

# R&S® Power Meter NRP2

## Release Notes

### Firmware Version 07.05

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The following abbreviations are used throughout this document:

R&S® PowerMeter NRP2 is abbreviated as R&S NRP2.

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# 1 Information on the Current Version and History

## 1.1 Version 07.05

### Firmware package contents

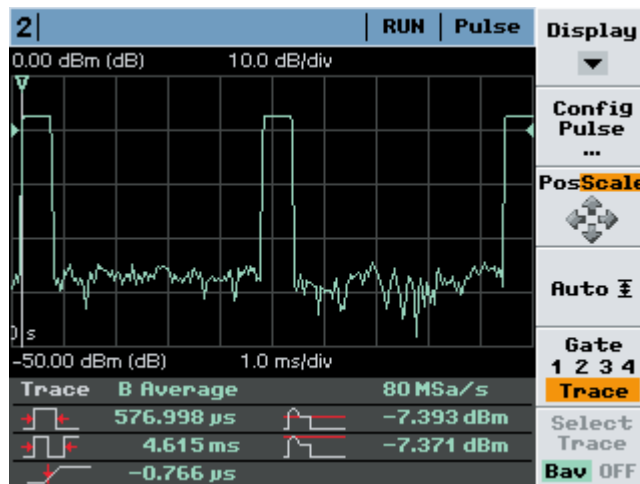
Component	FW version
Application	07.05
Boot Loader	07.05
Keyboard Controller	03.27

### New Functionality

- Multitrace support for statistics measurements: Two trace graphs in one display.
- AWGN (Additional White Gaussian Noise) reference trace.
- Tabular presentation of statistics measurements.
- Graphical display in halfsize windows is colored and shows all measurement types, that are available in fullsize windows:
  - Trace,
  - Gates,
  - Marker,
  - Pulse,
  - T'Slot and
  - Stat's
- New remote control emulation mode for R&S®NRVD.

### Fixed Issues

- Pulse analysis: RelatedTo-setting (power / voltage) is taken into account for the calculation of overshoot and undershoot values.
- Pulse analysis: After a PRESET (manual control) or \*RST (remote control) the following measurements are preselected:



- Pulse Width
- Pulse Period
- Start Time
- Top Power
- Max (Peak)

#### Known Issues

- The power must not be switched off during a firmware update of the keyboard controller. This restriction does not apply to the update of the bootloader or the firmware application.
- USBTMC: The RQS/MSS-Bit is not compliant to the IEEE 488.2 standard.
- USBTMC: Instable remote connections have been observed with some USB-Hubs. This may also happen, if the NRP2 is directly connected to a PC.

## 1.2 Version 07.03

#### Firmware package contents

Component	FW version
Application	07.03
Boot Loader	07.05
Keyboard Controller	03.27

#### New Functionality

- Multitrace support: Two trace graphs in one display.
- Calculation function X/Y for trace measurements.
- Remote control emulation modes supported by R&S®NRP2:
  - Talker mode for HP 436/437/438 (reading measurement results without query commands)

- Improved emulation of Agilent E4418B/E4419B
- Emulation of Agilent E1911/12
- New remote command `OUTPut[1]:TRIGger:STATe ON|OFF`.

#### Fixed Issues

- Emulation of Agilent E4418B/19B:  
The format of the `*IDN?` answer was changed by Agilent. The emulation was brought into line with the latest version of the Agilent E4418B/19B.
- Emulation of HP436A:  
Output format of measurement results was corrected in the 3rd place (specification of power unit). dB was denoted as dBm.
- Emulation of HP437B/HP438A:  
Trigger modes TR1 and TR3 now behave properly.
- Messages in the firmware update tool now correctly displayed, when the NRP2 is updated. The NRP2 can be rebooted, when the message  

```
Resetting device...
Waiting for device reset...
*** Do not unplug the device ***
Device <NRP2> serial <900002> is active
Programming finished!
It is now safe to unplug the device
```

appears.

## 1.3 Version 07.01

#### Firmware package contents

Component	FW version
Application	07.01
Boot Loader	07.03
Keyboard Controller	03.27

#### New Functionality

- Support of the color display
- Support of the automatic pulse analysis feature of the R&S NRP-Z8x wideband power sensors. The configurable window displays up to six selectable pulse parameters
- Enhanced trigger functionality supports master-slave triggering with the R&S NRP-Z8x wideband power sensors
- Remote control emulation modes supported by R&S@NRP2:
  - R&S@NRP

- HP 436A/437B/438A
- Agilent E4418B/E4419B

**Fixed Issues**

- Update of keyboard controller had timeouts and NRP2 didn't shut down.

## 2 Modifications to the Documentation

The documentation was updated with according to the new features.

## 3 Firmware Update

### 3.1 Update Information



*It is highly recommended to update the firmware of the sensors, too.*

#### 3.1.1 Installation Software

Use the Firmware Update program module from the R&S NRP toolkit to load the new firmware for the R&S NRP2. The toolkit is supplied on a CD-ROM together with the sensors. It is also available on the internet under <http://www.rohde-schwarz.com/product/nrp>.

#### 3.1.2 Prerequisites concerning the PC

A Microsoft Windows operating system with USB support (Windows 98SE/ME/2000/XP/7) must be installed. 32- and 64-bit systems are both supported. For the update process, one free USB port has to be available. The R&S NRP toolkit needs about 10 MByte of free space on the hard disk and must be installed prior to the update process.

#### 3.1.3 Connection between PC and R&S NRP2

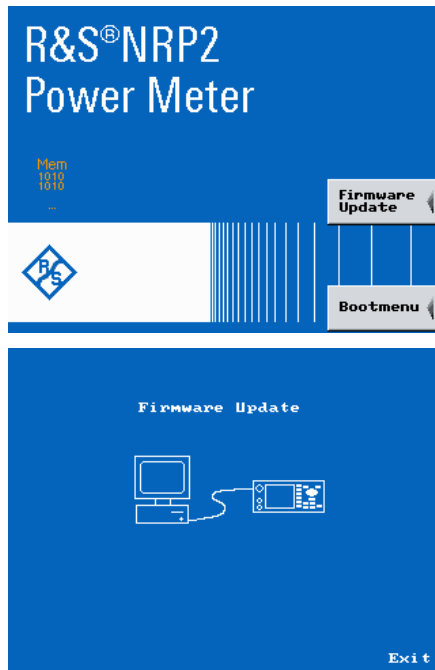
For the connection between the PC and the R&S NRP2, use a standard USB cable.

### 3.2 Updating the Firmware

- Preparation  
Install the R&S NRP toolkit software prior to operation of the instrument.
- Connection
  - ✓ Connect the R&S NRP2 to the PC by means of the USB cable.
  - ✓ Make sure that the R&S NRP2 is AC powered during the update process.  
Switch the R&S NRP2 off.
  - ✓ Unplug any other R&S NRP2 base unit or R&S NRP power sensor from the PC.



Start of the update procedure from a firmware version 06.05 or later:



- ✓ Switch on the R&S NRP2. The boot menu appears on the display only for a short time (2 sec.) before it continues with the normal start-up process.
- ✓ To switch to the Firmware Update mode, the soft key “Firmware Update” in the boot menu has to be pushed.
- ✓ While the Firmware Update mode is active, the picture opposite can be seen on the display.



*If you forgot to install the R&S NRP Toolkit software beforehand, Windows will try in vain to find a USB driver for the R&S NRP2. If this happens, the R&S NRP2 is highlighted by a yellow exclamation mark in the Windows device manager. In this case, proceed as follows:*

- *Abort the dialog for driver installation.*
- *Install the R&S NRP Toolkit from the CD-ROM. Then manually assign the USB driver from the toolkit to the R&S NRP2.*
- *Go to Control Panel – Add/Remove Hardware and start the hardware assistant to search for new components.*
- *Mark the R&S NRP2 in the list of hardware components and complete the driver installation.*
- *Switch off the R&S NRP2 and back on.*

- Updating the boot loader

- ✓ The latest version of the boot loader is 07.05. You may skip this step if your boot loader is already up to date. In this case proceed with "Updating the firmware for the keyboard controller".

*Attention!*

*The former version 07.02 had problems updating the keyboard controller. Please make sure you update the bootloader before updating the keyboard controller.*



openbios\_XX\_XX.nrp

The boot loader update is similar to the update of the application firmware (see above).

- ✓ Instead of the application, however, you must load the new boot loader named  
openbios\_07.05.nrp

- Updating the firmware for the keyboard controller



keyb\_XX\_XX.nrp

This update is similar to the update of the application firmware (see above).

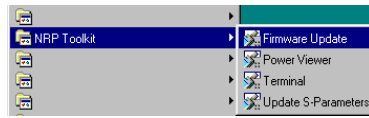
- ✓ Instead of the application, however, you must load the new controller firmware named  
keyb\_03.27.nrp

*Attention!*

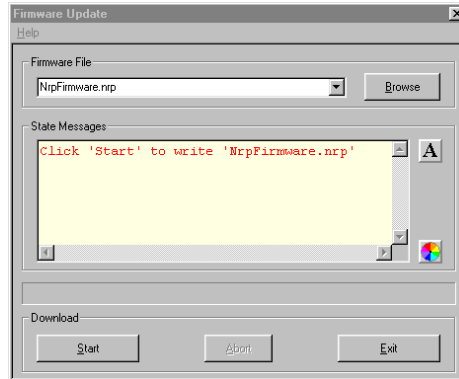
*At the end of the update process of the keyboard controller, the R&S NRP2 goes into the standby state and has to be switched on again manually. This is not an error.*



- Updating the application firmware

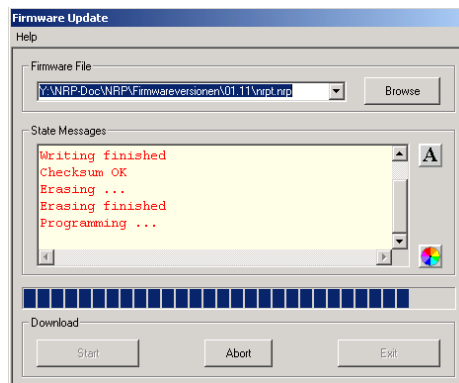


- ✓ Start NRP Toolkit – Firmware Update from the Windows Start menu.



The dialog box on the left is displayed next.

- ✓ Search for the file named nrpt\_07.05.nrp by using the [Browse] button or enter the file name and the file path of the application firmware in the Firmware File box.
- ✓ Click the Start button to start the file transfer, which is performed automatically.



- ✓ During the update, the State Messages box informs you of the progress. The update has been completed if the message 'Flashup successfully finished' appears.
- ✓ Then disconnect the R&S NRP2 from the PC and press the exit button or switch it off and back on.



Potential problems

- ✗ Error in the compatibility and consistency checks

In this case, the update is aborted and an error message is output.

- ✓ Switch the R&S NRP2 off and back on and start the update again.

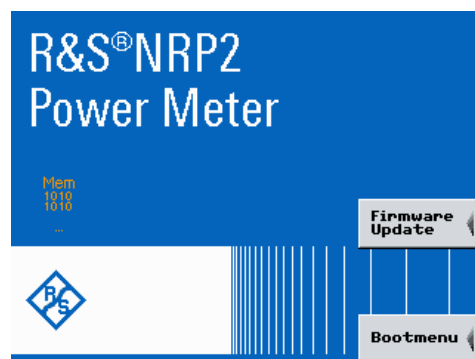
It is recommended to erase the nonvolatile data after the firmware update.


- ✓ Switch the R&S NRP2 off and back on and start the update again.

- Erasing the nonvolatile memory


In rare cases, the NRP2 fails to update the nonvolatile database. The device might behave incorrectly, if this happens.

In this case, you have to reset the saved data to the factory defaults. All saved parameters including frequency offset tables and device setups will be lost.



- ✓ When booting, press the  ((PRE)SET) button, while the hardware checks ("Mem" to "Net") are performed.



- ✓ Wait for the "Recall Factory Preset!" menu.
- ✓ Press  (←MENU) in order to erase the nonvolatile memory.

## 4 Customer Support

### Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz equipment, contact one of our Customer Support Centers. A team of highly qualified engineers provides telephone support and will work with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz equipment.

### Up-to-date information and upgrades

To keep your instrument up-to-date and to be informed about new application notes related to your instrument, please send an e-mail to the Customer Support Center stating your instrument and your wish. We will take care that you will get the right information.

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