R&S®ZNH
Release Notes

Firmware Version 1.50

These Release Notes are for following models of R&S®ZNH:

R&S®ZNH4,	**order no. 1321.1611.04,**	**order no. 1321.1611.54,**
R&S®ZNH8,	**order no. 1321.1611.08,**	**order no. 1321.1611.58,**
R&S®ZNH18,	**order no. 1321.1611.18,**	**order no. 1321.1611.68,**
R&S®ZNH26,	**order no. 1321.1611.26,**	**order no. 1321.1611.76**

1334.6752.00 | Version 07 | R&S®ZNH |

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

PAD-T-M: 3574.3288.02/04.00/CI/1/EN

ROHDE&SCHWARZ

Make ideas real

Contents

1 Information on the current version and history

1.1 New functions

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

New function of firmware V1.50:

Version	Function
V1.50	Support for Marker Tracking function
V1.50	Support for N dB Down Marker function for Vector Network Analyzer Mode
V1.50	Support for R&S®NRPxxP Pulse power sensor. Requires option R&S®ZNH-K29.
V1.50	Added Scpi command "TRACe[:DATA]:STIMulus?"

New functions in earlier firmware versions:

Version	Function
V1.40	Support for TRL calibration
V1.40	Support for dataset export in csv format
V1.30	Support for b2/b1 ratio in Vector Voltmeter Mode
V1.30	Support waveguide calibration and DTF measurements with waveguides
V1.30	Auto Points for Cable and Antenna DTF span settings
V1.30	SCPI commands for cable config parameters in DTF
V1.30	Support for Offset Parameters
V1.30	Quick Display Config under TRACE Display menu
V1.30	Last Calibration details summary view
V1.20	R&S®ZNH-K47: Mixed Mode S-Parameters
V1.20	R&S®ZNH-K68: Time Domain Analysis

V1.20	R&S®ZNH-K69: Power Sensor Measurement versus Frequency
V1.20	TDR measurement in Cable and Antenna Test Mode
V1.20	Support for R&S®ZV-Z270, R&S®ZN-Z229 High-end calibration kits, and R&S® defined calibration kit format (*.calkit)

1.2 Modified functions

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

Modifications of firmware V1.50:

None

Modified functionality in earlier firmware versions:

Version	Function
V1.30	Removed maximum span limits with respect to cable distance on Manual Span mode for Cable and Antenna DTF
V1.20	Network Analyzer Mode MEAS menu re-layout to accommodate Mix Mode S-param
V1.20	Signal Standard menu is removed from Network Analyzer Mode
V1.20	Cable and Antenna Test Mode MEAS menu and Config Overview Mode re-layout
V1.20	Power Meter Mode MEAS menu re-layout: Signal Gen button moved to F6, and MeasTime moved to SWEEP menu

1.3 Improvements

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

Improvements of firmware V1.50:

Version	Function
V1.50	Fixed mode switch failure in the Power vs Frequency measurement
V1.50	Fixed calibration calculation error in Gain format in the Power vs Frequency measurement
V1.50	Fixed Marker Info data truncation

V1.50	Fixed incorrect ambiguity warning when length unit is in Feet
V1.50	Fixed scpi command TRACe[:DATA]? in CAT mode
V1.50	Fixed scpi command SOURce:TG for CAT mode
V1.50	Fixed scpi command [SENSe]:BANDwidth[:RESolution] for CAT mode
V1.50	Bootup Splashscreen update
V1.50	Fixed External Trigger failure

Improvements of earlier firmware versions:

Version	Function
V1.40	SCPI command for trace export in touchstone format
V1.40	SCPI command for waveguide cutoff frequency
V1.40	SCPI command for calibration with automatic calibration unit
V1.40	Fixed memory scaling in impedance format
V1.40	Fixed trace label when doing 2-port calibration in CAT mode
V1.40	Fixed cutoff frequency limits during waveguide calibration, to not go over device frequency limits
V1.30	Fixed Impedance error in marker for Mixed Mode measurements
V1.30	Fixed interpolated normalization status display
V1.20	Fixed DTF magnitude error
V1.20	Fixed Phase polarity error for frequencies less than 5Mhz
V1.20	Fixed phase polarity error and improved level stability in Default Calibration for frequencies less than 5Mhz.
V1.10	Fixed Reflection and Transmission Normalization
V1.10	Fixed Wizard set loading errors
V1.10	Fixed errant "Alignment Data Invalid" warning at the boot up of ZNH8/ZNH4 devices
V1.01	Correction of K option handling

1.4 Known issues

There are no known issues in this release.

2 Modifications to the documentation

You can download the latest manual from the R&S®ZNH product web page at

http://www.rohde-schwarz.com/manual/znh

3 Firmware update

3.1 Validity information

Firmware V1.50 is for the following models of R&S®ZNH

Device	Order Number
ZNH4	1321.1611.04, 1321.1611.54
ZNH8	1321.1611.08, 1321.1611.58
ZNH18	1321.1611.18, 1321.1611.68
ZNH26	1321.1611.26, 1321.1611.76

3.2 Update information

Firmware release V1.50 corresponds to R&S®InstrumentView V3.30, which is available on the Rohde & Schwarz web page as a separate update package.

Although older versions of R&S®InstrumentView might be able to communicate with firmware release V1.50, an update of R&S®InstrumentView is highly recommended, as older R&S®InstrumentView versions might not support all functions included in the new firmware release.

3.3 Updating the firmware

The latest firmware version is available for download on the internet:

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

NOTICE

Before you update the firmware, you should make a backup of the data that you have stored on the R&S®ZNH (datasets, screenshots, transducer factors etc.). You can make a backup with the tools available in the R&S®InstrumentView software package. The firmware update itself does not delete or modify that data, but it is recommended to perform a factory reset after the firmware update to update predefined limit lines, channel tables, etc. The factory reset, however, does delete user data.

---

1. Download the firmware installer from the internet.

   The firmware comes in a single `.exe` file.

2. Save the file to the root directory of a memory stick.

3. Run the `.exe` file to unpack the self-extracting zip archive.

    The following files are extracted.

    a) `ZNH_<version>_bootloader.bin`
    b) `ZNH_<version>_osimage.bin`
    c) `ZNH_<version>_updater.bin`
    d) `ZNH_<version>_xmegaloadfiles.bin`

    Make sure that only these files are present in the root directory of the memory stick.

4. Turn off the R&S®ZNH Vector Network Analyzer.

5. Connect the memory stick to one of the USB interfaces of the R&S®ZNH.

6. Press the "Preset" key and the number "8" key simultaneously.
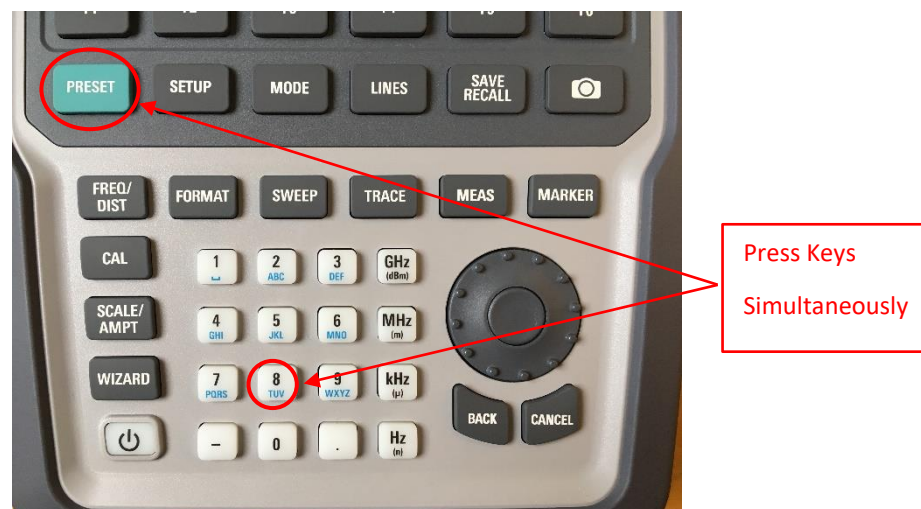
7. Turn on the R&S®ZNH and keep pressing the two keys for at least 5 seconds after the startup screen appears.

8. Release the keys.

    The booting process continues. After a couple of seconds, a confirmation page to proceed with the firmware update appears.

9. Press the "Enter" (Round button in the rotary) key to update the firmware.

    (You can cancel the firmware update with the "CANCEL" key.)

    The firmware update takes several minutes. The R&S®ZNH shows a message when the firmware update is done.

⚠ **WARNING**

Risk of Instrument Damage

Turning off the R&S®ZNH during the firmware update may corrupt the internal storage systems.

Do not turn off R&S®ZNH during the firmware update.

10. Turn off the R&S®ZNH.

11. Turn on the R&S®ZNH.

    R&S®ZNH boots with the new firmware version.

12. Optional: It is recommended to perform a factory reset after a firmware update to replace the predefined limit lines, channel tables and other data with the latest updates.

NOTICE

Risk of data loss

Before you start a factory reset, make sure to make a backup of your data that you have saved on the R&S®ZNH. Otherwise, that data is deleted.

4 Firmware Options

You can equip the R&S®ZNH with optional functionality or firmware options like the vector voltmeter application or the power meter application. These firmware options expand the functionality of the R&S®ZNH with new measurement functions, settings etc.

4.1 Installing firmware options

To install a new firmware option, you have to enter a license key for validation.

The license key is included in the delivery of the firmware option.

1. Press the "Setup" key to enter the instrument setup menu.

2. Select the "Installed Options" menu item.

    The R&S®ZNH shows a list of all options that are currently installed.

3. Select the "Install Option" button and press the "Enter" key.

    The R&S®ZNH opens an input field.

4. Enter the license key with the alphanumeric keys and confirm the entry with the "Enter" key.

5. The license key is a 32-digit number.

6. The R&S®ZNH confirms a successful installation.

    If the R&S®ZNH shows an "Invalid Key Code" message, try to enter the license key again.

5 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:

Bild 5-1: QR code to the Rohde & Schwarz support page