

# Waveform Peak Analysis

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



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. Several analysis settings available for general waveforms and specific signal types can be selected. 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.

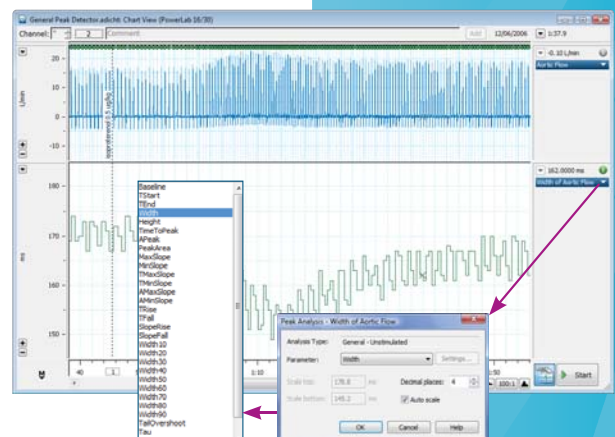
LabChart software displays the acquired signal and marks every detected and subsequently analyzed peak. Calculated peak parameters can be displayed in separate LabChart channels in the form of continuous signals, as seen in the figure to the right. This is particularly useful when performing real-time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

### 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

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.

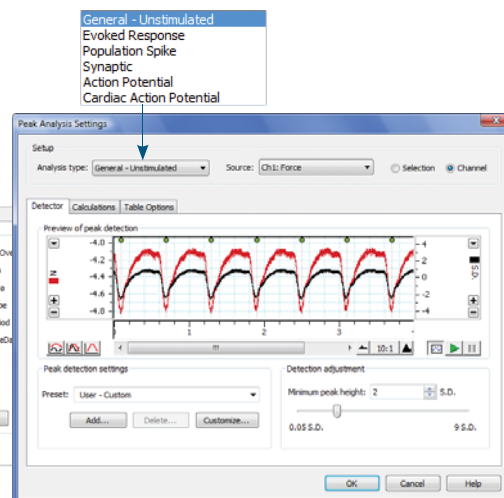
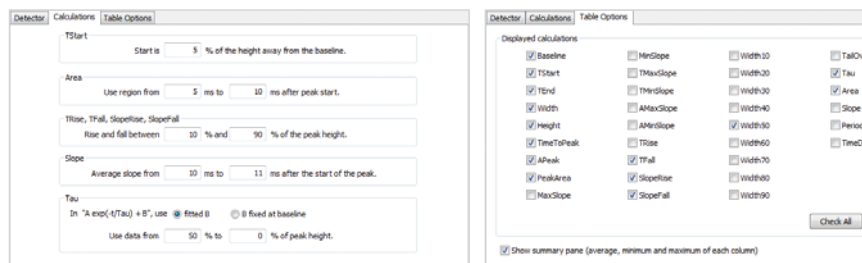
Insets: available peak parameters for analysis of general waveforms.



# Peak Analysis Module

## Detection & Analysis Settings

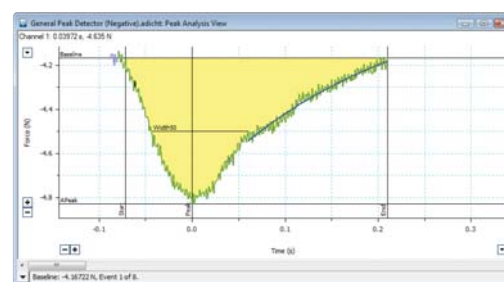
The Peak Analysis Settings dialog is used to select the source data channel and choose the settings for peak detection, calculations of peak parameters, and table options for the display and extraction of calculated parameters.



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 (%)	TStart (s)	TEnd (s)	Width (ms)	Height (mV)	TimeToPeak (ms)	Area (mV.s)	TFall (ms)	Slope (mV/s)
-4.167	0.0000	0.2000	20.0	-0.600	72.00	-4.820	-0.0940	30.0
-4.137	0.4140	0.9700	32.0	-0.602	76.00	-4.820	-0.0920	17.0
-4.122	1.223	1.817	344.0	-0.3079	76.00	-4.820	-0.1010	176.0
-4.126	1.807	2.136	329.0	-0.6085	89.00	-4.805	-0.09146	175.0
-4.137	2.428	2.774	326.0	-0.6033	82.00	-4.820	-0.0920	387.0
-4.144	3.023	3.226	313.0	-0.6106	87.00	-4.800	-0.08974	381.0
-4.106	3.611	3.946	335.0	-0.7042	91.00	-4.810	-0.1021	382.0
-4.129	4.215	4.525	310.0	-0.6067	88.00	-4.790	-0.09081	380.0
-4.129	2.113	2.432	318.0	-0.6795	89.50	-4.814	-0.09275	389.5
-4.167	0.0000	0.2000	20.0	-0.3079	88.00	-4.820	-0.1021	380.0
-4.106	4.225	4.525	344.0	-0.6106	91.00	-4.790	-0.08483	382.0
Count	0	0	0	0	0	0	0	0

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

**Peak Analysis Module**

**LabChart Pro\* (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.

PowerLab, MacLab, LabChart, LabTutor and LabAuthor are registered trademarks and Chart and Scope are trademarks of ADInstruments Pty Ltd. All other trademarks are the property of their respective owners. ECG07/11

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.



**ADINSTRUMENTS.com**

ISO 9001:2008 Certified Quality Management System



**North America**  
Tel: +1 888 965 6040  
Fax: +1 719 576 3971  
info.na@adstruments.com

**United Kingdom**  
Tel: +44 1865 332 050  
Fax: +44 1865 332 051  
info.uk@adstruments.com

**Germany**  
Tel: +49 6226 970105  
Fax: +49 6226 970106  
info.de@adstruments.com

**North Asia**  
Tel: +86 21 5830 5639  
Fax: +86 21 5830 5640  
info.cn@adstruments.com

**South East Asia**  
Tel: +60 3 8024 5296  
Fax: +60 3 8023 6307  
info.sea@adstruments.com

**Japan**  
Tel: +81 52 932 6462  
Fax: +81 52 932 6755  
info.jp@adstruments.com

**South America**  
Tel: +56 2 356 6749  
Fax: +56 2 356 6786  
info.cl@adstruments.com

**Brazil**  
Tel: +55 11 3266 2393  
Fax: +55 11 3266 2392  
info.br@adstruments.com

**South Asia**  
IN Tel: +91 11 4306 5615  
PK Tel: +92 21 3489 2518  
info.in@adstruments.com

**Australia**  
Tel: +61 2 8818 3400  
Fax: +61 2 8818 3499  
info.au@adstruments.com

**New Zealand**  
Tel: +64 3 477 4646  
Fax: +64 3 477 4346  
info.nz@adstruments.com

**International**  
Tel: +61 2 8818 3400  
Fax: +61 2 8818 3499  
info.au@adstruments.com