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EC450

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Homework 6

**Design**

For our analog input, we connected a photodiode to our first MSP430 board. That board then transmitted a digital signal to our second board using SPI mode. Finally, the second board played a value based on that value. Right now, we set it so that it only plays three tones A4, B4, and C4 (purely because the received value was somewhere around 0xA#, 0xB#, 0xC# usually. It will play A4 for everything under 0xB0, B4 for 0xB0 to under 0xC0, and C4 for everything 0xC0 and above. The reason I did not just play the tone directly was because I felt that the analog signal received will likely be very jittery and make the result seem unstable.

**Implementation**

To convert the analog signal coming in from the photodiode, we used ADC. Again, we used SPI as our method to communicate between the boards. To play sound, we used the Timer A like in the previous homework. Below is a very rough picture of our schematic.

**Schematic**

