
Important: After update a switch off at the rear panel and a restart may be necessary due to a new FPGA version!
Since V1.90 the default windows password is "123456"!



ROHDE & SCHWARZ

Test and Measurement
Division

Release Notes

Firmware Release V1.90

for R&S FSL Spectrum Analyzers

with order number: **1300.2502.xx**

New Features of V1.90:

- Support of FSL-K82 cdma2000 BTS measurement
- Support of FSL-K91n 802.11n measurements
- Support of 3 trace average modes now: Lin, Log and Power
- Support XML file export to create own standard files in spectrum emission mask measurement
- Support power class definitions to support different limits depending on the TX power in spectrum emission mask measurement
- Time and Date information on print out can now be switched off
- Information about expiring temporary licenses
- FSL-K9: Support external trigger from power sensor
- Windows user "instrument" password changed to "123456" for access via front panel
- Windows shutdown is now default shutdown behavior

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History

Date	Rel Note Rev	Changes
31. July 2008	1	First revision for V1.90
11. Aug. 2008	2	Eliminated problem for FSL-K93 SP1 added.

General Topics

Prerequisite for Firmware Update

Attention: In order to ensure a correct firmware update a minimum version 2.03 of the FSL XP Image is required.

The XP image version is shown during start-up. When the R&S FSL splash screen appears the “XP Image Version” is shown in the top left corner. The minimum required XP image version is 2.03. (The information is also available in the registry, use regedit HKEY_LOCAL_MACHINE/Software/Image/MajorVersion and /MinorVersion. The decimal values in brackets are the valid ones. MajorVersion (2) and MinorVersion (1) means 2.01)

If the XP image version is 2.01 the “XP Image Update 2.03 for FSL” or newer is required to install before proceeding any further firmware installations. The “XP Image Update for FSL” with its own release notes can be downloaded from the R&S internet in the FSL download section. Please install the XP image update according to its release notes.

Without the minimum XP image version 2.03, the firmware update will complete without any effect and the firmware version will remain unchanged (Setup | More | System Info | Versions+Options: Table entry Instrument shows the old firmware version number)

Firmware Update

If the XP Image Update fulfils the prerequisite (see chapter above) the firmware update can be carried out.

The firmware update set of the R&S FSL consists of one package file (with the extension .package) and the following installation files (with the extension .msi):

FSL.package	SA-*_FSL.msi	K30-*_FSL.msi	K92-*_msi
CO-*_FSL.msi	SP-*_FSL.msi	K72-*_FSL.msi	
HW-*_FSL.msi	LXIWebIfc-*_FSL.msi	K82-*_FSL.msi	
KS-*_FSL.msi	K20-*_FSL.msi	K91-*_FSL.msi	

The * is the placeholder for a detailed version information of that file.

Copying the installation files to the instrument

To install a new firmware version the installation files of the new version have to be copied to the instrument. This can be done in several ways:

Using a memory stick:

- Copy all files to a directory of the memory stick (the default path is D:\FW_UPDATE).
- Insert the memory stick into one of the USB sockets at the front panel of the R&S FSL.

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

- Connect the R&S FSL to your LAN.
- Start the remote desktop on your PC (C:\winnt\system32\mstsc.exe).
- 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.
- Login to the instrument (user name and password are by default "instrument").
- To get the TCP/IP address of the instrument, in the **Start** menu, select **Settings → Network Connections → Local Area Connection (2) → Properties**, select **Internet protocol (TCP/IP)** and press the **Properties** button.
An edit dialog box with the **IP address** field is displayed. The IP address consists of 4 numbers between 0 and 255.
- After the login, create an own directory and copy all installation files from your PC to the instrument using the explorer at the instrument (the drives of your PC are listed in the folder window of the explorer as well as the local drives of the instrument).

Performing the firmware update on the instrument

The firmware update process is performed in the following steps:

- Switch the instrument on and wait until the Analyzer has resumed operation.
- Press the **SETUP** hard key, go to the side menu using the **More** softkey, and press the two softkeys **Firmware Update** one after the other.
A dialog box is displayed. If necessary, change the default path to locate the installation files (enter the path name using an external keyboard or the keypad at the front panel of the instrument or use the **Browse** button).
- Press the **Execute** button to start the update.
The instrument firmware is shutting down and a dialog box is displayed. By default all the installation packages for the basic analyzer firmware available at the path you entered are selected.
- Firmware applications (e.g. FSL-K20) appear at the end of the list and can be selected with the key.
- Press the **Install** button.
The installation is running. After a few minutes the system will restart automatically. After the restart the firmware installation is complete.
- After the firmware update the UNCAL flag appears. A self alignment is necessary. Press the **SETUP** hard key, **Alignment** and the **Self Alignment** to start the alignment procedure.
- 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 will be displayed:
"Start automatically reload of PCI FPGA ..."
The update will be performed automatically.

Afterwards, a message box with the following text will be displayed:

"Finished automatically reload of PCI FPGA. Reboot the device!"

Now, please turn off the instrument at the rear panel.

If you have an instrument with options FSL-B30 (DC power supply) and FSL-B31 (battery pack), please switch off the instrument at the front panel too. Wait until the instrument is completely switched off.

After a few seconds, you can restart the instrument.

For problems with firmware installation see the chapter "Appendix: Installation troubleshooting" at the end of this document.

Firmware installation of the R&S FSL-K7 analog demodulator, R&S FSL-K8 BLUETOOTH Analyzer software, R&S FSL-K9 power sensor measurement and R&S FSL-K14 spectrogram measurement

The R&S FSL-K7, R&S FSL-K8, R&S FSL-K9 and R&S FSL-K14 application software packages are included in the basic instrument firmware. Therefore they do not need a separate firmware update procedure.

Firmware installation of the R&S FSL-K20/K72/K82/K91/K91n/K92/K93/LxiClassC

As mentioned in the firmware update description above, these applications have their own installation file and are therefore added to the selection list. Simply check it with the key if their installation is requested.

Note:

Since version 1.90 there is a different LXI package in the installation. The old LXI package will be disabled by a red cross by default. The new one can be selected with the key if required.

Note:

The functionality of the FSL-K91n is integrated within the K91 and the functionality of the FSL-K93 is integrated within the K92 msi file and they are activated by their own key codes.

Compatibility of R&S FSL-K20/K30/K72/K82/K91/K91n/K92/K93

The compatibility of these firmware options is checked with the installation tool. If a non compatible version of the basic instrument firmware is installed the options will be deleted.

R&S FSL V1.90 is compatible to the following firmware option releases:

R&S FSL-K20	R&S FSL-K30	R&S FSL-K72	R&S FSL-K82	R&S FSL-K91 R&S FSL-K91n	R&S FSL-K92 R&S FSL-K93
1.90	1.90	1.90	1.90	1.90	1.90SP1

Enabling options via option key code entry

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

For activation of application software packages a license key for validation must be entered. 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:

- Press the **SETUP** hard key, go to the side menu using the **More** softkey, and press the **Option Licenses** softkey and then the **Install Option** softkey.
A dialog box is displayed.
- Enter the option key number using the keypad.
- Press **ENTER**.
On a successful validation the message **option key valid** is displayed. If the validation failed, the option software is not installed.

New Functions

The version numbers indicate the version in which the new function was introduced:

Version	Function
V1.90	Support of FSL-K82 cdma2000 BTS measurement
V1.90	Support of FSL-K91n 802.11n measurements
V1.90	Support of 3 trace average modes: Lin, Log and Power
V1.90	Support XML file export to create own standard files in spectrum emission mask measurement
V1.90	Support power class definitions to support different limits depending on the TX power in spectrum emission mask measurement
V1.90	Time and Date information on print out can now been switched off
V1.90	Information about expiring temporary licenses
V1.90	Windows user "instrument" password changed to "123456" for access via front panel
V1.90	Windows shutdown is default shutdown behavior
V1.90	FSL-K9: Support external trigger from power sensor

Modified Functions

The version number indicate the version in which the modification was carried out.

Version	Function
V1.90	Windows user "instrument" password changed to "123456" for access via front panel.
V1.90	Windows shutdown is default shutdown behavior in order to prevent problems when the device is switched off first at the front and the immediately at the rear panel. It is strongly recommended to switch the FSL off at the rear panel after the shut down sequence of Windows is complete.
V1.90	If the UNIT of the analyzer is set to A (ampere) the remote system query of the command CALC:UNIT:POW? returned "AMP" instead of "A". This is corrected.
V1.90	ACP measurement: The cdma2000DC, cdma2000MC3 and WCDMA 4.096MHz are removed. New sorting of the standard list.
V1.90	The reference level and reference level offset can now be entered in the resolution of 0.01dB.

Eliminated Problems in V1.90

The version number indicate the version in which the error was observed for the first time.

Version	Function
V1.80	New synthesizer setup table.
V1.80	For R&S FSL devices with mother board 2112.1800 the printing in WMF format is now possible again.
V1.80	For R&S FSL devices with mother board 2112.1800 the resolution of measurement results in zero span with small sweep time and high resolution is increased.
V1.80	After using an external monitor the startup information is not centered on the screen. This problem is solved. In case you are using VNC you can reconfigure this by Windows: Start, Settings, Control Panel, Display, Settings, Advanced, Monitor: Untag the „Hide modes that this monitor cannot display“
V1.80	In APD mode if trace 1 is blank (off) and trace 2 is in view mode the complete grid is filled with lines. This problem is solved.
V1.80	FSL-K14: Frame number in marker reading corrected.
V1.80	FSL-K91: Time taken to activate option has now been reduced.
V1.80	FSL-K93: Measurements now run correctly directly after warm-start and recall.
V1.80	FSL-K93: INPut1:GAIN:STATe remote command now working correctly.
V1.80/ V1.90	FSL-K93 V1.90 SP1: Recalling bandwidth for WCS band corrected.

Known Problems

The version number indicate the version in which the error was observed for the first time.

Version	Function
V1.30	With some save sets containing trace information, the traces are only properly shown if the set is restored after a preset.
V1.81	FSL-K91 and R&S FSL devices with mother board 2112.1800.02: Trace pixels in capture buffer and PVT display with values below (RefLevel-60dB) may be displayed wrong (to low).

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 FSL within the category MANUAL.

Last minute changes to the operating manual

NONE.

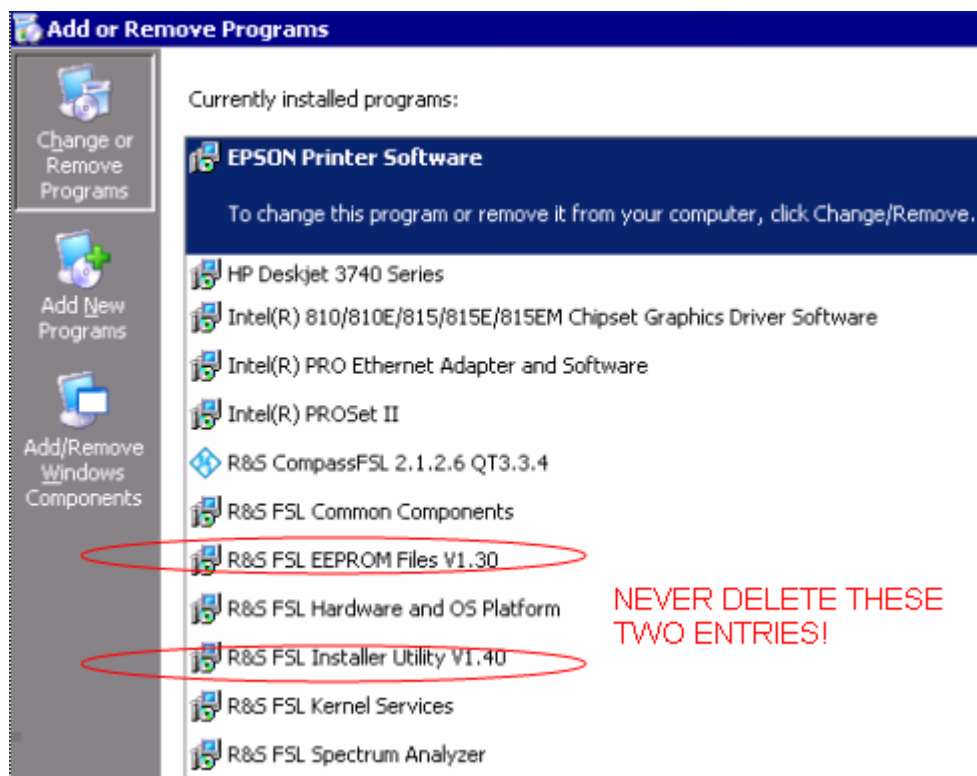
Appendix: Installation troubleshooting

The installation will only be carried out correctly if it is done through the firmware with **Setup | More | Firmware Update** as described in the “Firmware Update” section in this release notes. A second valid possibility is the usage of the update tool (FSLUpdate)

**Never try to update by starting the MSI-files directly!
In this case version checking is not carried out and this may lead to
black screens when starting up the firmware or an application.**

If such an installation problem occurs on the FSL the following procedure will completely remove the firmware and a new installation of firmware and applications is possible. Please use a USB keyboard and mouse for this procedure.

- Open DOS prompt
- Change to the following folder (please include the quotes “ ” due to the blank and the & sign)
`cd "C:\Program Files\Rohde&Schwarz\Installer"`
- Execute `FSLInstaller.exe /remove`
- Confirm with *Install* twice
- (after reboot it may happen that the driver needs to be copied again, allow this action)
- Execute *Windows Start -> Settings -> Control Panel -> Add or Remove Programs*
- Remove all R&S FSL components which are left - except the following components
 - R&S FSL Installer Utility Vx.xx
 - R&S FSL EEPROM Files Vx.xx



- Now execute *Windows Start->Programs->Accessories->FSLUpdateTool*
- Install firmware as described above in the “Firmware Update” section

Appendix: Contact to 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