



**2033  
ADC105  
ANALOG TO DIGITAL CONVERTER**



### 1. FEATURES

- Single slot module
- High speed (up to 5M samples per second) ADC
- Quantization 10 through 14 bits
- DSP based filter provides sharp cutoff transition for improved performance
- Easy to operate module
- Programmable channel ID tag

### 2. OVERVIEW

This plug-in module accepts a bipolar analog signal having a bandwidth of up to 2M Hz and converts it to digital data. The ADC105 buffers the digital information, formatting it into Source Packet data units. These Source Packets are transmitted as a part of the AL4300 multiplexed composite output stream. A demultiplexer, at the receive end of the data link, accepts the composite data stream, separates out the source packets and delivers them to a companion DAC105 digital-to-analog converter module. The DAC105 reconstructs the original analog signal.

The ADC105 plug-in module is a single slot wide AL4300 series compatible card. A single BNC is used to connect of the analog signal to the ADC105. Operational parameters of the module include the Sample Rate and the digitizing resolution, of 10 through 14 bits. A Channel ID Tag is set which is used by the DAC105 to capture the ADC105 source packets. Jumpers are used to select the input impedance (51, 75, or 1k ohms).

The Source Packet generated by the ADC105 contains information that the companion DAC105 module uses to automatically configure its word size and sample rate to match the ADC105 settings.

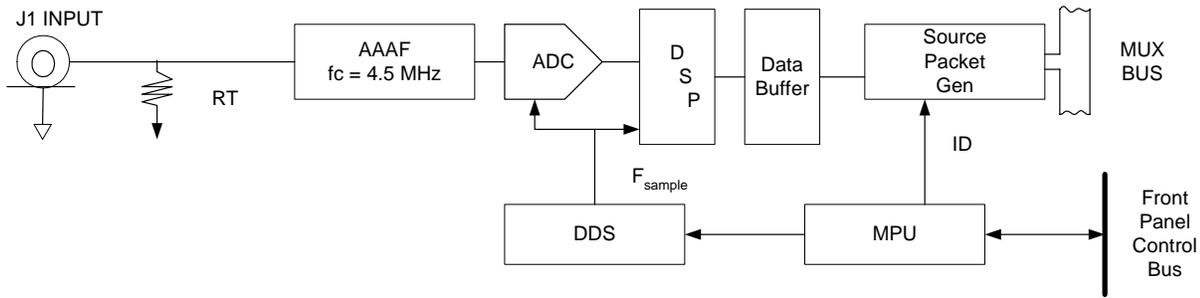


Figure 1 ADC105 Functional Block Diagram

### 3. SPECIFICATIONS

#### NUMBER OF CHANNELS

1 Channel on a BNC type connector

#### INPUT VOLTAGE RANGE:

-2.5 to +2.5 Volts

#### INPUT IMPEDANCE:

50 / 75 / 1k ohm selectable input impedance

#### FREQUENCY RESPONSE:

DC to 600k Hz +/- 0.6 dB

600k Hz to 2M Hz +/- 1.2 dB

#### DIGITIZER:

Selectable Sampling Rate, 100k samples per second through 5M samples per second in 1sp steps

Digitized to 10 through 14 bits of resolution

#### DSP FILTER:

A constant delay FIR type Filter is automatically set to 1/2 the selected sample rate

#### CHANNEL ID

TX Mux Channel ID 0x000-0x7FO

#### COMPATIBILITY

AL4300 MITC Bus

One Chassis Slot Required

NOTE: This module does NOT support 10 ms SI operation

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