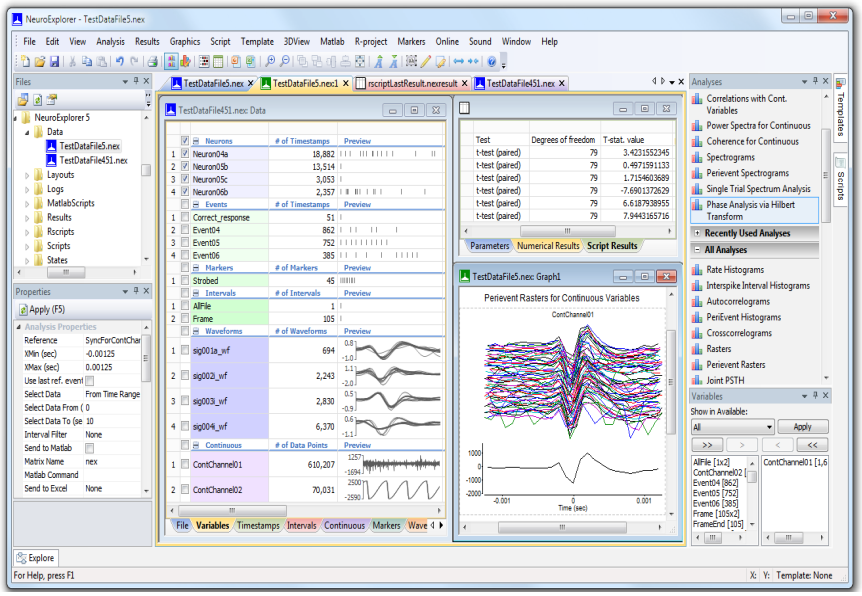
PLEXON
Neurotechnology Research Systems

NeuroExplorer®

NeuroExplorer® is the industry leading neurophysiological data analysis package that supports sophisticated analyses and professional presentation of the results–and cited by more than 2,100+ scientific publications. NeuroExplorer now reads Plexon's new PL2 file format, enabling ultrafast loading of large neural files. It is important to note that NeuroExplorer does not provide spike sorting capabilities, rather, assumes that you have already sorted the waveforms – a process for which Plexon's Offline Sorter™ is uniquely ideal.

****NeuroExplorer v5 is now available. Order your upgrade or new license keys now.****



Spike train analyses

- Vastly **IMPROVED** spectral analyses of spike train including single taper and multi-taper calculations of spectra, six available windowing functions, three preprocessing options, jackknife confidence, the ability to replicate MATLAB® spectral calculations, up to ten times faster calculation of spectral results and more
- **NEW** Spike train analyses featuring firing rate vs. head direction, hazard analysis and kernel-based perievent firing rates
- Interspike interval histograms
- Rate histograms
- Perievent histograms
- Perievent rasters
- Autocorrelograms
- Crosscorrelograms with shift-predictors
- Joint peristimulus histograms
- Burst analysis
- Spectral densities and spectrograms
- Perievent histograms versus time
- Place cell analysis
- Cumulative activity
- Instantaneous frequency
- Interspike intervals versus time
- Poincare maps of interspike intervals
- Epoch counts
- Coherence analysis

Analysis of continuously recorded signals

- Analyses of continuous data (LFP) such as perievent rasters, power spectra, coherence, single trial spectrum analysis, phase analysis using Hilbert transform and oscillations analysis
- Digital filtering options for continuous data including seven new IIR and FIR filters
- 64-bit build enabling loading/analyzing multi-gigabyte data files and displaying hundreds of millions of rows
- Immediate preview of data when a data file is loaded
- .NEX5 data file format that is more flexible than the previous .NEX format such that it allows saving files greater than 2GB and saves unlimited metadata for the whole file and for every file variable in JSON format
- Vastly **IMPROVED** spectral analyses of continuous channels including single taper and multi-taper calculations of spectra, six available windowing functions, three preprocessing options, jackknife confidence, the ability to replicate MATLAB spectral calculations, up to ten times faster calculation of spectral results and more
- **MORE EFFICIENT** processing as computationally demanding analyses are run in parallel using all CPU cores
- Correlations between spike trains and continuous signals
- Spike-triggered histograms and rasters
- Spectral analysis
- Perievent spectrograms

Analysis of populations of neurons

- Principal component analysis
- Population PST histograms
- Spectral analysis
- 3D network activity animation

Fully editable publication-quality graphics

- **NEW** Ability to save graphic in Scalable Vector Graphics (SVG) files (ideal for editing graphics in Adobe Illustrator)
- 2D and 3D black-and-white and color graphs
- Unlimited number of graphs per figure
- Tables of graphs. (e.g. all pairwise correlations within a group of neurons)
- Completely customizable figure elements: colors, fonts, tick sizes, etc.
- Single-page and multi-page printing
- Export of graphics to other applications via the clipboard, Windows® metafiles and bitmaps
- Completely customizable figure elements (e.g. colors, fonts, tick sizes)
- Create lab books of your results in PowerPoint®

Powerful internal scripting language allows automation of many analysis tasks

- **NEW** Ability to use Python as a scripting language allowing a user to utilize hundreds of Python libraries in scripts
- Open and close data files
- Select data for analysis
- Specify analysis parameters
- Specify graphics options
- Apply analysis templates
- Save results as a text file
- Send data and results to Excel®
- Send data and results to MATLAB
- Execute MATLAB scripts
- Modify existing spike trains and other data
- Create new events and spike trains
- Read and write text files

Open analysis environment

- Statistical tests (T-tests, Wilcoxon tests, ANOVA and user-added tests by writing R-scripts) comparing results across conditions that can be implemented via integration with R-project
- **ENHANCED** ability to save and restore results such that it saves all numerical and graphical results in a series of linked files, and a user can open results files without recalculation, as well as replicate results
- Copy data to Excel, edit the data in Excel and paste it back to NeuroExplorer
- Generate data in MATLAB and transfer it to NeuroExplorer
- Copy numerical results to Excel or MATLAB for additional analysis
- Execute MATLAB scripts from NeuroExplorer for additional processing
- Create a lab book of your results in PowerPoint

Technical Specifications

Features	Specifications and Options
File types read (import)	Plexon (.PL2, .PLX), AD Instruments, Alpha Omega, Axion Biosystems, Axon Instruments, Blackrock Microsystems, CED Spike-2, Cortex, DataWave, g.tec, MED64 Mobius, MultiChannel Systems, Neuralynx, RC Electronics, Tucker-Davis Technologies, KlustaSuite HDF-5, text files, MATLAB and Excel
Minimum system requirements:	
Computer	Pentium® III or better
Platform	Windows XP, Vista, 7, 8 or 10 and Windows Server 2003, 2008 or 2012 (32-bit or 64-bit). Works on Mac under Parallels.
RAM	256MB minimum - 4GB is recommended
Disk space	30MB
Video resolution	1024x768 minimum
Computer interface	USB port
Activation requirement	Version-specific hardware license key.