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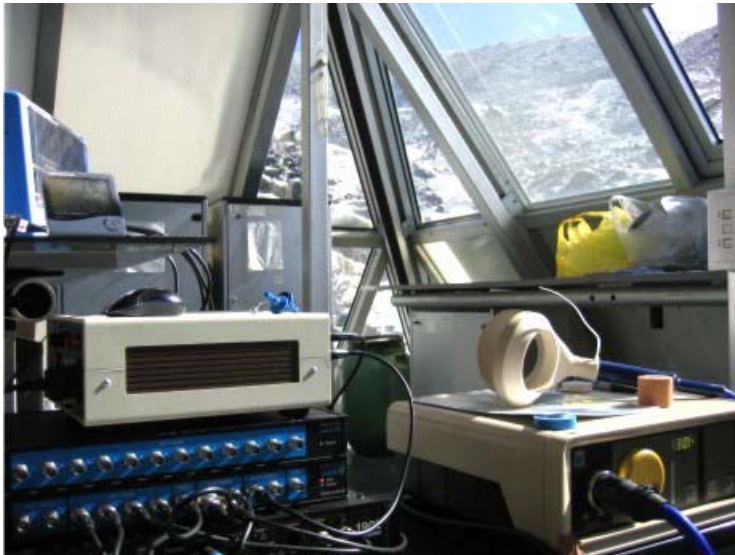
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## News

### CED equipment in the Himalayas

Signal, a Micro1401 and quad-channel isolated 1902 amplifier were recently used in a two week research study at The Pyramid Research Laboratory, 5050m above sea level in the Himalayas. Dr. Emma Ross from Brunel University, London, applied transcranial magnetic stimulation to volunteer subjects and recorded the resulting EMG activity from the quadriceps before and after exercise to investigate neuromuscular communication changes during environmental stress.



*CED equipment at the Pyramid Research Lab*

### DIPSI Industries

DIPSI Industries are now acting as distributors for CED data acquisition and analysis systems in France. For contact details and further information visit [www.dipsi.com](http://www.dipsi.com).

### Meetings and events

#### [British Pharmacological Society Winter Meeting](#)

Hilton Brighton Metropole

Brighton, UK

December 16<sup>th</sup> – 18<sup>th</sup> 2008

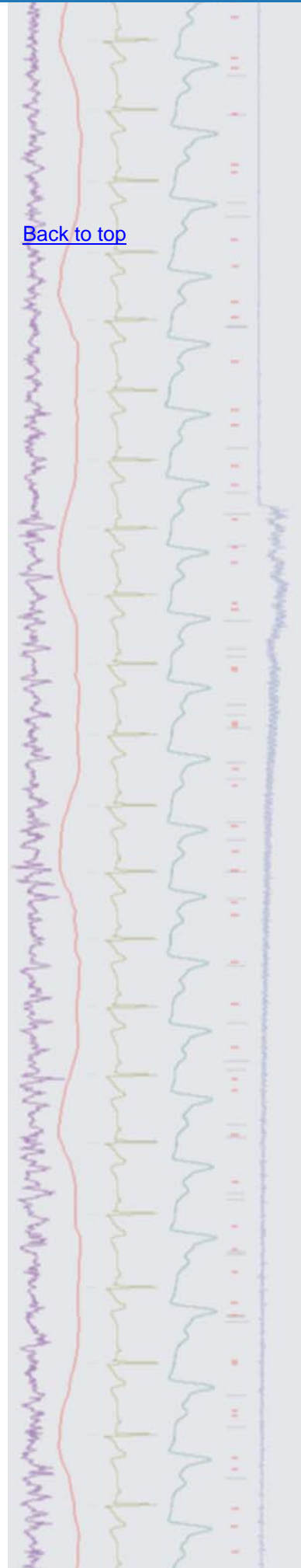
#### [Australian Neuroscience Society](#)

National Convention Centre

Canberra, Australia

January 27<sup>th</sup> – 30<sup>th</sup> 2009

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## 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
<a href="#">Spike2 version 6.10</a>	<a href="#">Signal version 4.03</a>
<a href="#">Spike2 version 5.20</a>	<a href="#">Signal version 3.10</a>
<a href="#">Spike2 demo</a>	<a href="#">Signal demo</a>

# Spike2

- Q. Does Spike2 include keyboard shortcuts for scrolling data and controlling the Y-axis display?
- A. There are a number of keyboard shortcuts available in Spike2 which allow control of the data display, as well as features such as active cursor searches, interactive measurements and spike classification. Below are listed some of the most commonly used keyboard shortcuts:

Left/Right arrow	Scroll 1 pixel left/right
Shift+Left/Right	Scroll several pixels left/right
Ctrl+Left/Right	Scroll half a screen left/right
Home/End	Scroll to the start/end of the data
Ctrl+A	Select/De-select all channels
Ctrl+Q	Optimise selected channels
Ctrl+n	Where n is 0 to 9. Fetch vertical cursor 0 to 9
Ctrl+Shift+Left/Right	If cursor 0 is active, search for the next/previous feature

Some shortcut keys can also be used when clicking and dragging the mouse pointer to give interactive measurements (Alt+click and drag) or to classify spikes that intersect a line (Alt+Ctrl+ click and drag on a wavemark channel drawn in Overdraw display mode).

A full list of keyboard shortcuts can be found in the Spike2 on-line help under the topic keyboard shortcuts and data view.

# Signal

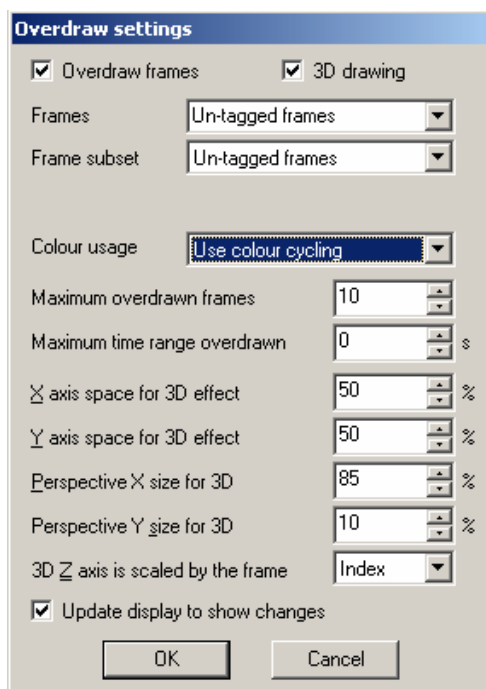
- Q. Can overdrawn frames in Signal be shown as a waterfall-type display?
- A. Signal can overdraw frames in a 'waterfall' display using the 3D drawing mode.

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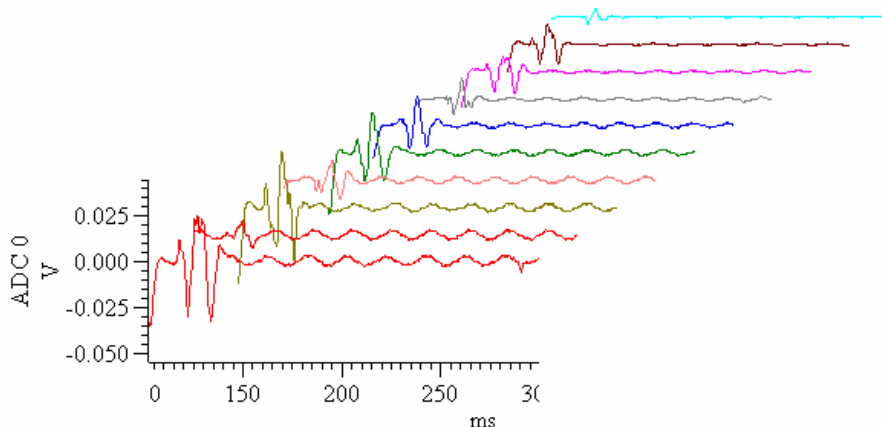
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*Overdraw settings*

The Overdraw settings dialog, available from the View menu, includes a checkbox for 3D drawing mode and options to set the colours used and the X, Y and Z perspective of the display.



*3D overdraw display using colour cycling*

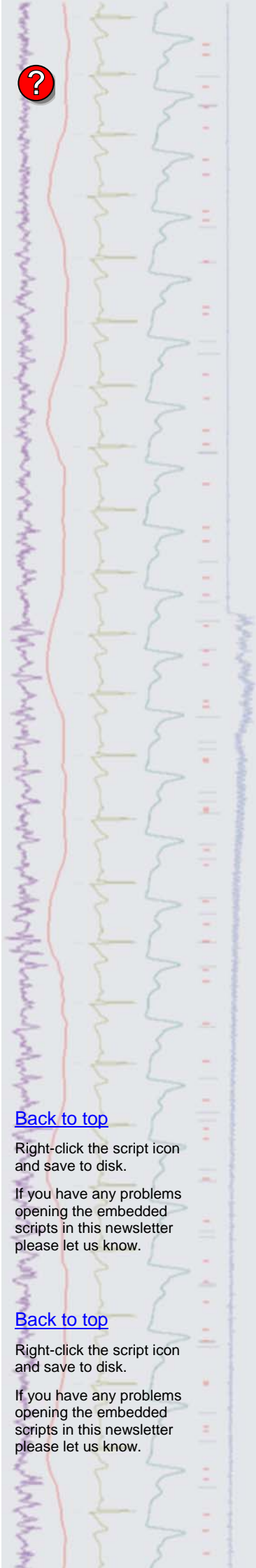
A full description of the 3D overdraw settings can be found in the Signal on-line help.

**Scripts:** Spike2 

- Q. Is there any way to export sections of data as text, based on the time of events in a data file?
- A. The attached script, `TriggeredTextExport.s2s`, will export data in sections of spreadsheet-format text based on a trigger channel, with each section separated by new column headers. All visible channels are exported based on user defined settings such as output sample rate and section length.

**Scripts:** Signal 

- Q. I have been using the new 3D overdraw display mode and was wondering if there is a script available to produce spreadsheet text output of a nominated channel that includes all of the overdrawn frames?
- A. The attached script, `OverdrawnAsText.sgs` will create a spreadsheet format text file of data from all frames in the frame display list of the current data file. The user nominates the channel to extract the text values from and the script collects the channel data from all frames in the display list. The user is then



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Right-click the script icon and save to disk.

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prompted to save the spreadsheet output as a text file, which can then be opened in Signal or in a spreadsheet program.

### Did you know...?

You can control the primary and background colours of individual channels in Spike2 and Signal from the Colour Palette.

### Recent questions

- Q. I am using Signal for TMS studies with a MagPro stimulator and would like to know if there is any way to control the stimulus intensity of the MagPro from Signal?
- A. The MagPro model of magnetic stimulator has a 6-pin Lemo connector on the front panel that will accept a voltage input on pin 4 to set the stimulus intensity. A voltage of 0 corresponds to a stimulus intensity of 0%. The 100% intensity level is set by a voltage of 4.096. You could use multiple states in Signal to set up a series of stimulus intensity protocols using a DAC output to control the MagPro stimulator.

### User group

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