

v88

Special Notes When Updating

- Make sure all gizmo names are less than 15 characters long.
- Individual Referencing Mode in PZ5 maps only the odd channels to the Amplifier output.
- LFP gizmo will be replaced by Neural Stream Processor gizmo in the next release.
- Stimulation gizmos no longer fire automatically when attached to #Reset signal.

Changes and Improvements

New Gizmos!

- **Neural Signal Referencer** - Removes common signals from a multi-channel stream of neural signals. Can do single or multi-channel referencing on all channels or independent sub-groups of channels.
- **Timer** - Measures the elapsed time between logical events or calculates the frequency of events.
- **Neural Stream Processor** - Filters and stores single or multi-channel biopotential waveforms. Replaces the LFP Gizmo.
- **Pulse Generator** - Creates a simple user-defined pulse train. Useful for turning on/off the fiber photometry light driver outputs or controlling optogenetic stimulation.
- **Delay** - Adds a fixed or dynamic delay to any signal.

Support for UZ3 Fiber Optic to USB 3.0 interface.

Synapse Lite and support for Lab Rat platform (LR10).

Miscellaneous gizmo and HAL improvements

- New interface button on upper right to provide direct feedback to TDT.
- New notes interface in RZ and RX devices. Save string notes and timestamps into the tank and a readable Notes.txt log in the block file. Can also create notes through the SynapseAPI.
- StoresListing.txt file in block folder contains information about what gizmo created each store.
- Epoch store gizmo can now be triggered on value change.
- Electrical Stimulation gizmo shows a plot of the pulse and burst during design time.
- Parameter Sequencer lets you automatically start the sequence when the block starts and automatically stop the recording when the sequence is done.
- Button presses and all SynapseAPI calls to write to buttons are passed directly to circuit with minimum delay.
- Each gizmo can be set to 'Fresh' persistence on a per-gizmo basis. When selected, the run-time persistence will be ignored and the default experiment values for that gizmo will be used every recording.

- User run-time layout can be loaded from pre-existing experiment run.
- User gizmo - gizmoControl macro allows duplication of controls for parameter tags inside iterate box.
- The RV2 has fewer communication delays.
- PCSort/BoxSort/TetSort can show just one channel/tetrode.
- 'Tick' store can now be disabled to save cycle usage.
- Experiments are lockable to prevent accidental edits.
- "Clean Storage" menu lets you remove old Preview history and empty tanks to clean up the database and hard drive.
- Stimulation gizmos have the continuous store enabled by default.
- Run-time channel map editing is disabled.

Bug Fixes

Miscellaneous gizmo and HAL fixes

- Fixed phase sync in audio stimulation gizmo.
- LFP HP filter API setting was off by one.
- Can connect User Gizmos to SortCodes output links directly now.
- Fixed bug in Smooth Scrolling data plot when paused.
- Fix RVMap for invalid parameters.
- Allow Parameter Sequencer gizmo to have more than 10000 items.
- Make sure duplicate Fiber Photometry gizmos create unique stores.
- Fix off by one sample bug in File Stimulation gizmo.
- Fix for initial value when gizmoControl is a Logic type.
- Properly limit the ZD headstages to 25kHz sampling rate.
- Fix for stimulation gizmos missing first trigger when in Strobe controlled modes.