

## Data Sheet of Expansion Board for TMS320C31 DSP Evaluation Board

### Development Engineers

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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, and 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.