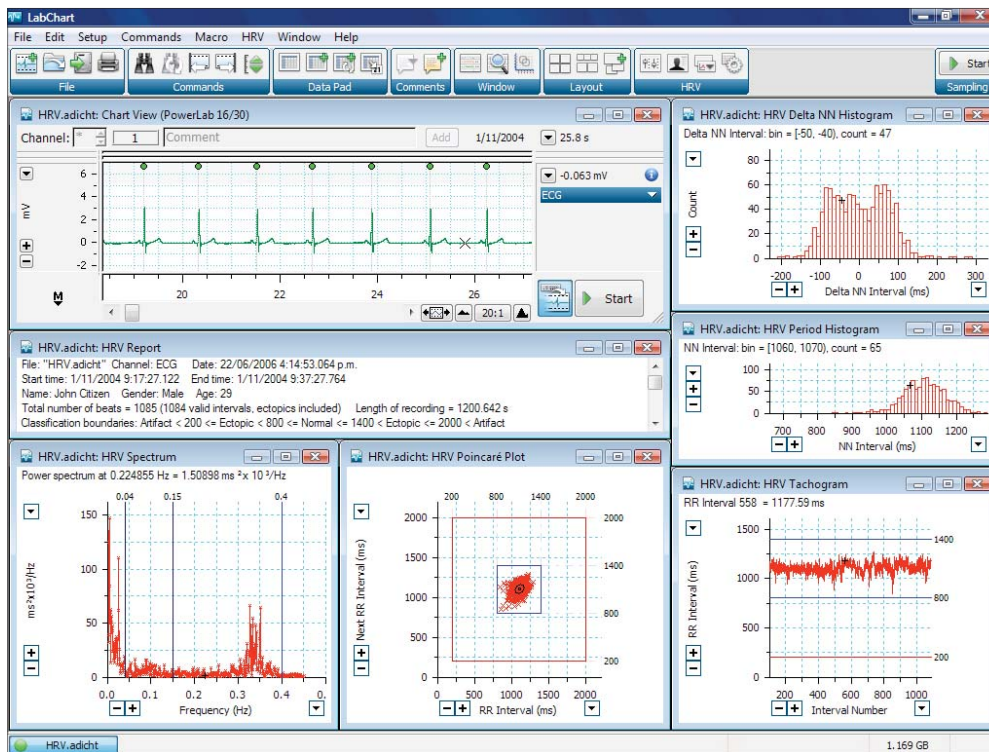


Heart Rate Variability

Heart Rate Variability Module for LabChart® Software & PowerLab®



Features & Benefits

- Analyze beat-to-beat heart rate variations online and offline
- Automatically distinguish heart beats as normal, ectopic or artifact
- Suitable for analyzing data from humans and animals
- Export graphical and numerical data for printing
- Five specialized plots derived from RR Interval
- Automatic report generation

The Heart Rate Variability (HRV) Module (Windows) is used to analyze LabChart recordings of ECG or arterial pulse signal. HRV works online, performing calculations and displaying results as data is recording. HRV also has additional functionality to allow for offline data analysis.

The HRV module analyzes beat-to-beat interval variation in ECG recordings or arterial pulse signals from humans or animals. It extends LabChart function to allow analysis and display of RR interval variation. You can investigate the effects of exercise or stress on cardiac function using specialized analysis features. The HRV Module uses a threshold detector to detect the R component from each raw ECG waveform and generate RR Interval data. Beats are automatically distinguished by the software and classified into three groups: normal, ectopic or artifact. There is an option to automatically generate clinically accepted statistical parameters.

The HRV module is suitable for studying beat-to-beat variations in applications such as Langendorff and working heart studies, sleep studies, telemetry studies for wireless monitoring of animal biopotential and psychophysiology.

HRV Module

Settings

Using the HRV Module you can:

- adjust artifact/ectopic interval classification limits
- exclude artifacts or include beats in the analysis on an individual basis
- delete or add RR intervals
- adjust the histogram bin size
- add R waves or delete R waves which have incorrectly created short artifacts

All HRV windows are linked for immediate update when modifications are performed.

Analysis plots

Specialized analysis plot windows derived from RR interval data include:

- Poincaré Plot
- Period Histogram
- Delta NN Histogram
- Tachogram Plot
- Spectral Density Information In Power Spectral Density And Spectrogram Plots

Data Export/Reporting

You can generate exportable and printable reports displaying information about data recording, details of subject, HRV analysis statistical results and user comments.

LabChart Pro

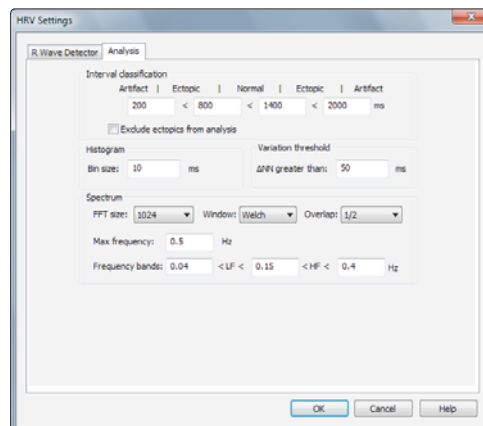
LabChart Pro provides researchers with more acquisition and analysis power at a great price. It comprises LabChart software, LabChart Modules (including the HRV Module) and 5 years of free upgrades. You can obtain any new LabChart Modules released during the 5 year period at no extra cost. All software is conveniently available for download. An evaluation version is available.

Ordering Information

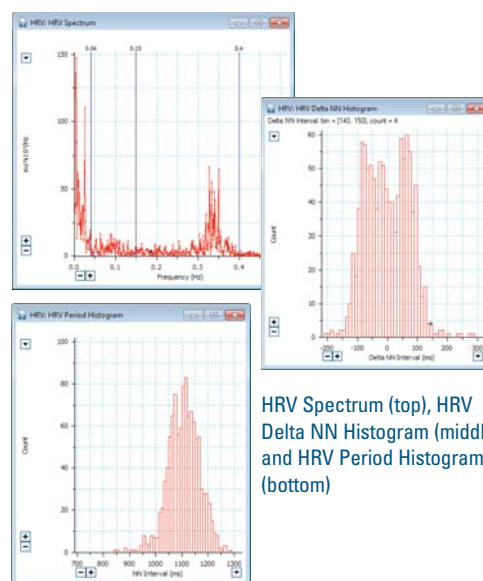
HRV Module	LabChart Pro* (sold separately)
MLS310/7 HRV Module (Win)	MLS260/7 LabChart Pro (Win & Mac)

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

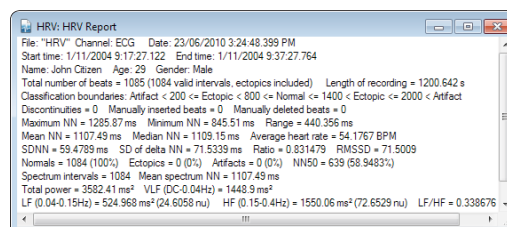
 Share your data with colleagues. Free LabChart Reader – download to view and analyze LabChart data.



HRV Module Settings Dialog



HRV Spectrum (top), HRV Delta NN Histogram (middle) and HRV Period Histogram (bottom)



HRV Module Report

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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.



ADINSTRUMENTS.com

North America
Tel: +1 888 965 6040
Fax: +1 866 965 9293
info@adinstruments.com

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

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

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

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

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

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

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

South Asia
Tel: +91 11 4306 5615
Fax: +91 11 4306 5614
info.in@adinstruments.com

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

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

Head Office
Tel: +61 2 8818 3400
Fax: +61 2 8818 3499
info.au@adinstruments.com

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