

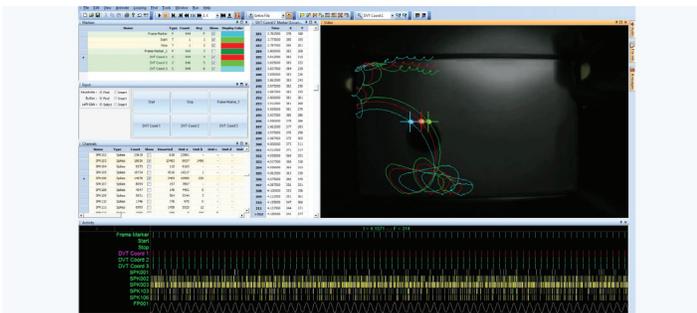


AUGUST 27, 2014

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CINEPLEX READS PL2, CHAIRMAN APPOINTMENT, NEW DIGITAL SUBSYSTEM DOCUMENTS

CINEPLEX® EDITOR IS NOW PL2 COMPATIBLE



One of the greatest features of the CinePlex® Behavioral Research System is its ability to examine synchronized neural data and the video tracking data acquired during an experiment. It does this through a program called CinePlex Editor. We are pleased to announce that CinePlex Editor v3.6 now reads Plexon PL2 files and is available online! (Learn more about PL2 files in the Did You Know section below.)

CinePlex Editor offers full digital recorder (DVR) playback capabilities, as well as visualization of position data overlaid on the video image. Sophisticated algorithms provide event marker-based searching functionality for rapid data review. Default or user-defined audio cues can also be triggered when event markers or neural spikes occur during playback. Learn more about these features and much more on the CinePlex Editor webpage.

It is important to note that previously, the entire suite of CinePlex software products were bundled together in a single software installer titled CinePlex Software. Beginning with this release, CinePlex Editor will now have its own installer. So, there will now be two installers going forward with the other installer specific to CinePlex Studio. All users of the CinePlex System will still require CinePlex Studio. Only researchers wishing to integrate the CinePlex System with one of Plexon's neural data acquisition systems will require the additional CinePlex Editor download.

The new PL2-ready, CinePlex Editor installer can be downloaded from either the Software Downloads page or the CinePlex Editor webpage. If you have any questions about the installers, please contact support@plexon.com.

CONGRATULATIONS ON CHAIRMAN APPOINTMENT!

Plexon congratulates its own Stacie L. Hyatt for being named Chairman of the Industry Advisory Board for the Department of Biomedical Engineering in The Dwight Look College of Engineering at Texas A&M University. Stacie, Plexon's VP of Sales, Support and Marketing, will step-up into her new role beginning September, for two years following the leadership of John Hanks, previously of National Instruments.

In perfect alignment with Plexon's commitment to academics, research, science and engineering, she has actively served on this board since 2012 alongside colleagues ranging from industry giants including Medtronic, St. Jude Medical and Lockheed Martin to early stage companies such as Spinal Restoration. Stacie, a graduate of the program, has also taught as a guest lecturer for the department's Entrepreneurial Engineering course for seven years.

Plexon has always prioritized close alignment with academics. It's President and Founder, Harvey W. Wiggins, sets the example through his roles on the Industry Advisory Boards for the Southern Methodist University (SMU) Department of Electrical Engineering and the University of Texas at Dallas (UTD) Erik Jonsson School of Engineering and Computer Science. Plexon looks forward to even greater opportunities throughout its team to support academia in the future.

NEW OMNIPLEX® DIGITAL SUBSYSTEM DOCUMENTATION

To assist customers with the application of our new Digital Headstages and Digital Headstage Processor (DHP) - together referred to as the new digital subsystem - we have updated several technical documents with more to come. Updated documents available now include:

- Headstage Technical Guide
- Headstage Tester Unit Guide
- Headstage Data Sheet
- Headstage Cables Data Sheet
- Connector Data Sheet
- Connector Diagrams Data Sheet

You may access any of these on the Documentation webpage under the respective headers, or on their individual product webpages on the Resources tab. We have several yet to go. If you have a request, let us know so we can bump up its priority. Emails can be sent to crystal@plexon.com.

DID YOU KNOW . . . ABOUT THE ULTRA-FAST READ TIME OF THE PL2™ FILE FORMAT?

Last year Plexon released a new file format optimized for large file sizes, called PL2™. Compared to its predecessor PLX file format, the new PL2 format enables much faster read times - 10, 100 or even 1000 times faster.

When continuous wideband data is being recorded at a 40KHz sample rate, the data rate for 16 bit samples is 288MB per hour per channel. This translates to 36.8 GB/hour for 128 channels and 73.7 GB/hour for 256 channels - not including other types of data or file system overhead. The file size can quickly become unwieldy. Even when not recording wideband data, the files can become quite large when the channel count is high making the loading of data for analysis a very long process.

OmniPlex® 1.9+, PlexUtil 4.0+, Offline Sorter™ 3.3.0+, NeuroExplorer® 4.125+, and the MATLAB® Offline SDK all support the PL2 format.

If you have large PLX data files, you can convert them to the new PL2 format using PlexUtil. This requires an OmniPlex or MAP license key upgrade that can be acquired by contacting support@plexon.com.

PLEXON WORKSHOP ALUMNI SPEAK OUT

"The first time workshop provided very comprehensive instructions and detailed hands-on experiences which made us ready to setup our own systems. After we got familiar with the system, we learned a lot more about how to work with the system efficiently from the second workshop. The workshop became a great platform for us to exchange ideas with developers and share experiences with other groups."

Huijing Hu

**Department of Biomedical Engineering,
University of Southern California**

½ PRICED WORKSHOP REGISTRATIONS

When you purchase a PlexBright® System with a 4 Channel Optogenetic Controller, any OmniPlex or any CinePlex System, your lab is eligible for unlimited half priced Workshop registrations for the upcoming Plexon Workshop. Ask your sales engineer or email workshop@plexon.com with any questions.

OFFICE CLOSURES

In honor of Labor Day, Plexon's World Headquarters will be closed Monday, September 1st and will reopen for business on Tuesday at our standard business time. See annual office holidays for the US and European offices on the contact us webpage for additional closures throughout the year.

UPCOMING EVENTS

- **Bernstein Conference 2014**, September 2-5; Göttingen, Germany
- **Buffalo Chapter of Society for Neuroscience 8th Annual Research Day**, September 5; Buffalo, NY, USA
- **37th Annual Meeting of the Japan Neuroscience Meeting**, September 11-13; Yokohama, Japan
- **3rd Annual Meeting of the GDR 3545**, October 20-22; Montpellier, France

RESEARCH SPOTLIGHT

Let us know about your 2014 publication citing Plexon and our equipment and we will send you a thank you award with a mug and a T-shirt! Send notices, address and T-shirt size to publications@plexon.com

All articles listed are alphabetical based on first author within two categories: articles published online in electronic-only journals or ahead of print, and articles published in full print.

Recent articles published online in electronic-only journals or ahead of print:

- Bissonette, Gregory B., Geoffrey Schoenbaum, Matthew R. Roesch, and Elizabeth M. Powell. "Interneurons are necessary for coordinated activity during reversal learning in orbitofrontal cortex." *Biological Psychiatry* (2014).
- Hung, Yu-Wen, Shao-Wen Hung, Yi-Chen Wu, Lin-King Wong, Ming-Tsong Lai, Tzong-Shyuan Lee, Yang-Hsin Shih, and Yung-Yang Lin. "Soluble epoxide hydrolase activity regulates inflammatory responses and seizure generation in two mouse models of temporal lobe epilepsy." *Brain, Behavior, and Immunity* (2014).
- McDannald, Michael A., Guillem R. Esber, Meredyth A. Wegener, Heather M. Wied, Tzu-Lan Liu, Thomas A. Stalnaker, Joshua L. Jones, Jason Trageser, and Geoffrey Schoenbaum. "Orbitofrontal neurons acquire responses to 'valueless' Pavlovian cues during unblocking." *eLife* 3 (2014): e02653.
- Palacios-Munoz, Angelina, Maria Jose Escobar, Alex Vielma, Joaquin Araya, Aland Astudillo, Isaac Garcia, Gonzalo Valdivia et al. "Role of Connexin Channels in the Retinal Light Response of a Diurnal Rodent." *Frontiers in Cellular Neuroscience* 8 (2014): 249.

- Mendoza-Halliday, Diego, Santiago Torres, and Julio C. Martinez-Trujillo. "Sharp emergence of feature-selective sustained activity along the dorsal visual pathway." *Nature Neuroscience* (2014).
- Semework, Mulugeta, and Marcello DiStasio. "Short-term dynamics of causal information transfer in thalamocortical networks during natural inputs and microstimulation for somatosensory neuroprosthesis." *Frontiers in Neuroengineering* 7 (2014): 36.
- Stahl, John S., and Zachary C. Thumser. "Flocculus Purkinje Cell Signals in Mouse Cacna1a Calcium Channel Mutants of Escalating Severity; An Investigation of the Role of Firing Irregularity in Ataxia." *Journal of Neurophysiology* (2014): jn-00129.
- Sutton, Alexander C., Katherine A. O'Connor, Julie G. Pilitsis, and Damian S. Shin. "Stimulation of the subthalamic nucleus engages the cerebellum for motor function in parkinsonian rats." *Brain Structure and Function* (2014): 1-15.
- Xie, Jiacun, Wenwen Bai, Tiaotiao Liu, and Xin Tian. "Functional connectivity among spike trains in neural assemblies during rat working memory task." *Behavioural Brain Research* (2014).

Recent articles published in full print:

- Hudson, Andrew E., Diany Paola Calderon, Donald W. Pfaff, and Alex Proekt. "Recovery of consciousness is mediated by a network of discrete metastable activity states." *Proceedings of the National Academy of Sciences* 111, no. 25 (2014): 9283-9288.
- Kifouche, Abdessalam, Vincent Vigneron, Mohammad B. Shamsollahi, and Abderrezak Guessoum. "Decoding Hand Trajectory from Primary Motor Cortex ECoG Using Time Delay Neural Network." *In Engineering Applications of Neural Networks. Springer International Publishing*, 2014. Vol. 459, 2014, pp 237-247.
- Li, Xiang-Yao, Ning Wang, Yong-Jie Wang, Zhen-Xing Zuo, Kohei Koga, Fei Luo, and Min Zhuo. "Long-Term Temporal Imprecision of Information Coding in the Anterior Cingulate Cortex of Mice with Peripheral Inflammation or Nerve Injury." *The Journal of Neuroscience* 34, no. 32 (2014): 10675-10687.
- Mansouri, Farshad A., Mark J. Buckley, and Keiji Tanaka. "The Essential Role of Primate Orbitofrontal Cortex in Conflict-Induced Executive Control Adjustment." *The Journal of Neuroscience* 34, no. 33 (2014): 11016-11031.
- Pagan, Marino, and Nicole C. Rust. "Dynamic Target Match Signals in Perirhinal Cortex Can Be Explained by Instantaneous Computations That Act on Dynamic Input from Inferotemporal Cortex." *The Journal of Neuroscience* 34, no. 33 (2014): 11067-11084.