ECE303: Real Time Digital Signal Processing

Week 1: Talk Through

**Board layout:**



**1. Talk Through using WinDSK (Section 2.2 in the textbook)**

Get winDSK8 working with your DSP kit and launch the Talk-Thru demo app.

For more details, please check the document “Talk-Thru Lab using WinDSK8”.

Once you have confirmed that the Talk-Thru application is working, deselect “Use Anti-Imaging Filter” and move the “Effective Fs” slider all the way down to 4.00kHz. Load this [video](https://www.youtube.com/watch?v=H-iCZElJ8m0) and listen to it up to 17kHz through the modified Talk-Thru application.

**Describe what is happening and why it is happening. Include your answers as a text or word file in your drop box submission.**

**2. Talk Through using Matlab (Section 2.4 in the textbook)**

(1) Read the PDF documentation of the C8X\_DAQ library included.

(2) Try to get Talk Through working using the library. Section 2.4.2 has relevant references and scope\_LCDK.m in C8X\_DAQ library folder has example code. Run scope\_LCDK.m in “Book3rdEdition\C8X\_DAQ”

Hint:

When you are running the Matlab code, please make sure you get the correct COM port. You can change the COM port number in the Matlab code to match the real COM port you got from the WinDSK8.

**No turn-in for this section.**

**3. Talk Through in C (Section 2.5 in the textbook)**

The tutorial App\_A\_CCS\_6\_1\_LCDK.pdf (Starting a CCS project V6.1 and greater for the LCDK OMAP-138, you will download it from the canvas website) will assist you in creating the base project that you will be using in future assignments as your starting point.

Hint:

When you are creating a new CCS project, please choose “eabi(ELF)”as the Output format instead of “legacy COFF”.

Once you have the base project set up, implement Talk Through. Section 2.5 shows some example code. Once you have Talk Through working, modify your code such that one of the channel outputs is noticeably quieter than the other. Do this by decreasing the amplitude of the output of one of the channels.

**For your submission of HW 1:**

**(1) Turn in the final project code in a zip file.**

**(2) Turn in your answers to part 1.**

**(3) Clearly label the zip file with your team member names.**