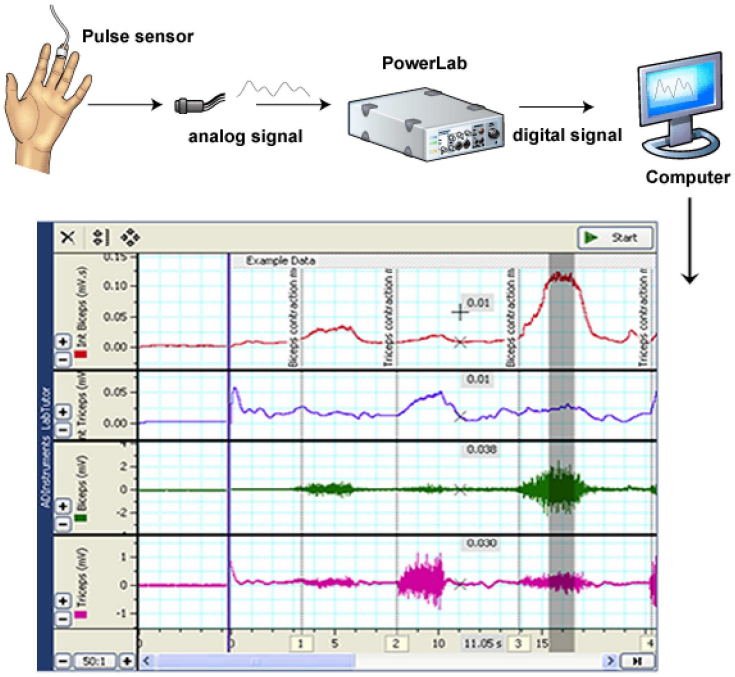
Introduction to LabTutor

LabTutor 4 Suite software and PowerLab data acquisition hardware are designed specifically for laboratory teaching and include specially prepared experiment files. LabTutor Experiments are multi-page HTML documents that guide and support student tasks. They contain all instructions needed by students, as well as interactive components that sample and display real data from a PowerLab and that accept student inputs and answers. A Report page that summarizes the results and student answers can be submitted electronically.

The setup of the PowerLab system consists from a unity PowerLab (converter), the sensor signals (for example, pulse sensor), and LabTutor software, which allows record data to the computer.



Introduction to LabTutor - LabTutor panels


- Delete Data button - deletes selected data from allchannels.


- Auto Scale button - scales each channel so that the currently visible data use as much of the channel height as possible.


- Default Scale button - restores the amplitude axis and horizontal compression to the original settings..


- Zoom data buttons - magnifier selected record area


- Go to End of Data button.

- Time axis compression buttons - adjust the scale of the time axis.

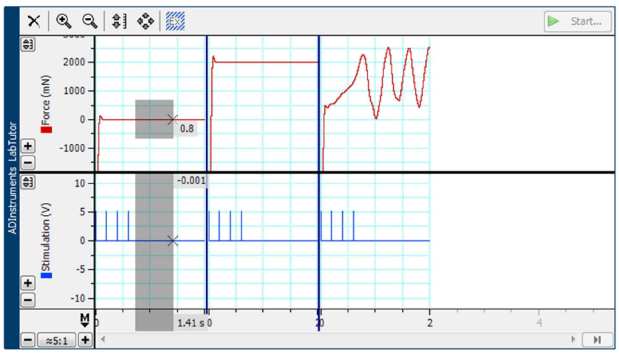

- Scaling buttons - rescale the data in the channel to zoom in or out..


- Marker - can be dragged onto the data trace so as to make relative measurements. Click its home position to return it.

- Start / Stop button - starts and stops recording.

- The Zero Inputs button is used to zero the offset in the signals from all signal conditioners attached to the PowerLab, before starting recording, such as a pod.

Labtutor Data panel - displays recorded data

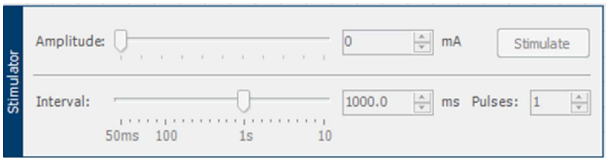


- The Readout panel displays a continuous real-time readout of data duringsampling.

- The Value panel is used to obtain data values from the waveform of a particular channel. Clicking on a data point of the recording, or on the time axis, transfers the data value at that point to the Value panel. Clicking on the value in the Value panel copies the value to the clipboard so that it can be pasted elsewhere, such as into a Table panel cell. The value can also be dragged into a Table panel cell.

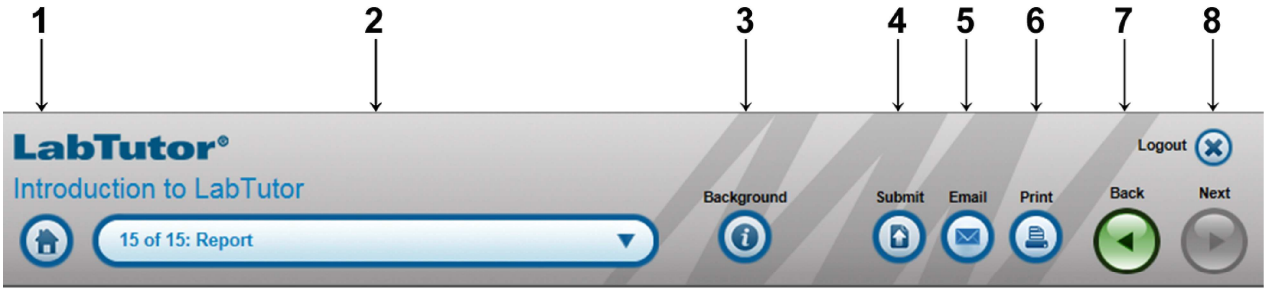
-The Comment panels are used to enter comments into the LabTutor panel either during or after recording. The comment is added at the currently selected point in the data, or if there is no selection, at the end of the data, and may apply to a single channel, or to all channels.

- The Calibration panel is used to convert measured voltages into suitable values and units for display. A two-point calibration can be made using recorded measurements or using a known linear relationship for a transducer.



- The Stimulator panell is used to control settings for the Stimulator connected to, or built into, the PowerLab. Simplified forms of the Stimulator panel are used when fewer stimulus parameters need adjustment by the student. The Stimulator is only usable and enabled during sampling.

Introduction to LabTutor - Report



1. Go back to the list of experiments.
2. Use the menu to navigate any page within the experiment.
3. Contains conceptual backround inforamations about the experiment.
4. Submit the experiment for the marking once you have finished (Report page only).
5. Send Report page to any email.
6. Print outh the page (Report page only).
7. Navigate to the previous experiment.
8. Exit LabTutor and sign off.

Note:

The Submit button only appears on Report pages. Once a student has completed recording , analysis and answering questions, clicking it will submit the experiment for marking. Submitting locks the experiment, preventing any further changes by the student.
The submitted experiment can be viewed for marking by Instructors or Administrators.
If LabTutor Online is activated all submitted experiments are uploaded to LabTutor Online to enable marking from any location via LabTutor Online. With LabTutor Online available to students their experiments could be in a variety of states depending on whether they have edited experiments using LabTutor Online or not. After submission all experiments are on LabTutor Online and in a consistent file format.