

# Waveform Peak Analysis

## Peak Analysis Module for LabChart® Software & PowerLab®

### Features & Benefits

- Detects and analyzes multiple peaks in recorded waveforms
- Suitable for a wide range of signals
- Calculates and reports a wide range of peak parameters
- Allows analysis in real time and after recording
- Provides default analysis settings for various signal types
- Allows graphical display of calculated parameters as continuous signals in LabChart channels



LabChart recording (top) of aortic flow from a dog, analyzed with the Peak Analysis module (Peak Analysis View bottom right and Table View bottom left) using General Unstimulated detection and analysis settings.

The Peak Analysis Module for LabChart automatically detects and analyzes multiple, non-overlapping peaks in recorded waveforms. The module is suitable for analysis of peaks obtained from a wide range of applications, including isolated tissue studies, hemodynamic measurements, amperometry, cardiac physiology, electrophysiology and neurophysiology. Peaks can be analyzed offline using existing recordings, or online as the waveforms are being recorded.

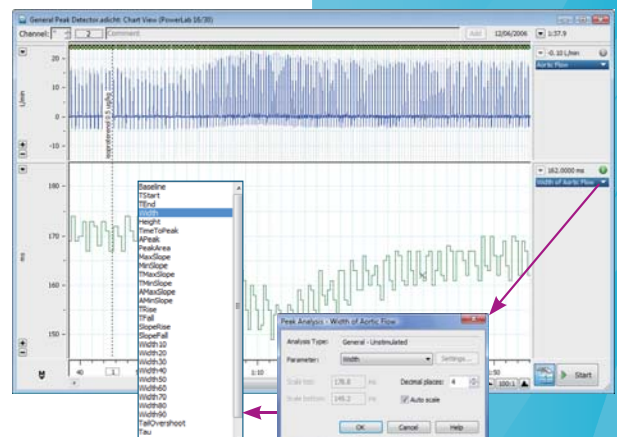
An entire channel, or any selection within a channel can be analyzed. Users can select from one of several analysis settings available for general waveforms and specific signal types. The detection, calculation and table view options can be adjusted for each waveform type.

Detected peaks are displayed in the Peak Analysis View with highlighted parameter markers, values and peak area (where appropriate). The calculated peak parameters are additionally logged to a table and can be easily exported to other applications at the click of a button.

LabChart software displays the acquired signal and marks every detected and subsequently analyzed peak. Calculated peak parameters can be displayed in separate LabChart channels in the form of continuous signals, as seen in the figure to the right. This is particularly useful when performing real-time analysis.

Below: Chart View with detected peaks in the source channel (Aortic Flow), and a calculated peak parameter (Width) displayed as a continuous signal in channel two. Note the decrease in the width following addition of isoproterenol.

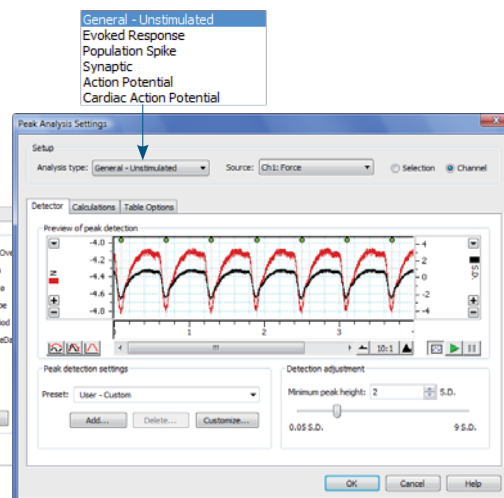
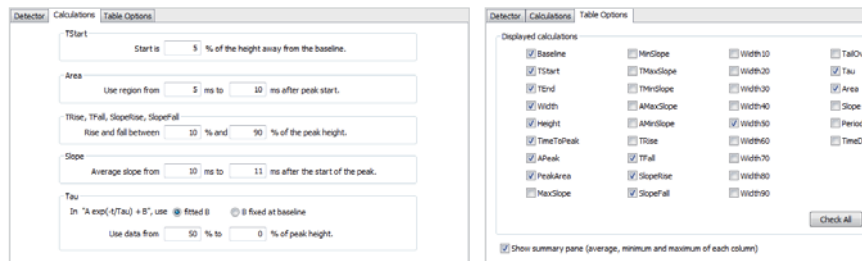
Insets: available peak parameters for analysis of general waveforms.



# Peak Analysis Module

## Detection & Analysis Settings

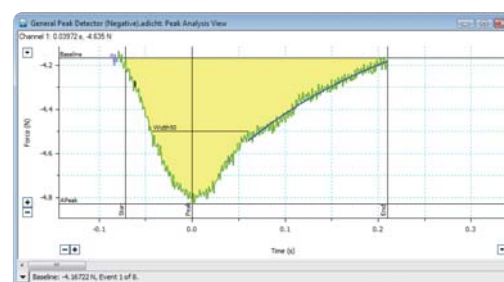
The Peak Analysis Settings dialog is used to select the source data channel and choose the settings for peak detection, calculations of peak parameters, and table options for the display and extraction of calculated parameters.



Peak Analysis Settings dialog with Detector (above), Calculations (far left) and Table Options (left) tabs.

## Analysis View

Individual peaks are displayed in the Peak Analysis View. The view displays the peak and its parameter markers, highlights the waveform cursor coordinates and provides a summary of peak information. The display may also be scaled.



Peak Analysis View displaying a negative peak and its parameters.

## Table View

The Peak Analysis Table View displays calculated parameters for all detected peaks. Each row in the table corresponds to an individual peak. The calculated values in the table can be exported as a text file, or they can be added to the LabChart Data Pad feature for OLE with other applications such as Microsoft Excel.

	Baseline (N)	TStart (s)	TEnd (s)	Width (s)	Height (N)	TimeToPeak (ms)	APeak (N)	PeakArea (N.s)	TFall (ms)	SlopeFall (N/s)
1	-4.167	0.0000	0.2960	29.60	-0.6630	72.00	-4.830	-0.09493	392.0	-4.119
2	-4.137	0.4140	0.9390	525.0	-0.6832	76.00	-4.820	-0.09203	173.0	-4.123
3	-4.122	1.223	1.817	594.0	-0.7079	76.00	-4.828	-0.1010	176.0	-4.050
4	-4.126	1.807	2.136	329.0	-0.6685	89.00	-4.805	-0.09146	175.0	-4.889
5	-4.137	2.428	2.774	346.0	-0.6933	82.00	-4.830	-0.09301	167.0	-4.732
6	-4.144	3.023	3.326	303.0	-0.6556	67.00	-4.800	-0.08874	161.0	-4.680
7	-4.106	3.611	3.946	335.0	-0.7042	91.00	-4.810	-0.1021	162.0	-4.689
8	-4.129	4.215	4.525	310.0	-0.6607	88.00	-4.790	-0.09081	160.0	-4.836
Avg	-4.139	2.113	2.432	318.8	-0.6795	80.50	-4.814	-0.09275	169.5	-4.185
Min	-4.167	0.00000	0.2960	292.0	-0.7079	68.00	-4.828	-0.1021	160.0	-4.050
Max	-4.106	4.215	4.525	344.0	-0.6556	91.00	-4.790	-0.08483	162.0	-4.680
Count	8	8	8	8	8	8	8	8	8	8

Table View with logged peak parameters.

## Quick and Easy Navigation

The waveforms and data in the LabChart, Peak Analysis and Table Views are all linked to allow the user to easily and quickly navigate to information on particular peaks. Users can scroll peak-by-peak in the Peak Analysis View with the slide-bar or next/previous arrows, select individual peaks in the Chart View by clicking on the source waveform, or locate a particular waveform by highlighting a row in the Table View.

## Ordering Information

<b>Peak Analysis Module</b>	<b>LabChart Pro*</b> (sold separately)
MLS380/7 Peak Analysis (Win)	MLS260/7 LabChart Pro (Win & Mac)

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

Share your data with colleagues. Free LabChart Reader – download to view and analyze LabChart data.

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PowerLab systems and signal conditioners meet the European EMC directive. ADInstruments signal conditioners for human use are approved to the IEC60601-1 patient safety standard and meet the CSA C22.2 No. 601.1-M90 and UL Std No. 2601-1 safety of medical electrical equipment standards.



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