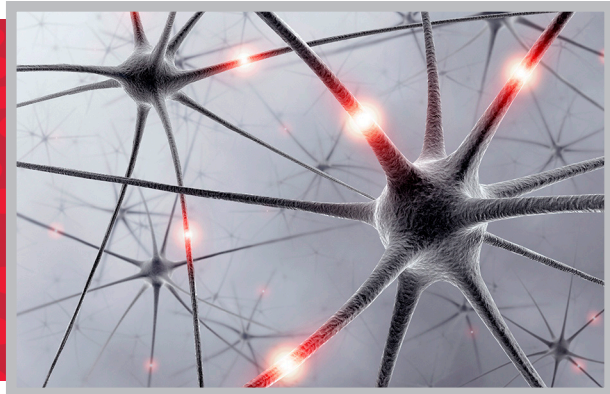
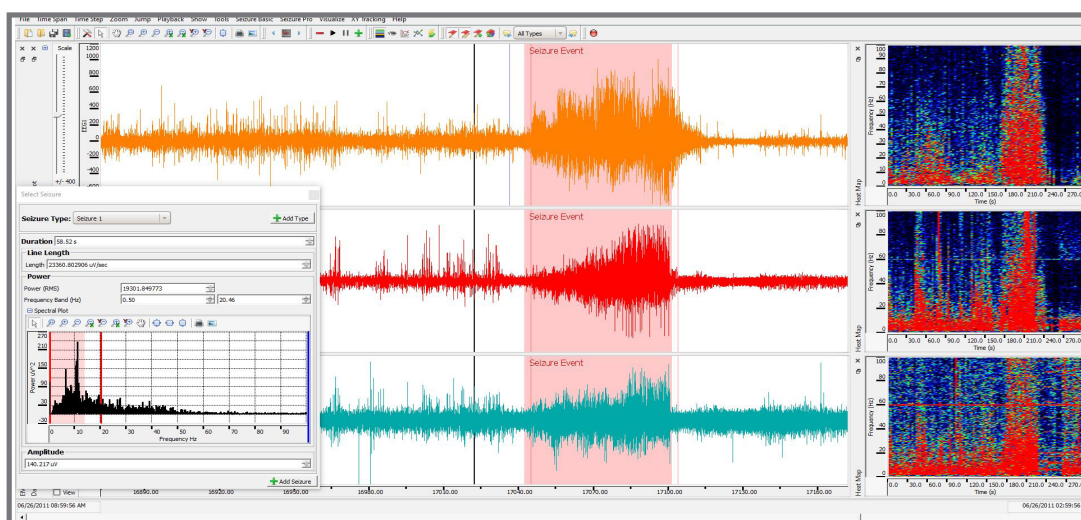




SIRENIA[®] SEIZURE PRO



SIRENIA[®] SEIZURE PRO advanced analysis package provides a platform to quickly identify and analyze user-defined seizure events. Once verified, events are logged in a database and can be used to find similar seizures within the current file or other animal recordings. Parameters such as amplitude, frequency power, duration, and line length can also be utilized to search and sort through seizures. Verified seizure events can be logged in customizable reports, graphs, and in-depth analysis for use in papers, presentations, and everyday research.



KEY FEATURES

REDUCE ANALYSIS TIME BY AUTOMATING SEIZURE DETECTION

IDENTIFICATION AND LOGGING TOOLS

- Semi-Automated Seizure Identification
- User-Defined Seizure Characteristics
- Spectral Density Heat Maps
- Spectral Plots

AUTOMATED ANALYSIS

- Power
- Line Length
- Peak Frequency
- Seizure Duration
- Seizure Statistics
- Spike Counter

PLUS

- Produce High-Quality Images
- Fully Customizable Interface
- Export Data to TSV

CUSTOM PLOTS AND GRAPHS

- Automatic Graph Generation
- Plot Multiple Power Bands with Line Length and Other Data

ACCURACY OF SEIZURE DETECTION

Seizure detection was performed using power and line length separately on five individual **mouse data files**. All files were compared to an expert using hand-scoring. Agreement of the two detection methods as compared to the expert is shown below.

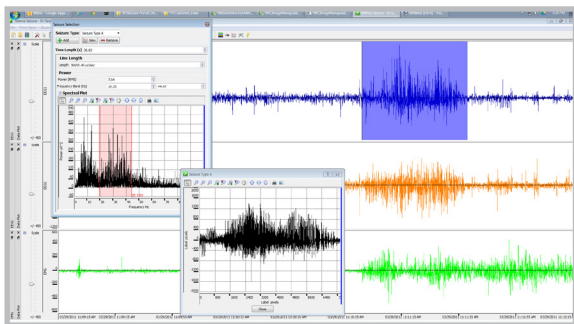
	# of Seizure Events Marked	Accuracy vs. Expert Scorer	# of False Positives
Expert Scorer	21	N/A	N/A
RMS Power	23	100%	2
Line Length	21	100%	0

Data courtesy of Drs. Philip Haydon and Jerome Clasadonte (Expert Scorer)
Tufts University School of Medicine, Department of Neuroscience

IDENTIFICATION & ANALYSIS

SIRENIA® SEIZURE PRO employs a database system to store line-length and power characteristics of user-defined seizures. Information collected in the database is used to quickly identify and mark like-events within any Sirenia® or EDF file. Seizure classification and notes can be easily added to logged events for future reporting. Plus, all data can be saved as high-resolution images.

IDENTIFICATION AND LOGGING TOOLS



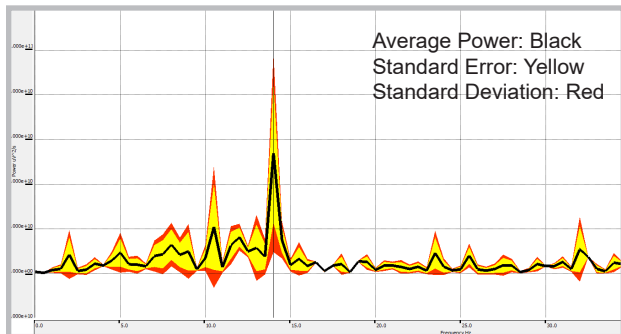
The software makes identifying and annotating seizures as simple as 1, 2, 3.

1. Highlight a seizure to add it to a database.
2. Select a seizure from the database to search for similar events using its line length or power characteristics.
3. The software scans the file and locates like-events. Simply accept each match to automatically annotate and store the data.

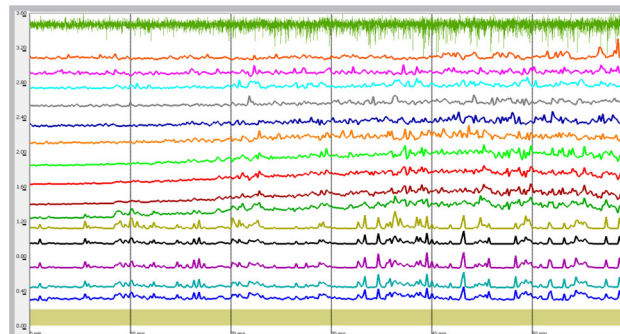
Spectral plots and heat maps are available to aid in visual confirmation.

STATISTICAL ANALYSIS AND GRAPHICAL FEATURES

Analyze seizures and obtain detailed statistics, including duration, power, line length, amplitude, time between seizures, peak frequency, and seizure type. Coherence and spike counter are also available with straightforward parameter settings. Information can be saved to compare with data in the same file or other recordings. Users can also plot seizure events on a file's timeline for review, analysis and presentation, utilizing custom filtering and data overlay features.



Average power spectral analysis of all annotated seizure events from a single C57BL/6 mouse within a 24-hour period. The black line represents the average spectral power distribution between 0 and 35 Hz. Standard deviation and standard error are shown in red and yellow, respectively.



EEG and power spectral analysis of seizure activity. Mouse EEG (top green trace) following injection of Kainic acid (2 mg/kg IP) over the course of 1 hour. Lines below the EEG trace represent power spectral analysis in the following bands: 1-4 Hz; 4-8 Hz; 8-15 Hz; 15-30 Hz; 30-60 Hz; 60-100 Hz; 100-200 Hz; 200-300 Hz; 300-400 Hz; 400-500 Hz; 500 Hz-1kHz; 1-2 kHz; 2-3 kHz; 3-4 kHz; 4-5 kHz.

Contact a Pinnacle representative at sales@pinnaclet.com
or visit our website to request your free trial:
<http://www.pinnaclet.com/seizurePRO.html>

30-DAY
FREE
TRIAL

