R&S®EPL
Release Notes

Firmware Version 1.20-SP1

These Release Notes are for following models of the R&S®EPL Measurement Receivers:
R&S® EPL1000, order no. 1350.4444K10

1179.7110.02 | Version 01 | R&S®EPL|

The software makes use of several valuable open source software packages. For information, see the "Open Source Acknowledgment" provided with the product.

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Contents

1 Information on the current version and history

1.1 Version 1.20-SP1

Improvements

The following tables list the improvements and indicate since which version the issue could be observed:

Version	Contents
1.20	When switching the power off using the front panel power key or "Power"->"Restart" in the Windows "Start" menu, the instrument firmware was terminated without storing its recent settings. On the next start the instrument firmware restored older settings or the instrument default settings. This issue is solved.

1.2 Version 1.20

New functionality

Version	Contents
1.20	New option EPL1-K55E, Realtime Spectrogram
1.20	AMN6500 was added as a supported LISN type.

Modified functionality

Version	Contents
1.20	Rework of the input overload handling. The OVLD status flag stays active and must be confirmed by the user even after the overload condition is no longer present.

Improvements

The following tables list the improvements and indicate since which version the issue could be observed:

Version	Contents
1.20	After switching the power off / on using the front panel power key or "Power"->"Restart" in the Windows "Start" menu, the instrument started with default settings rather than with the previously active settings. This issue is solved.

Version	Contents
1.10	Instrument Warming Up message does not disappear even after hours of operation. This has been solved.
1.10	Internal generator settings cannot be changed during stepped scan. This has been solved.

Known issues

Version	Contents
1.20	On Windows 10 IoT Enterprise LTSC 2021, the "File Explorer" button in file dialogs (e.g. *File → Recall → File Explorer; File → Save → Save → File Explorer*) is disabled.
1.00	Instruments with B31 and two batteries: Sometimes only half of the battery filling level is shown in the status line. Despite that, the batteries are both working. The correct filling levels can be seen on the rear of the batteries themselves.
1.00	On EPL1000 devices with serial <100913 the touch controller sometimes stops working. It is necessary to update the MS Windows touch driver to solve this issue. Check *www.rohde-schwarz.com → EPL1000 → Firmware* for instructions.

1.3 Version 1.10-SP1

New functionality

Version	Contents
1.10	New option EPL1-K59, Click Rate Analysis
1.10	During remote operation, the display can be switched on and off by the command DISPlay:SCReen:STATe ON | OFF

Modified functionality

Version	Contents
1.10	Mode Receiver: The bargraph settings section in the reports has been extended.
1.10	Mode Receiver: The timestamps for the TDS spectrogram are now calculated more accurately.
1.10	Mode Spectrum: Continuous Zero Span measurements have been made faster.
1.10	Option R&S EPL1-K54: The status bar warning message regarding the amount of sweep points is now based on RBW/2 instead of RBW/3.

1.10	The remote screen (Display Update Off) now shows the used remote connection.

Improvements

The following tables list the improvements and indicate since which version the issue could be observed:

Version	Contents
1.10	Mode Spectrum: Spectrogram windows did not update during zero span measurements. This has been solved.
1.00	The toolbar button "Disconnect RF" and the checkbox "RF OFF" in the preselector dialog could show inconsistent information. This has been solved.
1.00	Mode Receiver: During audio demodulation a clicking noise was audible. This has been solved.
1.00	Mode Receiver/Bargraph: When measuring with small bandwidth and very low input, the bargraph sometimes showed a too high value for a short time. The numerical result and the maxhold readouts were OK. This has been solved.
1.00	Mode Receiver: The dialog "IF Overload" showed a button "Auto Level" which worked in Spectrum mode only. The dialog now is mode-specific.
1.00	Mode Spectrum/Zerospan: During audio demodulation a clicking noise was audible. This has been solved.
1.00	Demo instruments with option K0 showed option B91 in the Options and Versions dialog, even if the necessary hardware was not present. This has been solved.
1.00	In the Online Help some links to the EPL web site did not work. This has been solved.
1.00	If only one channel was open, the name of the channel (e.g. "Receiver") was not shown. This has been solved.
1.00	A small memory leak was fixed.

Known issues

Version	Contents
1.00	Instruments with B31 and two batteries: Sometimes only half of the battery filling level is shown in the status line. Despite that, the batteries are both working. The correct filling levels can be seen on the rear of the batteries themselves.
1.00	On EPL1000 devices with serial <100913 the touch controller sometimes stops working. It is necessary to update the MS Windows touch driver to solve this issue. Check the R&S EPL1000 firmware website for instructions.

1.4 Version 1.00 SP1

New functionality

Version	Contents
1.00 SP1	No change

Modified functionality

Version	Contents
1.00 SP1	No change
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Improvements

Version	Contents
1.00 SP1	Production related changes only.
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Known issues

Version	Contents
1.00	Instruments with B31 and two batteries: Sometimes only half of the battery filling level is shown in the status line. Despite that, the batteries are both working. The correct filling levels can be seen on the rear of the batteries themselves.
1.00	Over time, the device can eventually run out of memory. The user is informed with a system message on such occasions. To avoid this, it is recommended to restart the instrument on a regular basis.
1.00	Depending on the measurement time there may be a small clicking during audio demodulation.

1.5 Version 1.00

Firmware package contents

Version	Contents
1.00	Mode "Receiver": including stepped scan, time domain scan and IF-analysis
1.00	Mode "Spectrum": Spectrum analyzer measurements including EMI measurements.
1.00	Mode "I/Q Analyzer": Visualization and export of I/Q data
1.00	Mode "Analog Demod": AM/ FM/ PM Measurements

New functionality

Version	Contents
1.00	Support for EPL1000
1.00	Supported options: R&S®FPL1-B4: OCXO Precision Frequency Reference R&S®FPL1-B10: GPIB Interface R&S®FPL1-B30: DC Power Supply 12/24V R&S®FPL1-B31: Internal Li-Ion Battery R&S®EPL1-B91: Internal Generator R&S®FPL1-K7: AM/FM/PM Modulation Analysis R&S®EPL1-K56: IF Analysis

Modified functionality

Version	Contents
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Improvements

Version	Contents
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Known issues

Version	Contents
1.00	Instruments with B31 and two batteries: Sometimes only half of the battery filling level is shown in the status line. Despite that, the batteries are both working. The correct filling levels can be seen on the rear of the batteries themselves.
1.00	Over time, the device can eventually run out of memory. The user is informed with a system message on such occasions. To avoid this, it is recommended to restart the instrument on a regular basis.
1.00	Depending on the measurement time there may be a small clicking during audio demodulation.

2 Modifications to the documentation

Version	Contents
1.10	EPL1-K59: In the documentation, the SCPI command for the softkey "Update Analysis" is given as `INITiate1:SANalysis`. You have to use `INITiate1:UANalysis` instead

3 Firmware update

3.1 Validity information

The firmware is referring to the following model numbers:

Device	Order Number
R&S® EPL1000	**1350.4444K10**

3.2 Update information

The firmware update file for the R&S®EPL is one file including the main firmware version number e.g. EPL1000Setup_V1.00.exe. It is referred to as EPL1000Setup.exe throughout the text. You can find the file on the Rohde & Schwarz web page:

http://www.rohde-schwarz.com/firmware/epl1000

3.3 Updating the firmware

There are three ways to provide access to the EPL1000Setup.exe for the R&S®EPL.

Using a USB storage device:

1. Copy the file to a directory of the storage device.

2. Insert the storage device in one of the USB connectors of the R&S®EPL.

Using the remote desktop:

1. Connect the R&S®EPL to your LAN.

2. Start the remote desktop on your PC (C:\winnt\system32\mstsc.exe or C:\windows\system32\mstsc.exe).

3. Enter the required connection settings: TCP/IP address of the instrument you want to update. To get the TCP/IP address of the R&S®EPL, select [Setup] > "Network + Remote". The IP address consists of 4 numbers between 0 and 255.

4. Enable the "local resources" > "drives" option.

5. Select "Connect".

6. Log in to the instrument using the user name: "instrument" and the default password "894129".

7. Copy the EPL1000Setup.exe from your PC to a new folder, e.g. C:\FWUpdate.

8. You can now access this directory with the EPL1000Setup.exe from the R R&S®EPL firmware.

Using a network drive:

1. Connect the R&S®EPL to your LAN and establish a connection to one of your servers. (Ask the local IT administrator for support).

2. Copy the EPL1000Setup.exe from your PC to a directory on this server.

3. You can now access the directory with the EPL1000Setup.exe from the R&S®EPL firmware.

Performing the update on the instrument:

Update the firmware by performing the following steps:

1. Switch on the instrument and wait until the analyzer is ready for operation.

2. If a measurement is running, stop it by pressing the highlighted [Run Cont] or [Run Single] key. Do not update the firmware during a running measurement.

3. Select [Setup] > "System Config" > "Firmware Update" tab.

4. In the file selection dialog box, select the EPL1000Setup.exe file from the prepared storage location.
    "File Explorer": Instead of using the file manager of the R&S®EPL firmware, you can also use the Microsoft Windows File Explorer to manage files.

5. Select "Install".

6. Select "Next". A selection list of the available firmware packages is displayed.

7. By default, all applications are installed. Make sure the required applications are selected.

8. Select "Install" to start the update.

    After the firmware update, the R&S®EPL reboots automatically.

    Depending on the previous firmware version, a reconfiguration of the hardware can be required during the first startup of the firmware. The reconfiguration starts automatically, and a message box informs you about the process. When the reconfiguration has finished, the instrument again reboots automatically.

    Note: Do not switch off the instrument during the reconfiguration process!

    Now the firmware update is complete.

9. After the firmware update, the "UNCAL" status is displayed in the status bar. A self-alignment is necessary.

10. Perform a self-alignment ([SETUP] > "Alignment" > "Start Self Alignment").

3.4 Performing the firmware update from a Windows PC

You can also update the firmware using a LAN connection between the instrument and a Windows PC.

1. Run EPL1000Setup.exe on your PC.

2. Select "Remote Installation".

3. Select "Next".

9.

4. Select the packages to install.

5. Select "Next".

    Note:

    FOR FIREWALL USERS: The
    EPL1000Setup.exe communicates with
    the instrument via LAN. Therefore, the
    EPL1000Setup.exe file must pass the
    firewall. Add it to the firewall rules, then
    restart the scan using "Rescan".
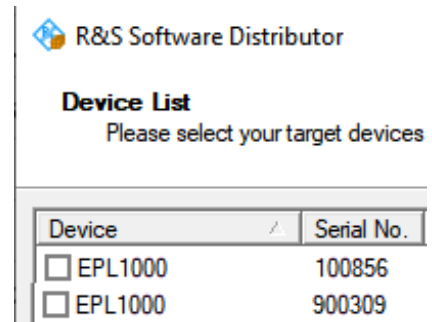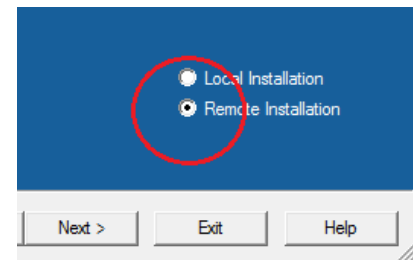
6. The setup procedure scans your LAN subnet and displays all found instruments

7. Select the instruments you want to update. You can select up to 5 instruments to
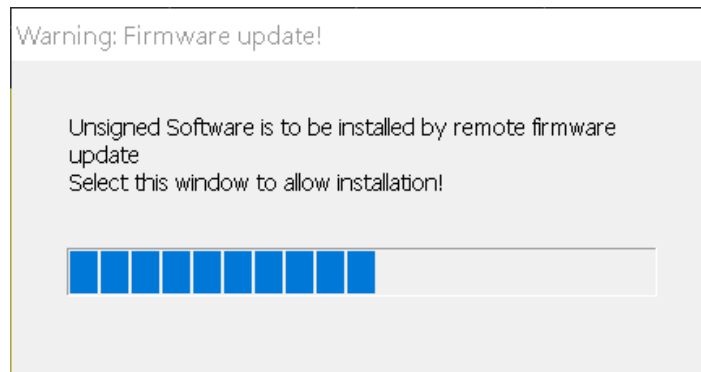   update in parallel.

NOTICE

Be careful and check twice if you have selected the correct instruments. Depending on
your company's network structure, also instruments of other departments are included!

8. If necessary, select "Help" to display additional help. Select "Install" to start the
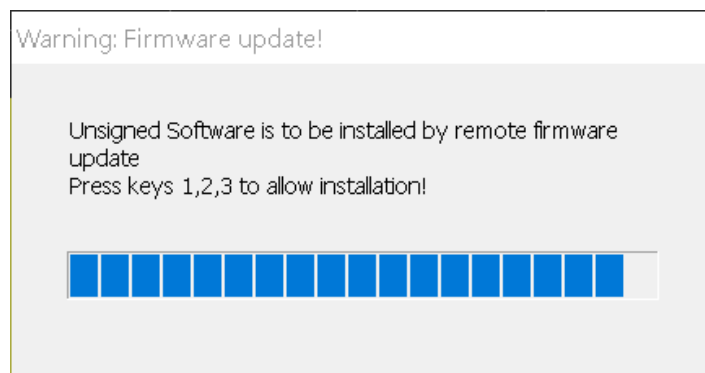   installation.

    Note on package signing
    MSI package signing of setups is a security feature that was added as of firmware
    version V1.20. It prevents man-in-the-middle attacks with manipulated MSIs
    during remote firmware installation. After installing a setup file with signed MSI
    files, installing a setup file whose MSI files are not signed requires an additional
    step, if you perform the installation from a remote PC. For example, when you
    downgrade the firmware to a version prior to 1.20. In this case, you must confirm
    the less secure installation on the device.

    After starting the remote installation, the following message is shown on the
    device.

Warning: Firmware update!

Unsigned Software is to be installed by remote firmware update
Select this window to allow installation!

a) Tap the message box on the device, or click on it via Remote Desktop.
    The following message is shown on the device.

Warning: Firmware update!

Unsigned Software is to be installed by remote firmware update
Press keys 1,2,3 to allow installation!

b) Press the keys 1,2,3.
    If you do not confirm the installation on the device, it is aborted.

9. Confirm the message to reboot the instrument to activate the firmware update.
    The instrument restarts automatically.

10. After the firmware update, the "UNCAL" status is displayed in the status bar. A
    self-alignment is necessary.

11. Perform a self-alignment ([SETUP] > "Alignment" > "Start Self Alignment").

3.5 Installing firmware options

3.5.1 Firmware options included in basic instrument

All firmware options are included in the basic instrument firmware.

3.5.2 Other firmware options within the EPL1000Setup.exe file

The following optional application software packages have their own installation items and are therefore added to the selection list during the firmware update. Ensure that the checkbox is checked ☑ if the installation is requested.

● NONE

3.5.3 Enabling options by entering option key codes

NOTICE

Skip this section if the option key was entered once.

To activate application software packages, you must enter a license key for validation. You only have to enter the option key once per option.

If an XML-file with an option key was sent to you, see the installation description below.

The license key is in the device certificate or delivered as a part of the software package.

To enable an option using an option key

1. Select [SETUP] > "System Config" > "Versions + Options" tab.

2. Select "Install Option".

    A dialog box is displayed.

3. Enter the option key number using the keypad.

4. Press [ENTER].

    After a successful validation, the "Option Key valid" message is displayed. If the validation fails, the option software is not installed.

5. Repeat the activation process for all options you want to install.

6. Reboot the device.

7. Check whether the options are available on the instrument ([SETUP] > "System Config" > "Versions + Options" tab).

To enable options via an XML-file

1. Select [SETUP] > "System Config" > "Versions + Options" tab.

2. Select "Install Option by XML".

A file browser is displayed.

3. Select the path to the XML file (e.g. network drive or USB storage device).

4. Press "Select".

5. Repeat the activation process for all options you want to install.

6. Reboot the device.

7. Check whether the options are available on the instrument ([SETUP] > "System Config" > "Versions + Options" tab).

4 Customer support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

Contact information

Contact our customer support center at www.rohde-schwarz.com/support or follow this QR code:

Figure 4-1: QR code to the Rohde & Schwarz support page