



## A-821PGH/A-821PGL

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

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### Functional Description

The A-821PGH/L are 12-bit multifunction analog and digital I/O boards for the PC/AT compatible computer. The A-821PGH/L offer 16 single-ended or 8 differential analog inputs, plus two channels of analog output with 12-bit resolution. In addition, The A-821PGH/PGL has 16 digital input, 16 digital output, 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. Interrupts are programmable 3 and 9 and provide one channel D/A output.

### Features

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

### Applications

- Signal analysis
- Industrial automation
- Laboratory automation
- Sensor interface
- FFT & frequency analysis
- Transient analysis
- Production test
- Process control

### Software

- Toolkit for DOS
- Toolkit for Windows 95/98
- Toolkit for Windows NT
- Toolkit for Windows 2000/XP
- Toolkit for LabVIEW 95/98

### Options

- DB-8225 : Screw Terminal Board For Analog I/O
- DB-37 : Direct Connect Screw Terminal Board For Analog I/O
- DN-37 : Screw Terminal Board For Analog I/O
- DB-889D : 16-channel Analog Input Mux Board
- DB-16P : 16-channel Isolated Digital Input Daughter Board
- DB-16R : 16-channel Relay Output Daughter Board
- DB-24C : 24-channel Open-Collector Output Daughter Board
- DB-24SSR : 24-channel SSR Output Daughter Board

### General Environmental

Power Requirements	+5V @350mA max. +12V @ -12V @
Operating temp	0-50(C)
Storage temp	-20 to 70(C)
Humidity	0 to 90 non-condensing
Dimensions	170mm x 122 mm

### Specifications

#### Analog Input

- Channels : 16-channel single-ended or 8-channel differential
- Resolution : 12-bit
- Conversion rate : 45K sample /sec
- Input Impedance: 10,000M Ohm //6pf
- Over Voltage Protection : +/- 35Vdc
- INL (Max) : +/- 1-bit
- Sample & hold : On chip
- Zero Drift : 15ppm / deg C of Full Scale

#### Analog Input Range

A-821PGH Input Range (High Gain Version) :

Gain	1	10	100	1000
Bipolar(V)	+/- 5	+/- 0.5	+/- 0.05	+/- 0.005
Throughput	45K/s	45K/s	10K/s	1K/s

A-821PGL Input Range (Low Gain Version) :

Gain	1	2	4	8
Bipolar(V)	+/-5	+/-2.5	+/-1.25	+/-0.625
Throughput	45K/s	45K/s	45K/s	45K/s

#### D/A Outputs

Channels	1 independent
Type	12-bit double buffered
Linearity	0.006% FS
Output range	Internal reference 0~5V or 0~10V
Output Driving	5mA

#### Digital I/O

Inputs	(LSTTL) : 16
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- Toolkit for LabVIEW NT
- ActiveX Control (OCX) 95/98
- ActiveX Control (OCX) NT
- ActiveX Control (OCX)2000/XP
- Driver for LINUX
- Driver for DasyLab

Input low	VIL = 0.8V max. ; IIL = -0.4mA max.
Input high	VIH = 2.0V min. ; IIH = 20*A max.
Outputs	(LSTTL) : 16
Output low	VOL = 0.5V max. @IOL =8mA max.
Output high	VOH = 2.7V min; @IOH = -400*Amax.

### Ordering Information

A-821PGL	12-bit Low Gain Multi-function Board
A-821PGH	12-bit High Gain Multi-Function Board
<b>OEM Version</b>	
A-821PGL/NDA	A-821PGL without D/A converter
A-821PGL/S	A-821PGL + Daughter Board DB-8225
A-821PGH/S	A-821PGH + Daughter Board DB-8225

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