AL81XGT 1 GS/s 8-Bit PCI Digitizer

OVERVIEW

AL81XGT is a dual-channel, high resolution, 8 bit 1 GS/s PCI Digitizer board supporting the PCI 32 and PCI 64 bus. Onboard memory options range from 512M samples to 4Gsamples Memory operation allows acquisition to continue while data is being transferred to the PC.

The AL81XGTKIT Includes a sample application that allows users to immediately begin data acquisition.

Integration of the AL81XGTinto customer specific software is simplified by a Windows based software development kit that is included at no additional charge. The SDK includes support of C# or C/C++ and VB for Windows.

ANALOG INPUT

The AL81XGTfeatures two analog input channels with

- A single channel (either input A or B software selectable) can be run at 1.0GSamples/sec
- Each channel has 1 GHz bandwidth.
- Input ranges are 250mV, 500mV, and 1V

ACQUISITION SYSTEM

The sampling rate ranges from 1GS/s to 250KS/s. The two channels are synchronous since they have a common clock. The acquisition is capable of being triggered by software, BNC, Quadrature encoder input, or internal TTL connection. Acquisition can consist of multiple data records, each record is the result of a trigger event. Records can have both pre-trigger and post-trigger data.

Acquisition system is capable of being re-armed by the hardware within 1uS of the previous trigger.

- 2 channels 0.5 GS/s simultaneous real-time sampling rate on each input 8-bit resolution
- 1 channels 1 GS/s real-time sampling rate on a single input sampled at 8-bit resolution
- 250mV to 1V input range
- Up to 4 Billion samples of on-board acquisition memory
- Dual Ported Memory Architecture for simultaneous collection and processing/download.
- Trigger Input/Output Connector

Specifications

IO CONNECTORS

BNC CH A
BNC CH B
TRIG IN/TRIG OUT
Clock
BNC female connectors

ACQUISITION SYSTEM

Resolution	8 bits
Bandwidth (-3dB)	
DC-coupled, 50Ω	DC - 1000 MHz
AC-coupled, 50Ω	100KHz - 1000 MHz
Number of channels	2 simultaneously sampled
Maximum Sample Rate	0.5 GS/s single shot 2 simultaneous channels
Maximum Sample Rate	1.0 GS/s single shot 1 channel
Minimum Sample Rate	250 KS/s single shot for internal clocking
Full Scale Input ranges	
50 Ω input impedance	250mV, 500mV, 1V software selectable
DC accuracy	±5% of full scale in all input ranges
Input coupling	AC or DC, software selectable
Input impedance	50Ω
Input protection	50Ω ±5V

ON BOARD ACQUISITION MEMORY

Onboard acquisition memory	512 MB AL81XGT 4 GB for AL81XGT-4

TIME BASE

Internal Clock
External Reference Clock

MATERIALS SUPPLIED – RETAIL VERSION

AL81XGT PCI Card
AL81XGT Hardware Manual
AL81XGT Install Disk

System Requirements

Pentium III or newer based computer with at least one full length free PCI slot

POWER REQUIREMENTS

+5V 3.5 A
+ 3.3V 2.4 A
+12V .01A
- 12V .01A

PHYSICAL DIMENSIONS

Single slot, full length PCI card (4.25 inches x 12.375 inches)
Weight 500g

ENVIRONMENTAL

Operating temperature 0 to 55 o C
Storage temperature -20 to 70 o C
Relative humidity 5 to 95%, non-condensing