

# EE477 Digital Signal Processing

## Laboratory Exercise #12

### *Learning to use VisualDSP++*

Spring 2004

VisualDSP++ is an easy-to-use project management environment enabling management of projects from start to finish from within a single interface. The project development and debug environments are integrated, allowing movement easily between editing, building, and debugging activities.

The lab will consist of going through a tutorial that has five exercises in order to become familiar with VisualDSP++. **You need to complete all five exercises.**

The tutorial is located on the course web page via a link from the 'notes' schedule. The direct link is: [http://www.coe.montana.edu/ee/rmaher/ee477/VisualDSP\\_3\\_Tutorial.pdf](http://www.coe.montana.edu/ee/rmaher/ee477/VisualDSP_3_Tutorial.pdf).

You should open the .pdf file in a separate window on the screen and follow along doing each of the steps.

#### **To get started:**

1. Launch the Analog Devices VisualDSP program on one of the lab PCs.

**Note: VisualDSP may hang expecting to find the evaluation hardware when you start it.** If this is the case, a window will pop up with the message **"Hit Reset button on board"**. VisualDSP in this case is looking for the hardware development board that we aren't using today. **Before clicking OK**, you will need to connect one of the DSP Evaluation Boards from the shelf. Then when VisualDSP opens and runs, make sure you change the hardware session to a *simulator* session (since it was in a hardware session when it was last closed). To do this select the Session Menu, i.e. Session -> New Session-> Debug Target: ADSP-2106x Family Simulator; Processor: ADSP-21065L.

2. Create a folder in the \eclasses\ee477 directory and COPY THE FILES from the Analog Devices tutorial directory given in the tutorial document.

The Lab write-up should be in memo form that includes the following items:

1. A figure from Exercise 3. You can export a figure from VisualDSP++ by right clicking on the plot and selecting export.
2. A table similar to Table 2-35 on page 2-50 in the tutorial. This should have your results (which may or may not be the same).
3. Include the Verification Sheet.

## Instructor Verification Sheet

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Student Name: \_\_\_\_\_

	<b>Instructor Signature</b>	<b>Date</b>
Resolved error message in Exercise 1		
Show results of Exercise 1		
Show plot of convolution		
Show statistical profiling results for convolution		