Data Sheet of Expansion Board for TMS320C31 DSP Evaluation Board

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**Digital Input** - Standard TTL Input

- Maximum Input Voltage: 7 volts peak

**Digital Output** - Standard TTL Output

**Analog Input** - 10 bit A/D converter

- Maximum Input Voltage: 5.3 volts peak
- Minimum Input Voltage: -.3 volts peak
- Conversion Time (to digital signal): 6 us
- Maximum Voltage for Conversion: 5 volts peak
- Minimum Voltage for Conversion: 0 volts

**Analog Output** - 12 bit D/A converter

- Maximum Output Voltage: 4.6 volts peak
- Maximum Output Current: 10 mA

**Memory**

- 2K x 32 bit data memory
- 2K x 32 bit program memory

**User Interface**

Digital I/O: A digital signal can be applied to the DSP chip through the digital input and evaluated through the digital output. Code will be required to input the digital signal to a desired memory location through the tri-state buffer and for the processor to output data through the latch.

Analog I/O: Analog signals can be applied and evaluated through the analog inputs and outputs. To start the A/D conversion code must be written to write to a predetermined memory location, which will start the conversions at the same time. The contents of each signal can be read into the processor individually and returned to the D/A independent of each other.

External Interrupt: Applying a high voltage level to the external interrupt will trigger existing software to run interrupt.
Senior Project Demo: Once the prototype board is built by a manufacturer and sent to us, a demonstration can take place which utilizes the features of the board. The purpose of making the expansion board is to add an analog I/O, a digital I/O, additional memory and an external interrupt. Therefore, for the demonstration, an analog signal will be evaluated, as well as a digital signal. Also, a program will be executed in which the user will use the external interrupt, to verify its operation.