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News

Spike2 Version 8

We are pleased to announce that Spike2 version 8 will soon be available. Visit us at booth 520 at the [Society for Neuroscience 43rd Annual Meeting](#) for a demonstration. A list of the new features is included in the Spike2 section, below.

We will be writing to all registered users of Spike2 with upgrade details in due course.

Future meetings and events

CED US Training Days 2013

Wyndham San Diego Bayside Hotel
San Diego, CA
USA
November 7th - 8th 2013

Society for Neuroscience 43rd Annual Meeting – Booth 520

San Diego, CA
USA
November 9th - 13th 2013
Exhibit dates: November 10th – 13th 2013

Latest versions of Spike2 and Signal

Updates for Spike2 and Signal are available from the [CED Downloads](#) page, or by clicking on the links in the table below. Demonstration versions of the latest software are also available.

Spike2 downloads	Released	Signal downloads	Released
Spike2 version 7.12c	09/13	Signal version 5.09	05/13
Spike2 version 6.17	10/12	Signal version 4.10	10/12
Spike2 demo	03/13	Signal demo	06/12

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Scripts Spotlight

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In the previous email newsletter we highlighted the importance of view handles and how to use them to access open windows. This is all very well for data files, result and XY views, but consider that you might want to get the view handle for the running script so that you can hide it from the user, or hide the main program toolbars so that the user only has access to a script toolbar. The view handles for these features are found using the `App()` command. This returns view handles for system specific windows, such as the application, the various built-in toolbars and any running script.

For this example, using `App()` with an argument value of 3 will return the running script window so we could use the following to hide the script window from the user:

```
View(App(3)).WindowVisible(0);
```

The `App()` command can also be used to hide any other windows and all toolbars as well as the running script, leaving the user to concentrate on the script toolbar and prompts only. The following procedure could be used to achieve this:

```
var gFloat%(20);           'global for floating window states

proc HideAll()
var i%;
gFloat%[0] := App(-2);     'number of windows
for i% := 1 to gFloat%[0] do 'hide all windows and save state
    gFloat%[i%] := View(App(i%)).WindowVisible(0);
next;
end
```

We could also add a procedure to restore all of our windows and toolbars and call it before the script quits:

```
proc RestoreAll()
var i%;
for i% := 1 to gFloat%[0] do 'restore hidden windows
    View(App(i%)).WindowVisible(gFloat%[i%]);
next;
end
```

The full description of the `App()` command, along with the example code used above, can be found in the on-line help.



Spike2

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Version 8 is the latest release of Spike2 and includes many new and improved features, with continuous development planned through the course of the version.

New features include:

- New data file format that allows files of effectively unlimited size (much bigger than any available disk)
- Sampling times are no longer limited to 2 billion clock ticks (time stamps are 64-bits, they were 32-bits)
- You can choose to install 64-bit code on 64-bit operating systems, which makes more memory available and runs faster. A 32-bit version can be installed instead, if you need to interact with 32-bit versions of Matlab, for example.
- You can sample to the new 64-bit file format or use the old 32-bit format for backwards compatibility
- With 64-bit files, triggered and timed waveforms save exactly the required data; 32-bit files always save complete disk blocks, which usually saves more data than required.
- There are improvements to the data import system to allow longer time ranges and larger files and to give more information and control during interactive file importation.
- The MATLAB file export system can write files larger than 4 GB if you select the version 7.3 format.

We have tried very hard to keep version 8 of Spike2 compatible with version 7. It reads data files from all previous versions. Resource files are mostly compatible; some resource formats have changed to support new features. Scripts that ran with version 7 should work unchanged with version 8; there can be differences due to integers now being 64 bits and because of the new filing system.

Scripts: Spike2

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- Q. Is it possible to apply a time shift function to event and marker channels? The previous eNewsletter explained how to do this with waveform channels using a Channel Process, but I would like to be able to shift events as well.
- A. The Channel Process functions can only be applied to waveform channels, as they often directly affect the data point values. The script, [TimeShiftEvents.s2s](#) can be used to copy event or marker times from the currently selected data file to a new permanent channel in any open data file. The script creates 2 cursors which you can use to select the data range to copy and you can apply an optional time shift by selecting the start time for the data in the new channel.



Signal



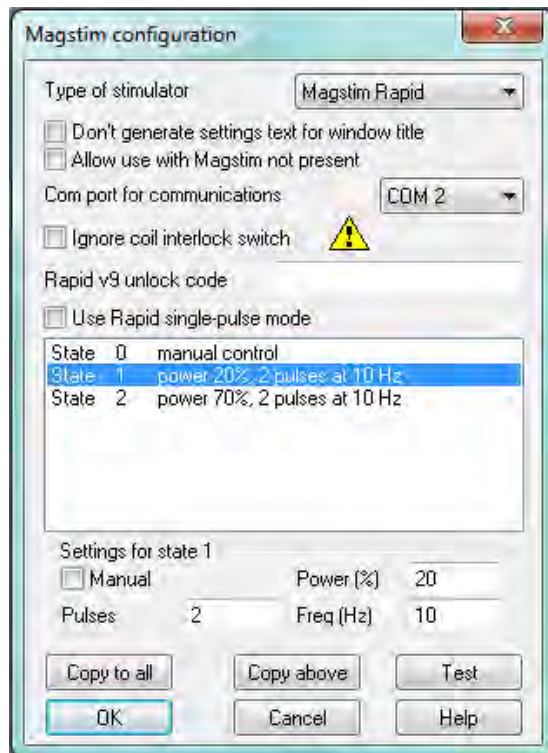
Show me How!

Click here to watch a video on setting up Magstim configurations in Signal

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- Q. How do I use multiple states to control Magstim settings?
- A. Multiple states control of supported Magstim devices is achieved using the auxiliary states module in Signal. The option of including auxiliary states device support is given during Signal installation.

When the `Multiple states` checkbox is enabled in the `General` tab of the sampling configuration and `Dynamic outputs mode` is selected (see [eNewsletter #80](#) for details) the `Magstim` button in the `States` tab allows the user to configure settings for Magstim 200, BiStim or Rapid devices. Depending on the type of Magstim selected, each enabled state includes settings for `Power %`, `no. of pulses` and `frequency of stimulation (Hz)`. During sampling, these settings are applied to the Magstim device for the current state. Signal can switch between states in numeric or random order during an experiment, or run multiple user-defined protocols for state sequencing.



Magstim Rapid² configuration dialog

Further information on Magstim configuration using multiple states can be found in the on-line help and in the downloadable [TMS and Magstim control using Signal](#) application guide.



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Scripts: Signal

- Q. I would like to average all of the different states in my data and have them saved to individual frames in a result view, so that frame 1 of the result view holds the average of all frames from state 1, frame 2 holds the average of state 2, etc.
- A. The script [StateAverage.sgs](#) generates a new memory view holding the averaged results of each state in the source file, with each of the averages stored in a separate frame.

Did you know...?

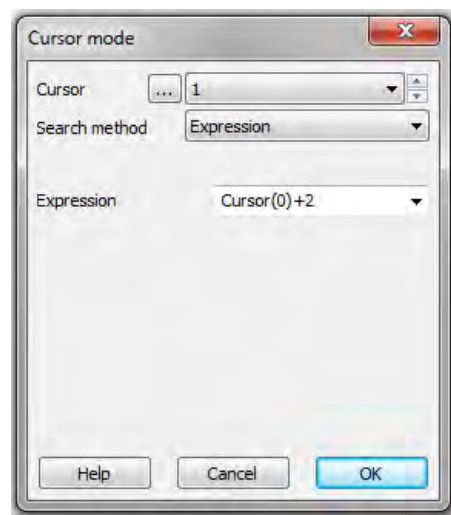
You can apply processes in Signal, such as tagging or smoothing, to all frames or a defined subset of frames using the `Multiple frames` command from the `Analysis` menu.

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Recent Questions

- Q. I'd like to know if it is possible to link cursors with one another. Let's say, that I move cursor (0) by two seconds on the x-axis, manually, and the (linked) cursor (1) moves two seconds, too, in the same direction. The time between the two cursors does not change but stays the same (e.g. two seconds).
- A. From the `Cursor` menu, select `Active modes` and set cursor 0 `Search mode` to `Static`. Then select cursor 1 and set `Search mode` to `Expression`. This enables an expression field into which you can type `Cursor(0)+2`. Now, whenever you drag and release Cursor 0, the position of Cursor 1 will then update to keep the 2 second measurement 'window' on your data. Cursor 0 acts as the master cursor; whenever Cursor 0 moves, all other active cursors will reposition accordingly.

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Cursor mode dialog

CED User forums

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