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US Training Days

Our US training days will take place on November 13th and 14th, just prior to the Society for Neuroscience annual meeting, in Washington, DC.

[Sign up](#) and learn how to make the best use of Spike2 and Signal to save time and increase productivity.

Who should attend?

- Users who want to save time and become more efficient with CED systems
- New users or those new to a lab that uses CED systems
- Those considering the purchase of a CED data acquisition and analysis system

Future meetings and events

[Oxford Breathing Conference](#)

Grace Hotel,
Sydney,
Australia
October 26th – 31st 2014

[Society for Neuroscience 44th Annual Meeting](#) - Booth #2423

Washington, DC
USA
November 15th - 19th 2014
Exhibit dates: November 16th – 19th 2014

Latest versions of Spike2 and Signal

Spike2	Released	Signal	Released
Spike2 version 8.02e	09/14	Signal version 6.02	08/14
Spike2 version 7.15	09/14	Signal version 5.11	09/14
Spike2 version 6.18	09/14	Signal version 4.11	02/14
Spike2 demo	08/14	Signal demo	08/14

Script spotlight

There are many times that you will want to re-use some of your user-defined procedures and functions in multiple script projects. Of course, you can do this by simply copying and pasting the code but it can be much more convenient to use the `#include` command. This lets you access procedures and functions in other script files from within your current project using the following syntax:

```
#include "filename"
```

where `filename` is either an absolute pathname (`"C:\\scripts\\MyFuncs.s2s"`) or a filename enclosed with angle brackets (`<MyFuncs.s2s>`). These two examples assume a Spike2 script file with the file extension `.s2s`. Signal script files use the `.sgs` file extension.

If you only provide a filename the script expects the script file you want to include to either reside in the same folder as the original script, in the current folder or in the `include` folder in your Spike2 or Signal installation folder. It is usually a good idea to have all of your `#include` commands at the start of your script so that anyone else who reads it understands that other script files are being used.

Many of the scripts in your `Spike\\scripts` and `Signal\\scripts` folder make use of `#include` to read functions from a script file called `GHutils`. This file contains a number of useful functions and can be found in your `include` folder.

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“How can I trigger stimulators from Spike2 during a recording?”

Many stimulators will generate a stimulus output in response to a 5 volt digital TTL input trigger and Spike2 can be used to trigger a wide range of stimulators and other external devices in this way. Some of the more commonly used devices include constant current, constant voltage and magnetic stimulators. The parameters of the stimulator output are usually defined using hardware controls on the stimulator.

The Spike2 output sequencer, via the graphical editor or a text sequence file, can send precisely timed TTL pulses from the 1401 digital outputs during sampling which can be used to trigger these stimulators.

Other constant current stimulators, such as the Digitimer DS4 and DS5 units, are controlled by an analog voltage waveform input which they then convert into a constant current stimulus output of proportional value. The 1401 DAC outputs can be used to generate waveform outputs to drive these types of voltage-following stimulus isolators. See the Spike2: Scripts section, below for an example script that can be used to control a DS5 stimulator.

Scripts: Spike2

The script, [DS5control.s2s](#) and associated sequence, `DS5control.pls`, are examples of using a DAC output from a 1401 to control a Digitimer DS5 Isolated Bipolar Constant Current stimulator and update the settings during sampling.

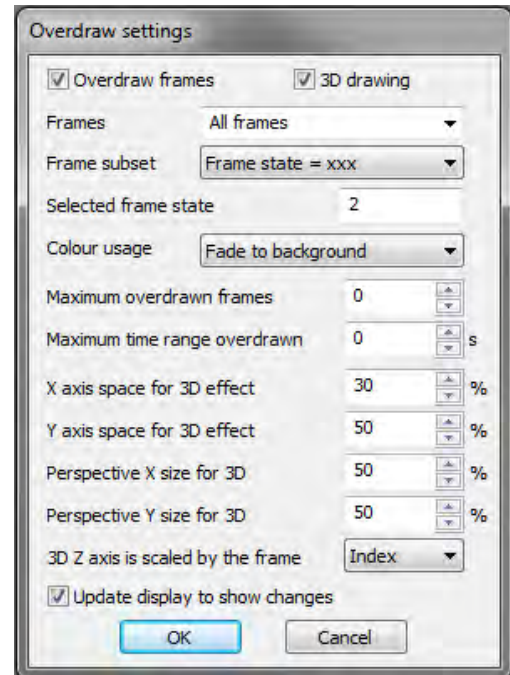
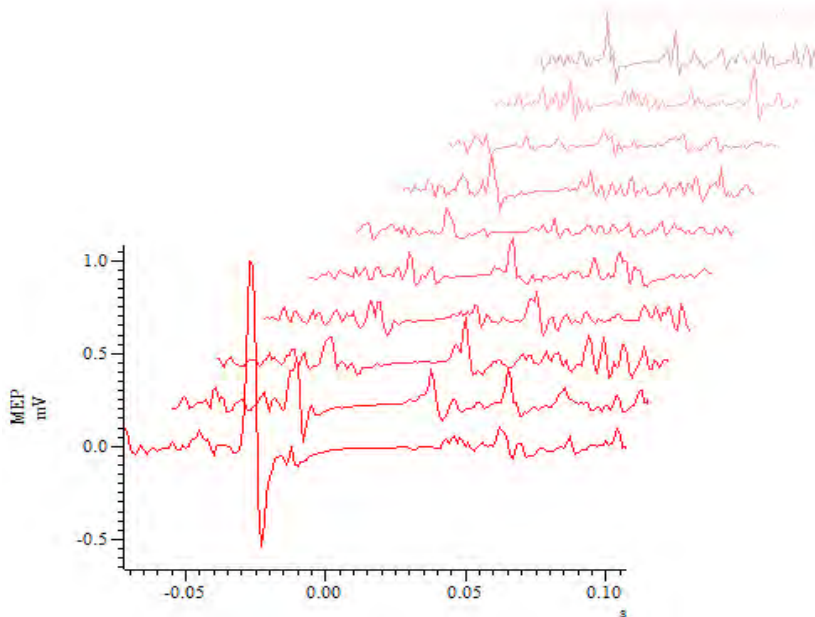
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Signal

“I’m putting together a poster presentation and would like to generate a ‘waterfall’ image of multiple data traces.”

Signal can superimpose frames and subsets of frames from a data file in the current view to allow visual comparison of recorded data. The `Overdraw settings` option available from the `View` menu (or using the `Ctrl+Shift+D` keyboard shortcut) opens a dialog that sets the frames to include in the list and the manner in which overdrawn frames are displayed.

Overdrawn data can be displayed on the same time axis as the current frame or as a 3D ‘waterfall’ display mode. When the `3D drawing` checkbox is enabled you can adjust the X and Y 3D effect and perspective settings to customise the display.



Scripts: Signal

“I’m using Signal to run an experiment during which participants are required to move their index finger through a specific range of motion by matching a position trace (given by a potentiometer attached to the finger) to a template generated by the DAC output. When using a DAC output the template is drawn at the same time as the sampled data, whereas I would prefer if the complete template could be constantly displayed, allowing participants to be able to see it ahead of time.”

The script, [TrackPlot.sgs](#), is an example of setting up a recording frame that can be used to track a given shape when sampling in Signal. This script allows the user to select a pre-recorded frame containing the data shape template to track and then opens a new file for sampling. An XY view is created that shows the incoming data superimposed on the selected tracking template. The zip file includes a Signal data file, `Target.cfs`, which contains an example tracking template for demonstration purposes.

Did you know...?

You can duplicate an existing pulse by holding down `Ctrl` then clicking and dragging on the pulse in the Spike2 graphical sequence editor and Signal pulses configuration dialog.

Recent Questions

“I have a file in Microsoft .wav format containing a tone that I want to play out via a DAC channel. Is there a simple way to convert a .wav file to a Spike2 .smr format file?”

Both Spike2 and Signal can import data recorded in a variety of file formats, including .wav files. Select the `Import data...` option from the `File` menu and select `Wave Files (*.WAV)` from the `File name` drop down list.

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CED User forums

Try the [CED Forums](#) bulletin board for software and hardware support

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