Blood Pressure Analysis
## Module for LabChart and PowerLab

Automatically detect and analyse cardiovascular pressure from humans, large animals, and small animals.

The Blood Pressure Module for LabChart automatically detects, analyses, and derives cardiovascular parameters from arterial or ventricular pressure signals, in real-time or post acquisition.

Detection & Analysis Settings

Easily configure the detection and analysis parameters for ventricular and arterial pressure recordings using the Settings dialog. This includes averaging, cycle detection, analysis, end of diastole options, and isovolumetric relaxation (Tau).
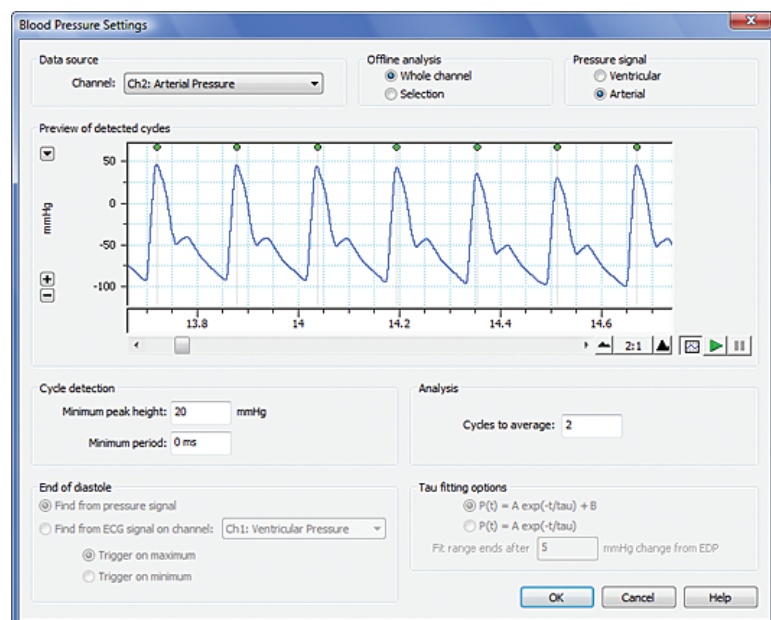
Left: Detect and analyse parameters using the Settings dialog.

Applications

- Baroreflex Sensitivity
- Hypertension
- Vascular Resistance
- Exercise Physiology
- Orthostatic Hypotension
- Cardiovascular Dysfunction
- Intracranial Studies
- Autonomic Function
- Arrhythmia
- Pulse transit time
- Systemic or ventricular studies
- Pulmonary hypertension
- Tumor research

Classifier View

Easily select specific pressure waveforms for analysis based on height and duration. Exclude pressure cycles that are contaminated by artifacts or include abnormal cycle features. Drag the edges of the selection box to include or exclude detected cycles in any analysis.

Analysis View

The analysis view displays every beat, with any averaged waveform displayed in black. Vertical markers indicate arterial or ventricular cycle parameters. View each beat, or an average of successive beats, using the horizontal scrolling bar.

The software automatically labels key parameters depending on the type of signal under investigation (ventricular or arterial). These include peak systolic and end diastolic pressure, dP/dt, and many more.

Table View

The Blood Pressure Module logs all measurements and calculated parameters in the Table View. Table rows are linked to the various LabChart windows. Highlighting a row will automatically show the corresponding beat in the Analysis View as well as the data in the Chart View.

Some of the calculated ventricular parameters:

- Maximum Pressure
- Minimum Pressure
- Mean Pressure
- Maximum-Minimum Pressure
- Maximum dP/dt
- Minimum dP/dt
- End Diastolic Pressure (EDP)
- Contractility Index
- Isovolumic Relaxation

Some of the calculated arterial parameters:

- Systolic Pressure
- Diastolic Pressure
- Mean Pressure
- Pulse Pressure
- Ejection Time
- Pressure at Dicrotic Notch
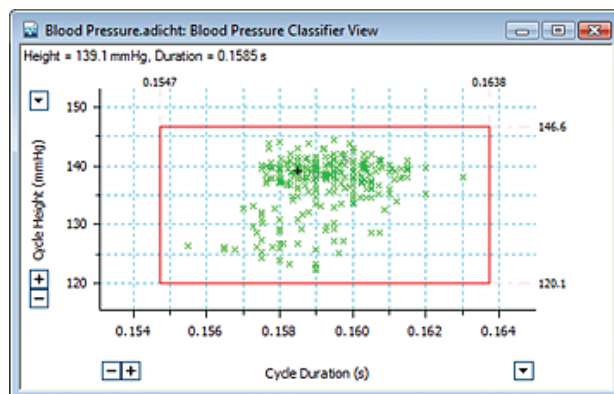
Above: Select specific pressure waveforms in the Classifier View.
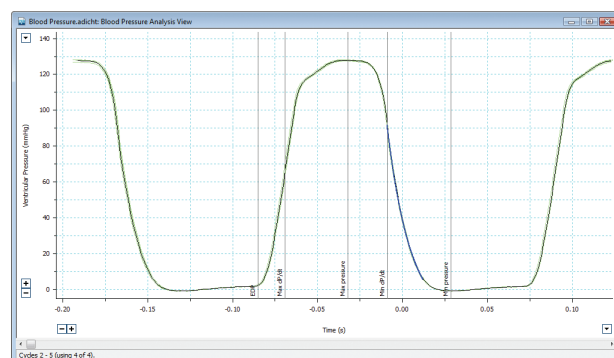
Above: Analysis View displaying the averaged left ventricular pressure waveform with key parameters. The average pressure waveform is shown in black, and the individual cycles that constitute the average are shown in green.

Below: Table View is automatically populated by all measured and calculated parameters.

Blood Pressure.adicht: Blood Pressure Table View

	TimeDate	Max Pressure (mmHg)	Min Pressure (mmHg)	EDP (mmHg)	Mean Pressure (mmHg)	Max-Min Pressure (mmHg)	Systolic Duration (s)	Diastolic Duration (s)	Cycle Duration (s)	Heart Rate (BPM)	Max dP/dt (mmHg/s)	Contractility Index (1/s)	Min
1	10.677	127.926	-0.862500	2.30000	52.5063	128.788	0.0760000	0.0829004	0.158900	377.595	6475.00	97.4417	
2	11.312	125.650	-1.82500	1.62500	50.0117	127.475	0.0750000	0.0845418	0.159542	376.077	6337.50	96.0956	
3	11.949	127.850	-0.900000	2.90000	52.2212	128.750	0.0750000	0.0846182	0.159618	375.897	6525.00	89.8141	
4	12.59	126.678	-1.63625	1.62500	51.2101	128.314	0.0760000	0.0829042	0.158904	377.586	6400.00	89.9824	
5	13.227	127.401	-0.875625	2.75000	52.1835	128.276	0.0750000	0.0842477	0.159248	376.772	6450.00	82.9849	
6	13.862	127.306	-1.70063	2.20000	51.8672	129.006	0.0760000	0.0819801	0.157980	379.795	6375.00	81.6000	
7	14.498	127.301	-0.906250	2.17500	52.0064	128.207	0.0750000	0.0841459	0.159146	377.013	6450.00	91.7497	
8	15.13	128.376	-1.25063	2.22500	52.5891	129.626	0.0760000	0.0820686	0.158069	379.582	6450.00	81.9048	
9	15.763	128.078	-1.20313	1.65000	52.2953	129.281	0.0760000	0.0825612	0.158561	378.403	6475.01	90.4962	
10	16.396	130.579	-0.701042	2.65000	54.2131	131.280	0.0760000	0.0815417	0.157542	380.852	6550.00	93.3714	
11	17.029	129.352	-1.81125	1.70000	52.9454	131.163	0.0760000	0.0823605	0.158360	378.882	6587.50	100.842	
12	17.661	129.980	-0.800347	2.47500	53.6698	130.780	0.0760000	0.0817522	0.157752	380.343	6625.00	80.8913	
13	18.292	126.902	-1.90833	1.60000	50.7969	128.810	0.0750000	0.0839522	0.158952	377.472	6462.50	89.5703	
14	18.928	128.026	-0.878125	2.47500	52.3718	128.904	0.0750000	0.0834851	0.158485	378.584	6537.50	93.9296	
15	19.563	125.334	-1.87813	1.27500	49.8072	127.213	0.0750000	0.0843845	0.159385	376.448	6387.50	92.0721	
	TimeDate	Max Pressure (mmHg)	Min Pressure (mmHg)	EDP (mmHg)	Mean Pressure (mmHg)	Max-Min Pressure (mmHg)	Systolic Duration (s)	Diastolic Duration (s)	Cycle Duration (s)	Heart Rate (BPM)	Max dP/dt (mmHg/s)	Contractility Index (1/s)	Min
Avg		126.320	-1.36783	1.98994	51.0836	127.687	0.0754675	0.0837286	0.159196	376.907	6382.14	87.4727	-793
Min		123.255	-2.07708	1.10000	48.7202	125.256	0.0750000	0.0815417	0.157542	371.760	6137.50	77.7089	-822
Max		130.579	-0.701042	2.90000	54.2131	131.280	0.0770000	0.0859255	0.161395	380.852	6625.00	100.842	-761
Count	77	77	77	77	77	77	77	77	77	77	77	77	77

Export... | Options... | Add to Data Pad

Ordering Information

The Blood Pressure Module for LabChart can be purchased individually as an Add-On for LabChart 8 (MLS370/8, Windows), or as part of LabChart Pro (MLS260/8).

LabChart Pro includes LabChart software and all LabChart Modules, providing powerful data acquisition and analysis capabilities (available for Windows or Mac).

Visit adinstruments.com or contact your local ADInstruments representative for more information

Australia | Brazil | Europe | India | Japan | China | Middle East | New Zealand | North America | Pakistan | South America | South East Asia | United Kingdom

adinstruments.com

ADINSTRUMENTS