

ADInstruments PowerLab systems allow automation options for recording intermittent signals that differ from a baseline. An application is to shorten chronic recordings where the researcher would like to record events of short time intervals over a period of days. Rather than having a long file with large intervals separating the events, the file can be concatenated into a short file containing only the events.

## Step 1 Using the trigger input.

In the example shown below, an irregularly occurring event, whose amplitude is greater than 4 V is being monitored on Channel 1. This is simulated using a MLA92 push button switch which provides a 5V timing pulse. An MLT101 pulse transducer is connected to Channel 2.

To setup the PowerLab to begin sampling when the signal amplitude rises above 4 V, select Setup: Trigger from the LabChart menu to open the Trigger dialog.

Enter the trigger settings as shown below and press Close when finished. Using these settings Any signal in Channel 1 that rises over 4 V causes the PowerLab to begin sampling for a duration of 10 s. The block contains data from 2 s (pre-trigger) before the 4 V signal appears and records for 8 s after the triggering event has occurred.

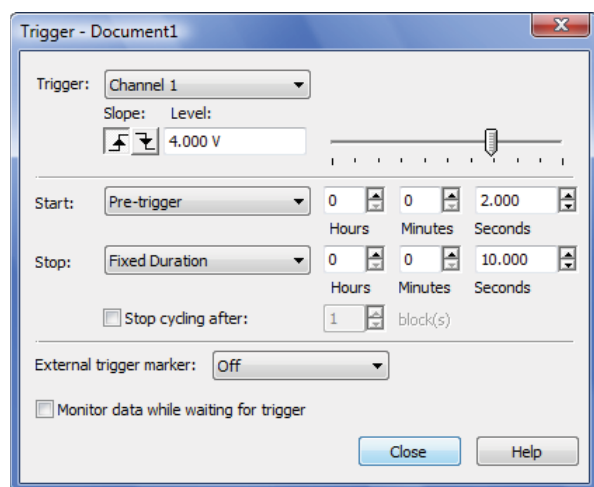


Figure 1: Trigger dialog

## Step 2 Using Event Manager to Add a Comment, or trigger a secondary event

In the second part of this example, Event Manager uses the same event to add a comment into the data file. Rather than adding a comment, other options in Event Manager can be used to change the bit state of the Digital Output, run a Macro, or play a sound whenever the event on Channel 1 occurs.

Download and install the Event Manager Extension into LabChart.

Select Setup: Event Manager from the Menu Bar to open Event manager and choose Select New Event. In this example a new Event is based on a change in a signal level. Select Level and click OK

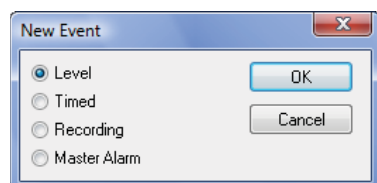


Figure 2: Event pop-up from Event Manager

# Automate The Recording of Irregular or Intermittent Signals

Setup the Event manager Level Setup as shown below and press OK. In this case the event triggers the PowerLab with the setting defined in the Trigger window whenever the signal level in Channel 1 rises above 4 V.

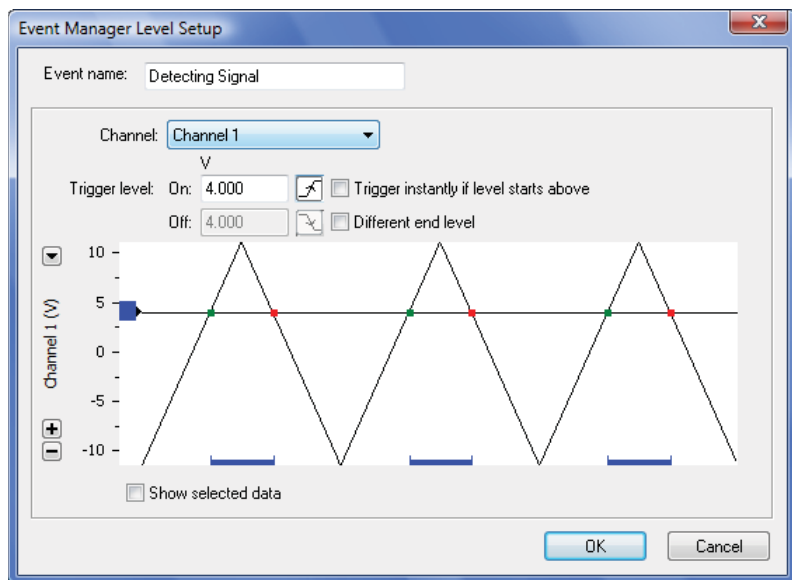


Figure 3: Event Manager Level setup dialog

In this example a comment is added to the data file, but any action such can be attached to an event by selecting New Action, and Add Comment and pressing OK In the Event Manager Add Comment Setup window label the action with a name and when the comment sill appear.

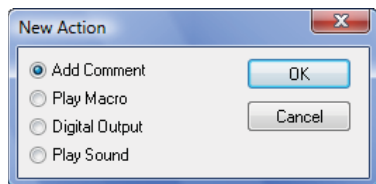


Figure 4: Action pop-up from Event Manager

Select 'At event start' and 'All Channels' in Channel

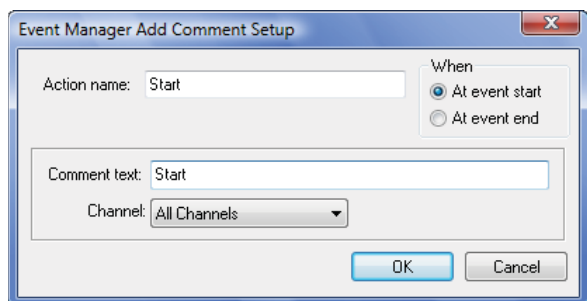


Figure 5: Adding start comment at the start of the event

Similarly, add comment at the end of the event.

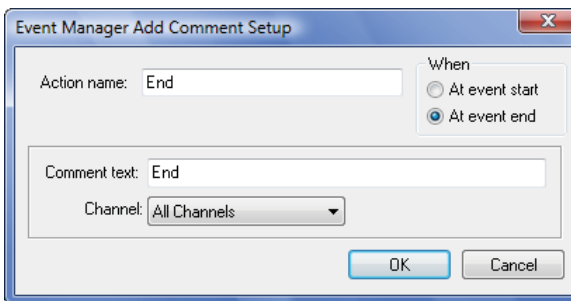


Figure 6: Adding End comment at the end of the event

Press Ok when finished.

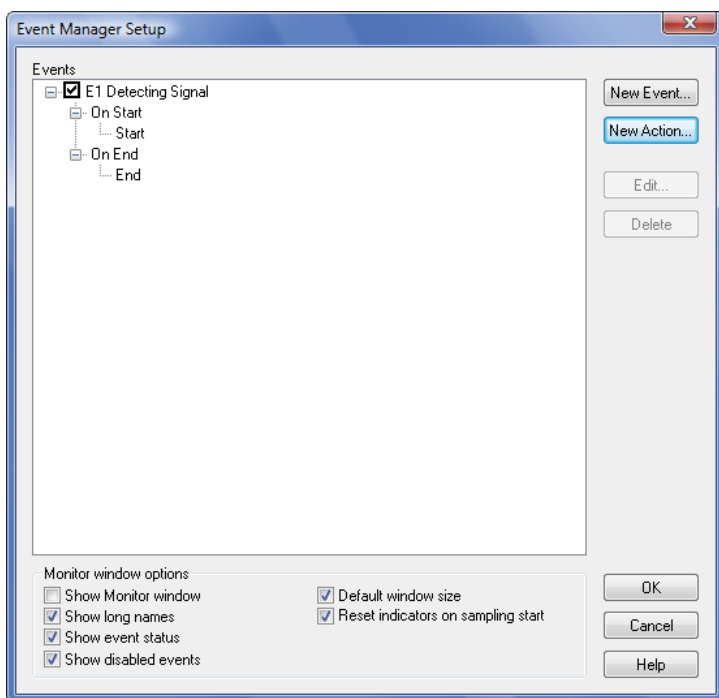


Figure 7: Event manager dialog with programmed settings

Click the Start Button to start recording

Wait for at least two seconds before pushing the switch button.

Press the push button switch to record the irregular events as shown below.

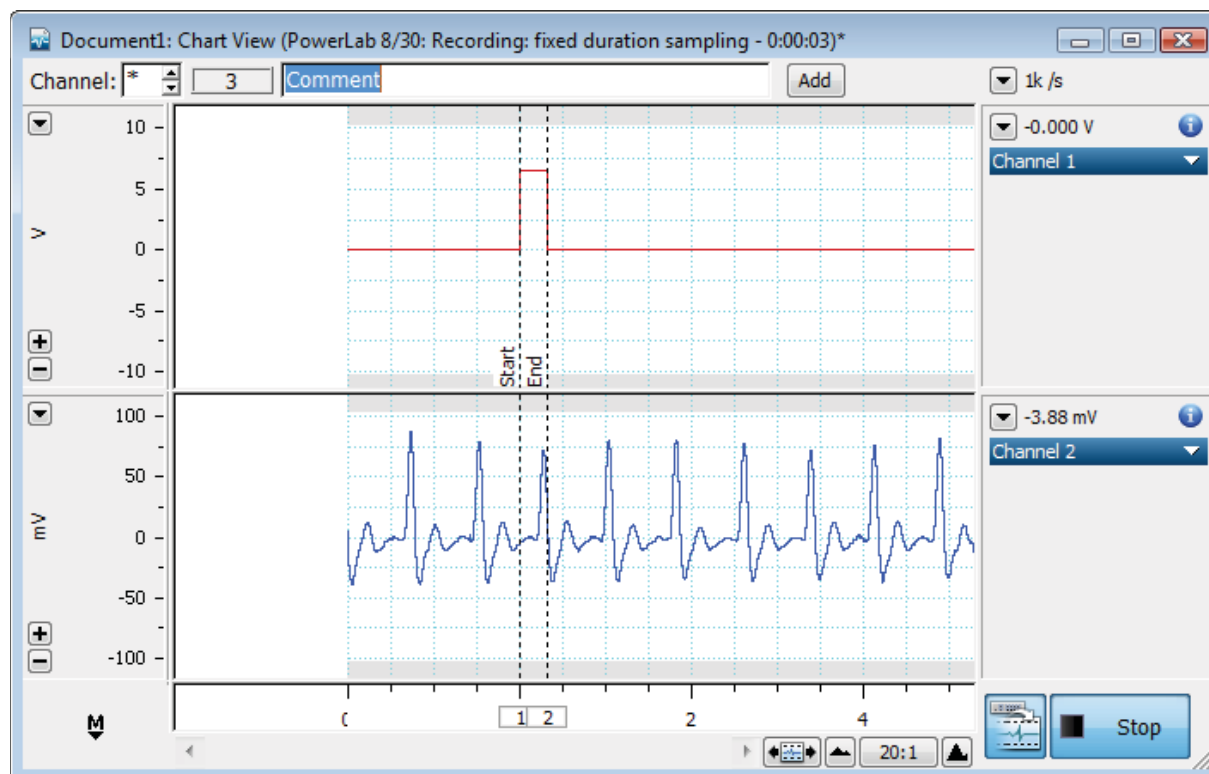


Figure 8: An example of the results from using the trigger setup only

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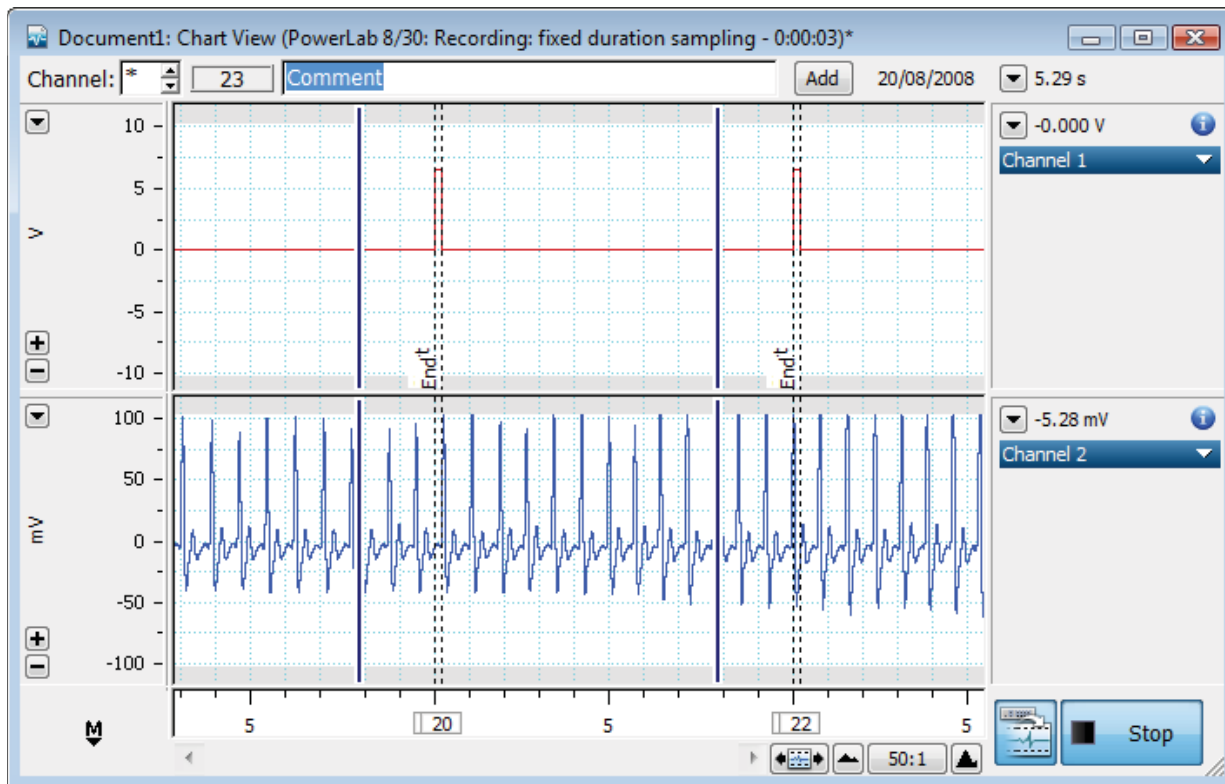


Figure 9: An example of the results from using Event Manager to add a comment at the start and end of the event