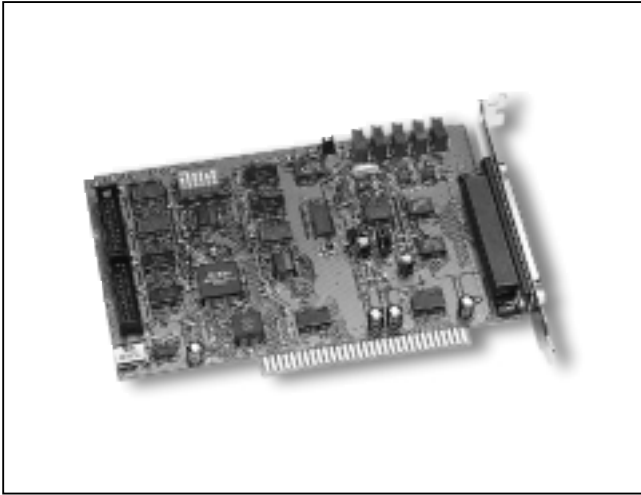


A-821PGH/A-821PGL

45 KS/s 12-bit Analog & Digital I/O Board



Functional Description

The A-821PGH, A-821PGL are 12 bit multifunction analog and digital I/O boards for the PC/AT compatible computer. The A-821PGH, A-821PGL offer 16 single-ended or 8 differential analog inputs, plus one channel analog output with 12-bits resolution. In addition. The A-821PGH, A-821PGL has 16 digital input, 16 digital output, and one timer/counter channel. The A-821PGH provides gain of 1, 10, 100, 1000, while the A-821PGL provides gains of 1, 2, 4, 8. It has a maximum sampling rate of 45 K samples/s.

Features

- 12-bit A/D converter
- 12-bit D/A converter
- 16 single-ended or 8 differential input channels
- 45KS/s sampling rate
- Bipolar analog input
- One 12-bit analog output channel
- Software programmable gain :
 - 1, 10, 100, 1000 (A-821PGH)
 - 1, 2, 4, 8 (A-821PGL)
- Interrupt handling
- A/D Trigger modes: Software Trigger, Pacer Trigger
- A/D data transfer modes: polling, interrupt
- 16 digital inputs & 16 digital outputs
- 37-pin D-Sub connector

Applications

- Laboratory automation
- Sensor interface
- Production test

Specifications

■ Analog Input Specifications

Channels: 16 single-ended/ 8 differential
 Resolution: 12 bits
 Conversion rate: 45KS/s max
 Input Impedance: 10,000 MΩ||16pF
 Over voltage Protection: +/-35V
 Accuracy: 0.01% of reading +/- 1 bit
 Linearity: +/- 1 bit
 On chip sample & hold
 Zero drift: +/-25ppm/°C of FS max

■ A-821 PGL Input Range

Bipolar: +/-5V, +/-2.5V, +/-1.25V, +/-0.625

821PGL	Bipolar	Throughput
1	±5V	45K/s
2	±2.5V	45K/s
4	±1.25V	45K/s
8	±0.625V	45K/s

■ A-821 PGH Input Range

Bipolar: +/-5V, +/-0.5V, +/-0.05V, +/-0.005V

821PGH	Bipolar	Throughput
1	±5V	45K/s
10	±0.5V	45K/s
100	±0.05V	10K/s
1000	±0.005V	1K/s

■ D/A Outputs

Channels: 1 independent
 Type: 12-bit double buffered (AD-7948)
 Linearity: ± 1/2 bit
 Output range: 0~5V or 0~10V jumper selected
 External reference max +10V or -10V
 Output Driving: ± 5mA

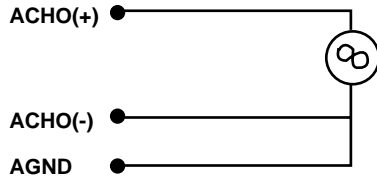
■ Digital I/O

Inputs (LSTTL): 16
 Input low VIL = 0.8Vmax; IIL = -0.4mAmax
 Input high VIH = 2.0Vmin; IIH = 20μAmax
 Outputs (LSTTL): 16
 Output low VOL = 0.5Vmax; @IOL = 8mAmax
 Output high VOH = 2.7Vmin; @IOH = -400μAmax

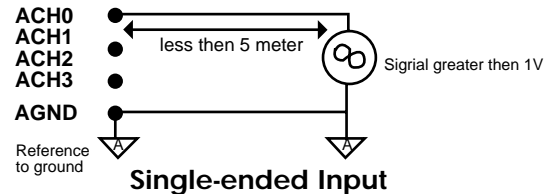


A-821PGH/A-821PGL

45 KS/s 12-bit Analog & Digital I/O Board



Differential Input



Single-ended Input

Single-ended & Differential Input

The A82X series provides 16 channel single-ended or 8 channel differential analog input. Single-ended input are all referenced to a common ground point. These inputs are typically used when the input signal are greater than 1 volt, the leads from the signal source to the analog input hardware are short (less than 5 meter), and all input signals share a common ground reference. If the signals do not meet these criteria, you should use differential inputs.

The common-mode noise can be canceled, when the input is configured in differential mode.

■ Programmable Pacer Timer (0.00046Hz~0.5MHz)

Type: 82c54

A/D pacer: 32 bit (cascaded pacer timer)

■ Interrupt channel: 2, 3, 4, 5, 6, 7 software selectable

■ Power Requirements: +5V; 320mA max

■ General Environment

Operating temp: 0-50°C

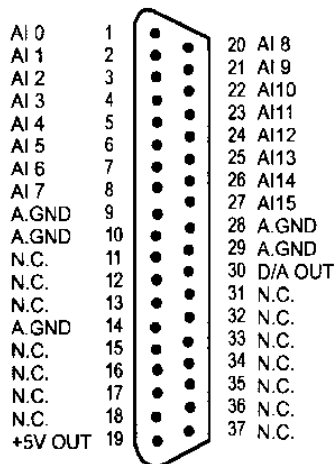
Storage temp: -20°C to 70°C

Humidity: 0 to 90%

Dimensions: 107mm x 143mm

Pin Assigument

CN1: 37 pin D-sul connector



Software

- A-821 Development Toolkit for DOS
- A-821 Development Toolkit for Win95
- A-821 Development Toolkit for WinNT

Order Description

- A-821PGH: 45KS/s High Gain 12-bit Analog and Digital I/O Board
- A-821PGL: 45KS/s Low Gain 12-bit Analog and Digital I/O Board

Options

- DB-8225: Screw Terminal Board, Filter Circuitry can be added
- DB-889D: 16-Channel Multiplexer and Signal Conditioning Board
- DB-16P: 16 Channel isolated digital input Board
- DB-16R: 16 Channel SPDT Relay Board
- DB-37: Directly connect signals to the back of A-821
- DN-37: I/O Connector Block with DIN-Rail Mounting and 37-PIN D-SUB Connector
- DN-20: I/O Connector Block with DIN-Rail mounting and 20-PIN Header
- ADP-20: 20-pin Extender
- A-821 LabVIEW Development Toolkit for Win95
- A-821 LabVIEW Development Toolkit for WinNT

CN2, CN3 20-Pin Connector

