

R&S® OSP 220/230/320

Release Notes

Firmware Version 2.30

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1528.5295.00 | Version 09 | R&S®OSP 220/230/320 |

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

The following abbreviations are used throughout this document: R&S®OSP 220/230/320 is abbreviated as R&SOSP 220/230/320.

PAD-T-M: 3574.3286.02/05.00/CI/1/EN



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1 Information on the current version and history

1.1 Version 2.30 (April 2022)

Firmware package contents

Version	Contents
2.30	Firmware v02.30.016
7.1	FPGA Application (no changes)

New functionality

Version	Functions
2.30	Support of new modules OSP-B112V.61 and OSP-B112V.62.
2.30	Support of new hardware box TS-PRE1850 for OSP-B153B.
2.30	Self-test with textual test report via GUI and SCPI remote commands.
2.30	Adjustment of internal touchscreen brightness via GUI.
2.30	SCPI remote command to read OSP device uptime.
2.30	SCPI remote commands to reboot or shutdown OSP device.

Modified functionality

Version	Functions
2.30	Excluding secondary devices from automatic fallback to static default IP.
2.30	The syntax of SCPI remote command error messages have been revised to give more precise information.

Improvements

Version	Improvements
2.30	Extended diagnostic checks when starting device.
2.30	Fixed issues with broken network connection and missing DNS server.
2.30	Dynamic GUI font size in path information dialog to prevent long path names from being cut off.

2.30	OLED mini-display shows better understandable error message, when trying to update to identical firmware version.
2.30	Fixed missing browser refreshment after leaving the virtual mode with interconnection settings.
2.30	Fixed previously known issues of 'Device Cleanup' functionality.
2.30	Fixed timeout issues with SCPI remote command 'ROUTe:MODule:CATalog' in compatibility mode.
2.30	Relay cycle counter management has been optimized, including a decreased storage interval.
2.30	In case of a power loss during operation, the restauration management of the internal configuration database has been optimized.

Known issues

Version	Known Issues
2.30	none

1.2 Version 2.20 (November 2021)

Firmware package contents

Version	Contents
2.20	Firmware v02.20.006
7.1	FPGA Application (no changes)

New functionality

Version	Functions
2.20	Support of new module OSP-B164K (EWM 826438)
2.20	Support of new module OSP-B164E (EWM 873112)
2.20	Without DHCP Server the OSP will switch automatically to a default static IP Address after a one minute timeout (Fallback IP) (EWM 565673)
2.20	OSP-B153B: new variant of TC-RSE140 including active switching (EWM 863553)

Modified functionality

Version	Functions
2.20	OSP-BS016: extend GUI to support path selection (EWM 873061)
2.20	OSP-BS524: extend GUI to support path selection (EWM 873059)
2.20	GUI and mini-display show MAC address of device (EWM 885187)
2.20	Trigger: Modify trigger interval calculation to return separate values for modules with satellite connection (EWM 835319)

Improvements

Version	Improvements
2.20	GUI: module operation view of secondary devices shows wrong frame number in header (EWM 886238)
2.20	All SP6T modules: read:relay:oper? returns wrong system error when querying for position 0 (EWM 832779)
2.20	OSP-B115: rout:clou shows weird reactions when combining relays K1 to K6 (EWM 832752)

Known issues

Version	Known Issues
2.10	Device Cleanup: virtual modules of secondary devices remain in database after device cleanup (EWM 832926)
2.20	Virtual Mode: GUI will not be refreshed after leaving the virtual mode with interconnection settings. (EWM 898887) -Workaround: Please press Refresh button manually.
2.20	Network settings: Broken network connection / missing DNS servers can interrupt the communication between GUI and backend (EVM 898882) Workaround: Avoid weak network / using IP address instead of hostnames

1.3 Version 2.10 (June 2021)

Firmware package contents

Version	Contents
2.10	Firmware v02.10.017
7.1	FPGA Application (no changes)

New functionality

Version	Functions
2.10	Support of new module OSP-B111H (EWM 785232)
2.10	Support of new module OSP-B112H (EWM 785237)
2.10	Support of new module OSP-BM61..6 /E/H/V (EWM 779823)
2.10	Support of new module OSP-BM111V (EWM 779835)
2.10	Support of new module OSP B121U (EWM 779840)
2.10	Support of new module OSP B121VL (EWM 779861)

Modified functionality

Version	Functions
2.10	Trigger: Export and import trigger configuration to / from files (EWM 737098)
2.10	New SCPI command for device information: DIAGnostic:SERVice:USER:ERRor? DIAGnostic:SERVice:USER:WARNing? (EWM 724078)
2.10	GUI: Selection Mode: switching to selection mode by holding the keyboard button "S" (EWM 746726)
2.10	New Wording: Modification of Master-Slave to Interconnection Primary-Secondary (EWM 768275)
2.10	Status Display: Inform about AUTO DHCP or STATIC IP in connected mode (EWM 746713)
2.10	GUI: Re-organize context menu concerning device management functions (EWM 738015)

Improvements

Version	Improvements
2.10	Trigger Mode: removal of possible, unnecessary relay control after deactivation of the trigger mode (EWM 819055)
2.10	Trigger Mode: corrected update of displayed relay positions of all SP8T relays when deactivating the trigger mode (EWM 778224)
2.10	Trigger Mode: corrected calculation of minimal trigger interval for relays K4 K5 K6 of module OSP-B106 (EWM 728967)
2.10	Module OSP-B128.1: correction of faulty relay switching (EWM 806840)

Known issues

Version	Known Issues
2.10	Device Cleanup: virtual modules of secondary devices remain in database after device cleanup (EWM 832926)

1.4 Version 2.00 (July 2020)

Firmware package contents

Version	Contents
2.00	Firmware v02.00.033
7.1	FPGA Application (no changes)

New functionality

Version	Functions
2.00	OSP-K100 : Software option for hardware trigger functionality
2.00	Support of new modules OSP-B153B (RTC 588341) with support of submodules: TC-AZAMP67 (RTC 673654) TC-ELAMP67 (RTC 673656) TC-FC75T (RTC 673670) TC-IFON (RTC 673663) TC_RSEPOS (RTC 673657) TC-RSE60/90/140/200 (RTC 673658) TC-MX60/90/140/200... (RTC 673660) ATS-FC75TR/90TR (RTC652506) TS-PRE2 (RTC 718028) TS-PRE1840 (RTC 716604)
2.00	Support of new module OSP-BS016 (RTC 655185)
2.00	Support of new module OSP B122U (RTC 711300)
2.00	New SCPI command for module information: DIAGnostic:SERvice:MODule:HWInfo? (RTC 616145)
2.00	New SCPI command for query and disable virtual mode (RTC 701893)

Modified functionality

Version	Functions
2.00	Modification GUI of OSP-B158 (RTC 671466)
2.00	Modification GUI of OSP-BS524 (RTC 655186)

Improvements

Version	Improvements
2.10	Trigger Mode: removal of possible, unnecessary relay control after deactivation of the trigger mode (EWM 819055)
2.10	Trigger Mode: corrected update of displayed relay positions of all SP8T relays when deactivating the trigger mode (EWM 778224)
2.10	Trigger Mode: corrected calculation of minimal trigger interval for relays K4 K5 K6 of module OSP-B106 (EWM 728967)
2.10	Module OSP-B128.1: correction of faulty relay switching (EWM 806840)

Known issues

Version	Known Issues
2.00	Virtual Mode / Master Slave Configuration: Device cleanup does not remove the configuration completely. (RTC 728119)

1.5 Version 2.00 (July 2020)

Firmware package contents

Version	Contents
2.00	Firmware v02.00.033
7.1	FPGA Application (no changes)

New functionality

Version	Functions
2.00	OSP-K100 : Software option for hardware trigger functionality
2.00	Support of new modules OSP-B153B (RTC 588341) with support of submodules: TC-AZAMP67 (RTC 673654) TC-ELAMP67 (RTC 673656) TC-FC75T (RTC 673670) TC-IFON (RTC 673663) TC_RSEPOS (RTC 673657) TC-RSE60/90/140/200 (RTC 673658) TC-MX60/90/140/200... (RTC 673660) ATS-FC75TR/90TR (RTC652506) TS-PRE2 (RTC 718028) TS-PRE1840 (RTC 716604)
2.00	Support of new module OSP-BS016 (RTC 655185)
2.00	Support of new module OSP B122U (RTC 711300)
2.00	New SCPI command for module information: DIAGnostic:SERvice:MODule:HWInfo? (RTC 616145)
2.00	New SCPI command for query and disable virtual mode (RTC 701893)

Modified functionality

Version	Functions
2.00	Modification GUI of OSP-B158 (RTC 671466)
2.00	Modification GUI of OSP-BS524 (RTC 655186)

Improvements

Version	Improvements
2.00	OSP shows error of missing device and option keys (RTC 726625)
2.00	Virtual Mode / Master Slave Configuration: Sometimes new modules could not add to a slave frame (RTC 667817)
2.00	Remove difference in path definition between GUI and SCPI generation (RTC 696164)
2.00	Input dialog accepts ENTER of real keyboard even if entry is not valid (RTC 689749)
2.00	Support OSP-B151 S/M: Control of the amplifier unit does not work (RTC 681175)
2.00	OSP GUI: Path Switching - After resorting the paths order all path names changes to path definition (RTC 681173)

Known issues

Version	Known Issues
2.00	Virtual Mode / Master Slave Configuration: Device cleanup does no remove the configuration completely. (RTC 728119)

1.6 Version 1.40 (February 2020)

Firmware package contents

Version	Contents
1.40	Firmware v01.40.008
7.1	FPGA Application (no changes)

New functionality

Version	Functions
1.40	Support of new modules OSP-B111E,OSP-B111U (RTC 514060, 546517, 546518)
1.40	Support of new modules OSP-B112U (RTC 516519, 546518)
1.40	Support of new modules OSP-B116E,OSP-B116U (RTC 514061, 514063,514065)
1.40	Support of new modules OSP-B119E (RTC 514065)
1.40	Support of new modules OSP-B121E (RTC 514066)
1.40	Support of new modules OSP-B122E (RTC 514067)
1.40	Support of new modules OSP-B157WN - Option for TS8997 (RTC 588344)
1.40	Support of new modules OSP-BS524 (RTC 613053)
1.40	Support of new modules OSP-B155G (RTC588343)
1.40	Path Import: Allow importing path definitions without deleting existing path definitions (RTC505240)
1.40	GUI: Information about satellite connection in module list (RTC555683)
1.40	Mini Display shows additional information like errors, warnings, modes and connections (RTC495973)
1.40	Mini Display: Configurable switch-on period of the screensaver (RTC558923)

Modified functionality

Version	Functions
1.40	Modified READ:IO:IN and READ:MOD:INT to access multiple modules in one call (RTC634178)
1.40	Satellite Connection: Additional check for presence of B200R, no modules found or no connection to B200S2. (RTC632303)
1.40	GUI: Button Module Operation will add by an arrow for RETURN functionalities (RTC628348)
1.40	Modified ROUTE:CLOSE, ROUTE:ATT and ROUTE:PHAS to control also step attenuators and phase shifters by standard modules (RTC590374,616143,616139)
1.40	Extended READ:IO:IN and READ:MODULE:INTERLOCK to allow expressions (RTC616138)
1.40	GUI: OSP-B104 additional settings for relay delays (RTC475011)

Improvements

Version	Improvements
1.40	Fix of confusing error message, when temporary options are disabled due to presumed time manipulation (RTC648750)
1.40	Fix of B104 output channels switching (RTC648745)
1.40	Fix of the input field for path names allows to enter special characters (RTC644655)
1.40	Fix of ROUT:MOD:CAT? returns wrong answer in compatibility mode (RTC635271)
1.40	Improve Firmware-Update: corrupted update files are not detected and may cause a non-rebooting or not properly operating OSP (RTC635201)
1.40	GUI: Fix of misplaced opened list if parent dialog is scrolled by mouse or wheel (RTC626880)
1.40	Fix of Unable to control or read output ports of OSP-B151 / OSP-B157WN (RTC612260)
1.40	<ul style="list-style-type: none"> - OSP-B108 - OSP-B112E.11 / OSP-B112U.51 - OSP-B122 - OSP-B122E / OSP-B122H - OSP-B133 Fix of no reset for the SP6T relays.(RTC 600087)
1.40	GUI: Fix of misplaced opened list if parent dialog is scrolled by mouse or wheel (RTC626880)

Known issues

Version	Known Issues
1.40	Virtual Mode / Master Slave Configuration: Sometimes new modules could not add to a slave frame (RTC 667817)
1.40	Fix displaying the path name after resorting of paths (RTC681173)
1.40	Fix of controlling of B151 S/M (RTC681175))

1.7 Version 1.25 (June 2019)

Firmware package contents

Version	Contents
1.25	Firmware v01.25.0
7.1	FPGA Application (no changes)

New functionality

Version	Functions
1.25	GUI dialog to configure OSP-B104 relay delay times

Modified functionality

Version	Functions
1.25	Limitation of refresh rate of module states to prevent GUI from freeze (especially during intensive SCPI operations)

Improvements

Version	Improvements
1.25	Fix of missing B149 relay state updating in GUI
1.25	Fix of missing module handlers that follow after a B151PA
1.25	Fix of module information in GUI of modules with two connectors
1.25	Fix of DIAGnostic:SERVice:HWInfo? query returning wrong HW code
1.25	Fix of OSP-B115 and -B155 not switching last relay on each connector.
1.25	Fix of backend crash when switching OSP-B111UL.13 or -B111VL.13 in GUI
1.25	Fix of OSP-B153 non-latched relay resetting when switching latched relays.
1.25	Fix wrong module controlling in GUI when operating in slave mode

Known issues

Version	Known Issues
1.25	In compatibility mode DIAGnostic:SERVice:HWInfo? will return slot numbers higher than 'A13' when modules are connected to slots between M04 and M16

1.8 Version 1.22 (January 2019)

Firmware package contents

Version	Contents
1.22	Firmware v01.22.0
7.1	FPGA Application (no changes)

New functionality

Version	Functions
1.22	Support of new modules OSP-B153, -B129E and -B112E (RTC 508248,508224,508222)
1.22	Support of firmware update by USB stick (RTC475001)

Modified functionality

Version	Functions
	none

Improvements

Version	Improvements
1.22	Hardware detection of satellite (RTC 525383)
1.22	Backup / Restore of Master/Slave Configuration (RTC 501657)
1.22	OSP-B115 and OSP-B155: switching of wrong relays via SCPI and GUI (RTC 507373 RTC 505251)
1.22	OSP-B157WX: switching of via SCPI and GUI (RTC 502974)

Known issues

Version	Known Issues
1.22	Slave Mode: Menu Module Operation - No update for dig. I/O input channels (RTC 529197) (OSP-B103, OSP-B104, OSP-B114) Workaround: Please use the Web GUI of the master device in Module Operation mode to display the correct status of all input channels connected in the slave device.
1.15	Network: Switching between Static and DHCP IP address sometimes fails (RTC 486586)

1.9 Version 1.15 (November 2018)

Firmware package contents

Version	Contents
1.15	Firmware v01.15.0
7.1	FPGA Application

New functionality

Version	Functions
1.15	Terminate slave mode from slave GUI (RTC 494004)
1.15	OSP Firmware Update include FPGA update (RTC 475002)

Modified functionality

Version	Functions
1.15	OLED mini display shows hostname

Improvements

Version	Improvements
7.1	FPGA: Temperature-sensitive fan control

Known issues

Version	Known Issues
1.15	Backup / Restore of Master/Slave Configuration sometimes fails (RTC 501657)

1.10 Version 1.10 (September 2018)

Firmware package contents

Version	Contents
1.15	Firmware v01.10.0
7.0	FPGA Application

New functionality

Version	Functions
1.10	First release of OSP firmware
7.0	First version of FPGA Application

2 Modifications to the documentation

The current documentation is up-to-date.

3 Firmware update

Further information

- R&S®OSP Open Switch and Control Platform User Manual 1178.7100.02

3.1 Validity information

If necessary list here the material and model numbers the firmware is referring to

Device	Order Number
R&S®OSP220 Base Unit 2HU without Touchscreen	1528.3105.02
R&S®OSP230 Base Unit 2HU with Touchscreen	1528.3105.03
R&S®OSP320 Base Unit 3HU without Touchscreen	1528.3111.02

3.2 Update information

For information about of the latest firmware, please visit:

<https://www.rohde-schwarz.com/firmware/osp-n/>

3.3 Updating the firmware

For best performance, keep the firmware of your switch units up-to-date. Especially, to ensure flawless communication between switch units in a master-slave setup, install the same firmware version on all your switch units.

You have two options for installing an update:

- [Update by USB Flash Drive](#)
- [Update by R&S Software Distributor](#)

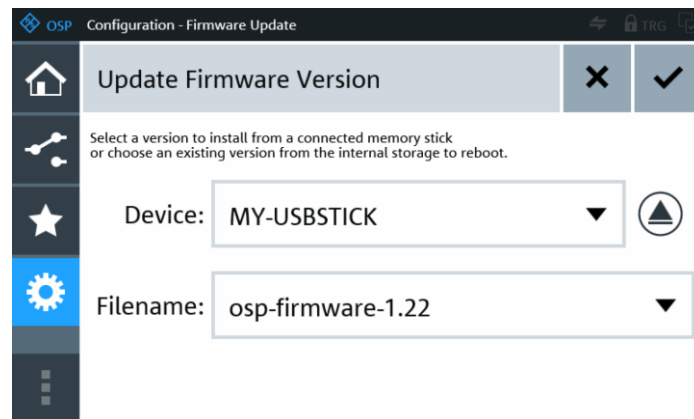
3.3.1 Update via USB Flash Drive

For installing new firmware on a single R&S OSP via an USB flash drive, perform the following steps:

1. Download the setup file of the latest firmware ("`osp-firmware-x.xx.rsu`", where `x.xx` is the version) from www.rohde-schwarz.com/firmware/osp-n to your PC.
2. Copy the `osp-firmware-x.xx.rsu` file to a USB flash drive connected to your computer.
3. Remove the USB flash drive from your computer.
4. Connect the USB flash drive to the rear-panel USB connector of the R&S OSP.
5. In the GUI, select "Configuration" > "General" > "Context Menu" > "Update Firmware Version".



The following dialog opens:



In this example, the USB flash drive with name `MY-USBSTICK` contains the firmware update file `osp-firmware-1.22.rsu`.

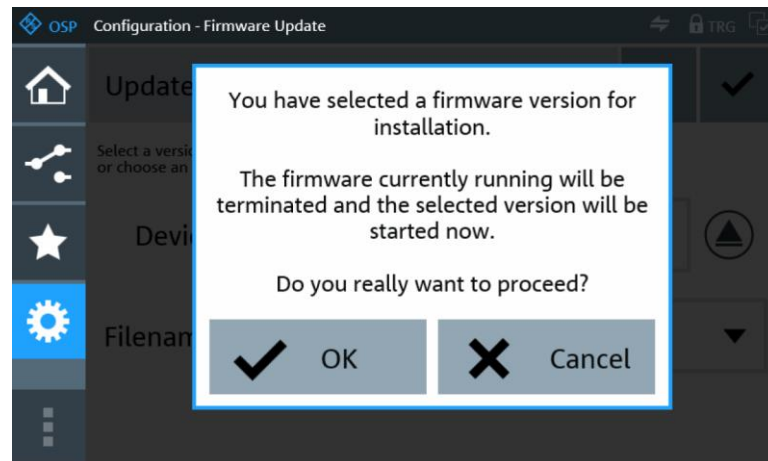
Note: If the firmware update dialog does not open in the "WebGUI" on your remote PC, hit the function key [F5] to refresh the page.

6. If the flash drive contains several firmware `.rsu` files, select the firmware version that you want to install.

Note: If you select the "Device" = "Internal Storage" and then select a firmware version that is available there, the switch unit reboots with this firmware version, instead of updating the firmware.

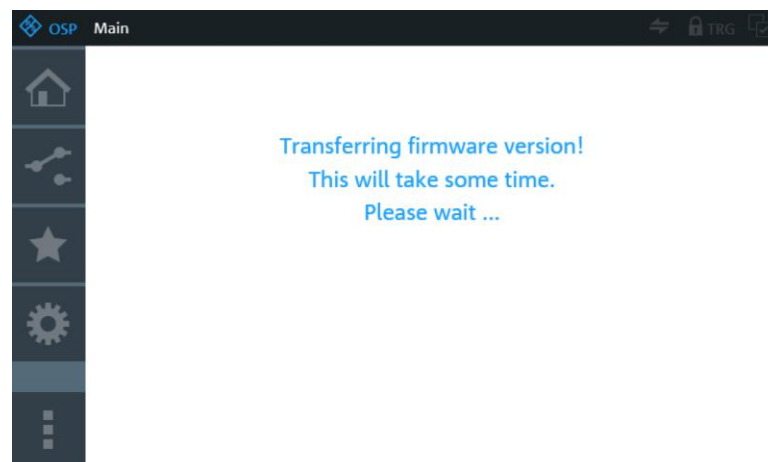
Note: If you select the same firmware version that is currently running, updating the firmware is aborted automatically. A [device message](#) informs you that this firmware version cannot be installed.

7. If you do not want to install any firmware, you can click the "Cancel" button **X** to return to the "Configuration" dialog.
8. Otherwise, to install the selected firmware from the USB flash drive, click the "OK" button **✓** in the top right corner of the dialog.
The following message comes up: "You have selected a firmware version for installation. The firmware currently running will be terminated and the selected version will be started now. Do you really want to proceed?"

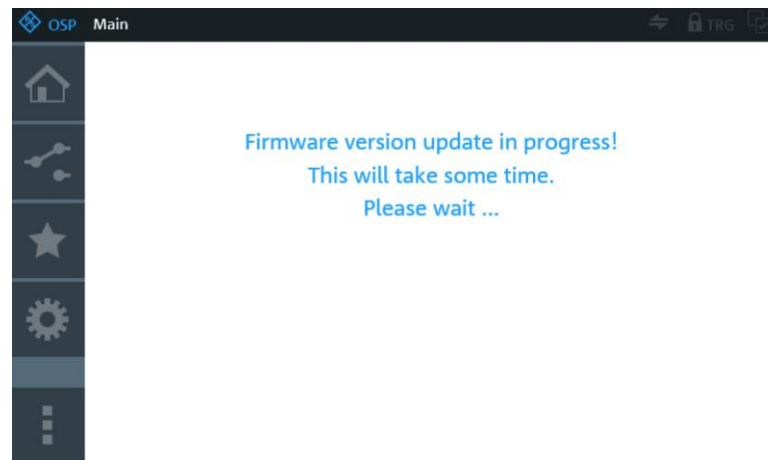


9. Confirm with "OK" or "Cancel" the updating procedure.
10. Wait during the updating procedure is running.
If you observe this procedure in the "WebGUI" on your remote PC, ignore the following screens:

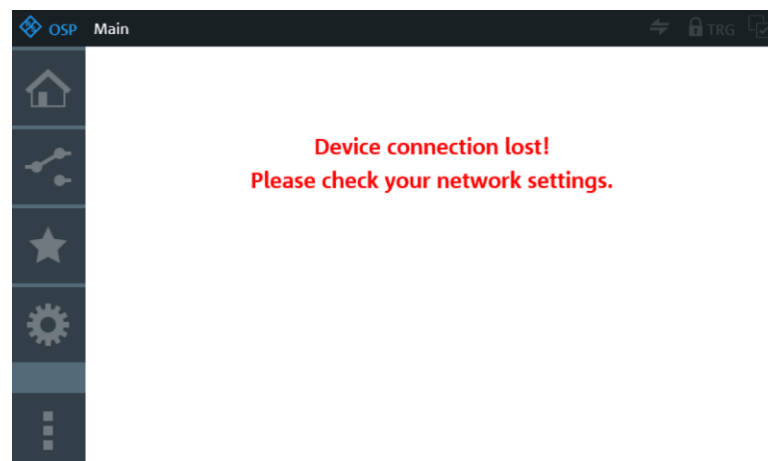
a)



b)




c)



When the installation is completed, the device connection recovers automatically.

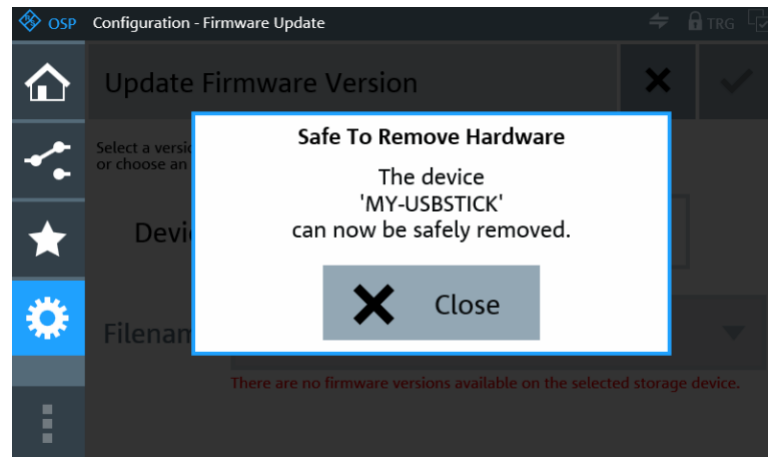
Note: The touchscreen shows different displays during the installation procedure.

11. After a successful installation, the [Main](#) dialog is displayed.
12. The newly installed firmware version is active.
13. Optionally click the [Device Information](#) button  to check the currently installed firmware version.
14. Before removing the USB storage device, return to the "Update Firmware Version" dialog.

- Click the eject button on the right-hand side of the "Device" selection field:



The following message comes up: **"Safe To Remove Hardware"**. "The device '<devicename>' can now be safely removed."



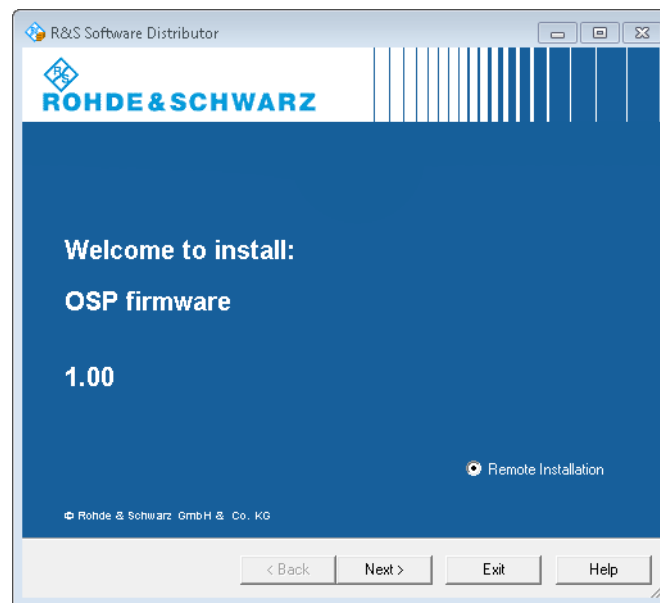
- Remove the USB flash drive from the rear USB port.
- Click "Close" to confirm this message.

3.3.2 Update by R&S Software Distributor

To install new firmware on **several** R&S OSP switch units simultaneously, you can use the **"R&S Software Distributor"**.

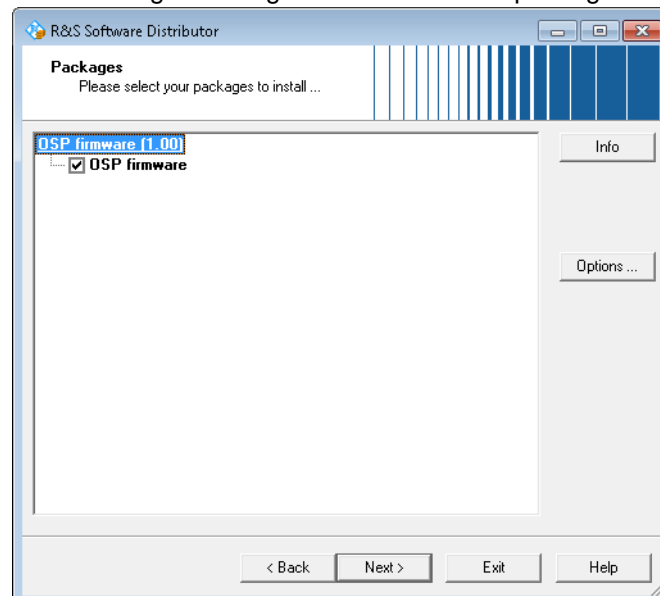
For installation, proceed as follows:

- Download the setup file of the latest firmware ("osp_firmware_update_x.xx.exe", where x.xx is the version) from <http://www.rohde-schwarz.com/firmware/osp-n> to your PC.
- Connect both the PC and your switch units to the LAN.
- Open the "Windows Explorer".
- Go to the folder with the download of "osp_image_update_x.xx.exe".
- Start the setup file
.The "R&S Software Distributor" opens up.



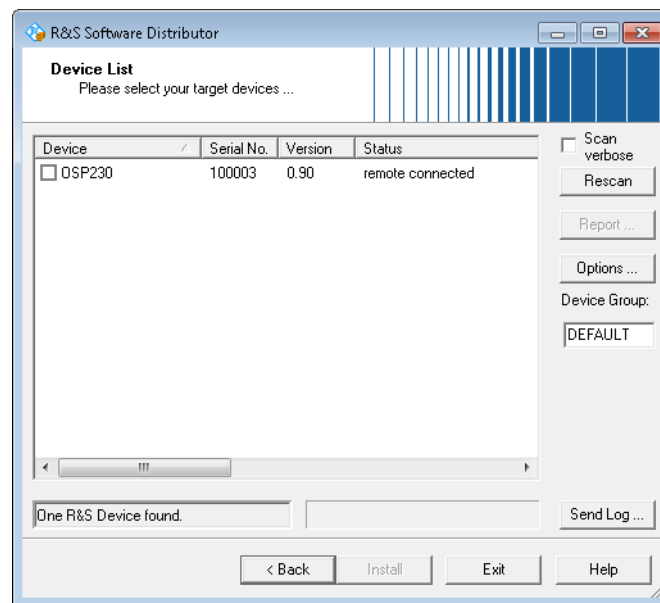
In this example, the firmware version is "1.00".
Note that you cannot deselect "Remote Installation".

6. Click "Next >".
The "Packages" dialog shows all firmware packages available for setup.



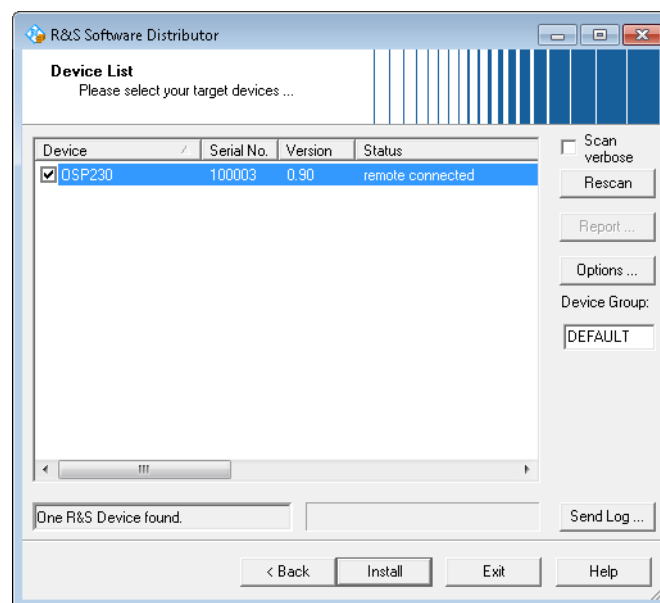
The osp-image-x.xx.exe files only contain "OSP firmware".

7. Click "Next >" to confirm without changes.
8. Wait for an update of the "Device List" dialog.
The dialog shows all R&S OSP devices available in the network:

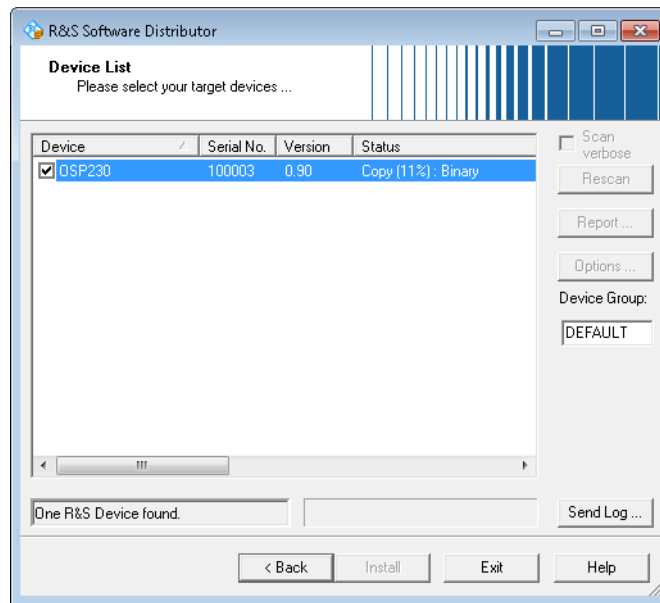


In the example in Figure 8-5, only one R&S OSP230 is remotely connected and available for firmware update. The device has the serial number 100003, and the currently installed firmware version is "0.90".

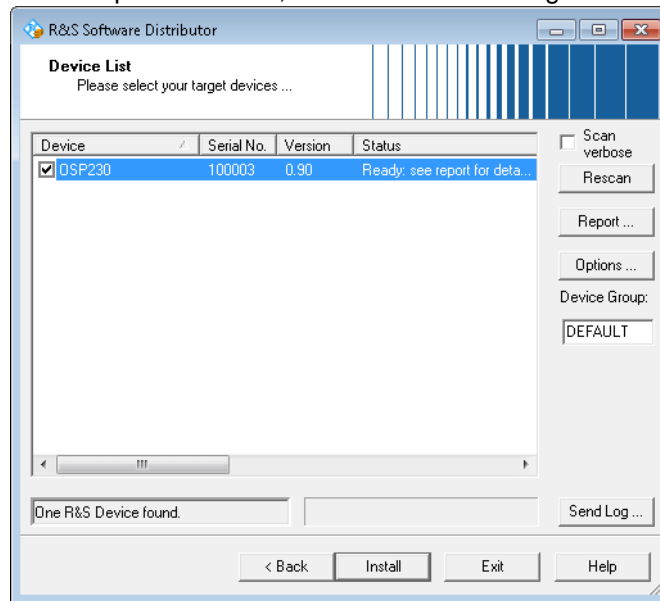
- In the list, tick the checkboxes of all devices that you want to update.



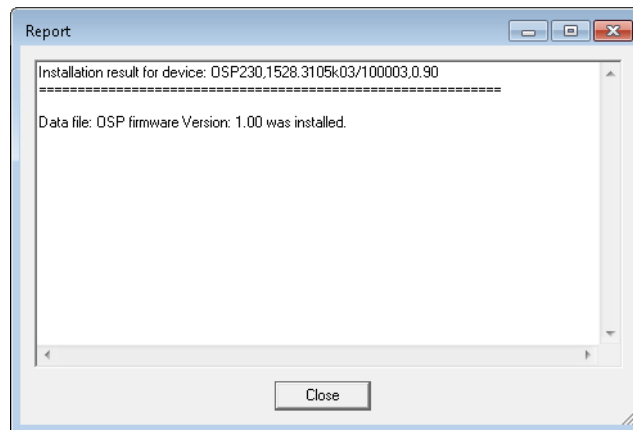
- Click "Install>"
The "R&S Software Distributor" starts the setup.
You can monitor the progress (percentage of installation) in the dialog's "Status" column.



The setup has finished, when the status changes to "Ready: ..."



11. Optionally, click "Report ..." to see installation details:



12. Close the "Report" dialog.
13. Click "Exit" to close the "R&S Software Distributor" on your PC.
Normally each updated device reboots automatically (typically without interrupting the fan).
Do not power off the R&S OSP before having restarted.
14. If the firmware update includes an FPGA update (which is not necessarily obvious), the device does not restart automatically. Instead of rebooting, the device shuts down to standby mode.
In this case, push the **[Pwr]** button to restart the device manually

The updated devices now operate with the new firmware version

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