Acquire Audio Exercise

Based on the “LabVIEW in 3 Hours” training material found on NI.COM at <https://lumen.ni.com/nicif/us/academiclv3hr/content.xhtml> (Accessed 2/17/2010)

Modified 10/16/2013 by Mark Anderson to add instructions for LabVIEW 2012.

Complete the following steps to create a VI that acquires data from your sound card.

If you are using LabVIEW 2011 or earlier:

1. Launch LabVIEW if it’s not already running.
2. In the **Getting Started** window, click the **VI from Template, Single Loop Application** link.

If you are using LabVIEW 2012 or later:

1. Download the SingleLoopApplication.vit file from LMS, elsewhere in this folder.
2. Double-click on it to open this in LabVIEW

Once you have the VI open, continue here:

1. Display the block diagram by pressing <Ctrl-E> or selecting **Window»Show Block Diagram**.
2. Select & delete the Time Delay block and the associated input (see Figure 1 )

Figure - Time Delay and Associated Input

1. Place the Acquire Sound Express VI on the block diagram inside the outer loop (the rectangle). Right-click to open the **functions** palette and select **Express»Input»Acquire Sound.** Place the Express VI on the block diagram.
2. In the configuration window under **#Channels**, select **1** from the pull-down list. Under **Duration(s)**, use a value of **5 seconds**. Click **OK**.
3. Place the Filter Express VI to the right of the Acquire Signal VI on the block diagram. From the **Functions** palette, select **Express»Signal Analysis**»**Filter** and place it on the block diagram. In the configuration window under **Filtering Type**, choose “Highpass.” Under **Cutoff Frequency**, use a value of 300 Hz. Click **OK**.
4. Make the following connections on the block diagram by hovering your mouse over the terminal so that it becomes the wiring tool and clicking once on each of the terminals you wish to connect:
* Connect the **Data** output terminal of the Acquire Sound VI to the **Signal** input of the Filter VI.
* Create a graph indicator for the filtered signal by right-clicking on the **Filtered Signal** output terminal and choose **Create**»**Graph Indicator**.
1. Return to the front panel by pressing <Ctrl-E> or **Window»Show Front Panel**.
2. Run your program by clicking the **Run** button. Hum or whistle into your microphone and observe the data you acquire from your sound card.
3. Use <Ctrl-T> to see both the Front Panel and the Block Diagram on your computer screen at the same time.
4. Save the VI so that you can experiment with it later!