

Release Note

R&S[®] IQR20
R&S[®] IQR100

Firmware Version 2.01.03

Status: RELEASED

Date: 2012-05-11



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1 Scope

This release note is a summary of IQR firmware version 2.01.03. It contains important last minute information about this release.

2 Revision History

Date	Release Note Revision	Changes
2011-04-24	2.01.03	new features release
2011-12-05	1.04.006	update and bug fix release
2011-07-04	1.03.001	update and bug fix release
2011-02-18	1.02.002	bug fix release
2011-01-19	1.02.001	update and bug fix release
2010-12-07	1.01.002	first customer firmware release

3 New Features

Version	Function
2.01.03	IQR-K105 (Multiplexing) : added Spectrum display for player and recorder added FSW support added FPGA Version 01.02.90
1.04.006	IQR-K1 (TSMW Control) : added IQR-K103 (GPS MAP) : added. Replaced Google Maps (documented in the users manual) by OpenStreetMap IQR-K101 (Import/Export) : import and LAN drives added. set bookmarks in recorder added goto bookmarks in player added info interface actions enhanced progress bar enhanced FPGA Version 01.01.12
1.03.001	IQR-K101 (Import/Export) : Export and Archive functions to USB storage device added IQR-K102 (GPS Meta Data) : USB GPS navigation data logger added progress bar added goto function added master / slave mode added resolution of player sample rate increased time display added
1.02.002	no new features
1.02.001	added DIG IQ Info Interface. The instrument name and serial number will be shown on successful detection at the "Source" (Recorder) or "Destination" (Player) block
1.01.002	first customer firmware release



Always use 1.03.001 or later versions for entering option keys

4 Installation instructions

To install an R&S IQR firmware update,

1. Download a firmware file with the extension *.IQR on your computer and copy it to a USB stick.
2. Power down the R&S IQR.
3. Insert the stick into any of the master USB connectors on the front or rear panel of the R&S IQR.
4. Power up the R&S IQR again and wait for the firmware selection dialog.



figure 1 : IQR firmware installation

5. **Firmware selection:** if there is only one firmware file on your memory stick, it will be shown already highlighted in the list. If there are multiple firmware files on your USB stick or if you have connected more than one USB stick containing firmware files, all different firmware versions will be shown in the list. Select the firmware you want to install.
6. Tap "Install" to continue the update process. Otherwise tap "Cancel" to quit the update and launch the currently installed firmware version.
7. A warning will appear to prevent you from losing your own device settings. If you have already saved your configuration or if you want to return to default values, tap "Install" to proceed to the firmware update. Otherwise tap "Cancel" to quit the update and launch the currently installed firmware version.
8. The firmware update process will take a few minutes. After a successful firmware update, the new firmware version will automatically be started.
9. Remove your USB stick.

5 Eliminated Problems

Version	Eliminated Problems
1.04.006	<ul style="list-style-type: none"> • free disk space now checked before installation starts • occasionally incomplete detection of source instruments at the DIG IQ input • export permissions occasionally wrong in file header
1.03.001	<ul style="list-style-type: none"> • If Player and Recorder file is the same, sample count and sample rate of next record was incorrect • Sine and rectangle ARB generator did not save resulting file correctly
1.02.002	<p>Record / Play</p> <ul style="list-style-type: none"> • If record and play happen at different timezone settings, data will be corrupt
1.02.001	<p>General functions</p> <ul style="list-style-type: none"> • Instrument occasionally suspends playing or recording unsolicited. • SW crashes for certain key combinations in recording filename entry. <p>ARB</p> <ul style="list-style-type: none"> • The ARB sample counter only starts counting after a previous streaming session has been executed • ARB session must be followed by "Set to Default", else next recording session records corrupted data. <p>Record</p> <ul style="list-style-type: none"> • Last two blocks of a recording session occasionally contain zeroes or invalid data • Recording at slow sample rates can run into timeout on STOP • Recorded sample rate written to file header occasionally wrong. • Recording under the same file name is no longer possible when a previous recording under that name occupies the entire space on the memory pack. The instrument reports an "Insufficient disk space" error in that case. <p>Info Interface</p> <ul style="list-style-type: none"> • If the source or destination device doesn't support the I/Q info interface, then the name of the devices will be not displayed (e.g. TSMW, SFE)
1.01.002	initial version

6 Known Problems

The following table lists the known problems in firmware version 2.01.03

Version	Function
2.01.03	<p><u>Installation</u></p> <ul style="list-style-type: none"> If installation of a new FW stops with “error 1603”, disk C:\ has not enough space left. → you may delete all contents of the folder c:\windows\downloaded installations → check for *.wva / *.wvd / *.wvh files which have been exported / archived to a wrong location, and delete / move these files. <p><u>Instrument start</u></p> <ul style="list-style-type: none"> Internal hardware detection at FW start fails occasionally. → Restart the instrument. on screen keyboard occasionally shows up on FW start. → Close it by tapping the X in the upper right corner. <p><u>General functions</u></p> <ul style="list-style-type: none"> Text input in the file manager and save/recall dialog needs an external keyboard After input of text or numbers always press ENTER. Then tap OK (this is also needed for the on screen keyboard) File select box occasionally initialises with wrong drive letter. Always confirm drive letter selection by watching the drive letter (see 6.1 File Selection Issues) Files recorded with versions before 1.03.001 can not be exported in raw format Exchanging the disk option may result in bad drive assignment (see 6.3 Drive Letter Assignment) <p><u>Trigger</u></p> <ul style="list-style-type: none"> Trigger source DIG IQ GP for recording not implemented Gated Trigger only runs a REC / PLAY after the first active edge and until the first inactive edge. Player data is corrupt after the first retrigger pulse in retrigger mode The PLAY or REC buttons are inactive when the trigger source is set at EXTERNAL or IQ LEVEL trigger. <p><u>Digital IQ In / Out</u></p> <ul style="list-style-type: none"> occasionally the source or destination instrument detection fails. → Remove the Digital IQ cable. Ensure that the IQR is not in “armed” state. Plug in the Digital IQ cable. <p><u>Player / ARB</u></p> <ul style="list-style-type: none"> after a ARB session always reset configuration to default to avoid various problems. ARB occasionally needs two taps to PLAY, PAUSE, and STOP keys

	<p><u>Player / Streaming</u></p> <ul style="list-style-type: none"> • playback of short files at high sample rates in single trigger mode (playback time less than 7 seconds) may result in continuous playback or does not stop after the first playback cycle. • Player very rarely sends about 34 MSa DIG IQ data twice. • files created with FW versions 1.3.1 or older show 10 bit resolution in tooltip and IQ Channels dialog box, but will be played correctly. <p><u>Recorder</u></p> <ul style="list-style-type: none"> • spectrum display very rarely corrupt before and after recording runs. → Power cycle the instrument to fix. • If the source instrument is a FSV, never stop the DIG IQ interface on the FSV while IQR is in “armed” state, else IQR’s input PLL will get unlock and data will be corrupt. <p><u>Option IQR-K103</u></p> <ul style="list-style-type: none"> • if streaming playback switches to another data file with no GPS meta data, the old track will still be active. → Close the map application and reopen to delete the track. <p><u>Option IQR-K102</u></p> <ul style="list-style-type: none"> • GPS data is not written to the wsm file once per second. Partly 2 seconds or even 3 seconds between GPS messages exist. <p><u>Export / Archive</u></p> <ul style="list-style-type: none"> • if no destination file is selected, the IQR exports/archives to <code>c:\program files\rohde&schwarz\iqrfirmware</code>. As there is only limited space available there, the export may fail or the next installation may fail. → delete the file(s) created here or move them to a USB disk or LAN drive <p>also watch chapter 6.2 Version Compatibility Issues below</p>

6.1 File Selection Issues

Take care on the drive letters. Occasionally, the initial drive letter is wrong in the file selection dialog box. You might see for example the following import destination file dialog.

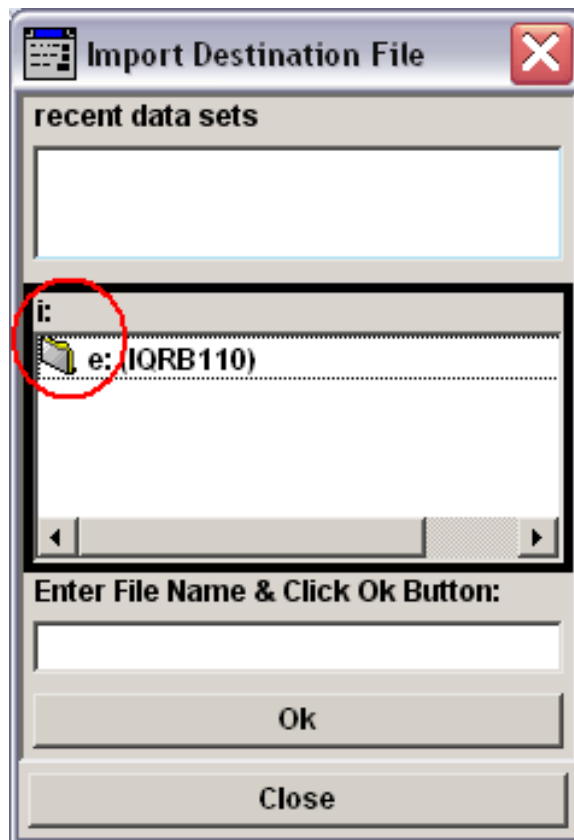


figure 2 : file select dialog

If you would enter a file name now and confirm entry with ENTER key, the file would be written to drive i: instead of drive e:

Solution :

Double tap or double click the e: (IQRB110) to select drive e: The i: shall change to e:.. Then enter a file name in the line below, and press ENTER to confirm the file name.

6.2 Version Compatibility Issues

- File extensions for archive and exported files have changed. To import files archived or exported by version 1.03.001, the file extension has to be changed manually.

Mode	old file extension	new file extension
archive	*.wv	*.wva
raw (header)	*.wv	*.whv
raw (data)	*.dat	*.wvd

- files imported by version 1.04.006 cannot be played on 2.01.03. Re-run the import again with 2.01.03

6.3 Drive Letter Assignment

If a new disk option is installed in an IQR, it may happen that the drive letter assignment by Windows is not executed properly. The IQR then can't find the disk option correctly and the firmware can't load files.

Drive letters "E" and "G" must be on Disk 0, "F" and "H" must be on Disk 2.

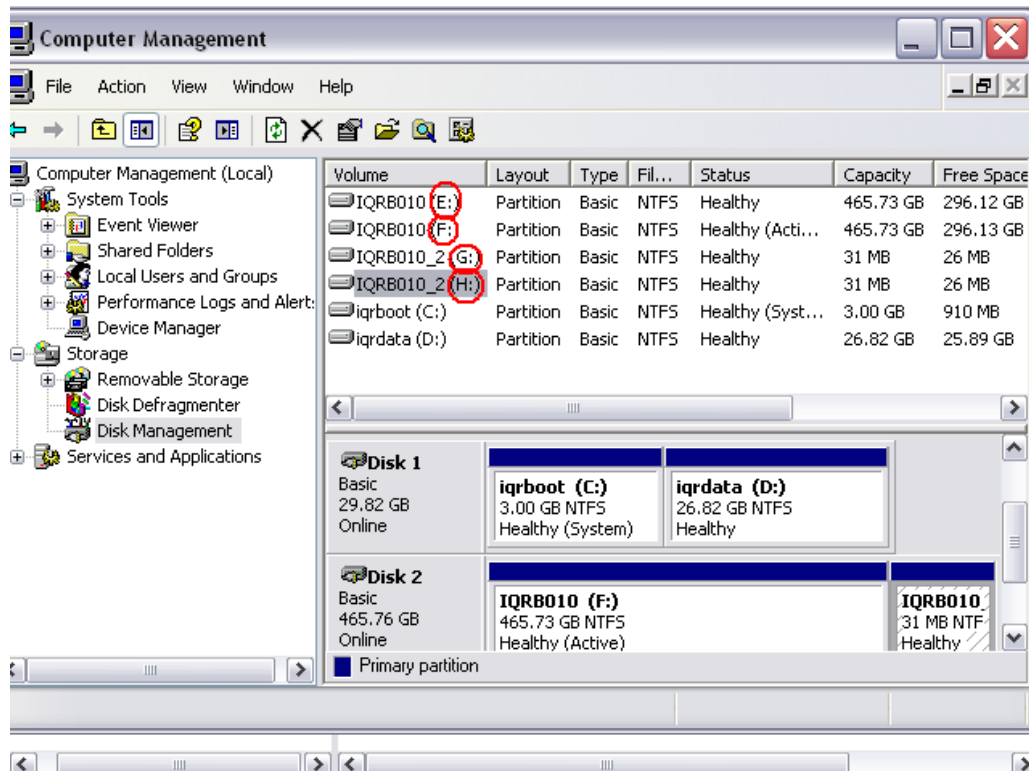


figure 2 : correct driver letter assignment

To fix this error, use the windows disk management tools. Execute the following steps :

- connect USB keyboard and USB mouse
- terminate the IQR application (ALT-F4)
- open Windows explorer (Windows-key and E pressed simultaneously)
- right click on "instrument <deviceid>"
- select "Manage"
- click "Storage→Disk Management"
- right click the wrong drive letter
- select "Change drive letter and paths"
- select any unused drive letter (e.g. Z)
- confirm the windows warning message with "OK"
- repeat this step for the other wrong driver letters, using unused drive letters as preliminary letters

- finally assign the correct drive letters to the partitions
- exit the Computer Management tool.
- Power down the IQR
- Power on again.

After that, *.ws1 files will reside on drive E and *.ws2 files will reside on drive F

6.4 Special Update Procedure for FW 1.01.002

To run the update from the first official firmware version 1.01.002, a special handling is needed. Please follow the instructions below.

To update from any newer versions, use the method via USB memory stick as described in the users manual.

NOTE : Always run “Update FPGA” from the IQR Main Menu after any SW update / downgrade

Preparation

- 1) copy the new FW file “Firmware_xx.yy.zz.iqr” to a USB memory stick
- 2) start the IQR
- 3) connect a mouse, a keyboard, and the USB memory stick to USB ports
- 4) wait until the IQR prompts you to run the update
- 5) Cancel this update dialog box
- 6) wait until the IQR firmware has started completely

Terminate the IQR Firmware

- 1) Press CTRL-ALT-DEL keys simultaneously
- 2) Click “Task Manager”
- 3) Select the “Applications” tab
- 4) End the application “STREAM”

Deinstall current FW manually

- 1) Click Start→Control Panel
- 2) Click “Add or remove programs”
- 3) browse to R&S IQR Firmware
- 4) click “Remove”
- 5) browse to R&S Software Platform ...
- 6) click “Remove”
- 7) close “Add or Remove Programs” and the “Control Panel”

delete Registry keys.

- 1) press Windows key and R simultaneously
- 2) enter “regedit”
- 3) browse to HKEY_LOCAL_MACHINE\SOFTWARE
- 4) delete Rohde&Schwarz key

unzip new firmware to D:\firmware

- 1) open the windows explorer (Windows key + E)
- 2) browse to the “Firmware_xx.yy.zz.iqr” file containing the new firmware to be installed now on the USB memory stick
- 3) copy “Firmware_xx.yy.zz.iqr” to D:\temp
- 4) rename the file on D:\temp to “Firmware_xx.yy.zz.zip”
- 5) double click “Firmware_xx.yy.zz.zip”
- 6) copy all files and folders to D:\firmware, overwrite existing files

install new firmware

- 1) go to IQRSW folder in D:\firmware

- 2) double click setup.exe. Answer all questions with the default answer, and accept the licence agreement
- 3) delete all files in D:\temp except the folder WPDNSE
- 4) remove the USB memory stick
- 5) browse to C:\Program Files\Rohde&Schwarz\IQR\Firmware
- 6) run two times "IQRRegisterComponents.cmd" (two double clicks)

Installation finished. You may start the IQR Firmware by a double click on the Icon in the upper left corner of the desktop or reboot the instrument

7 Contacting Customer Support

For queries regarding technical aspects of our products, contact our customer support at <http://www.customersupport.rohde-schwarz.com>.

Contact information is also provided on the documentation CD-ROM.