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News

Meetings and events

8th Biennial conference of the Chinese Society for Neuroscience (CSfN)

Guangzhou Huatai Hotel,
Guangzhou, China
November 7th – 10th 2009

Federation of European Physiological Societies 2009

University Medical Centre Ljubljana,
Ljubljana, Slovenia
November 12th – 15th 2009

Cellular & Integrative Neuroscience Themed Meeting

University of Cardiff,
Cardiff, UK
December 14th – 16th 2009

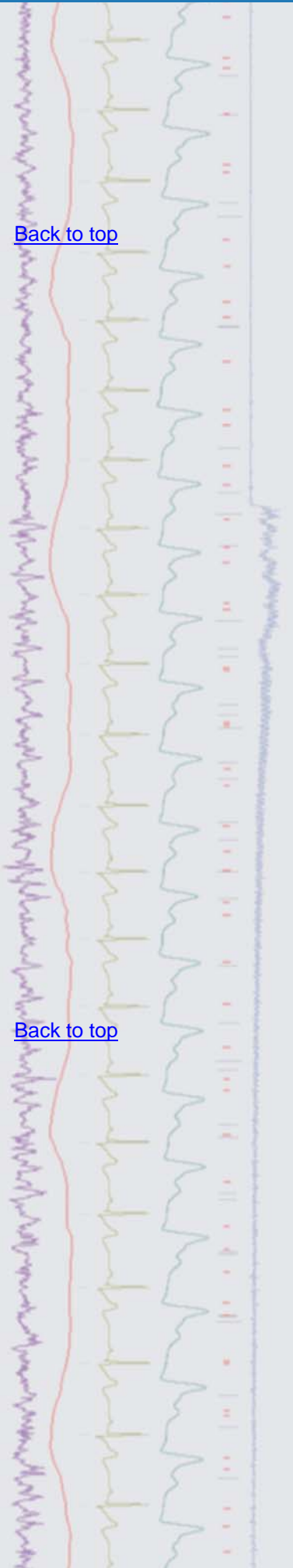
Latest versions of Spike2 and Signal

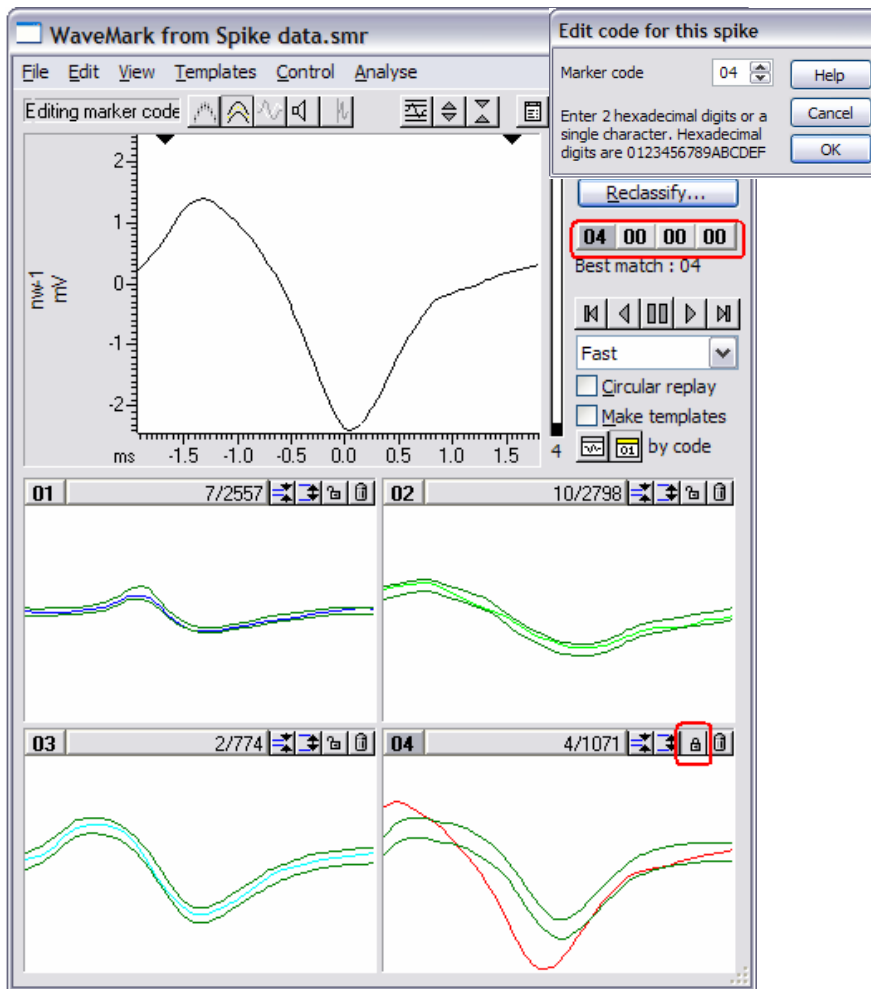
Updates for Spike2 and Signal are available from the [CED downloads](#) page, or by clicking on the links in the table below. Demonstration versions of the latest software are also available.

Spike2 downloads	Signal downloads
Spike2 version 7.01	Signal version 4.06
Spike2 version 6.12	Signal version 3.12
Spike2 demo	Signal demo



- Q. How can I quickly edit the codes of single spikes in a WaveMark channel?
- A. The Edit WaveMark dialog can be used to view and edit individual spikes in a selected channel. Cursor 0 in the data file is automatically 'slaved' to the Edit WaveMark dialog, which displays the current spike at the Cursor 0 position, allowing the user to quickly drag the cursor to an area of interest. The VCR type controls in the dialog, as well as the keyboard shortcuts B (previous spike), M (next spike) and N (play), can then be used to locate individual spikes.





Edit WaveMark dialog

The currently displayed spike can be added to an existing template by pressing the associated number key or can be used to form a new template by pressing a number key not already associated with an existing template (or by clicking and dragging from the main window to an empty template area). Spikes can also be coded individually by double clicking the four code buttons and setting values.

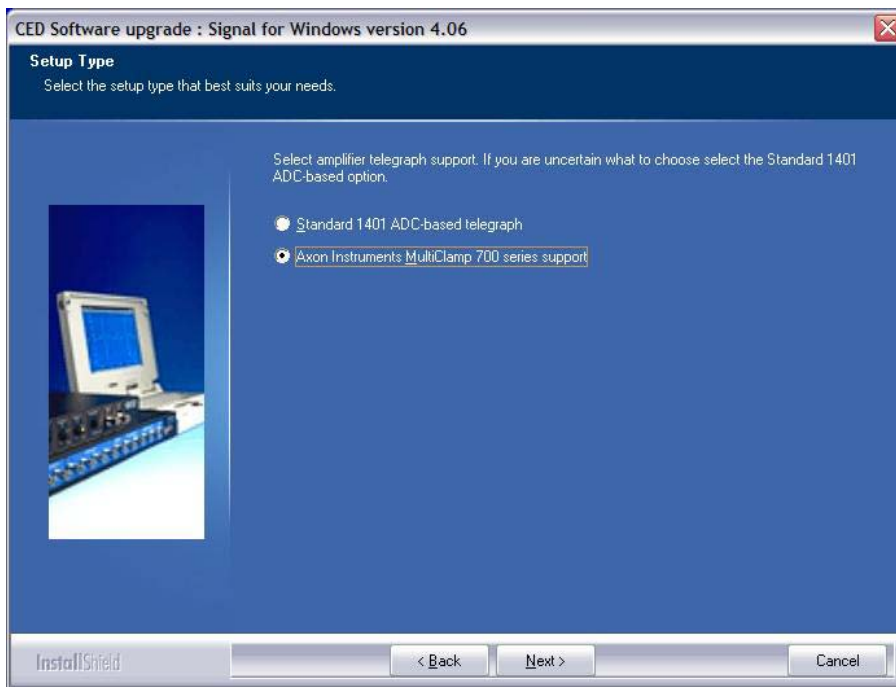
In the example above the current large amplitude spike has been coded 00 to indicate that it doesn't meet any of the existing template parameters, but the closest match would appear to be template 04. If this spike were added to template 04, the template width would increase to reflect the larger amplitude of the unit. To make this spike type 04 without changing the template we can 'lock' the template in its current form (using the padlock icon in the template area, highlighted above) before adding the spike to 04. Once a template is locked, any further spikes added do not contribute to the overall template width.

Signal

- Q. Does Signal support specific amplifiers for telegraph outputs?
- A. Signal can use telegraph outputs from the patch clamp amplifier to determine the current amplifier settings and dynamically adjust the channel scaling in the data file to compensate for changes made to the amplifier settings during sampling.

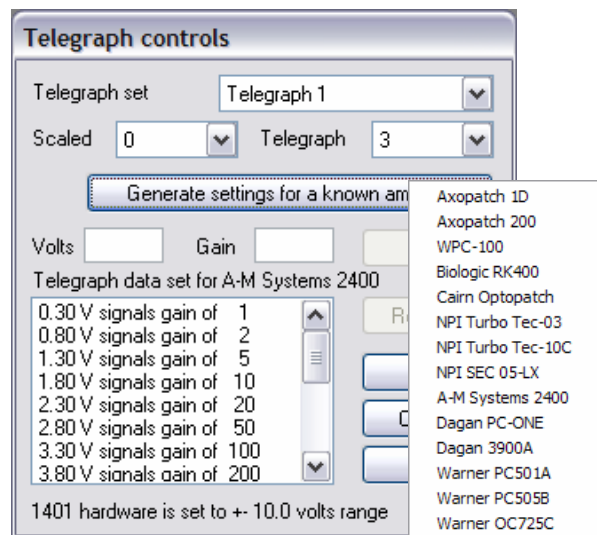
Signal currently supports two types of telegraph output, the choice of which is selected during the installation process; the first uses one or more analogue voltage signals that correspond to gain settings on the amplifier and are output from the amplifier and sampled using the 1401. The second type of telegraph support is used exclusively with the Axon Instruments MultiClamp 700 range of amplifiers.

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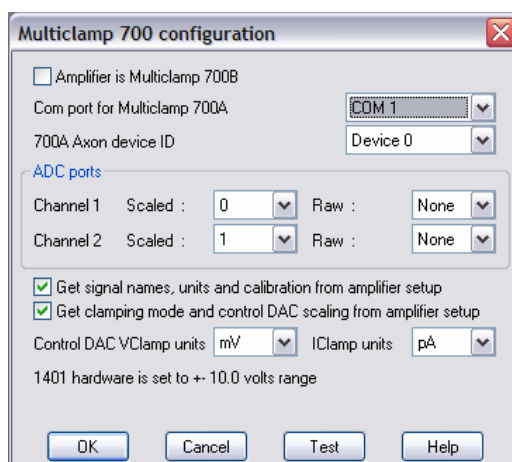
Telegraph support options during installation

For the first type of telegraph output, we supply voltage and gain settings for a range of known amplifiers, any of which can be selected in the standard Telegraph controls dialog. If your amplifier is not included in the list, you can enter the voltage and corresponding gain settings manually.



Standard Telegraph control dialog

The second type of telegraph support allows Signal to read information such as gain settings, filter settings, membrane capacitance and series resistance directly from the MultiClamp command software.



Multiclamp 700 configuration dialog



You can find more details of using amplifier telegraphs in the Signal on-line help.

Scripts: **Spike2** 

- Q. I write a lot of scripts for on-line analysis and it would be really useful if there was some way to test idle routine functions without having a 1401 attached. I often write and modify scripts in my office or at home and don't want to take the 1401 out of the lab.
- A. The attached script, `SimOnSkel.s2s`, uses the `PlayOffline()` script command to replay an existing data file and give the script access to the current replay position to simulate sampling. To use this for testing purposes you should simply add the function code that you plan to use on-line at the position indicated in the `Idle%` function. This script requires Spike2 version 5, 6 or 7.

Scripts: **Signal** 

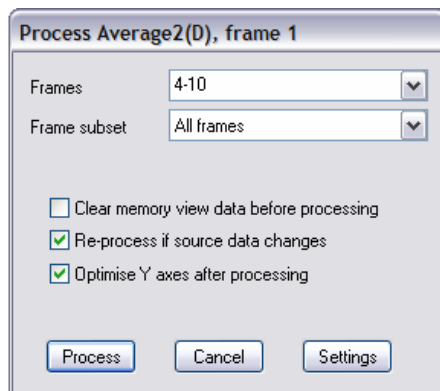
- Q. Is it possible to subtract an exponential fit from a raw data trace? I analyse mini IPSC activity, but if a miniature event occurs on the decaying phase of an IPSC it is very difficult to detect. I would like to fit the decay and then subtract it from the trace, making any mini events that occur easier to analyse.
- A. The attached script, `SubExpFit.sgs`, is an example script that creates a duplicate view of the data file, fits a single exponential curve between user defined cursors and then subtracts the fit values from the raw data. This script requires Signal version 3 or 4 and could be extended to include other fit parameters and types if required. Our thanks to Dr. Bill Connelly at Otago University for supplying the original script function.

Did you know...?

In Spike2, you can now choose to draw instantaneous frequency data as dots (default), as a waveform (using lines) or as a skyline plot.

Recent questions

- Q. In Signal, is there any way to create an average of specific frame states i.e. only include states 3 and 5 in the processed average?
- A. The Process dialogs in Signal can accept a string specifying frame numbers or frame states to process in place of the standard options available from the drop-down list. The two examples below will create a) an average from frame numbers 4-20 and, b) an average from all frames of states 3 and 5. You can also use `!ST:3,5` to exclude states 3 and 5 and process all other states.



a) Process frame numbers 4-10

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Right-click the script icon and save to disk.

If you have any problems opening the embedded scripts in this newsletter please let us know.

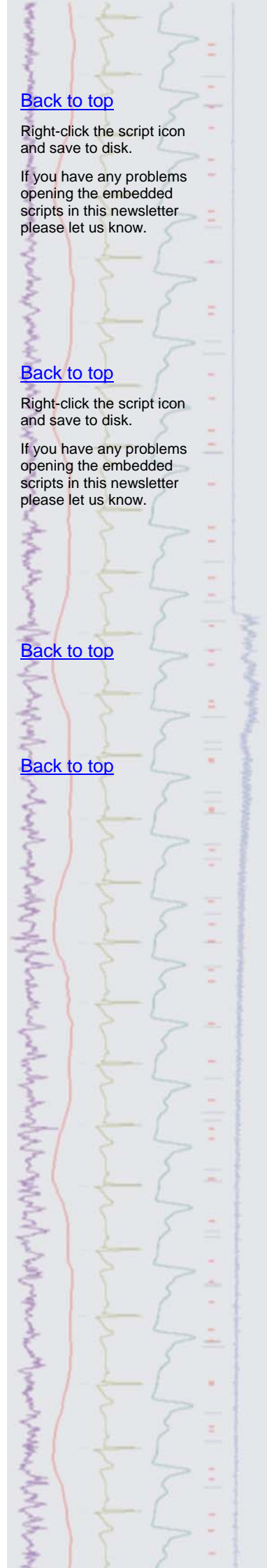
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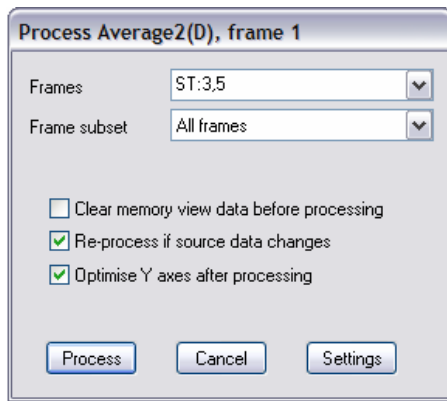
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b) Process all frames of state 3 and 5

User group

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