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ECE4703 REAL-TIME DSP LAB HARDWARE INTRODUCTION
C6713 DSK Overview

- Texas Instruments TMS320C6713 *floating point* DSP running at 225 MHz
- AIC23 stereo codec (ADC and DAC)
  - Ideal for audio applications
  - 8-96 kHz sample rates
  - Line in/out (we use these most of the time)
  - Microphone in
  - Headphone out
- Memory
  - 16 MB dynamic RAM
  - 512 kB nonvolatile FLASH memory
- General purpose I/O
  - 4 LEDs
  - 4 DIP switches
- USB interface to PC
C6713 DSK Functional Block Diagram
C6713 DSK Physical Layout

- Microphone input
- Line input (stereo)
- Line output (stereo)
- Headphone output (stereo)
- Codec
- CPLD
- 16MB SDRAM
- Flash memory
- DSP 225MHz
- DC power input
- USB port
- DIP switches
- LEDs
- Reset switch
Is my DSK working?

DSK Power On Self Test

- Power up DSK and watch LEDs
- Power On Self Test (POST) program stored in FLASH memory automatically executes
- POST takes 10-15 seconds to complete
- All DSK subsystems are automatically tested
- During POST, a 1kHz sinusoid is output from the AIC23 codec for 1 second
  - Listen with headphones or watch on oscilloscope
- If POST is successful, all four LEDs blink 3 times and then remain on
For More Information

- See the TMS320C6713 Technical Reference

- See the AIC23 codec datasheet

- See other useful links on course website.