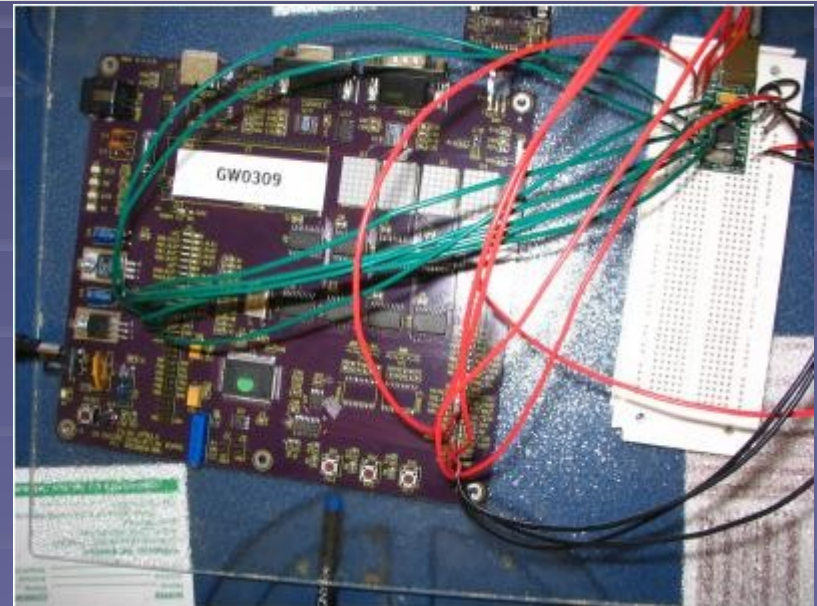
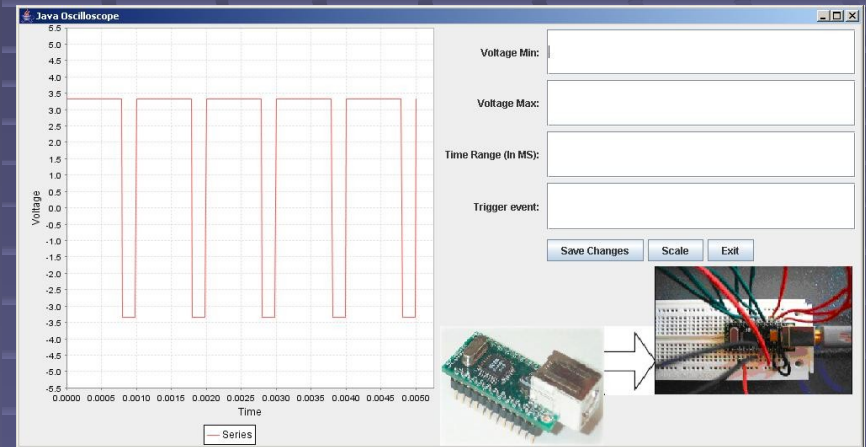


# Zilog USB Oscilloscope

by Brad Lawrence

- Specifications:
  - 72,000 per second sampling rate – limited by internal ADC of Z8Encore.
  - Ability to manipulate voltage min and max.
  - Ability to set time range (in ms).
  - Ability to set trigger voltage.
  - Data sent in 3 byte values
    - 1 Control byte.
    - 2 Data bytes.
  - Data bytes interpreted as an unsigned short.



# Java GUI

- Graphing done using JFreeChart which is an open source chart utility api. ( <http://www.jfree.org> )
- Oscilloscope Framework:
  - Framework consists of 4 Java interfaces
    - ChartCreatorIF – Classes implementing this interface are responsible for returning a JfreeChart
    - CommReaderIF – Classes implementing this interface are responsible for reading data from the com port specified and returning a SerialPort object.
    - OscilloscopeFrameIF – Classes implementing this interface are responsible for displaying the chart, and the overall GUI of the system.
    - WaveDataIF – Classes implementing this interface are responsible for holding the data and the time scale value.
  - What does this Framework tie you to?
    - Representing data as an array of integers.
    - Time scale is represented as a double.
    - Trigger value is represented as an int.
    - JFreeChart will be used to create the graph. -- Easily changed though.