

RASPUTIN Change Log (Last updated 06/27/11)

Version 2.7.0

IMPORTANT NOTE 1: Version 2.7.0 only supports MAP systems with the HLK3 host link; MAP systems using the HLK2 link must continue to use version 2.6.1 and Windows XP.

IMPORTANT NOTE 2: Version 2.7.0 requires that National Instruments DAQmx drivers are installed (DAQmx version 9.1.7 or later).

RASPUTIN Manual:

Unchanged

Improvements:

- Added Support for HLK3 Host Link
- Added Support for National Instruments M Series Cards
- Added Support for Windows 7

Changes:

None

Bug Fixes:

None

Version 2.6.1

RASPUTIN Manual:

Unchanged

Improvements:

- SortClient: added support for new CinePlex sync mode (using XS2)
- Client API: added PL_SendTimestampedUserEventWord for use initially by CinePlex

Changes:

None

Bug Fixes:

None

Version 2.6.0

Improvements:

- Server: now supports polling times as low as 1 msec for reduced real-time latency
- Server: now supports up to 16 digital input cards (of which up to two can be strobed (mode 3))
- Server: added broadcast messages to inform clients of recording file name, recording-start time
- Server: added PL_SendUserEventWord API allowing clients to inject strobed event word data
- PlexNet: added support for PlexNet over UDP
- Clients: added TAC triggered LFP averaging client
- Clients: PEC can now automatically adjust pre and post event times based on incoming event timing

Changes:

- Removed support for non-40 kHz operation (obsolete)

- Removed support for long waveforms (obsolete)

Bug Fixes:

- SortClient: Fixed bug that could prevent waveform limiting from being enabled during auto procedures
- Ref2: Fixed a bug in trodal channel numbering

Version 2.5.2

NOTE: This version of RASPUTIN REQUIRES that the new version 7.4.0 of the Sentinel drivers be installed. The installer for RASPUTIN will run the Sentinel installer that will upgrade the Sentinel drivers to version 7.4.0. Do not cancel out of this Sentinel installation, or RASPUTIN will not unlock. After the installation, the Sentinel installer will be in the Common subdirectory named Sentinel Protection Installer 7.4.0.exe, it can be executed from there

Improvements:

- Server: automatically detects and corrects problems with NIDAQ clock speed and PXI settings
- Ref2: now supports up to four OUT boards in the MAP, including OUT boards in the upper 64 channel bank

Bug Fixes:

- Ref2: fixed several minor bugs

Version 2.5.1

Bug Fixes:

- SortClient and Server: fixed a bug that was causing data drops and freezes in some situations.

Version 2.5.0

New Features

- SortClient : added new Trodal Peak/Valley Display that can show all the permutations of electrode i vs electrode j for peak or valley heights.

- SortClient : added new option to 'gang' together the gain, threshold, filter, and zoom settings for all electrodes within a trode.

- SortClient : added (optional) highlighting of the current spike channel and any associated analog channels to the Activity Display.

- SortClient : added a new mode to the Activity Display so that it will show only the currently selected channel

- SortClient : added ability to easily associate every Nth spike channel to an analog channel

- SortClient : can now collect sample sets in trodal mode, and waveform selection/inspection works properly

- SortClient : can now set threshold by dragging the horizontal white threshold line in the waveform view, this now also works in trodal mode

- Ref2 : added ability to work with channels in terms of stereotrodes or tetrodes (see ref2-trodat.rtf)

Improvements:

- SortClient : allowed editing slow channel preamp gains, reworded the label for the default value
- SortClient : added ability to show zero line for analog channels in activity display
- SortClient : now more consistent about Xing out disabled channels
- All : now uses new version of Sentinel licensing

Bug Fixes:

- SortClient : got rid of obsolete New Window menu item under the Windows menu

Version 2.4.2**Improvements:**

- SortClient : space bar always erases displays, 'x' key pauses, updated the Quick Reference dialog
- SortClient : added mouse-wheel zooming of 3D Cluster Display
- SortClient : added an option that allows right-click context menuing in all views (as opposed to Alt-right-click)
- SortClient : writes version 106 plx files with 'who wrote it' information
- Server : improved the clock drift correction code to work with MXI-based MAPs
- Server : clock drift correction code now performs better in low data rate situations
- Server : added ability to copy the contents of the messages window into the Windows clipboard

Bug Fixes:

- Ref2 : bug fixes related to assignments of OUTs and BNCs
- SortClient : for systems with >64 channels, the MAP would not go into tetrode mode reliably if the mode was changed prior to pressing Start

Version 2.4.1

New Features:

- SortClient : revamped Activity view to make the height devoted to each trace variable. Also added a mode that will always fit all of the channels into the available space without scrolling. This is now the default
- SortClient : the comment for a .plx file can now be edited while the file is being recorded. Multi-line comments are now allowed

Bug Fixes:

- SortClient : fixed a bug that could cause the unit fit tolerance sliders to become too large
- SortClient : fixed a bug that could cause the activity view to quit working if the Settings window was closed
- Ref2: fixed a bug that prevented BNC2-4 from working in some cases; improved layout appearance for 16 channel systems

Version 2.4.0**New Features:**

- Added new Ref2 client, replaces Ref and Fec
- Added support for Windows XP theme for all programs, minor display tweaks
- SortClient : new Display Pause function to freeze the displays but still acquire data
- SortClient : added toolbar button for Assisted Sort view, added n,p,del keystroke handlers
- The licensing dialog makes it more obvious when multiple keys exist

Improvements:

- SortClient : The Drop Count section of the status bar will flash red if the drop counts are non-zero
- SortClient : can now cancel out of an Add Unit in template sorting mode by hitting Esc
- SortClient : in stereotrode/tetrode mode, display the threshold on the waveform view, and make the dividing lines between the electrodes a brighter color
- SortClient : If you add a new unit from the cluster displays by holding down Ctrl and left-clicking, the display will now flip into viewing the template set.
- SortClient : increased a buffer size to help reduce data drops in some cases
- SortClient : pressing the 'Sort' button to sort the template set now more accurately reflects the sorting that the MAP will do - TCClient : Add ability to alphabetize all Events, which makes the displays easier to decipher
- TCClient : Add ability to not display the error bars on the tuning curve plots.

Bug Fixes:

- SortClient : Fix bug where if you set stereotrode/tetrode mode before pressing Start, the MAP continued to do single-electrode thresholding.
- SortClient : Switching data mode would always turn on waveform limits, but the GUI would still show them as being turned off. This was harmless for recorded data (as waveform limits are turned off when recording starts anyway) but it could be confusing.
- SortClient : Fix bug in the 'Accept All Units in Row' function in Assisted Sort view
- TCClient : Fix possible 'jittery' display problem that only occurred with some video cards

Version 2.3.4**New Features:**

- Sort Client: Added new options in Assisted Sort View to make it more usable Improvements
- Server: Made the clock diff reporting part of the 'verbose' output, so that it does not appear in the scrolling output by default

Version 2.3.3**New Features:**

- PlexNet: Now has explicit control over sending External Events via PlexNet

Improvements:

- Server: Computer-MAP clock discrepancy correction algorithm is now allowed to do more correction
- Sort Client: Fixed case where, when multiple NIDAQ cards are present, changing the name or preamp gain on a continuous channel could affect channels from other NIDAQ cards
- SortClient : Added 'Del' key as a shortcut for deleting the selected unit
- PlexClient.dll: Minor changes made to accommodate the MEA Workstation

Bug Fixes:

- Server : Fixed strange interaction that caused the timing of keyboard events and start/stop events to get out-of-sync while MATLAB is running on the same machine
- Server: Deleted do-nothing Apply buttons on Options dialogs
- Sort Client: Fixed n and p keys so they now work when more views have input focus
- Sort Client: Deleted box sorting options when in stereotrode/tetrode mode
- Sort Client: Deleted do-nothing Apply buttons on Options dialogs

Version 2.3.2**New Features:**

- Server: Added support for cPCI clock distribution card (for driving cPCI NIDAQ)
- Sort Client - Setting the environment variable "PLEXON_INTEL_OPENGL" will allow the 3D cluster view to work properly on Intel-based graphics cards
- HLK2Util: Updated to work with cPCI cards

Bug Fixes:

- PlexClient.dll is again being put into the System32 directory so that NEX can find it

Version 2.3.1**New Features:**

- Sort Client and Server: CinePlex and VTG work properly with external level or XS2 starting

Bug Fixes:

- Sort Client: Pausing did not work properly if the data file recording was started via XS2
- Sort Client: Fix drawing problem on activity display for continuous channels that could draw a connecting line between sections of the continuous waveform during template collection
- Sort Client: Opening a new file will now offer to save the currently-open file if it has been modified
- Server: Fix slow drift of timestamps of keyboard events relative to MAP timestamps. Also corrected an issue with Event001 sometimes not appearing in the .plx file.

Version 2.3.0

New Features:

- Sort Client: Support Version 105 PLX file format, where preamp gain is recorded in the .plx file header

- Sort Client: Change auto-sort algorithm to order the units produced such that unit a is 'best', unit b is next best, etc. This also makes it so that the 4 'best' units are kept if the sorting algorithm finds more than four units.

- Server: Changes to support CinePlex

Bug Fixes:

- Server: Fix the PC powering the MAP LEDs problem
- Server: Fix possible thread contention issue for command queue Server: Do not allow messages window to accumulate too many messages before clearing it
- Sort Client: Immediately after data was started, the waveform limiting for the first channel was incorrectly left at the 'background' rate instead of the 'foreground' rate
- Sort Client: Fix crash bug when Alt-click was used to highlight a point in the 3D cluster view
- Sort Client: Channels were not being reset when a new .exp file was loaded, which led to on-screen remnants
- Sort Client: Sign was flipped on Threshold written to PLX file header
- Sort Client: Sort width, boxes were not being properly recorded in .plx files

Version 2.2.2**Bug Fixes:**

- Sort Client: Fix problem with loading .exp files on systems with no slow NIDAQ channels
- Server: Strobed events from a DI board on other than the first section could drop events
- Server: Fix problem with dropping continuous data on busy systems
- Fix minor issues in the installation

Version 2.2.1**New Features:**

- Included version 1.0.0 of Tuning Curve Client and a Quick Start Guide for it
- FEC: Added support for a second OUT board in the upper 64 channels

Bug Fixes:

- Sort Client: Changing Filtering from the Control Grid did not work

Version 2.2.0**New Features:**

- Sort Client, Server: Added support for multiple NIDAQ cards
- Sort Client, Server: Added support for continuous recording at up to 40Khz
- Sort Client: Allow associating spike channels with continuous channels, which is a new feature in .plx file format version 104

- Sort Client: When adjusting zoom with the spin boxes, it changes by 0.1 per click until the zoom reaches a configurable value, then it steps by 1.0

Improvements:

- Sort Client, Server: Changed the default values of several options to be more standard

- Sort Client: Hitting 'e' key or space bar in multichannel window or cluster views will erase the display

- PlexNet: Wording of the main dialog made clearer

Bug Fixes:

- Sort Client: When doing New Template with waveform crossing, now clears waveform points sorting in the cluster view appropriately
- Sort Client: Hitting cancel on the 'save .exp?' prompt at exit no longer leaves Sort Client in a confused state
- Sort Client: Disallow changing NPointsWave or pre-threshold while data is being recorded

Version 2.0.6

New Features:

- Quick reference dialog can now be printed
- Now pulls up the pdf documentation from the Help menu

Version 2.0.3

New Features:

- Ability to open .exp files supplied on the command line
- Added a persisted option for the default preamp gain for analog channels, which now defaults to 1000 (not 500)
- Rearranged the General options panel a bit
- Added new option to automatically stop and re-start runs with new file names after a selected amount of time has elapsed
- Server can now be configured to use serial ports COM3 or COM4 in addition to COM1 and COM2

Bug Fixes:

- Efficiency improvements for activity display
- Fixed bug with the 'Set all rows as the top row' function for Zoom in the Channels grid view
- Fixed bug in Server that could cause redundant copies of external events on XS2 on MXI systems

Version 2.0.2

New Features:

- Changes to support 40-bit timestamps
- Support for multiple DI boards
- Removed several property pages and configuration options for things that never need adjustment in Server; simplified menu structure
- Changed the defaults on several configuration options in Server

Bug Fixes:

- Fix problems in range validation for slow channel gain

- Made UI for slow channel decimation clearer

- Adding a new unit during waveform crossing no longer resets unit assignments for other template set waveforms

- Fix problem where variance lines for remaining units disappeared after deleting the selected unit

- Restrict the pre-threshold values to be between 1 and $N_{\text{PointsWave}}-1$ ticks

- The control panel entries for waveform limits now affect the display limits, not the hardware waveform limits

- The display limits cannot be set larger than the waveform limits

- Persist waveform limits active flag, active and background limit rates to registry

- Fix problem where pulling up context menu would prevent future point selection on 2D Cluster View

- Change Scale to Zoom in Channels panel

- Doing auto-gain would set the Gain Scope to be 'Current Channel', but would not update the Control Grid. It now updates the Control Grid. The 'override waveform limits' option that was already available when doing Auto-Gain and Auto-Threshold collection now also applies to Auto-PCA. This prevents the current channel from finishing its PCA collection much sooner than the other channels.

- Minor UI tweaks (fix chopped-off text, only enable controls when they are relevant, etc)

- Changed text for MinInt(μ sec) to Refr ISI in the Control Panel

- Changing channels during auto-XXX collection no longer resets waveform limits if they have been overridden during collection