CED eNews

The eNewsletter from Cambridge Electronic Design

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Spike2 version 7.04 released

The latest revision of Spike2 is now available and includes the following new features:

- Spike2 can now sample data from Talker software modules that interface between arbitrary data capture devices and Spike2.

- When sampling WaveMark data with a Power1401, Power1401 mk II or Micro1401-3 you can now reject spikes that are outside an amplitude range.

- Reworked clustering dialog with more toolbar buttons and simpler keyboard shortcuts

- Keyboard shortcuts for sampling control

For a full list of new features, see the revision history in the on-line help.

Future meetings and events

9th International Conference on Neuroethology
Palacio de Congresos,
Salamanca, Spain
August 2nd – 7th 2010

Symposium for Chinese Neuroscientists Worldwide 2010 (SCNW 2010)
Yu Quan Island Hotel,
Nanchang, Jiangxi, China
August 4th – 10th 2010

Society for Neuroscience 2010
San Diego Convention Center,
San Diego, CA, USA
November 13th – 17th 2010

US Training Days at SFN

Our US training days will take place on the 11th and 12th of November, prior to the Society for Neuroscience meeting in San Diego. The venue and booking details will be announced in due course. If you would like to be added to our mailing list for training day announcements please contact sales@ced.co.uk.

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.

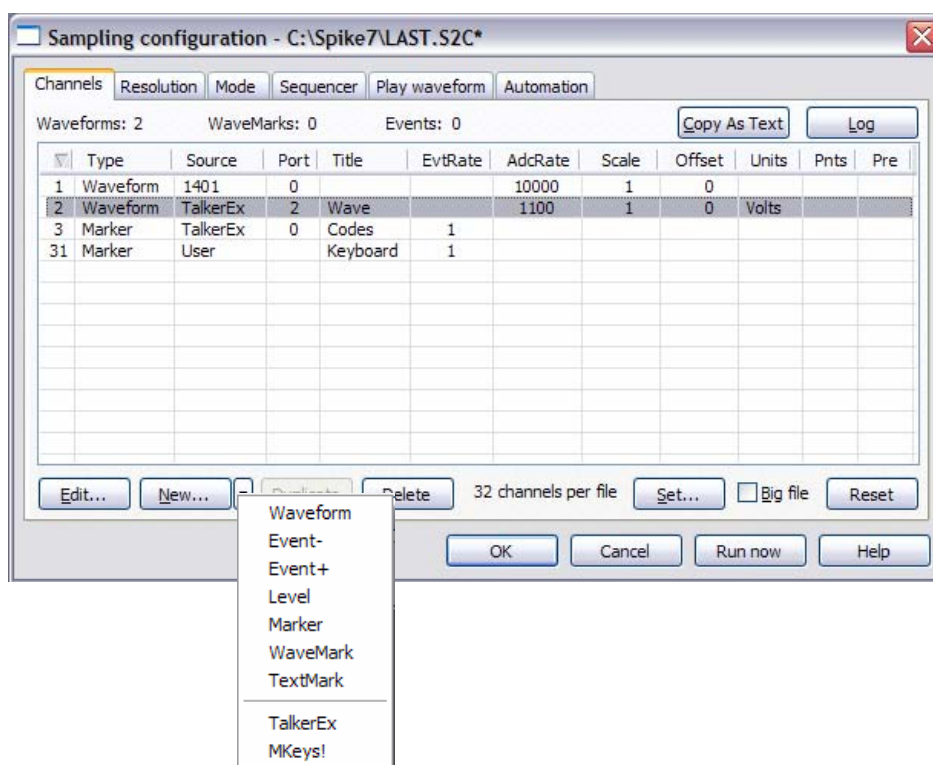| Spike2 downloads	Released	Signal downloads	Released
Spike2 version 7.04	07/10	Signal version 4.07	01/10
Spike2 version 6.14	03/10	Signal version 3.13	05/10
Spike2 demo		Signal demo	

Q.   I would like to amalgamate data recorded from a separate acquisition device with data sampled using Spike2. Is there any way of achieving this?

A.   As of Spike2 version 7.04 it is possible to sample additional channels from custom software modules (Talkers) that interface between arbitrary data capture devices and Spike2. These additional channels can be sampled to the same file as data being recorded using a 1401 interface. As an example, consider a motion tracking system that outputs co-ordinate values to a PC via a suitable connection. This output could be added automatically to a sampling Spike2 file by writing a Talker interface.

Three example Talkers are included with Spike2. To install these, along with documentation describing how to write your own custom modules, select the Custom setup option during installation of Spike2 version 7.04 and check the Talker documentation option. Channels from Talker modules are added to the sampling configuration from the drop-down menu next to the New button.

Sampling configuration with TalkerEx interface enabled

We make sufficient information available to enable manufacturers of other data capture devices will produce their own Talker modules, but do feel free to contact us if you have a particular device that you would like to interface with Spike2.

Spike2 is also able to accommodate a wide range of data recorded with other systems using the File menu Import function. It is also possible to amalgamate imported data into existing data files using the MergeFiles.s2s script, which is included in the Scripts folder of your Spike2 installation directory.

Further information on Talker interfaces can be found in the version 7.04 on-line help and in the Talker folder of the main Spike2 folder in the Start menu Programs section (if requested during installation).
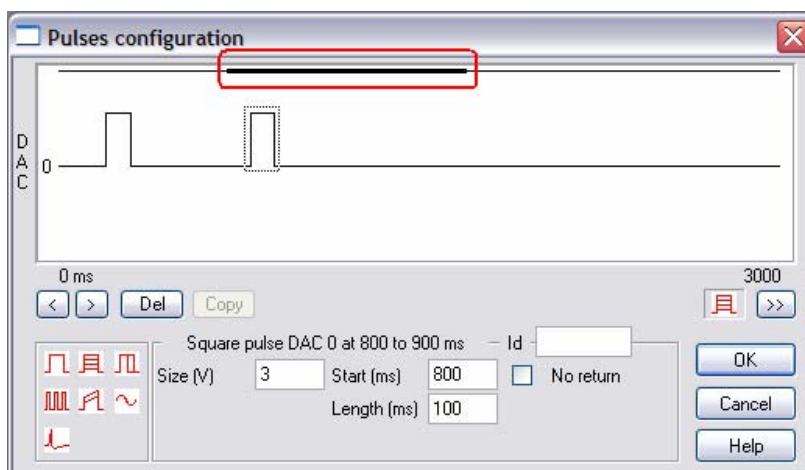
Signal

Q.   I am using Signal to record evoked response data and need to generate an output pulse before the sampling sweep to arm a stimulator prior to triggering. Fixed interval mode can do this, but sets the sweeps to be always internally timed at the selected interval. I would like to be able to trigger the sweeps

manually during the recording based on my assessment of the subject. Is there a mode that allows this?

A. In `Outputs frame` mode it is possible to set-up the sampling sweep to start at a specified point during the outputs frame and set pulses before, after and during the captured data sweep. The main difference between this mode and `Fixed interval` is that the outputs sweep can be externally triggered.

The pulse outputs and sampling sweep time are defined in the Pulses configuration dialog using the `Frame` and `Trigger` fields. The `Trigger` field sets where the sampling sweep occurs in the outputs frame (highlighted below). The external trigger pulse will trigger the full length of the output sweep, including any pulses outside the time range of the sampling sweep.

Pulse configuration dialog in Outputs frame mode

Scripts: Spike2

Q. Is there a way to export the instantaneous frequency values of a WaveMark channel?

A. The attached script, `DumpInstFreq.s2s`, calculates the instantaneous frequency values from a nominated event, marker or WaveMark channel and writes them to the Log window. You can also display these data types as an instantaneous frequency plot using the `Channel Draw Mode` functions, available from the `View` menu in Spike2.

Scripts: Signal

Q. I have two files, one containing a control experiment and one containing a response to a drug preparation, and would like to subtract one from the other.

A. The attached script, `SubFileData.sgs`, can be used to subtract data in one file from another on a frame by frame basis and show the result in a new memory view. The data files should include the same number of channels and be sampled at the same rate.

Did you know…?

You can add scripts to the Script Bar in Spike2 and Signal so that they can be run with a single button click. Select `Script Bar List..` from the `Script` menu to add a script and then select the `Script Bar` option from the same menu to display the toolbar.

Recent questions

Q. Would it be possible to control the writing to disk of data in Spike2 remotely? Ideally we'd like to do this with a keyboard situated away from the sampling PC.

A. The following keyboard shortcuts for sampling commands are now available in Spike2 version 7.04, allowing the use of a remote keyboard to control sampling.

- Sample Start/Stop – `Ctrl+Alt+S`
- Sample Reset – `Ctrl+Alt+R`
- Sample Abort – `Ctrl+Alt+A`
- Toggle Write to disk – `Shift+Ctrl+W`

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.

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.

These key combinations have been made deliberately awkward to prevent accidental activation.

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 un-subscribe from the mailing list for this newsletter, please notify sales@ced.co.uk.