problems

The following table lists the known problems and indicates the version in which the problem was observed for the first time:

Version	Function
V1.05	Undo/Redo and User hard key are not yet supported.
V1.05	Auto Level in the Spectrum Emisison Mask for WCDMA Signals may lead to suboptimal results. **Workaround**: Use manual level settings This may also happen in FSV-K72.
V1.05	FSV-K72: - Code Domain Analyzer Bitstream not available. - Code Domain Analyzer Power versus Slot: Shift due to timing offset is not displayed on the screen. - SCPI-Command TRACe:DATA? TPVS and ATRace2 are not available. - touch events on markers will not work - After switching to an RF measurement or to SPECTRUM MODE it may happen that the display will not update. **Workaround**: Reenter the measurment after PRESET.
V1.05	FSV-K91 and FSV-K93: - touch events on markers and other result items will not work in FSV-K91 and FSV-K93 - Auto Mode for power trigger level sometimes signal dependent gives suboptimal power trigger level results. **Workaround**: Use manual setting for the power trigger level.
V1.05	FSV-K91: - Auto Level for ACPR may lead to suboptimal results. **Workaround**: Use manual level settings. - 802.11g will work for capture times up to 50ms. If higher values are used, the measurement will be aborted. Workaround: Use maximal 50ms capture time for 802.11g.
V1.05	FSV-K93: - It is not possible to transfer WiMAX setting files from the R&S signal generator SMU to the FSV-K93 option using LAN. **Workaround**: Transfer the R&S SMU WiMAX setting files (*.wimax) to the FSV-K93 option using an USB memory stick. In case the signal contains a DL-MAP use the auto demod functionality of the FSV-K93 option in order to automatically analyze the signal.

8 Modifications to the Documentation

The new and modified functions mentioned in these release notes are already documented. Except the below mentioned last minute changes you can find the description including remote commands in the online help or in the manual. The manual can be downloaded from the internet under: http://www.rohde-schwarz.com. Select "DOWNLOAD" and search for R&S FSV within the category MANUAL.

8.1 Last Minute Changes to the Operating Manual

None.

9 Notes for R&S FSP users

The R&S FSV introduces new features in R&S Signal Analyzers. If you have used an R&S FSP you can find some useful tips in the list below:

- The touch screen feature is used to control softkeys and dialogs. This makes working with the user interface easy.
  Markers and display lines can also be moved using the touch screen. Furthermore, it provides an alternative way to change instrument settings, as function fields like RBW or center frequency can be touched and the input field appears.
- There is a new key to open the Windows Start Menu.
- There is a new key to activate the on-screen keyboard, which allows easy input of files names, for example, or other alphanumerical values. It also works outside the analyzer firmware, for example to perform a printer installation under Windows.
- The new DISPLAY key opens a menu to configure features like enabling and disabling of the touch screen or to enable/disable the toolbar with icons or the soft front panel.
- The new keys MAXIMIZE/SPLIT and CHANGE FOCUS can be used to navigate the blue focus frame in displays with diagrams and tables, to full size the view to one of the diagrams or tables.
- The new HOME key returns to the first softkey menu of an application.
- The new PEAK SEARCH key carries out a marker peak search for the active marker.
- There is a new key to open the Windows Start Menu. The new RUN SINGLE and RUN CONT keys controls the sweep control without the need to change the softkey menu.
- The new MEAS CONFIG key goes directly to the configuration menu if a measurement like ACLR was selected.
- The hotkeys of the FSP to start firmware options are moved to the new FSV hard key MODE which opens a softkey menu with the applications
- The FSV-K9 power sensor softkey is in the menu of the new FSV hard key INPUT/OUTPUT menu
- The new FSV hard key AUTO SET allows automatic level and frequency adjusts routines. Although the routine is optimized for sinusoidal signals the minimum measurement time can be set e.g. for bursted signals.
- For frequency sweep mode the SWEEP TYPE can be configured in the SWEEP or AUTO SET menu. In sweep type AUTO mode the analyzer decides upon the settings like span, sweep time, RBW, etc. whether a swept frequency sweep or an FFT sweep shall be carried out to ensure best measurement speed.
  With the sweep type SWEEP only swept frequency sweeps and with the sweep type FFT only FFT sweeps can be selected. In the FSP the FFT mode was under the FILTER TYPE softkey. This setting is in the FSV now under SWEEP TYPE.
- The HELP key provides context sensitive online help including remote commands.

- After entering an application once (like analog demodulation) a second tab is opened in the upper part of the display. This allows easy switching between applications by just touching the tabs.
- Support of 16 markers and a marker table. If tables get to large it is possible to scroll with the touch screen or to maximize the table with the CHANGE FOCUS and MAXIMIZE/TILE hard key.
- A wizard is available in the TRACE menu to easy set up all 6 traces at a glance.
- Dialogs and input fields are on the upper right side to be near the softkeys. They can be moved to any place on the screen and re-appear there when re-opened.
- An FSP compatible mode can be selected. Then the FSV behaves as an FSP (e.g. same number of sweep points, bandwidths like FSP, etc.) and also identifies itself at the *IDN command as an FSP. So FSP remote programs can be reused.
- Under Setup/Display Setup different themes for the color definition can be found, also a ‘GrayStone’ one that makes the FSV look like it has FSP softkeys.
- USB connectors are available on the front.
- The instrument account password has changed from the FSP to FSV. The account password is not any longer ‘instrument’ but ‘123456’, so getting local instrument control back after Remote Desktop usage can be done easily via the instrument's number pad.
- There is a link on the Windows Desktop and in the start menu to reach the R&S User Data. This points to the standard directory of hardcopies and save/recall files, so if the files shall be copied on a memory stick the can easily be found via this link.
- The FSP cold boot feature with the decimal point does no longer exist. Instead if it is necessary the shutdown and calibration files can be deleted with the link “Delete Shutdown Files” in the START/ALL PROGRAMS link.

Appendix: Contacting our Hotline

Any questions or ideas concerning the instrument are welcome by our hotline:

USA & Canada

Monday to Friday (except US public holidays)
8:00 AM – 8:00 PM Eastern Standard Time (EST)
Tel. from USA 888-test-rsa (888-837-8772) (opt 2)
From outside USA +1 410 910 7800 (opt 2)
Fax +1 410 910 7801
E-Mail Customer.Support@rsa.rohde-schwarz.com

East Asia

Monday to Friday (except Singaporean public holidays)
8:30 AM – 6:00 PM Singapore Time (SGT)
Tel. +65 6 513 0488
Fax + 65 6 846 1090
E-Mail Customersupport.asia@rohde-schwarz.com

Rest of the World

Monday to Friday (except German public holidays)
08:00 – 17:00 Central European Time (CET)
Tel. from Europe +49 (0) 180 512 42 42
From outside Europe +49 89 4129 13776
Fax +49 (0) 89 41 29 637 78
E-mail CustomerSupport@rohde-schwarz.com