



ROHDE & SCHWARZ

Test and Measurement
Division

Release Notes

Firmware Release 4.43 SP3

for R&S ESU EMI Test Receiver

with order number: **1302.6005.xx**

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History

Date	Rel Note Rev	Changes
01. Dec 2008	13	First revision for 4.33
20. Jan 2009	14	Firmware Update changed
03. Mar 2009	15	Release for 4.33 SP1
20. Nov 2009	16	Release for 4.43
22. Jan 2010	17	Release for 4.43 SP1
11. Feb 2010	18	Release for 4.43 SP2
11. Aug 2010	19	Release for 4.43 SP3

General Topics

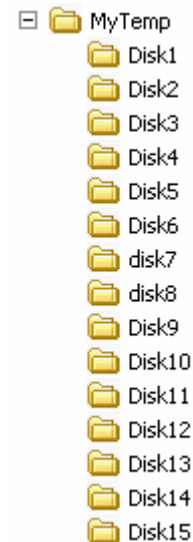
Firmware Update

Generation of the update set

The instrument firmware is provided as ZIP. It is available from our website.

Preparing installation via USB stick or LAN:

- Download the update set ZIP file.
- Extract the contents of the ZIP file to a temporary folder, e.g. C:\MyTemp.
Other files (e.g. release notes) shall not be stored in these directories. These files would be copied on harddisk and may cause a disk full problem on drive E:.
- Now copy the content of the temporary folder including all sub folders if present to a USB stick.
- The USB stick is now ready for the update.



Performing the firmware update on the instrument

A new method for update is available, if the installed firmware is V4.13 or newer.

Firmware Update from version < 4.13 to 4.13 or newer:

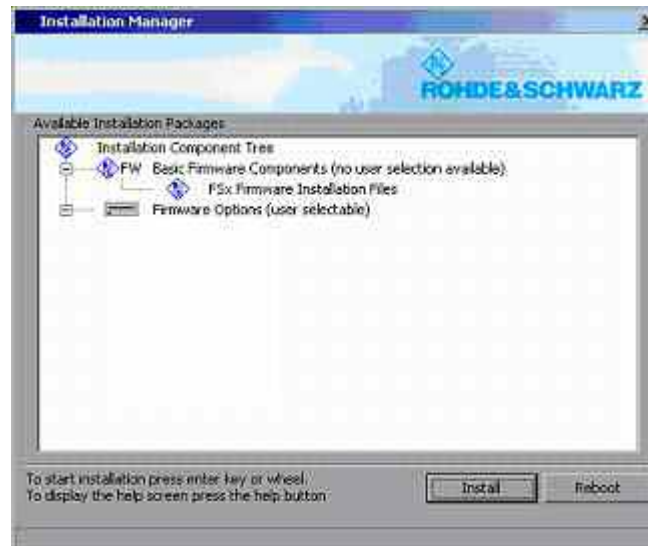
Skip this step, if the installed firmware is V4.13 or newer. The firmware update process is performed as follows:

- Switch the instrument on and wait until the Receiver has resumed operation.
- Use the SETUP | NEXT | FIRMWARE UPDATE | UPDATE PATH softkey to specify any path for the location of the disk directory (e.g. F:\MyTemp).
- Press SETUP → NEXT → FIRMWARE UPDATE
- Confirm the query "Do you really want to update the firmware?" with OK
- Confirm the copy process.
- The instrument will perform several automatic shutdowns, until the new firmware is installed properly.
Do not switch the instrument off until the update process has been finished completely.

Complete Update with update manager:

- Use the SETUP | NEXT | FIRMWARE UPDATE | UPDATE PATH softkey to specify any path for the location of the disk directory (e.g. F:\MyTemp).
- Press SETUP → NEXT → FIRMWARE UPDATE
- Confirm the query "Do you really want to update the firmware?" with OK

The *Installation Manager* will terminate the analyzer application, search for available application update set and will show a selection list.



- Start the installation process with INSTALL. REBOOT will abort the update and restart the analyzer application without any changes.
- The instrument will perform several automatic shutdowns, until the new firmware is installed properly.

Do not switch the instrument off until the update process has been finished completely.

After a successful firmware update it is necessary to execute the instrument's self alignment process by pressing CAL and softkey CAL TOTAL.

Known problems during firmware update

After switching on the instrument for the first time after a successful firmware update, the following system message might occur once:

System Message
CDS: Error...

In this case the unit needs to be switched off and on again. This system message does not appear again during further power-on cycles.

Note: *If the unit is not restarted as described, system error correction data (CAL TOTAL) of a later date will be lost when switching the unit on again.*

New Functions in version 4.43

Spectrum Analyzer Mode:

- Configurable Spectrum Emission Mask measurement available in analyzer mode.
- ACP measurement: User definable standards.
- ACP measurement: New standards for E-UTRA / LTE
- TOI Measurement: New TOI marker search function added (TOI MKR CALC/SRCH).
- Harmonic Measurement: Additional remote command to get the used resolution bandwidth settings (CALCulate1:MARKer1:FUNCTion:HARMonics:BANDwidth[:LIST]?)

General:

- Optional low noise preamplifier (option R&S ESU-B24) now also available below 3.6 GHz in combination with active preselector.
- Auto Login Password changed for user "instrument" to "123456"
It is now possible to enter the password after remote desktop connection by the front panel.
- External Reference: Selectable PLL bandwidth and new "Fall Back to Internal" mode EXT [INT].
- Additional Overload indication OVTRC.
- FSP-B10: Support for SMBV100a, SMA100a and SMB (TTL mode).

Modified functions

Modified functions in version 4.43:

Receiver Mode:

- **Receiver parameters are coupled to all spectrum analyzer screens.**
Receiver parameters, e.g. receiver frequency, were only coupled to screen A after changing from receiver mode, IF Analysis or APD to spectrum analyzer mode. Now the parameters are coupled to both spectrum analyzer screens (screen A and screen B).

General:

- **Auto Run disabled for USB Memory sticks.**
- **Save-/Load-/Delete-template dialogs improved.**

Modified functions in version 4.43 SP2:

General:

- **Adaptions to component changes in production.**

Modified functions in version 4.43 SP3:

Receiver Mode:

- **Frequency tuning with CISPR detectors.**
When doing measurements with the quasipeak detector a settling time of four seconds was applied when tuning the frequency with the knob. Now this delay is only carried out when the dwell time is ≥ 1 sec. With smaller dwell times the signal observation time is started immediately after changing the frequency. This modification makes it easier to manually measure drifting and unsteady signals. Instrument behaviour under remote control and with numeric input of the receiving frequency remains unchanged.
- **Quasipeak detector in Time Domain Scan.**
Optimized performance of the quasipeak detector in time domain scan (option ESU-K53).

Improvements

The version numbers in brackets indicate the version in which the problem was observed for the first time.

Improvements in version 4.43:

Receiver Mode:

- **(V4.33) Downranging in receiver scan improved.**
If a scan with autorange was started with an initial attenuation of 40 dB, no downrange was performed in some frequency ranges with no signal connected.
- **(V4.33) Changing marker frequency in IF Analysis while quasipeak detector was settling did not work.**
Some softkeys were not accessible in IF Analysis mode after that sequence: quasipeak detector was active, frequency was tuned by using the rotary knob and a marker was switched on before the first measurement value of the quasipeak detector was displayed.
- **(V4.33) Recall of saveset with peak list with only one element did not work.**
If a saveset with an existing peak list was recalled, the peak list was not displayed on the scan screen if the list contained only one element.
- **(V4.33) Measurement accuracy of quasipeak detector in IF Analysis mode with a resolution bandwidth of 120 kHz improved.**
- **(V4.33) Preamplifier state after running a scan with “Current Settings”.**
If a scan was started with “Current Settings”, the preamplifier was set to the state defined in the scan table after the scan was finished. In this case the preamplifier state should remain unchanged.
- **(V4.33) Recall with active limit lines.**
If a saveset with active limit lines was recalled, in some cases the limit lines were not displayed.
- **(V4.13) Empty hardcopies after aborting scan several times.**
If a scan was aborted more than 50 times, all subsequent hardcopies were empty.

Spectrum Analyzer Mode:

- **(V4.33) ACP Power Mode MAX HOLD was set to it's default after the selection of C/N measurement.**
- **(V4.33) Signal Statistics: Changing sweep mode to SINGLE SWEEP was ignored for other measurement modes, e.g. ACP, C/N or C/N0.**
- **(V4.33) Signal Statistics: Gated Statistics with more than one active trace did not work.**
The measurement was internally restarted if the required number of samples for all traces was not reached. As a result in single sweep mode the measurement did not terminate.
- **(V4.33) Spurious Emissions: TRANSDUCER function REF LVL ADJ AUTO was not taken into account for spurious emissions measurement.**
The transducer function REF LVL ADJ AUTO is not supported for spurious emissions measurement. As a result the allowed reference level range is not adjusted if the function REF LVL ADJ is set to AUTO and a transducer is activated in the related sweep range.
- **(V4.33) Signal Track lost signal during manual reduction of span.**
- **(V4.33) Slow zero span measurement with center frequency greater than 3.6 GHz.**
If a zerospan measurement was activated at a center frequency greater than 3.6 GHz and a resolution bandwidth of 10 Hz, the measurement was slow. This effect only occurred at ESU's with a frequency range of 26.5 GHz and 40 GHz.

General:

- **(V4.33) The instrument locked up if the dialog SETUP – GENERAL SETUP – OPTIONS – FW EXTENSION was left by ESC/CANCEL without a file name being entered.**

- **(V4.33) Remote command "STAT:QUES?" returned a wrong CAL state.**
The instrument returns the wrong status value for bit 8 (CALibration), if the display is switched off (done by default or after sending the remote command SYST:DISP:UPD OFF).
- **(V4.33) Preinstalled transducer factor MDS21 changed.**
All level values are increased by 17 dB to compensate the internal conversion from dBµV to dBpW.
- **(V4.33) Transducer set selection with more than 16 sets.**
If more than 16 transducer sets are available, the transducer table is divided into two or more pages. When a transducer set on any line of page 2 was selected, then the transducer set on the same line in page 1 was activated.
- **(V4.33) Text was inserted twice in all edit fields by using CTRL-V.**
If a text was copied into the clipboard by using CTRL-C, this text was inserted twice in all edit fields.
- **(V4.33) Hotkeys were not highlighted in proper mode after recall.**
If a saveset was recalled, always the "Spectrum" hotkey was highlighted independent of the currently activated mode.

Improvements in version 4.43 SP1:

Analyzer Mode:

- **(V4.43) Synthesizer setup of analyzer sweep improved.**

Improvements in version 4.43 SP3:

Analyzer Mode:

- **(V4.43 SP2) Synthesizer setup of analyzer sweep improved.**

Known Issues

- **Savesets of versions 3.83 and 3.93 only can be recalled if the Report-Item is deselected in the save/recall item list.**
- **Underload detection in Status Reporting not available.**
The detection of an underload in receiver mode is not available. Bit 1 and bit 9 in the STATus:QUESTIONable:POWer register will not be set.

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