

Contents

- [News](#) – Updates & meetings
- [Spike2](#) – Additional DAC outputs
- [Signal](#) – Dynamic clamp implementation
- [Spike2 Script](#) – Separate tetrode traces
- [Signal Script](#) – Export frames to individual text files
- [Did you know...?](#) – Sending large files to CED
- [Recent questions](#) – Time window for Cursor Regions

News

UK Training Days

This years U.K. Spike2 and Signal training courses are fast approaching and will take place on Thursday 8th Friday 9th of April in Cambridge. Places are filling up quickly so if you or any of your colleagues would like to attend, please follow the links to view the [training day program](#) and complete the [registration form](#).

If you have already registered for the training days but have not yet received a confirmation, please contact sales@ced.co.uk.

CED 3901 Whisker stimulator



The CED 3901 whisker stimulator can control an array of piezo-electric stimulator elements and offers precisely controlled temporal patterns with repeatable stimulation. Grids of 3x3 up to 7x9 can be driven, allowing up to a total of 63 stimulator output channels. This stand-alone unit is software controlled via USB or by the digital outputs of a Micro1401 or Power1401 interface and includes two external waveform inputs along with an individual programmable pseudo-random noise generator.

Spike2 talker interface

Software development is in progress to provide an interface between Spike2 and one or more external software modules (“talkers”) that will allow data generated by the talkers to be logged in Spike2 data files while they are being sampled. The design enables talkers to be configured by Spike2, integrated into the sampling configuration dialog and synchronised with data sampling.

Talkers generate extra data channels in sampled Spike2 files which allows for a wide variety of devices such as stand-alone blood pressure devices and low bandwidth telemetry systems, for example, to be integrated with Spike2 running on the same PC and across multiple PC's connected to a local network.

Meetings and events

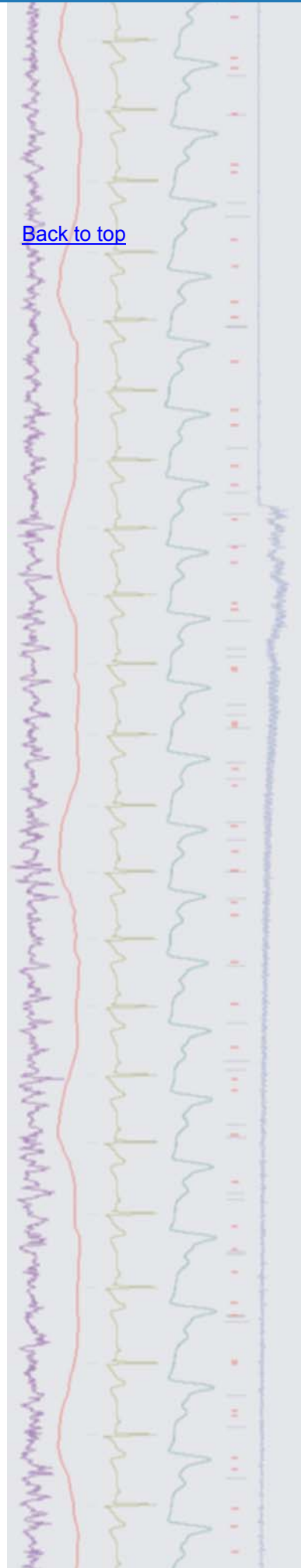
Cambridge Neuroscience Seminar

University of Cambridge,
Cambridge, UK
March 19th 2010

The Northern Cardiovascular Research Group Meeting

Manchester Royal Infirmary,
Manchester, UK
March 22nd 2010

[Back to top](#)



Joint Meeting of The Scandinavian and German Physiological Societies

Panum Institute,
Copenhagen, Denmark
March 27th – 30th 2010

FASEB Experimental Biology 2010

Anaheim Convention Center,
Anaheim, CA, USA
April 24th – 28th 2010

10th International Basal Ganglia Society Meeting

Ocean Place Resort,
Long Branch, NJ, USA
June 20th – 24th 2010

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 7.02	Signal version 4.07
Spike2 version 6.13	Signal version 3.12
Spike2 demo	Signal demo

Spike2

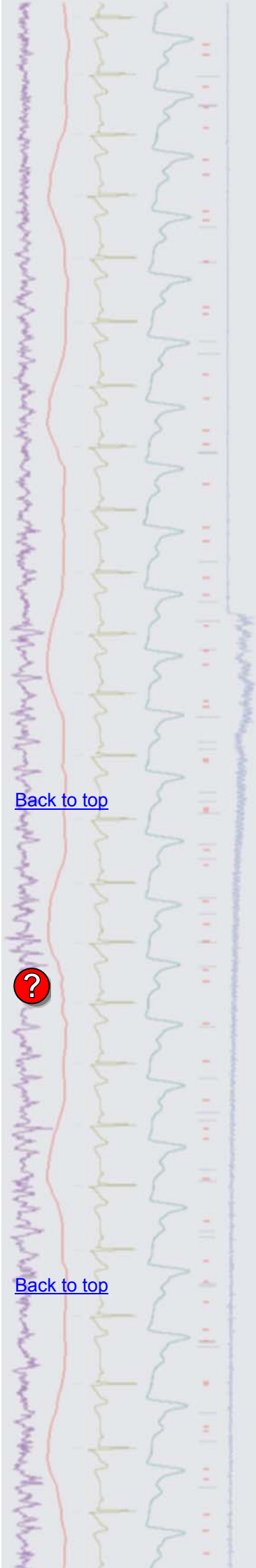
- Q. Is it possible to expand the number of DAC outputs available on a Power1401?
- A. The Power1401 mk II includes four DAC outputs as standard with DAC's 0 and 1 available as BNC connectors on the front panel and DAC's 2 and 3 available as pin outputs via the analogue expansion port on the rear of the 1401. Using the Signal top-box this can be expanded to a total of eight DAC outputs which are all made available as BNC connectors. The next release of Spike2 (7.03) will extend the output of simultaneous sinusoids and voltage ramps to all eight DAC outputs when using a Power1401 mk II. Arbitrary waveform output will also be available on all eight DAC's with a maximum of 4 being able to be used at a time.



Power1401 mk II with Signal top-box

Signal

- Q. I read with interest the customer contribution article in Enewsletter 46 that described running a 4-channel dynamic clamp set-up using a Spike2 script and output sequence. Are there any plans to incorporate dynamic clamp capabilities into Signal?
- A. As Signal already includes a number of functions to support the sampling and analysis of voltage and patch clamp recordings, we have recently been developing a built-in method for running dynamic clamp experiments. Currently we have a setup that allows up to 40 models to be implemented using the Power1401 mk II, any one of which may use any of up to eight DAC outputs. The available models so far are Hodgkin-Huxley, chemical synapse, electrical synapse (with optional rectification) and a simple linear leak. The parameters of



[Back to top](#)



[Back to top](#)

each model can be adjusted while sampling and the DAC outputs are updated once for each ADC convert cycle. The ADC conversions do not jitter, meaning that dynamic clamp equations continue to hold at very high sample rates. In recent tests we have had two Hodgkin-Huxley models running together at a rate of 250kHz on two channels.

Scripts: Spike2

- Q. Is it possible to view the multiple spike shapes of a tetrode channel as individual WaveMark channels?
- A. The attached script, `SeparateTraces.s2s`, will take a selected channel of multiple trace WaveMark data and create additional memory channels in the data file, each holding a single trace from the source channel. The user selects the channel and type (stereotrode or tetrode) from a dialog when the script is run.

Scripts: Signal

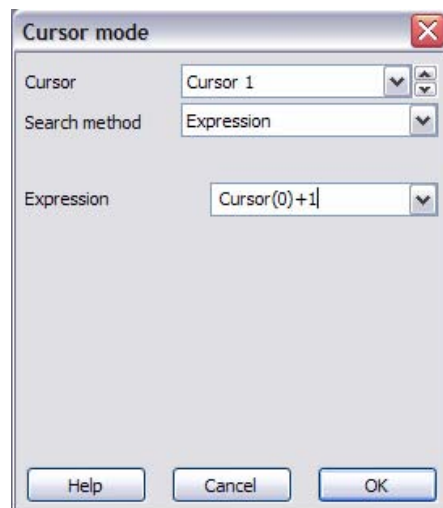
- Q. I would like to be able to export frames from a data file as individual text files. Is this possible with a script?
- A. The attached script, `FrameTextExport.sgs`, is an example that will export each frame in a data file as an individual text file. The user sets a path and file name template for the text files from a dialog generated by the script.

Did you know...?

You can use the following link on our website to [send us large files](#).

Recent questions

- Q. Is there a way to “lock” two cursors so that they move together? I would like to use such a feature to scan through areas of channels by moving the cursor “couple” (they could be separated by 1 sec, for example) and see the results in the Cursor Regions window. The point would be to keep a constant time window that could be moved around and used for calculations (sum, mean, maximum...).
- A. Active cursors will always reposition in response to the position of Cursor(0). from the Cursor menu Active modes dialog, set Cursor(0) Search method to `Static` and Cursor(1) Search method to `Expression`, typing `Cursor(0)+1` into the expression field. When you click and drag Cursor(0), Cursor(1) will then always position itself 1 second in advance of the new Cursor(0) position.



Cursor mode dialog

User group

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

If you have any comments about the newsletter format and content, or wish to unsubscribe from the mailing list for this newsletter, please notify sales@ced.co.uk.

[Back to top](#)

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.

[Back to top](#)

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.

[Back to top](#)

[Back to top](#)



[Back to top](#)