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News

Spike2 and Signal Training Courses

Our U.K. training days will take place on the 12th & 13th of April at St. John's Innovation Centre, Cambridge. Further details of the training day sessions are available from the [training](#) section of our website.

Windows Vista™ Support

We are now getting enquiries about software and hardware support in Vista. Vista no longer supports the standard Windows help system that we use (WinHelp) and requires device driver authentication (digital signatures). Spike2 and Signal will both run, but if you do need to install and use them on a Vista system, then please contact us for assistance.

There are no new features in Vista that would be of benefit to Spike2 or Signal users at this time. We are currently investigating applying digital signatures to our device drivers and changing our help system to a compatible format so full help support will be available in the near future.

Meetings and events

Biophysical Society Annual Meeting 2007

Booth No. 640
Baltimore, Maryland, USA
March 3rd – 7th 2007

British Neuroscience Association 2007

Booth No. 4
Harrogate International Centre, Harrogate, UK
April 1st – 4th 2007

Experimental Biology 2007

Booth No. 1831
Washington, DC, USA
April 28th – May 2nd 2007

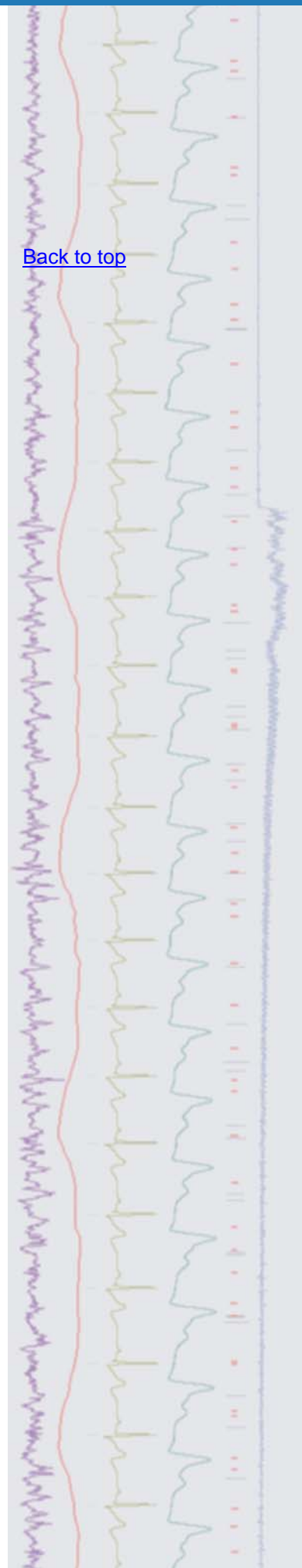
Latest versions of Spike2 and Signal

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	Signal downloads
Spike2 version 6.02	Signal version 3.08
Spike2 version 5.16	Signal version 2.16
Spike2 v6 demo	Signal demo

A full list of the new features and changes in the software versions is available from the website.

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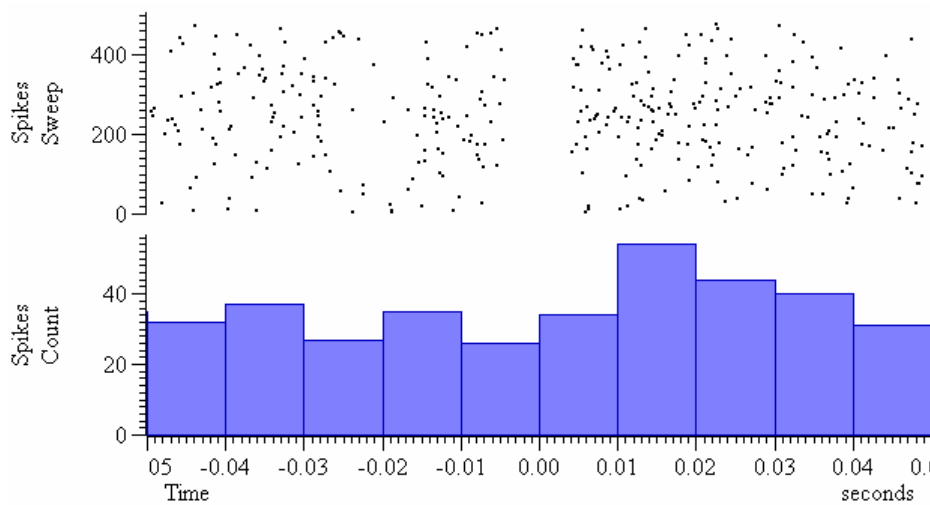




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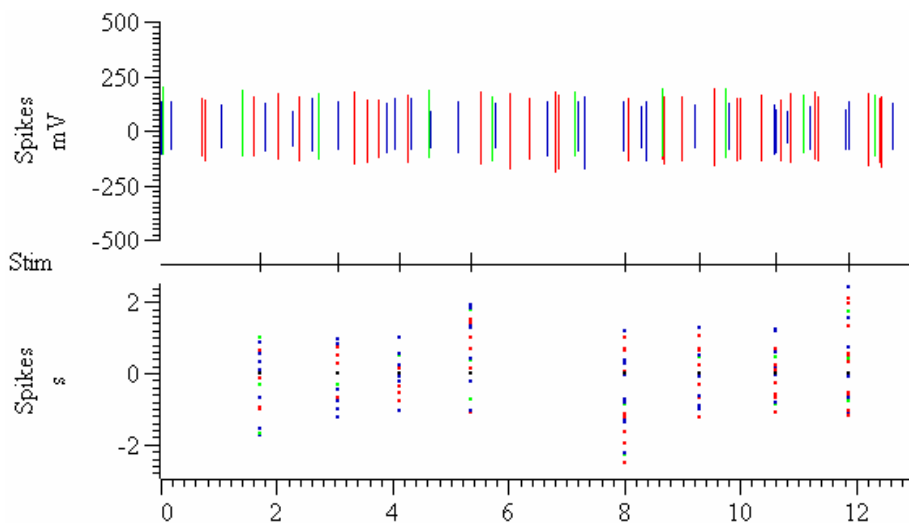
- Q. Is there an option to display rasters in a data file with the trigger events aligned in time along the X-axis and the events around the trigger displayed vertically on the Y-axis?
- A. There is an option to display events as raster data in a data file. From the Channel Draw Mode dialog, you can select a channel to display and the trigger channel to use. This will display the raster data vertically so that the time of occurrence of the trigger event is displayed using the X-axis, and the time of events in relation to the trigger are displayed on the Y-axis.

The PSTH and Event Correlation result views can also display events as raster data, but the raster is always displayed horizontally, with the time of the event in relation to the sweep trigger displayed along the X-axis and the underlying sweep number that holds the event displayed on the Y-axis.



Raster display in a PSTH result view

In the next version of Spike2, 6.03 (currently in development), a raster display of a WaveMark channel will use the associated colour codes to indicate the code of each drawn event in relation to the trigger.



Raster channel draw mode showing colour coded raster events

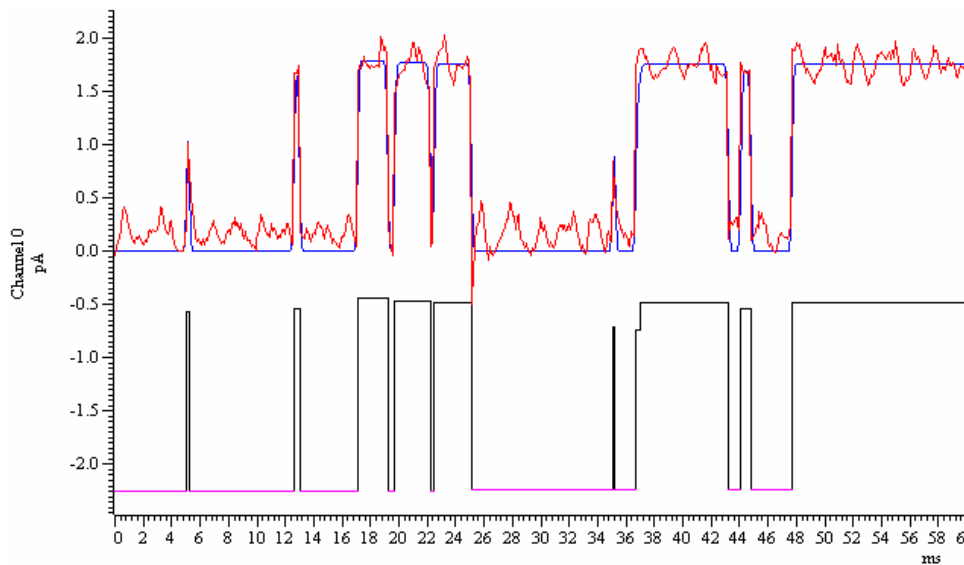


Signal

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- Q. I have been using the idealized trace generation in Signal to analyze single channel patch clamp data. I was wondering if there are any plans to implement time course fitting of idealized trace data, which gives more accurate results when the ion channel data contains many subconductance levels?
- A. Signal can now implement time course fitting using the SCAN analysis method for generating an idealized trace of open and closed times of ion channel data, as well as using threshold levels (For an overview of the threshold method for idealized trace generation, see CED email newsletter 9). The SCAN method of fitting idealized traces was originally developed and written by Professor David Colquhoun at University College London.

The SCAN method in Signal assumes that a Gaussian filter was used to remove noise from the original signal and generates a high time resolution calculation of the original, unfiltered waveform using a form of reverse convolution of the idealized trace with the step response function of the filter. The result is drawn with the convoluted trace overlaying the data and the idealized trace drawn below. The trace can then be edited using the Event details dialog to achieve maximum accuracy for the results. You can also adjust the filter cut-off frequency used to calculate the convoluted trace during editing.



Convoluted (top) and idealized trace (bottom) generated using the SCAN method

Further details on using the SCAN method in Signal can be found in the on-line help. Further information on the SCAN method for time course fitting can be found on [Professor Colquhoun's website](#).

Scripts: Spike2

- Q. Is there a script available that would allow me to quickly create tone waveforms to use for output? I know that you can use the virtual channels to create waveforms, but I would like a quick method of defining the different characteristics of the tone such as rise and fall time, length and frequency, without having to write out the channel expressions.
- A. The attached script, `CreateWaves.s2s`, can be used to create sine wave based tone waveforms using a dialog. The user can specify the tone characteristics and the tone is then created and displayed in a new data file. The new tone waveforms can then be added to the PlayWave area of the sampling configuration for output. This script is for use in Spike2 version 6.

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Scripts: Signal

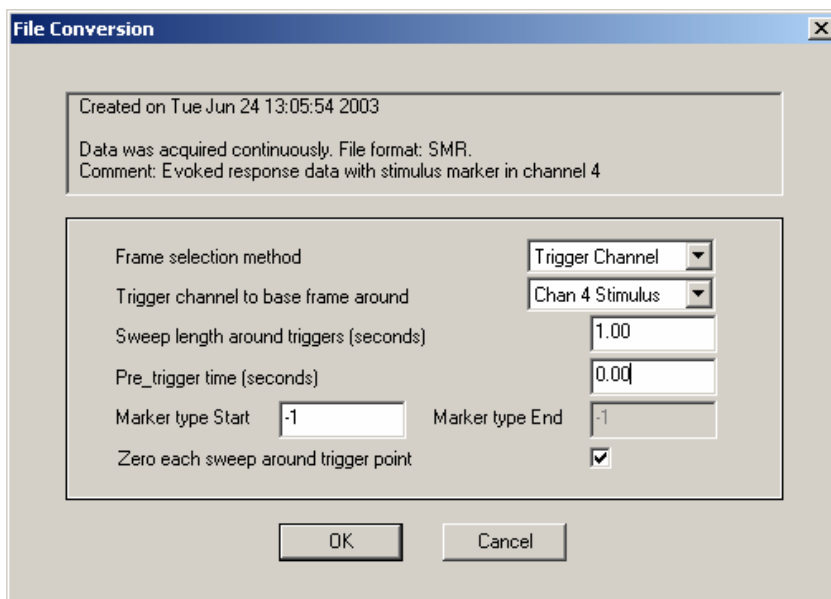
- Q. I would like to set up a movement tracking plot so that my subject can try and follow a shape drawn on the screen when sampling. The waveform shape would need to be loaded from an existing Signal data file before sampling.
- A. The attached script, `TrackPlot.sgs`, is an example of setting up a recording frame that can be used to track a given shape when sampling in Signal. The script allows the user to select a frame containing the data shape to track and then open a new file for sampling. An XY view is created to show the incoming data, along with a target which traces the shape of the tracking data loaded previously, and displays this at the end of the sweep. This new XY view could be positioned on a second monitor if required.

Did you know...?

You can adjust the vertical area occupied by individual channels in a file. Simply hold down `Shift` and click anywhere in the channel and the mouse cursor will snap to the closest channel edge. You can then drag the edge up and down to change the spacing between adjacent channels. Hold down `Ctrl+Shift` and then drag to change all channels with a Y-axis or use `Ctrl` only to scale all channels in the file.

Recent questions

- Q. I am trying to import some evoked response data sampled in Spike2 to Signal, but do not get the results expected. I want to have the responses in separate frames in the Signal file as defined by the stimulus marker but seem to only create a single frame holding all the data. What settings should I use in the import dialog?
- A. Signal has a dedicated import filter for Spike2 files but, since Signal normally handles data in sweeps of a fixed length, there are options that dictate how the data is imported. When the Spike2 file to import is selected a dialog is displayed which allows the user to decide how to signify the start of each frame and how long the data frame should be in relation to the start time. If you use the Data Gaps option on a Spike2 file that contains a continuous waveform then the whole file will be imported to a single frame. In the case where you want to import data to individual frames with respect to a stimulus marker, you would select the Trigger channel option and set the length of the data around the trigger to import to each frame, as below.



Settings to import 1 sec sweeps of data with respect to a stimulus trigger channel at time 0 in the frame

There is also a third option available that allows the user to select individual markers that define the start and end of each frame.

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Right-click the script icon and save to disk.

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User group

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