Record and analyze extracellular spike data using six specialized histograms in real-time with the LabChart Spike Histogram Module.

Quickly and easily discriminate between extracellular neural spikes, and analyze data using two discrimination methods. View your discriminated spikes in specialized histogram windows.

Powerful Spike Discrimination

The Discriminator View window features two powerful discrimination methods:

- Template Units match waveforms in the Spike Display pane using the root mean square (RMS) deviation and fit tolerance. Customize the Template Units by defining your own fit tolerance.

- Contour Units are groups of spikes that are hand-selected. Select your spikes of interest by drawing any shape around them in the Scatter Plot pane.

Spike Averaging in Scope View

Use the spike units defined in the Discriminator View window as an Event Source in LabChart Scope View. Use time-based occurrences of spikes to perform spike-triggered averaging. View defined spike shapes in real time, individually or in groups.
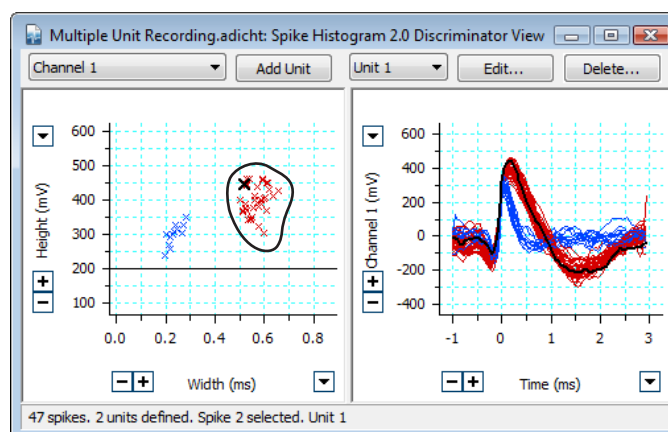
*Above:* Select spikes of interest by drawing around them in the Scatter Plot pane.

Applications

- Muscle physiology
- Cardiovascular function
- Respiratory function
- Neurophysiology
- Autonomic regulation/ dysfunction
- Hypertension
- Neural respiratory control
- Autonomic reflex sensitivity
- Neural circuits and networks
- Sleep studies
- Peripheral motor neural activity
- Neural transmission
- Motor control
- Sensory functions

Specialized Histogram Windows

Perform powerful analysis of discriminated spike units using six specialized histogram windows. Histogram windows are available in real time, offline, and include Rate Meter, Amplitude, Interspike Interval, Peristimulus Time, Autocorrelation, and Cross-correlation.
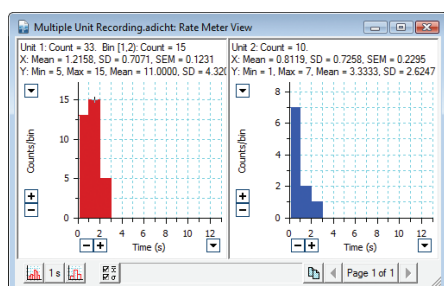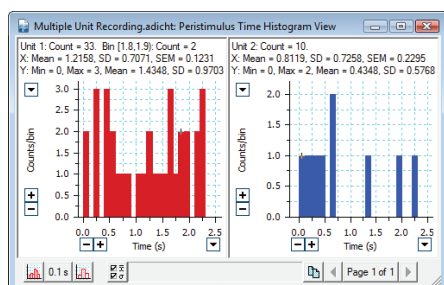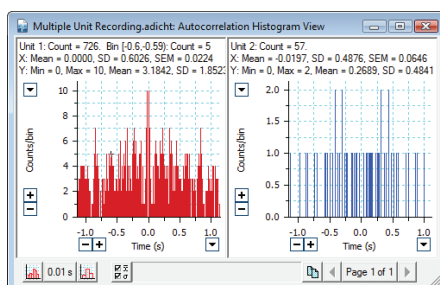

Ratemeter plots the firing rate against time
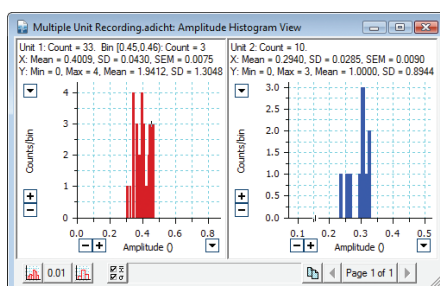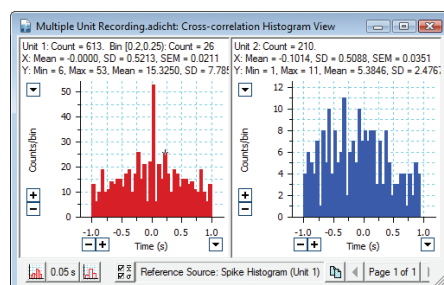

Amplitude displays a histogram of amplitudes
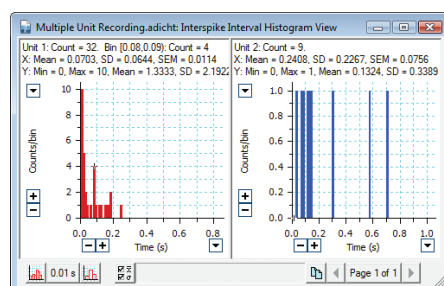
Interspike Interval displays a histogram of interval distribution

Peristimulus Time displays the frequency and timing of spikes relative to a stimulus or event

**Autocorrelation** detects periodicity in an individual unit

Cross-correlation detects the temporal dependence of two physiologic parameters

Additional Data Exporting Options

The Spike Histogram module calculates and places thirteen parameters for each Histogram Window into the LabChart Data Pad. Parameters include bin size, mean X, SD X, SEM X, mean Y, and more.

Export your LabChart data into .nex format for easy transfer into NeuroExplorer. Further analyze spike trains within NeuroExplorer, using their extensive analysis options and histograms including burst analysis, spectral analysis, and Poincaré maps.
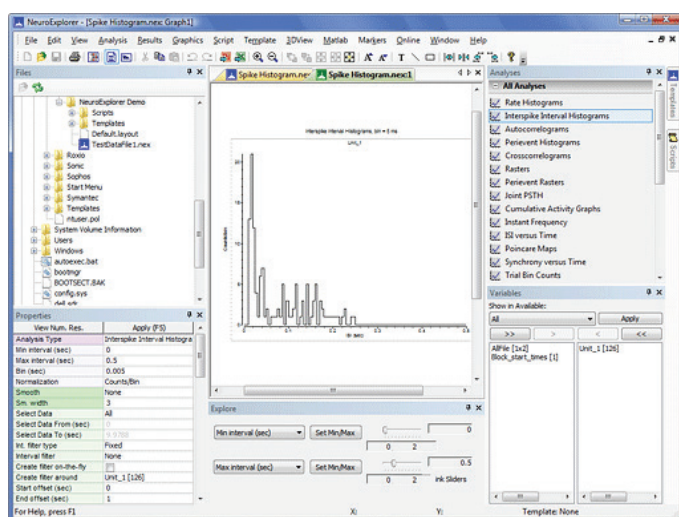

Above: Easily export LabChart data into NeuroExplorer.

Ordering Information

The Spike Histogram Module for LabChart can be purchased individually as an Add-On for LabChart 8 (MLS240/8 Windows only), or as part of LabChart Pro (MLS260/8).

LabChart Pro includes LabChart software and all LabChart Modules, providing powerful data acquisition and analysis capabilities.

Extend your PowerLab system to measure nerve activity with the **Neural Amplifier EX**
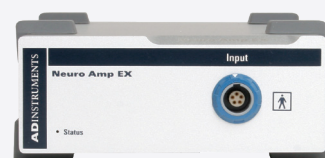
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