

Designed specifically for life science, LabChart provides up to 32 channels for data display and analysis options that are powerful and easy to use.

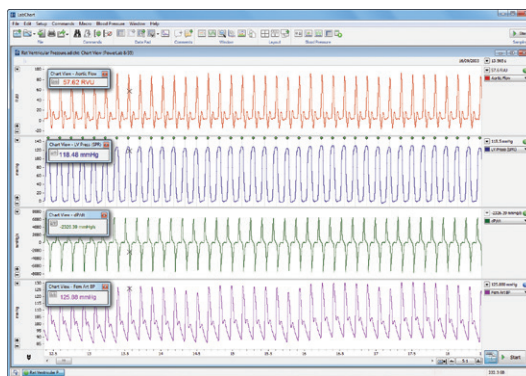
What is LabChart?

LabChart data acquisition and analysis software creates a platform for all of your recording devices to work together, allowing you to acquire biological signals from multiple sources simultaneously and apply advanced calculations and plots as your experiment unfolds.

Quick to set up and simple to use, LabChart tracks every action you take and never modifies your raw data, ensuring the integrity of your results so you can focus on the true insights of your research.

Use LabChart to:

- Record data via PowerLabs and other compatible data acquisition devices
- Preview and optimize recordings
- Import and export data easily
- Annotate data with comments
- Automate recording and analysis tasks
- Convert raw data into useful units
- Change recording settings in seconds
- Recall data and experimental settings
- Generate customized stimulus outputs



Direct streaming option

Simple to use



Flexible



Data integrity

Streamlined Workflow

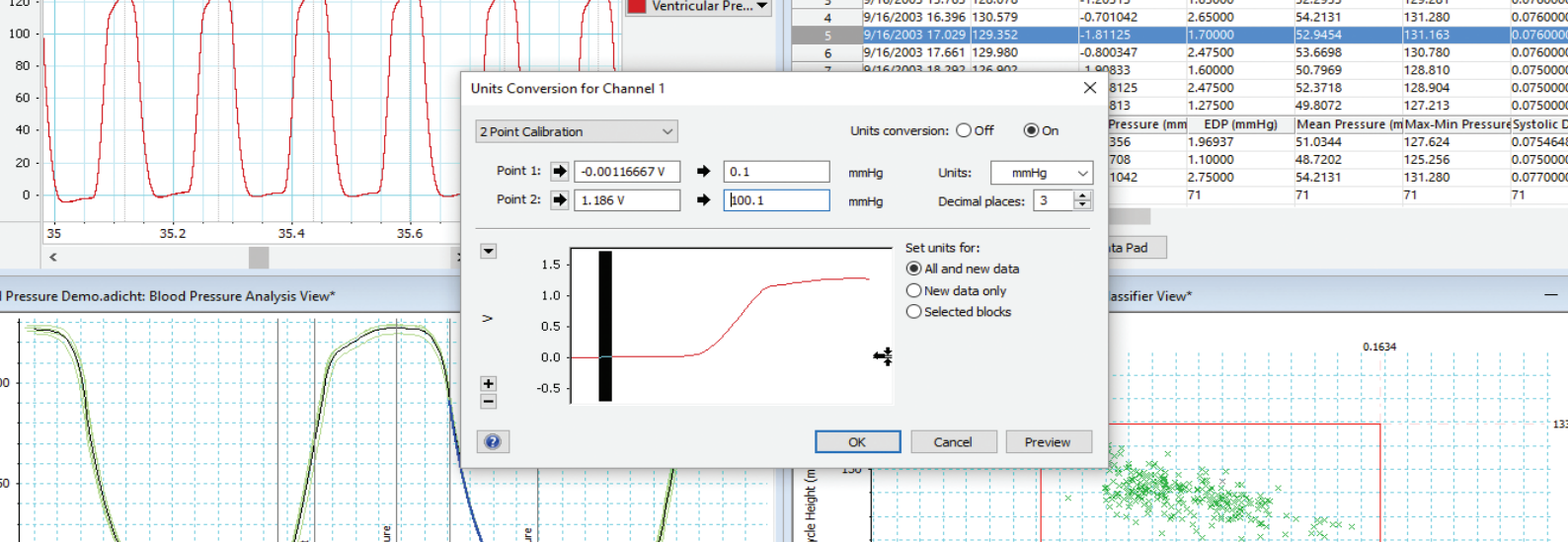
“Of most importance was the fact that all data was recorded on a time-aligned beat-by-beat basis - this is vital for the calculation of transfer function analysis based on the relationship between cerebral blood flow and blood pressure.”

Professor Ainslie
Canada Research Chair
Cerebrovascular Physiology



ADInstruments equipment is used in the **TOP 100 INSTITUTIONS** for Life Science worldwide and is cited in more than 30,000 peer-reviewed papers.





Signals

LabChart is flexible to the needs of novel research, with the ability to detect, display, and analyze a broad range of signals across many life science applications.

Supported signals include:

Angles	EOG	Intracellular Recordings	Respiratory Gas Analysis
Dissolved Gasses	Extracellular Recordings	NIBP	Sounds
dP/dT	Fluid Flow	pH	SPO ₂
ECG	Force	Pressure	Temperature
EEG	Glucose	Pulse	Tissue Perfusion
Electrical Stimulation	GSR	RER	Video
EMG	Heart Rate	Respiratory Flow	Volume

Research Applications

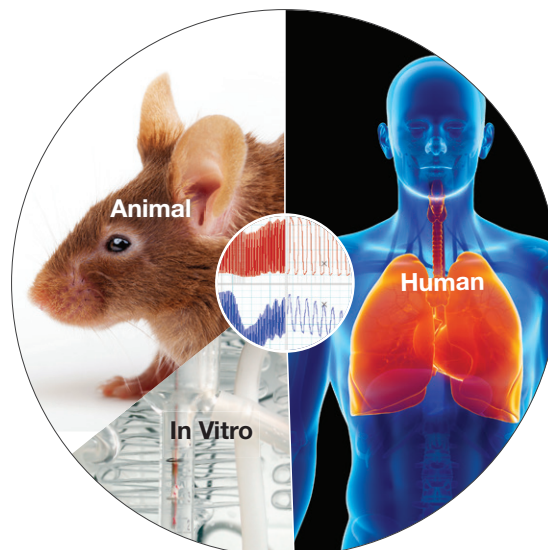
Designed specifically for life science researchers, LabChart provides all the calculations, reports, and plots you will need for human, animal and in vitro applications.

Animal

Autonomic
Behavior, Sleep and Neuroscience
Cardiovascular
Telemetry
Tissue and Circulation

In Vitro

Electrophysiology
Isolated Organ



Human

Autonomic
Cardiovascular
Exercise and Sport
Neurophysiology
Psychophysiology
Respiratory
Sleep
Speech Pathology
Tissue and Circulation

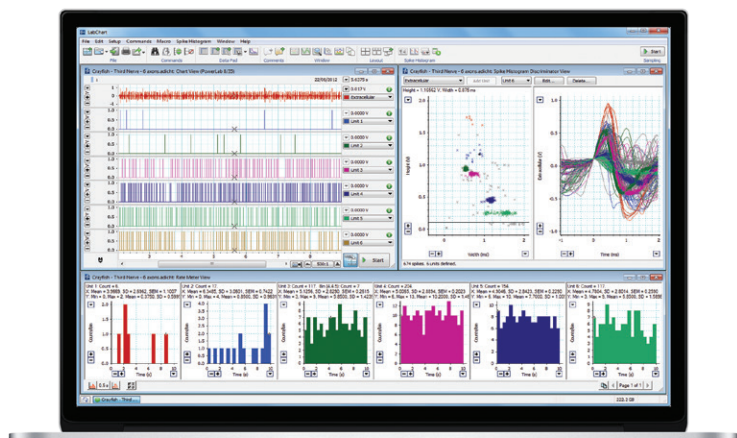
Innovate and extend your studies

Providing the flexibility to extend your studies into new territories, it is easy to add new signals and measurements in LabChart as your research grows and takes on new directions. Looking to stand out from the crowd? LabChart also allows you to create your own advanced calculations and macros to customize your analysis.

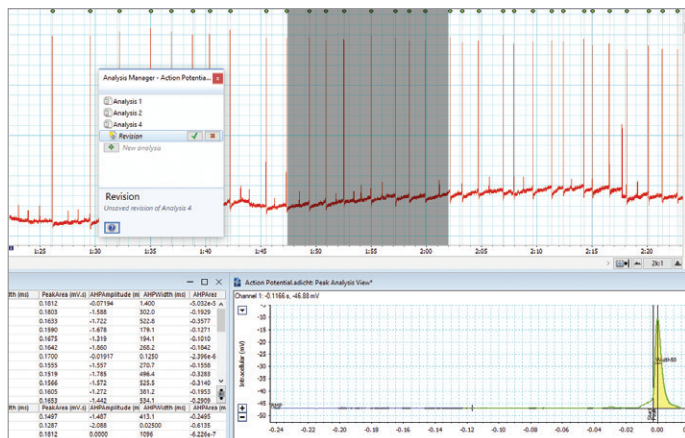
If you have a particular research need you would like to discuss, get in touch with our experienced support team. We can work with you to customize an effective solution to record and analyze the specific data that you need.

LabChart Features

LabChart is designed for quick and easy use, allowing full control of your data. Advanced features stay out of the way until you need them, letting you do the basics with minimal fuss.

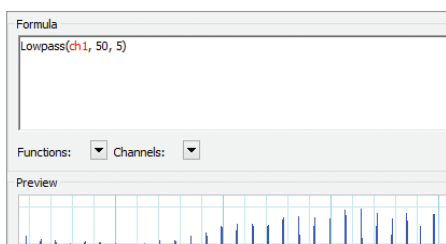


LabChart combined with A-M Systems hardware, displaying Spike Histogram analysis.



Analysis Manager

Save and label your selections and analysis regions, then recall them with a click when needed again.



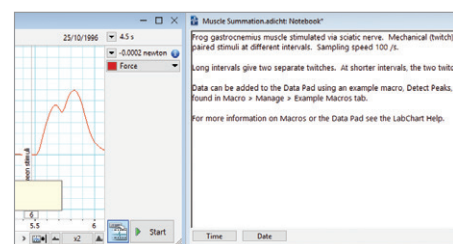
Arithmetic

Build your own customized formulae, detection, and analysis within LabChart.

Ch	Channel Title	Sample Rate	Range	Input Settings	Units	Computed Input	Color	Status	Calculation
1	Channel 1	8kS	20V	Input Amplifier	V	Raw Data Input 1		OK	No Calculation
2	Channel 2	8kS	20V	Input Amplifier	V	Raw Data Input 2		OK	No Calculation
3	Channel 3	8kS	20V	Input Amplifier	V	Raw Data Input 3		OK	No Calculation
4	Channel 4	8kS	20V	Input Amplifier	V	Raw Data Input 4		OK	No Calculation
5	Channel 5	8kS	20V	Input Amplifier	V	Raw Data Input 5		OK	No Calculation
6	Channel 6	8kS	20V	Input Amplifier	V	Raw Data Input 6		OK	No Calculation
7	Channel 7	8kS	20V	Input Amplifier	V	Raw Data Input 7		OK	No Calculation
8	Channel 8	8kS	20V	Input Amplifier	V	Raw Data Input 8		OK	No Calculation
9	Channel 9	8kS	20V	Input Amplifier	V	Raw Data Input 9		OK	No Calculation
10	Channel 10	8kS	20V	Input Amplifier	V	Raw Data Input 10		OK	No Calculation
11	Channel 11	8kS	20V	Input Amplifier	V	Raw Data Input 11		OK	No Calculation
12	Channel 12	8kS	20V	Input Amplifier	V	Raw Data Input 12		OK	No Calculation
13	Channel 13	8kS	20V	Input Amplifier	V	Raw Data Input 13		OK	No Calculation
14	Channel 14	8kS	20V	Input Amplifier	V	Raw Data Input 14		OK	No Calculation
15	Channel 15	8kS	20V	Input Amplifier	V	Raw Data Input 15		OK	No Calculation
16	Channel 16	8kS	20V	Input Amplifier	V	Raw Data Input 16		OK	No Calculation
17	Channel 17	8kS	20V	Input Amplifier	V	Raw Data Input 17		OK	No Calculation
18	Channel 18	8kS	20V	Input Amplifier	V	Raw Data Input 18		OK	No Calculation
19	Channel 19	8kS	20V	Input Amplifier	V	Raw Data Input 19		OK	No Calculation
20	Channel 20	8kS	20V	Input Amplifier	V	Raw Data Input 20		OK	No Calculation

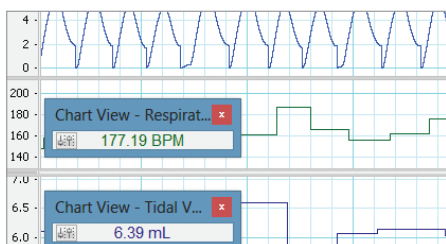
Channel Settings

Get an overview of, and easily change your recording settings, calculations and channels.



Comments

Seamlessly navigate your data using the annotations feature, either during or post data acquisition.



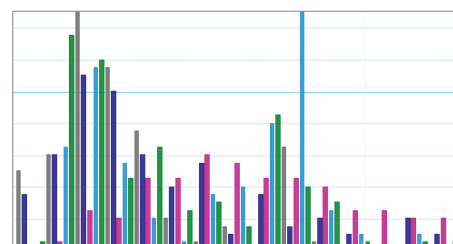
Cyclic Measurements

Combines flexible and clever cycle detection to create a simple to use analysis for periodic waveforms.

A1	B	C	D	E	F	G	
Time	Channel 1 Avg Cyc Frequency	Channel 1 Average Cyclic Rate	Channel 1 Maximum Value	Channel 1 Time @ Maximum	Channel 1 Maximum Power	Channel 1 Maximum Power Frequency	
1	0.01510	234.8845	14099.072	131.25	0.01511381	0.0	175.7813
2	0.00000	302.7852	18167.1132	366.7813	0.00003295	0.0002	312.5
3	0.00010	254.2827	15202.222	321.1853	0.00011487	0.0002	312.5
4	0.00020	281.7287	15903.7199	265.5625	0.00022916	0.0002	312.5
5	0.00030	277.3489	16640.8135	308.8125	0.00032871	0.0002	312.5
6	0.00040	272.2276	16233.6542	312.25	0.00044415	0.0003	312.5
7	0.00050	246.4231	14264.1838	276.1875	0.00051504	0.0002	312.5
8	0.00060	274.2485	16454.9697	336.8125	0.00067981	0.0002	312.5
9	0.00070	292.5953	17555.9602	307.0625	0.00075065	0.0002	312.5
10	0.00080	288.8075	17237.4811	275.375	0.00080481	0.0002	175.7813

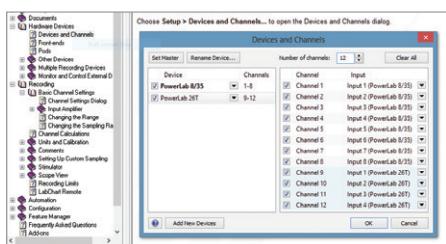
Data Pad

Convert your time based data and calculations from chart view into discrete values for statistical analysis.



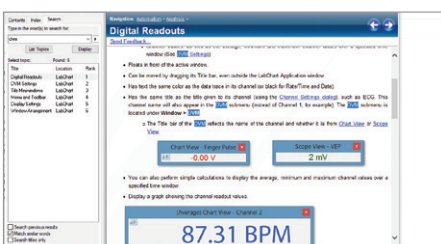
Data Plots

Visualize analysis easily with four different plot types and curve fits (Windows only).



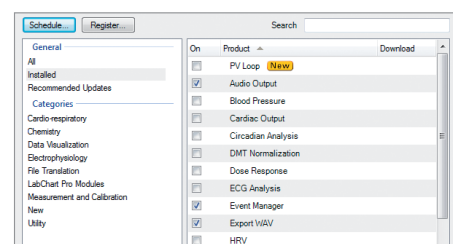
Device & Channel Discovery

Easily manage which devices, inputs and LabChart channels will be acquiring data - all from one panel.



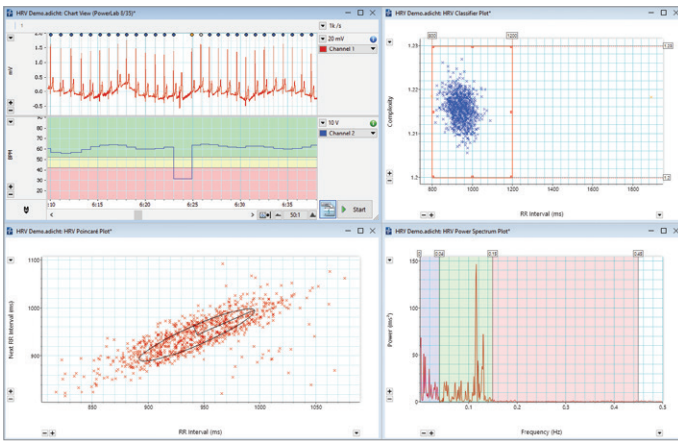
DVM

Display raw data or calculation signals as a large numerical display.



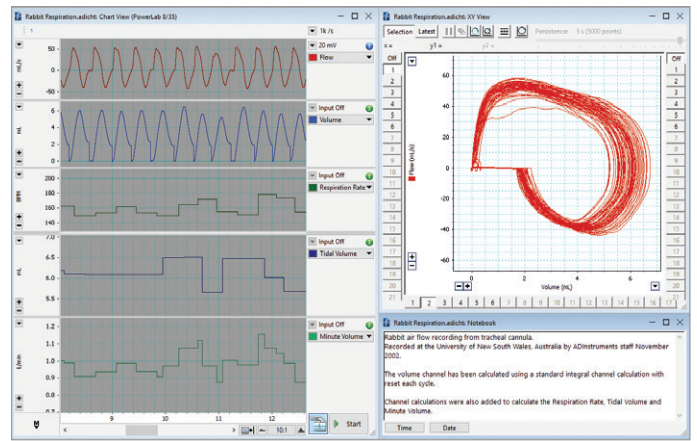
Feature Manager

Discover and install new features and updates, or toggle off features and menus you aren't planning to use right away.



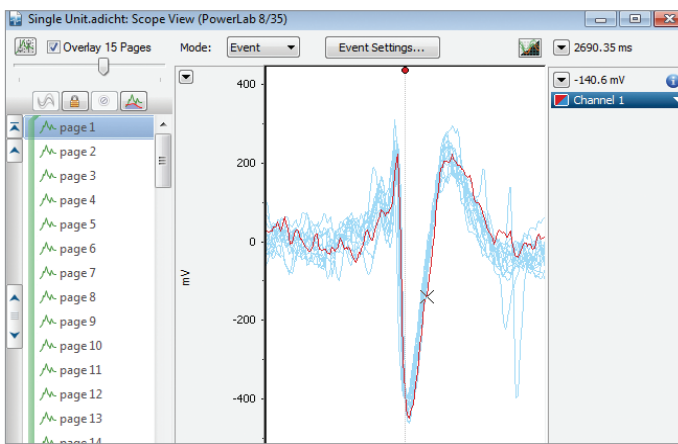
Guide Lines

Guide Lines provide a quick but powerful way to divide your data amplitude into regions of interest.



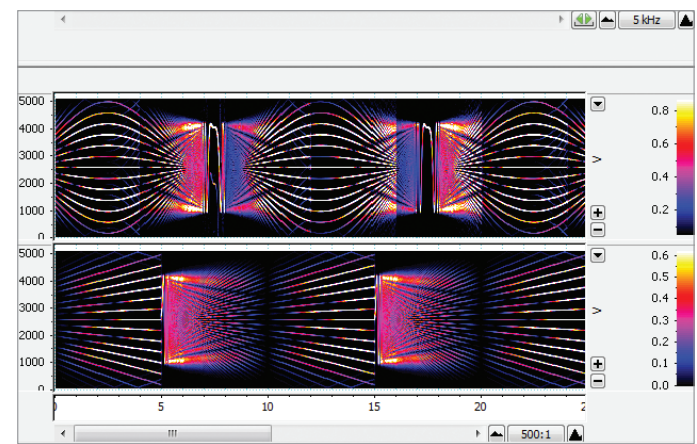
Layout

Display your screen the way you want. Smart Tile quickly snaps windows into a neat arrangement, or save your own layout preference.



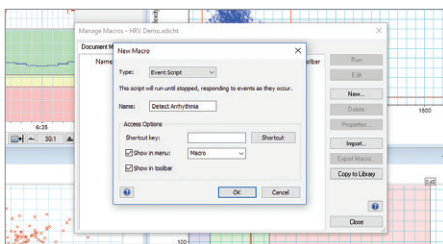
Scope View

Display, overlay, average and analyze periodic or evoked waveforms in real time.



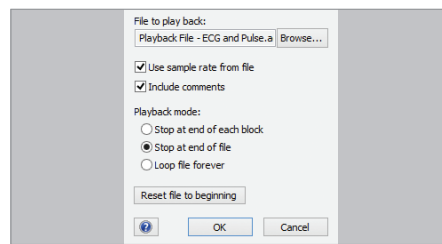
Spectrum

Convert signals into component frequencies that can be extracted directly into data pad, or viewed as a power spectrum density, spectrogram or channel calculation.



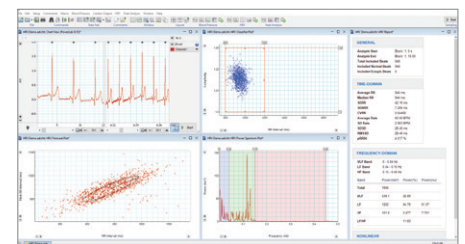
Macros

Record your actions for repetitive operations, or get under the hood and write custom processes in VB Script.



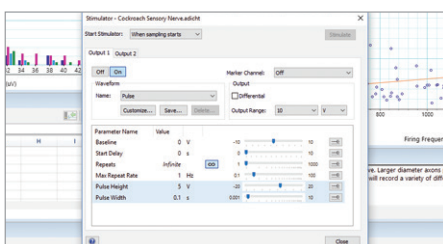
Playback File

Stream pre-recorded data as if the data were coming live from an attached device (Windows only).



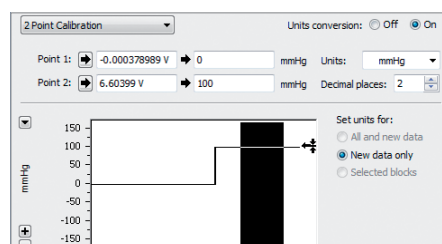
Split Screen

Show traces with two separate x-axis displays, ideal for viewing long term trends alongside latest data.



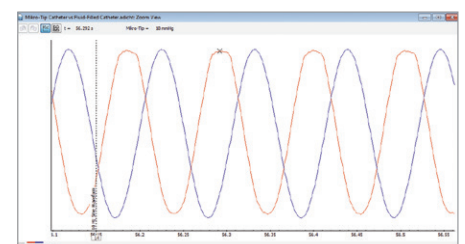
Stimulator

Create a custom protocol to stimulate your preparation directly or to control a stimulus isolator.



Units Conversion

This simple two point calibration tool makes it easy to convert volts into other common units of measurement.

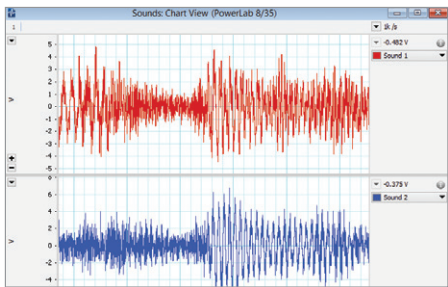


Zoom View

Take a closer look at an event, compare the timing between two overlaid channels, and export your images to publish.

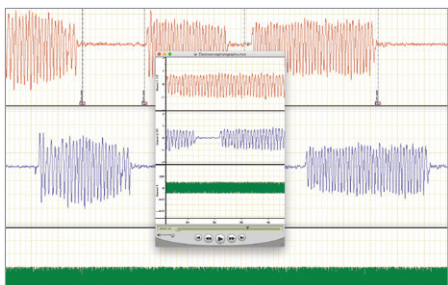
LabChart Extensions

Extensions are optional features available with any version of LabChart and allow additional data formatting, filtering, visualization, measurement and calculation.



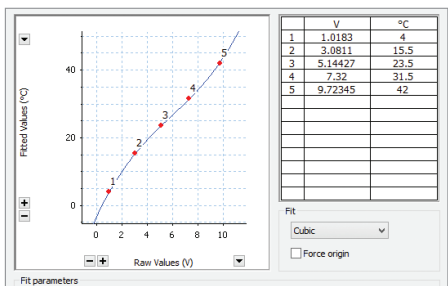
Audio Output

Allows data to be played back as sound. Useful for playing back input such as heart, animal and voice sounds.



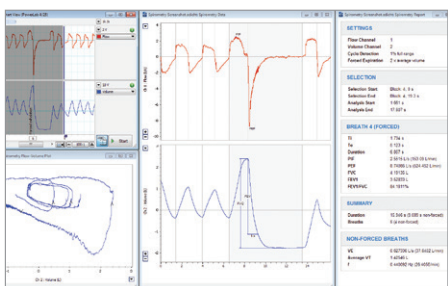
Export QuickTime

Save LabChart data files as QuickTime movies, then view on any supported platform or embed in other media.



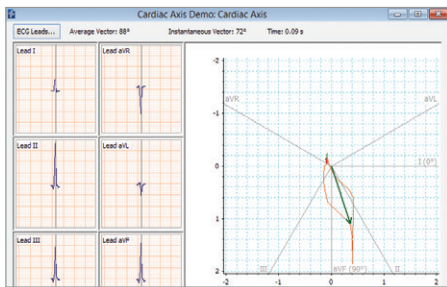
Multipoint Calibration

Convert raw voltage signals from PowerLab into your desired units.



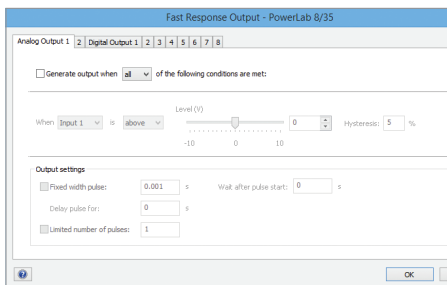
Spirometry

Derive respiratory parameters based on flow and volume such as VE, VT, PIF, PEF, FVC and FEV₁.



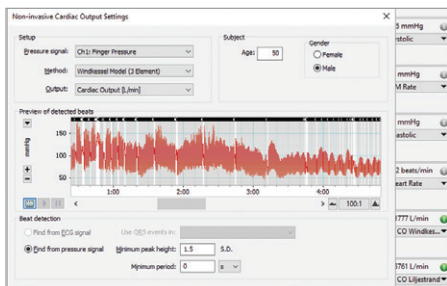
Cardiac Axis

Automate calculations of frontal plane ECGs and animate cardiac vector display.



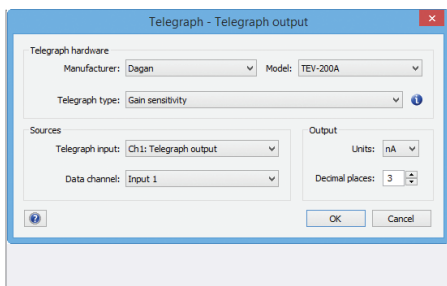
Fast Response Output

Control digital and analog outputs of supported PowerLab units.



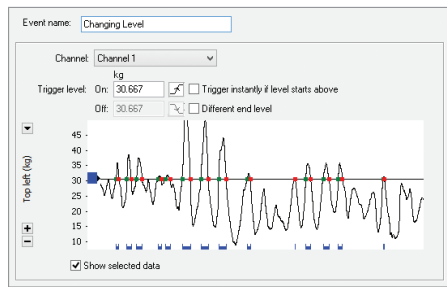
Non-Invasive Cardiac Output

Allows a real-time estimation of continuous cardiac output to be calculated from an NIBP trace.



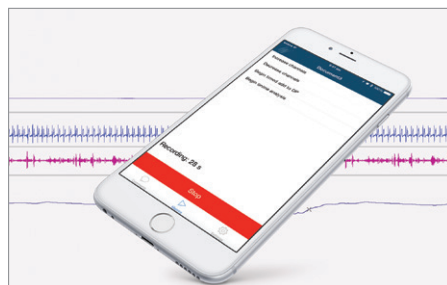
Telegraph

Make use of the gain telegraph output from an electrophysiological amplifier.



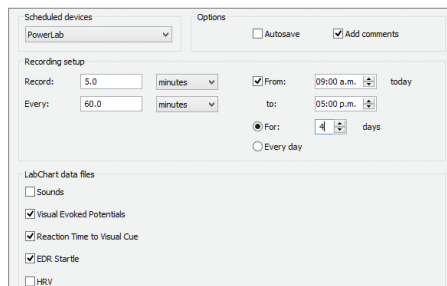
Event Manager

Monitors incoming signals, detects user-defined events and performs user-defined actions.



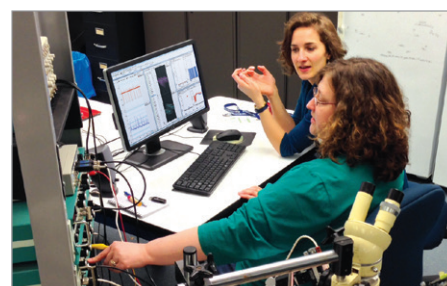
LabChart Remote App

Connect your iOS device to your sampling computer and operate certain functions of LabChart remotely via WiFi.



Scheduler

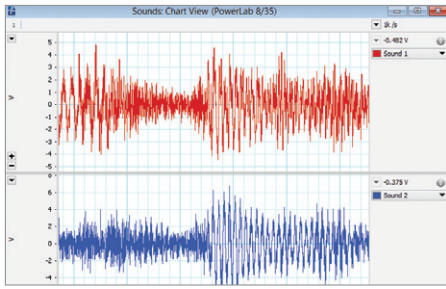
Schedule recordings across one or more LabChart data files.



LabChart makes it easier to go wherever your research leads

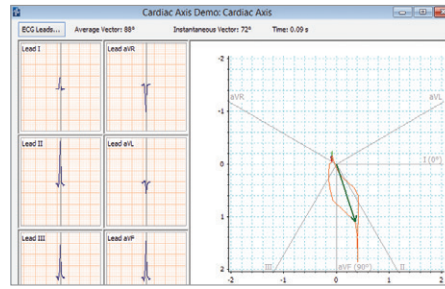
Specialized analysis with LabChart Modules

Modules provide highly specialized data acquisition and analysis features for specific research applications. The full suite of modules are included with a LabChart Pro License, or can be purchased individually as needed. Some modules are not available on Mac.



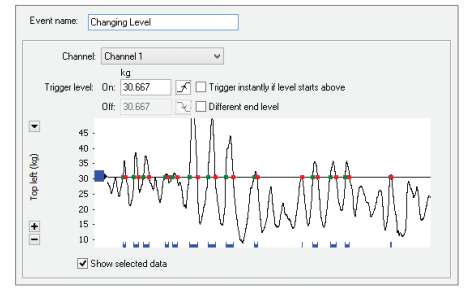
Dose Response

Generates dose response curves, EC50 values and additional parameters.



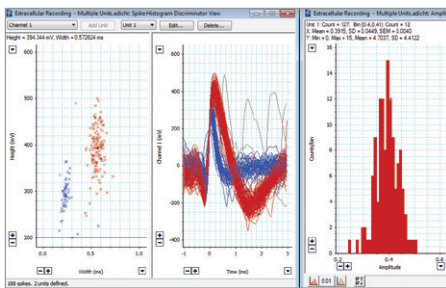
Metabolic

Provides real-time measurements of parameters such as VCO₂, VO₂, VE and RER.



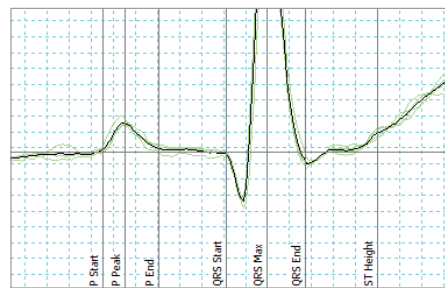
Blood Pressure

Automatically detects, analyzes and reports on parameters from arterial or ventricular pressure recordings.



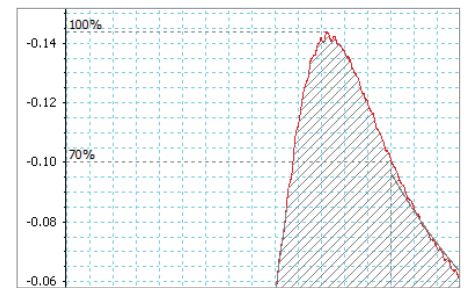
Spike Histogram

Detects, discriminates and analyzes extracellular spike activity generating a range of plots and statistics.



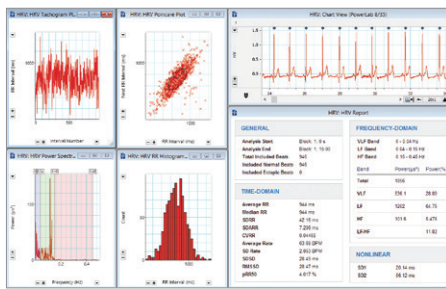
ECG Analysis

Detects and reports the onset, amplitude and interval times of PQRST from human and animal ECG signals.



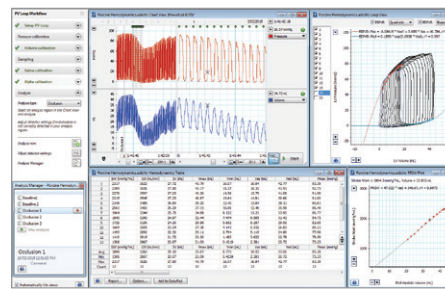
Cardiac Output

Calculates cardiac output from a LabChart recording of a thermodilution curve measured in animals.



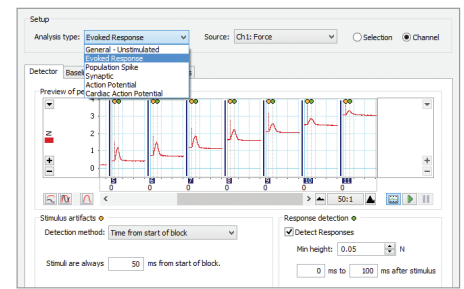
Heart Rate Variability

Displays and analyzes variation in the interval between heartbeats in human and animal ECG.



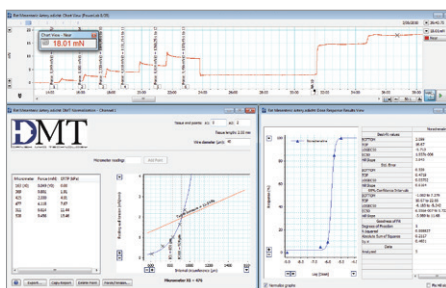
PV Loop

Analyzes left and right ventricular pressure/volume data, calculates loop area plus a wide range of hemodynamic parameters.



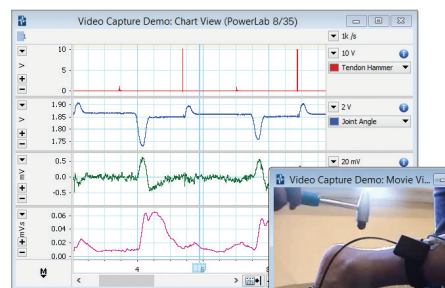
Peak Analysis

Automatic detection and analysis of multiple (but not overlapping) signal waveforms from recording.



DMT Normalization

Calculates and standardizes optimal vessel pretension conditions using the wire myograph.



Video Capture

Allows the synchronized recording and playback of a Windows Media Video and LabChart data file.

Diverse Applications
"... the synchronized video is really a complete solution, taking swimming technique analysis to the next level."

Budd Termin
 Swimming Coach,
 TeamTermin



Hardware Compatibility

Signal conditioners and instruments

ADInstruments manufactures a wide range of software-controlled pre-amplifiers and offers auxiliary devices for specialized investigations.

Transducers and accessories

We offer an extensive selection of instruments, transducers and accessories made by ADInstruments and world-leading brands.

PowerLab

PowerLab is a data acquisition (DAQ) device engineered for precise, consistent, and reliable data acquisition. Sample and analyze data from virtually any analog signal via multiple devices and transducers at adjustable sampling rates.

- Automatically detected by LabChart
- High speed sampling (up to 200kHz per channel)
- Built to last with 5 year warranty
- Simple to set up, USB connection to Windows or Mac

Research Range



8/35

16/35

2/26

4/26



Education Range



15T

26T

LabChart Compatible Systems

As well as sampling from a broad range of instruments, signal conditioners and transducers via PowerLab, LabChart can also stream data directly from a range of compatible digital and wireless devices. These are available from manufacturers such as DSI, Oxford, DMT, Equival, Delsys and Kent.

LabChart for Education

Research-grade software for recording and analyzing life science data.

LabChart data acquisition and analysis software lets students gather biological signals from multiple sources simultaneously and apply calculations and plots as their experiments unfold.



Access a Range of Teaching Resources

To save you valuable time in creating course materials, we have developed over 150 LabChart exercises for education. Any of these exercises can be customized quickly and set up easily for your laboratory class. Each lesson includes:



Instructor Guides



Settings Files



Student Protocols



Preconfigured Lab Reports

Courses Covered

Human Physiology

Psychophysiology

Neuroscience

Animal Physiology

Exercise Physiology

General Biology and Biochemistry

Versions and Licenses

Data Recording and Analysis

LabChart Pro

Recommended for researchers and educators who want the full range of modules and capability, including automation of specific measurements.

LabChart

Recommended for researchers and educators who want the capabilities without modules and automation of specific measurements.

Analysis only and collaboration

LabChart Pro Student License

Limited 6 month licence for undergraduate students. Provides full analysis, save and export functionality (no sampling). Ideal for students conducting data analysis of existing recordings within a curriculum.

LabChart Reader

Recommended for anyone who wants to view LabChart data on Windows or Mac. LabChart Reader doesn't allow saving of data - export image only. Has data pad for analysis.

Main Features	LabChart Pro	LabChart	LabChart Pro Student License	LabChart Reader (Free!)
5 years of updates + upgrades to all LabChart software	✓	✗	✗	✗
Open and read LabChart files	✓	✓	✓	✓
Analyze	✓	✓	✓	✓
Save and export	✓	✓	✓	✗
Record data	✓	✓	✗	✗
LabChart Modules	✓	✗ (Purchased separately)	✓	✗
LabChart Extensions	✓	✓	✓	✗



LabChart combined with DSI hardware, displaying Glucose experiment calibration.

Data Integrity

"I like the fact that you can store all your data electronically. There is no need to create an auditing trail, because this is automatic. You can't remove bits of information. What is really interesting is that you can really go into the detail of the actual blood pressure trace and perform complex analyses very quickly. You simply export data into a standard template in Excel and have all your answers in seconds. Very smart."

Dr. Kengatharan, President & COO, Armetheon, Inc.

Maximize your potential

ADInstruments global training and support systems mean that there is always help at hand to support you with your endeavours and help you learn 'best practices' to move your research forward faster. Visit adi.to/support

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