APOGEE LABS

MODEL 2111

ADC802
8-CHANNEL ANALOG INPUT MODULE

1. FEATURES

- ➤ **Hi-Z Differential Inputs**

  - • **± 41 Volt Range**

  - • **± 40 Volt Common-Mode Offset Voltage**

- ➤ **8 Multiplexed Inputs**

- ➤ **16-Bit ADC**

- ➤ **Over Voltage Protection**

  - • **±300 V**

- ➤ **Fully Independent Channel Placement in PCM Stream**
- ➤ **Fully Digital Calibration of Each Channel**

2. PURPOSE

This module provides 16-bit digitization of eight analog input channels. Each differential input presents one Meg-Ohm input impedance, is overvoltage protected and accepts a large common mode offset voltage.

3. FUNCTIONAL DESCRIPTION

The ADC802 module is designed to be installed in an Apogee Labs AL8400 Data Acquisition System. Within this environment the PGMGEN module provides all control functions. Format definition commands are received by the PCMGEN from either the front panel or remote control port on the AL8400. These commands are interpreted and converted to register-level instructions, which are passed through the backplane setup bus to this card. No operational information is stored on this module.

Characteristic of the AL8400, each input channel is independently mapped to a location or locations in the output serial PCM frame. This feature is totally electronic facilitating rapid system configuration without the need to deal with patch-cords to define signal paths.

Calibration of each channel is a digital process. There are no potentiometers or other components that require adjustment. Calibration values for each ADC802 module in the system are stored in non-volatile memory only on the PCMGEN module and are restored to each ADC upon the application of power to the system.
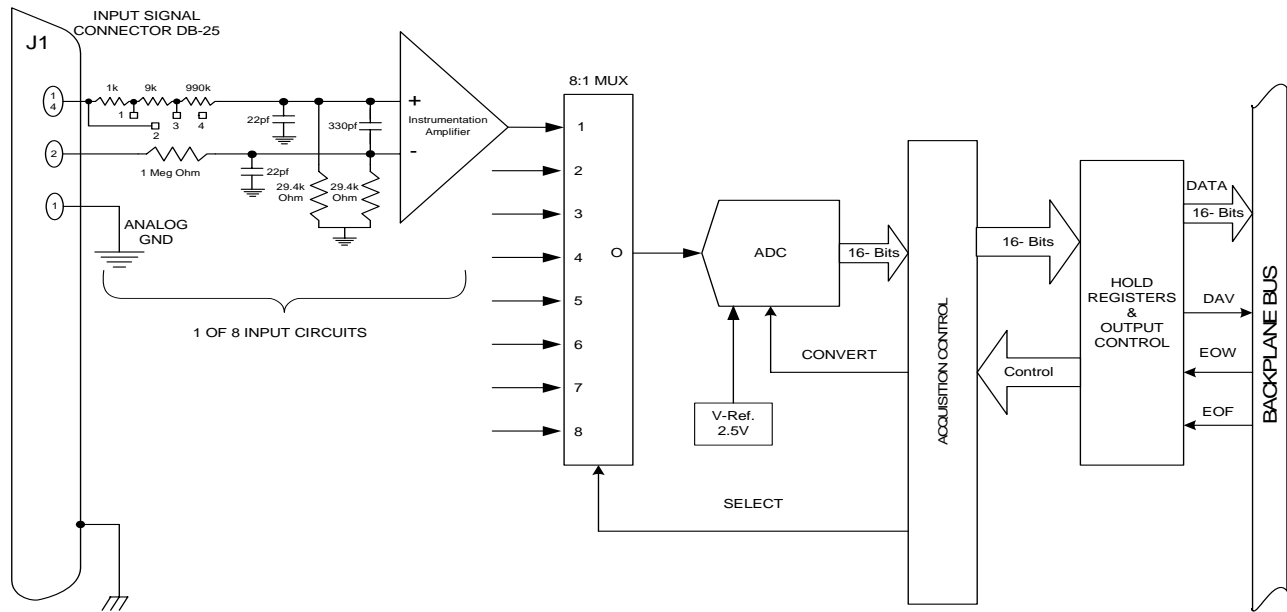
Figure 1: Model 2111 ADC802 Functional Block Diagram

4. SPECIFICATIONS

GENERAL

2 Independent channels

Single Slot Module (3" x 6" x 0.9")

Semi-Automatic Channel Calibration

INPUT

DB-25 M connector

8 Differential analog inputs

 ±41 Volt Differential range

 ±40 Volt Common-Mode range

 ±300V Overvoltage protection

Analog ground returns provided

Chassis ground on connector shell

OUTPUT

16-bit ADC

 0.05% FS accuracy

 Offset binary code

Sample Rate = PCM Frame Rate

 1 sample/sec to 1k samples/sec

OPERATING TEMPERATURES

Operating Temperature Range of 0°C to 50°C

OPERATING HUMIDITY

80% relative humidity (rh) maximum,

15% rh, minimum