

## Introduction

The PCI bus 12 bit data acquisition card is a 32 bits PCI bus adapter with Plug and Play (PnP) features, it is a programmable I/O interface for Pentium or compatible computers. The PnP features let hardware configuration for IRQ and I/O address is detected by BIOS automatically, you don't need set switch and jumper.

The PCI bus 12 bit data acquisition card is a high precision data conversion/acquisition system. It contains 16 analog to digital channels with unipolar or bipolar input, 2 digital to analog channels with unipolar or bipolar output and 1 digital I/O channel with 16 bit line. The on board 8254(71054) chip provides programmable interval timer/counter functions to trig A/D conversion. The PCI bus 12 bit data acquisition card also provides interrupt driven for convention A/D input.

### The features of the PCI bus 12 bit data acquisition adapter are:

- 32 bits PCI bus with Plug and Play (PnP) features.
- Programmable I/O control functions.
- Provides 16 A/D channels and the resolution is 12 bits.
- Provides 2 D/A channels and the resolution is 12 bits.
- Unipolar or bipolar selectable.
- Input voltage range from 0 to 10V or 0 to 20V for unipolar, and from -5V to 5V or -10V to 10V for bipolar.
- Provides 1 digital input/digital output channels and the resolution is 16 bits.
- Provides three 16 bits counter to trig A/D conversion.
- Provides software, external hardware signal or internal counter to trig A/D conversion.
- By using sampling and hold to get A/D signals.
- Interrupt or polling driven selectable.
- Gain control factor selectable from 1 to 8.

## Unpacking Information

### Check that your PCI bus 12 bit data acquisition package includes the following items:

- PCI bus 12 bit data acquisition adapter.
- User manual.
- Software utilities.
- Warranty form.

## System Requirements

### Before installing your PCI bus 12 bit data acquisition adapter, make sure that:

- The host computer is an Pentium compatibles.
- The seven jumpers' blocks are correctly configured to coincide with the operating system you are using.

## Hardware Installation





Your PCI bus 12 bit data acquisition adapter is designed to be inserted in any available slot in your Pentium or compatibles. In order to gain access to the expansion slots, follow the steps listed below :

1. Turn off all power to your computer and all peripheral devices before installing your 12 bit data acquisition adapter.
2. Remove the cover of the computer.
3. Insert the pre-configured 12 bit data acquisition adapter into any available slot. Make sure the adapter is firmly seated in the chosen slot.
4. Replace the cover of the computer.

### Note:

1. You must adjust the A/D full scalar reference voltage by screwing the VR resistor. (see VR Full Scalar Adjustment).
2. You must setup everything including the connection of the signal input/output into the DB25 and J2 connectors before turning on the PC power, otherwise it may damage the card.

## Hardware Configuration

- ➔ [Introduction](#) 
- ➔ [Configuration for Jumper](#) 
- ➔ [VR Full Scalar Adjustment](#) 
- ➔ [Pin Assignments](#) 

## I/O port Control

- ➔ [Programming Examples](#) 








- ➔ [Output Port](#) 
- ➔ [Data Output Port](#) 

## Programming Examples


To use A/D converter, user must following the steps:

- Step 1: Select A/D channel number.
- Step 2: Hold the input signal.
- Step 3: Start A/D conversion.
- Step 4: Get results.

In the following we will describe each step:

- ➔ [Select A/D Channel Number](#) 
- ➔ [Hold the Input Signal](#) 
- ➔ [Start A/D Conversion](#) 
- ➔ [Get Results](#) 
- ➔ [How to Use D/A Converter](#) 
- ➔ [How to Use Digital Output Channel](#) 
- ➔ [How to Use Digital Input Channel](#) 







## APPENDIX

- ➔ [APPENDIX A](#) 
- ➔ [APPENDIX B](#)

### Data Sheet:

- [AD574](#) 
- [AD7541](#) 

## [Download User Manual](#)

- [Catalog](#) 
- [Manual](#) 
- [Converter](#) 
- [Schematic](#) 
- [Drivce Driver](#) 
- [Test Tool & Sample Code](#) 
- [Measurement & Applications](#) 