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News

[New scripts section on the website](#)

We have recently added a new 'User Requested' section to the [Spike2](#) and [Signal](#) script pages on our website. These include scripts that have been written in response to specific requests and are freely available to download as examples or for use in your own scripts.

[Future meetings and events](#)

[10th International Basal Ganglia Society Meeting](#)

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

[Physiology 2010](#)

University of Manchester,
Manchester, UK
June 29th – July 2nd 2010

[7th FENS Forum of European Neuroscience](#)

Amsterdam RAI Convention Center,
Amsterdam, The Netherlands
July 4th – 7th 2010

[9th International Conference on Neuroethology](#)

Palacio de Congresos,
Salamanca, Spain
August 2nd – 7th 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 7.03	Signal version 4.07
Spike2 version 6.14	Signal version 3.13
Spike2 demo	Signal demo

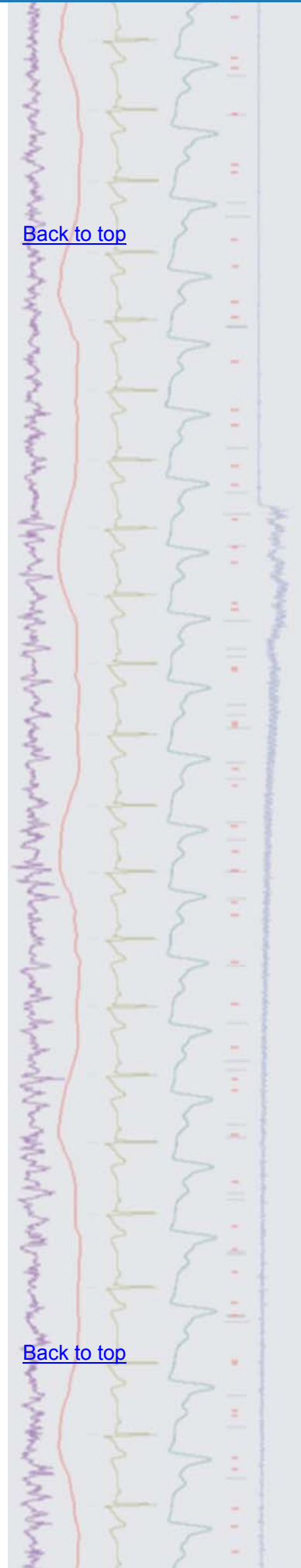


Q. I'm recording EMG muscle activity and evoked response to neural stimulation. Is there any way to display the evoked response data in an oscilloscope style window with the x-axis shown in milliseconds? It would be great if this could be shown alongside the continuous EMG signal as well.

A. The Display Trigger function, available from the View menu Trigger/Overdraw option, can be used to set-up an oscilloscope-type display of incoming data. This can be shown in a new window using the Duplicate command from the Window menu, giving a dual display of the continuous

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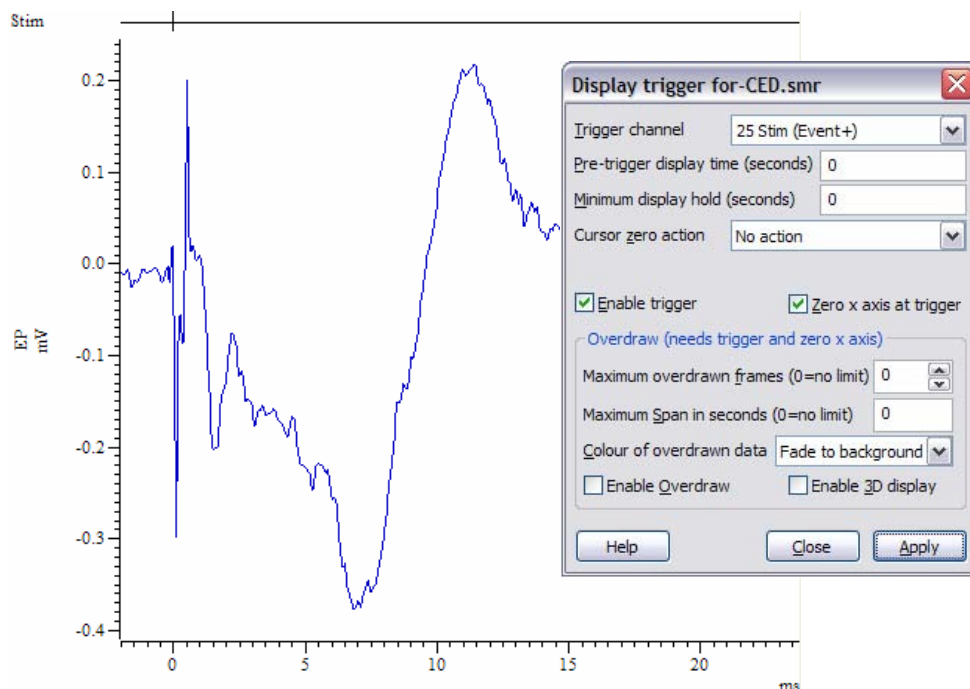
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recording alongside the oscilloscope showing each instance of evoked response data.

The display trigger dialog allows the use of a `Trigger` channel or a traditional ECG Paged display option along with fields for `Pre-trigger display time` and a `Minimum hold time`. In addition, `Cursor 0` can be set to move to the trigger point of the newly displayed data section as an aid to taking measurements.

For a 'true' oscilloscope display check the `Zero x axis at trigger` option, which changes the x axis so that 0 always lies at the trigger time, then check `Enable trigger` and click `Apply` to allow the triggered display. You can set the X-axis units of the oscilloscope window to display in milliseconds in Spike2 version 7 from the `X Axis Range` dialog.



Evoked potential data using the Display trigger

Spike2 version 6 and 7 also have additional options for `Overdraw` and `3D overdraw` (waterfall type) display in the `Display trigger` dialog. These options are enabled if both the `Enable trigger` and `Zero x axis at trigger` fields are checked and allow you to set a maximum number of frames to include in the display and a maximum time span, as well as several options for the colour of the overdrawn traces.

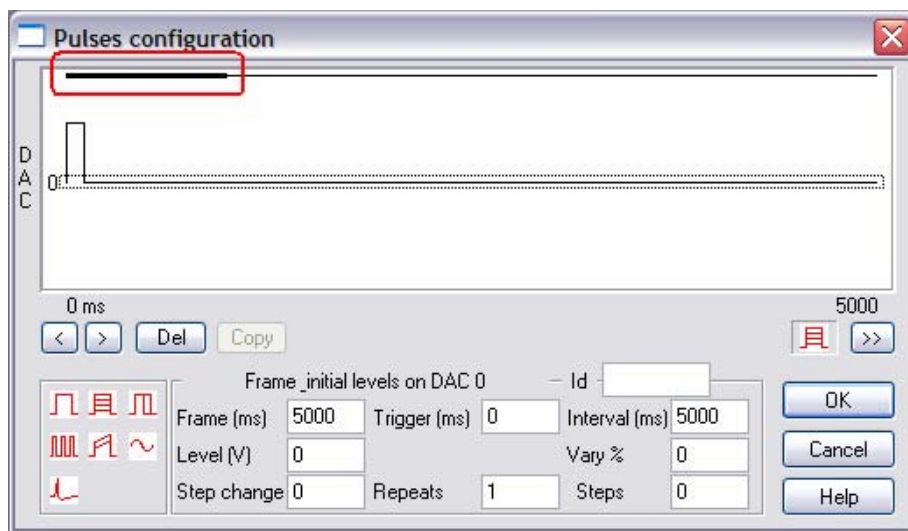
Signal

- Q. I am using Signal to record evoked responses to a repetitive stimulus which is triggered using pulse outputs from the 1401. Using `Basic` mode, my sweep length is set to be 5 seconds (to keep the high inter stimulus interval), although I really only need 1 second of data. Is there any way to only record a short sweep of data while keeping this stimulus timing interval?
- A. For this kind of application the best sweep mode to use would be `Fixed interval`. This allows you to set the pulse outputs sweep length and the interval between each frame to 5 seconds (keeping the stimulus interval correct) while only sampling 1 second of data at a specified point in each sweep.

Set the length of the sampling sweep in the `General` tab of the sampling configuration as usual. The full required length of the outputs frame and where the sampling sweep starts within the outputs frame are set in the pulses configuration dialog using the `Frame` and `Trigger` fields. The `Interval` field sets the time interval between the start of each outputs frame.



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Pulse configuration dialog in Fixed interval mode

Scripts: Spike2 

- Q. Is there any way to separate marker codes from a single channel into individual channels in a data file, where each channel only displays one marker type?
- A. With the script, `SeparateMarkers.s2s`, the user can quickly create new channels in the data file, each holding one marker code from a selected marker 'source' channel. The script will work with Marker, TextMark and WaveMark data and uses the first marker code in the mask.

Scripts: Signal 

- Q. I would like to export all selected frames of a file in metafile format to use in publications.
- A. The script, `ExportMetaFrames.sgs`, will export a range of selected frames from a data file as individual images in the Windows metafile (.wmf) format. The new .wmf files are saved to the same location as the selected data file.

Did you know...?

You can print details of a Spike2 sampling configuration as text from the Channels tab of the sampling configuration dialog. `Copy As Text` places the text on the clipboard. `Log` copies the text to the Log window.

Recent questions

- Q. I want to create a tachogram waveform channel based on heart rate (which I have marked as events) so that I can generate a power spectrum.
- A. The virtual channels in Spike2 can be used to generate a frequency waveform from events such as heart rate. Create a new `Virtual` channel from the `Analysis` menu and set `Match` to channel to use an existing channel in the file or set your own sample interval. Follow the drop down menu option in the virtual channel dialog (highlighted below) and in the `Waveform` from channel section select the option of `Event instantaneous frequency`. In the new dialog choose the source event channel and whether you wish to interpolate between points linearly or using a cubic spline. This will generate a channel with the units in Hz. If you want to display in bpm for this example, simply multiply by 60 as below.



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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.

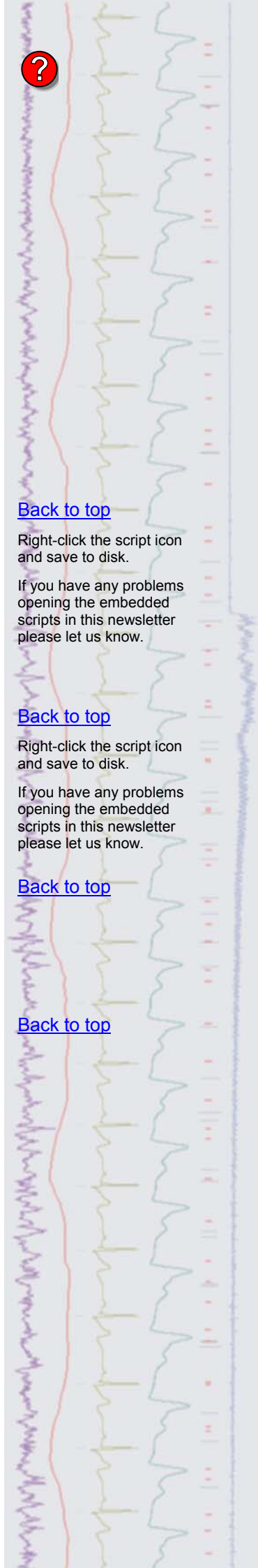
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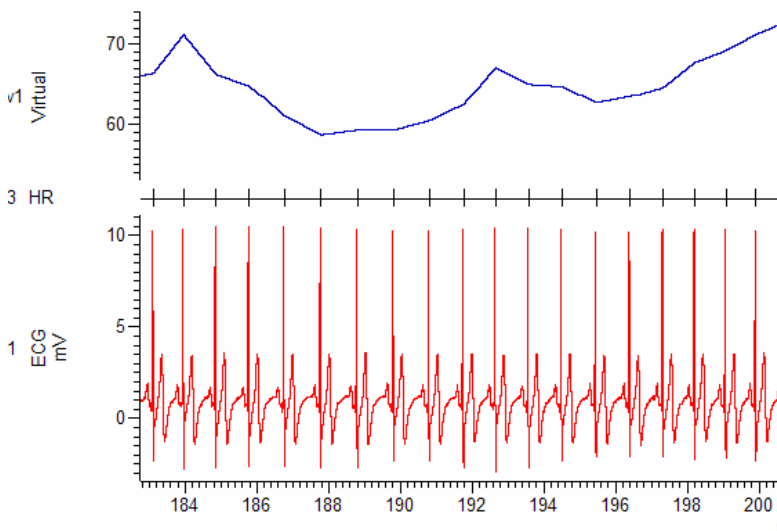
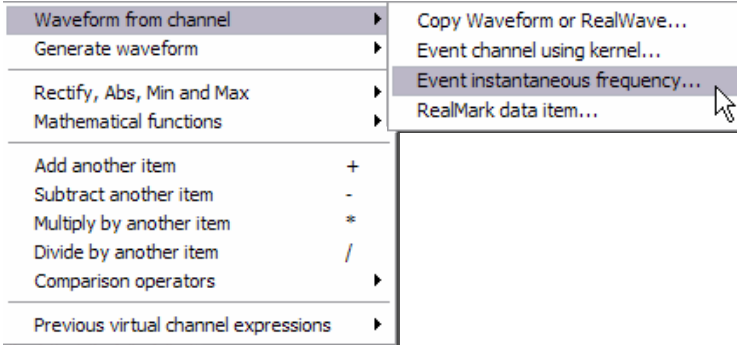
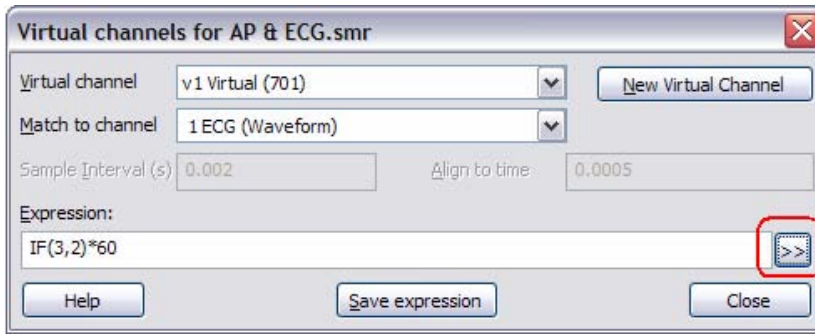
Right-click the script icon and save to disk.

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Virtual channel showing instantaneous frequency of heart rate

The first argument of the `IF()` command is the channel number and the second is the maximum expected gap between events (in seconds). If this gap is exceeded between any two events there will be a gap in the resulting waveform.

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.

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