Dept. of Computer Science and Engineering

CSE4210 – Architecture and Hardware for DSP

Lab 3

Introduction to TMS320C6713 DSK and Code Composer Studio

Objective

In this lab, you will be introduced to the TMS320C6713 DSP starter kit and to code composer studio 3.1.

Introduction

The C6713 DSK is a powerful starter kit that allows the development of applications for the TI C67XX DSP (Digital Signal Processors) family.

The C6713 DSK uses a TMS320C6713 Digital Signal Processor operating at 225MHz. It also has 16MB of synchronous DRAN and 512 KB of non-volatile flash memory.

The DSK has also an AIC32 stero codec with line in, line out, MIC in, and headphone jacks that can be interfaced with analog audio signals. The DSP is a 32-bit load/store architecture and a VLIW CPU. It can fetch up to 8 32-bit-instructions at once.

The DSP has a hardware support for IEEE 754 standard for single precision and double precision floating point operations. The chip can be configured (using switches on the board) to support both Little Endian and Big Endian. Figure 1 shows a schematic diagram for the C6713 DSK.

You will be using TI Code Composer Studio 3.1 (CCS 3.1) as an IDE for this board. CCS allows you to develop programs using C or assembly language, Compile them, load executable code into the DSK and run the code. CCS also allows you to monitor, debug, and control the executable code.

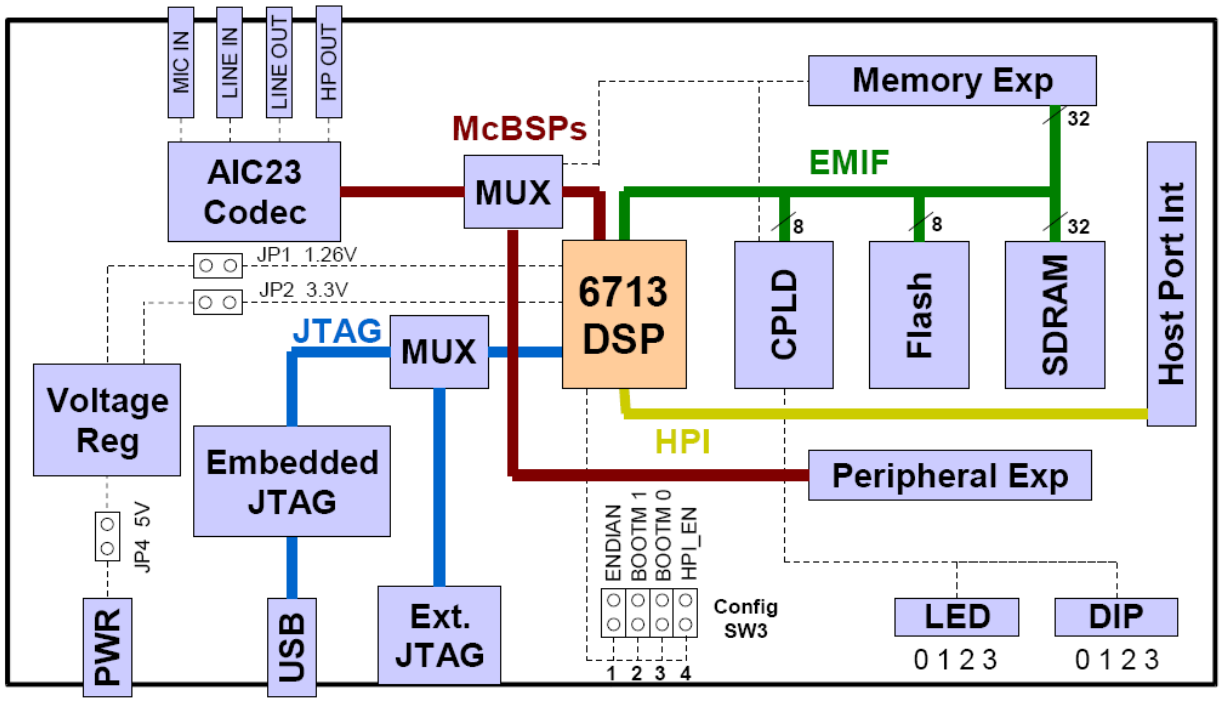

Fig. 1 A Schematic diagram for the C6713 DSK

Self Study Tutorial

In this part you will be asked to write (not actually write, just understand the code that is given to you), build, download, run and test few programs. These programs will introduce you to using CCS, testing, debugging, and controlling a running program. The notes for this tutorial are available in the lab (ISPM lab). There are three machines with CCS installed on them.

Programming Assignment

In this part, you have to modify the echo generation program such that the delay is controlled from the switches on the board. You have to have at least 4 different settings that will make a difference in your perception of the audio signal. In your report you have to specify these values.