

R&S®Pulse Sequencer Digital Release Notes

Software Version 2.7

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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®Pulse Sequencer Digital is abbreviated as R&SPulse Sequencer Digital

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1 Information on current version & history

1.1 Version 2.7

Released: December 2023

New functionality

Functions

Enhanced tree view and item overview

Search in tables now filters results instead of jumping to a specific entry

Import action also added to repository manager dialog gui

Added button for expanding and collapsing the toolbar

Further improved GUI look and feel

Reorganized repository menu

Added SCPI for psarch import

Improvements

Improvements

Uniform IPM distribution did not generate the maximum specified value for certain step sizes

Increased number of digits from 3 to 6 for all values in all IPM profiles

Fixed a couple of memory leaks

Updated support contact links in about window

Unsaved changes asterisk symbol was not updated accordingly

Tree View did not select item if checkbox was clicked

Fixed sporadic crash in 3D dialogs

If an interleaving group contained empty signals the calculation stopped and failed for all groups

Fixed lift/extract bugs in mode editor

Graphical mode editor was broken in version 2.6

Import of invalid GeoTiff formats could cause a crash

Elevation display in live stats and 2D movement preview was always 0

Minimum simulation time in 3D previews was 1ms. that can lead to visualization problems for very fast antenna scans.

Known issues

Known Issues

It is recommended to do a per-machine installation. Per-user installations could potentially lead to instabilities in combination with the R&S License Server.

1.2 Version 2.6

Released: June 2023

New functionality

Functions

Changed PDW timing parameters to ps resolution from ns resolution

Refactored the project tree view. List based overview of elements is now available.

Improved general look and feel. Improved scenario creation selection dialog.

Switched to R&S icon theme. Changed application font

Switched to R&S CI light color scheme. Removed all others.

Reorganized file menu actions. Moved virtual screens to tabs.

Enabled auto save per default

Nominal gain of antenna patterns is now displayed in the receiver dialogs

Improved repository tree speed for many items. Added configurable upper limit for items.

Added CW import for AMMOS PDWs

Improvements

Improvements

Fixed potential deadlock in 3D preview of direction-finding scenarios

Fixed crash if a repository was locked and a new generator or destination was added

PDW distance parameter did not consider antenna positions relative to the Rx origin

Threshold in calculation settings was used as dynamic range from 0dB, not as absolute threshold value

Fixed bug where custom scan table transition time edit state was not updated accordingly

Antenna pattern custom import row selection preset did not detect negative numbers

Known issues

Known Issues

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1.3 Version 2.5

Released: November 2022

New functionality

Functions

Added new DF receiver mode. Combination of interferometer for phase and TDOA for time delay.

A troubleshooting button was added in the scenario dialog which directly jumps to the problem reported in the error messages

Allow definition of variable sinks for IPM profiles that then can be used in subsequent IPM definitions. A main use case is to use the same IPM value for multiple parameters.

Signal statistics such as bandwidth and center frequencies are now available from the results pop-up menus in the block diagram

Added CW signal support for PDWs if PRI equals pulse width. No more glitches due to rounding errors.

Added "truncation" option in ARB calculation mode

Improved table navigation/editing with keyboard

Fixed table editing issues e.g. losing focus on cell after adding row

Added individual current distributions for phased arrays in X and Z direction

Added modulation preview in pulse dialog

Added configurable oversampling and FFT settings in modulation preview

Enhanced modulation spectrum preview by selectable consideration of the pulse envelope

Signal duration is now shown in scenario dialog after evaluation stage in auto mode

Items on map that are assigned to a destination are now marked

Icon size on Map is now configurable (small/big)

Improved assignment dialog drag and drop behavior

Added autosave setting

Show K-Options encryption keys in PDW viewer

Add "copy & append" button for PDW List and Emitter Collection scenario tables

Add "copy & append" button for Sequence Collection scenario table

Improved sequence creation via SCPI commands by 1000%

Improvements

Improvements

Fixed crash in PS Digital upon cleanup of support files in multithreading mode

Fixed sporadic crash when activating an MDI window

Fixed crash if the software was closed with the assignment dialog still open

Prevent race condition upon storage clear action. Could result in misleading error messages

Progress preview was not restored when minimizing the main window and restoring it later

PS Digital did not have own color settings path

Split Workspace Save location between PS variants

Fixed SCPI STAT:OPER:COND? flag for issuing separate trigger command. Completion of the command was not communicated via SCPI query.

Scaling of DF receiver and platform 3D previews was not optimal. Especially omnidirectional patterns appeared to be cut off.

Fixed SCPI recorder trace for signal assignments

Fixed PDW import double precision error

Remove action from sequence editor block diagram was not working anymore

When adding a new sequence in the sequence collection scenario the first sequence type in the repository is preselected automatically instead of selecting NONE

Fixed FFT preview y-axis labels. Labels were not shown in pulse modulation preview

Added info messages during startup splash screen

Fixed EOF in PDW import if PRI parameter was set. EOF was always last TOA + last pulse width

Fixed synchronization between plugin SCPI request and external SCPI commands. Responses could get lost if both channels were active at the same time

Default vehicle file is loaded to avoid calculation errors if smoothing is enabled but no file is selected

Lon/Lat/Altitude georeferenced positions were invalid if emitter had no movement but a static position

Usage of background signals did lead to crash in 2.4 release

Known issues

Known Issues

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1.4 Version 2.4

Released: June 2022

New functionality

Functions

Added new PDW parameters longitude, latitude, altitude, yaw, pitch, roll and speed

Rebuild Mode Editor for better usability. Fixed several bugs as well.

Added custom icon import

Crash Dumps are added to the debugging information export

Added search alias and interleaving options for PDW List scenario interleaving dialog

Added search alias and editing options for PDW List scenario dialog

Added checkbox to select whether the live position preview will be displayed

Added time controls for 2D movement preview (slower/faster)

Changed Emitter Modes and Beams configuration to table view

Added reordering and copy & paste functionality for sequence editor dialog

Added copy functionality for modes and beams

Emitter beams have alias names now instead of numbers

Added keyboard shortcut for creating platforms

Increased 3D model loading times by 100%

Improvements

Improvements

Fixed potential crash in multithreaded movement calculations in DF scenarios

When OpenGL windows overlapped with dialogs that contained tables, the GUI would sometimes freeze

Fixed GUI freeze if reconnecting to a remote desktop session

Removed unnecessary and time consuming GL updates on remote desktop operation

Fixed unload plugin error message

Fixed "None" SCPIs in Emitter Mode definitions

Visualization of interleaving stats was not scaled accordingly when interleaving a large number of signals

Visualization of interleaving stats emitter labels stopped at 100

Fixed unit issue in live position preview. Meters were displayed as kilometers

Progress Dialog remained invisible after it got closed once

Fixed 1 time tick TOA error at the end of a PDW file

Fixed sporadic drops of continuous pulses when interleaving due to sample offsets

Incomplete visualization of traces in interleaving analyze viewer in case timeframe exceeds 50s

Fixed height scaling for platform and DF receiver 3D previews

Known issues

Known Issues

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1.5 Version 2.3

Released: November 2021

New functionality

Functions

Added palmer scan to spiral scan

Adapted the live interleaving preview to add scrollbars when a large number of emitters is processed

Added feature to export debugging information in the main menus "debug information" action

Interleaving group contents are now collapsible in assignment dialog

Extend RX Height parameter from 100e3 to 1e9

Added separate color group for PDW traces

Added rewind functionality for raster scan

Added information about interleaving priority in analyze viewer

PDW traces are now displayed sorted by their emitter priority

Added Shortcut buttons in sequence dialog to directly create and append pulses and waveforms

Increased maximum simulation time from 2h to 23 days

Implemented Auto Jump Preview in the range of the first PDW in PDW Viewer

Implemented auto scale when zooming in PDW Viewer

Round time support for circular scan definition

Demo Mode now outputs up to 10 PDWs with Level and TOA info for evaluation purposes without having to place an order for an evaluation license

Saving big repositories took a long time. Speed up by factor 10

Added example Excel plugins for PS Digital Demo Mode in example repositories

Repository manager now displays only repositories that are compatible with the current operation mode

Enlarged drag and drop area in assignment dialog for improved usability

Improvements

Improvements

Fixed barker Codes 4a/4b. Added 2a/b

Delete all action did not actually unmap the Emitters in the assignment dialog

Fixed flickering progress dialog after calculation was actually finished

Fixed PDW import bandwidth info. File did display 0 for some kinds of modulations

Level Offset visualization was missing in analyze viewer

PS Digital PDW viewer was not showing histogram & stats

Deleting an emitter mode was not reflected in the scenario mode definitions. Resulted in invalid modes.

Changing a platform emitter did not reset the scenario mode definitions

Visualization of DF receiver antenna directions in 2D map preview had offset

Visualization of DF receiver antenna directions in 2D preview with movements had offset

Fixed memory leak in CPU 3D live preview

Deleting Emitter Types and thus causing gaps in their IDs lead to nonfunctional type selection in the TX items dialog if already assigned to a scenario

Changing the emitter type in scenarios did not reset the mode definitions

Level was not shown correctly in analyzer Viewer after interleaving with PS Digital

Clipping Level is now 100dBm

Analyze viewer is clipped at 0dBm with PS Digital

Filtering and highlighting of PDW Traces was missing in PDW viewer for PS Digital

Unpinning the mode editor set it to r/o mode. No changes where possible

Changing the platform icon via the Tx items dialog did not work

Receiver movement trajectories shadowed items on 2D map. Right click menu did not appear.

Multithreading when using more threads than cores rendered progress dialog useless

Fixed broken layouts due to high DPI scaling

Cleaned up 3D scan preview dialog GUI

Fixed potential crash if opening the 3D antenna pattern preview and 3D scan preview windows

3D CPU visualization of track modes for platform emitters had offsets

3D CPU visualization of track modes for emitters had offsets

3D CPU Scan line visualization was painted between mode changes under certain conditions

3D CPU scan line visualization was missing beam offsets

3D GPU Emitter Scan preview: Scan line visualization did not consider beam offsets

3D GPU Preview in localized scenarios took the receiver height into account twice

3D GPU track visualization did not work

Simultaneous visualization of steady and other scans did not determine optimum common preview speed

Changed default movement behavior from "cyclic" to "one way"

Fixed interpolation bug in cyclic movements. Don't interpolate the jump back from end point to start point

Doppler calculation of platform emitters was faulty. Always a 3GHz default frequency was assumed.

Doppler calculation of moving platform emitters and a moving receiver was faulty. Always a 3GHz default frequency was assumed for the platform emitters.

Interleaving was restricted to 2GHz bandwidth

Uninitialized variable caused INF values in interleaving analyze viewer

Tooltips for PDW parameters were missing in PDW viewer

IDs were missing for PDW list collection scenario in PDW viewer

Interleaving mode "merge" of PDW list collection scenarios did not work

Analyze Viewer did not work for imported PDW lists

Known issues

Known Issues

It is recommended to do a per-machine installation. Per-user installations could potentially lead to instabilities in combination with the R&S License Server.

1.6 Version 2.2

Released: October 2021

Known issues

Known Issues

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2 Modifications to the documentation

The current documentation is up-to-date.

3 Installing the Software

3.1 Uninstall a previous installation

To uninstall a previous version of the Pulse Sequencer software, click on the Windows Start button and navigate to Settings -> Control Panel -> Add or Remove Programs. Then select the previously installed version of the Pulse Sequencer to uninstall it.

3.2 Install the new software version

R&S Pulse Sequencer requires one of the following operating systems:

Windows 8 (64 Bit)

Windows 10 (64 Bit)

It is suggested to uninstall any previous version of the Pulse Sequencer software before installing the new software.

In Windows Explorer double-click the installer executable 'PS-SW-Install 2.7.x.x.msi' and follow the instructions. Existing Pulse Sequencer installations are automatically updated. This includes example repositories provided by Rohde & Schwarz. Other user data, such as repositories or settings are not affected by the software update.

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:



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