

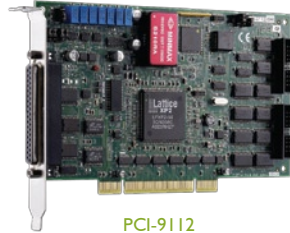
# cPCI/PCI/LPCI-9112

16-CH 12-Bit 110 kS/s Multi-Function DAQ Card / Low-Profile DAQ Card

**PCI CompactPCI**



cPCI-9112



PCI-9112



LPCI-9112

## Features

- Supports a 3.3 V or 5 V PCI bus (PCI/LPCI-9112)
- 3U Eurocard form factor, CompactPCI compliant (PICMG 2.0 R2.1) (cPCI-9112)
- 12-bit A/D resolution
- Up to 110 kS/s sampling rate
- 16-CH single-ended or 8-CH differential inputs
- Bipolar or unipolar analog input ranges
- Programmable gains of x0.5, x1, x2, x4, x8
- Automatic analog inputs scanning
- Bus-mastering DMA for analog inputs
- 2-CH 12-bit multiplying analog outputs
- 16-CH TTL digital inputs and 16-CH TTL digital outputs
- 1-CH 16-bit general-purpose timer/counter
- Compact, half-size PCB (PCI-9112)
- Compact, low-profile PCI size PCB (LPCI-9112)
- Rear I/O available on cPCI-9112R

### Operating Systems

- Windows 7/Vista/XP/2000/2003 Server
- Linux
- Windows CE (call for availability)

### Recommended Software

- AD-Logger
- VB.NET/VC.NET/VB/VC+++/BCB/Delphi
- DAQBench

### Driver Support

- DAQPilot for Windows
- DAQPilot for LabVIEW™
- DAQ-MTLB for MATLAB®
- PCIS-DASK for Windows
- PCIS-DASK/X for Linux

## Introduction

ADLINK's cPCI/PCI/LPCI-9112 are 16-CH, 12-bit, 110 kS/s multi-function DAQ cards. The cPCI/PCI/LPCI-9112 devices features flexible configurations on analog inputs. They provides analog inputs with 4 programmable input ranges for both bipolar and unipolar inputs. The A/D on the cPCI/PCI/LPCI-9112 features a sampling rate up to 110 kS/s with resolution at 12 bits. These devices support automatic analog input scanning, and offers a differential mode for 8-CH analog inputs and maximum noise elimination, as well as single-ended modes for 16-CH analog inputs.

The cPCI/PCI/LPCI-9112 also feature 2-CH 12-bit analog outputs, 1-CH 16-bit general-purpose timer/counter, 16-CH TTL digital inputs, and 16-CH TTL digital outputs. The LPCI-9112 is the MD1 size, low-profile version of PCI-9112. The low-profile PCI card is especially suitable for the applications which have a space restriction on the size of peripheral cards.

The cPCI-9112R allows I/O connectivity to be routed through the backplane via J2/P2 allowing a rear I/O transition module to be inserted, which is capable of efficient trouble-shooting and maintenance.

## Specifications

### Analog Input

- Number of channels: 16 single-ended or 8 differential
- Resolution: 12 bits
- Conversion time: 8  $\mu$ s
- Maximum sampling rate: 110 kS/s
- Input signal ranges

Gain	Input Range	
	Bipolar	Unipolar
0.5	$\pm 10$ V	-
1	$\pm 5$ V	0 to 10 V
2	$\pm 2.5$ V	0 to 5 V
4	$\pm 1.25$ V	0 to 2.5 V
8	$\pm 0.625$ V	0 to 1.25 V

### Accuracy

Gain	Accuracy
0.5, 1	0.01% of FSR $\pm$ 1 LSB
2, 4	0.02% of FSR $\pm$ 1 LSB
8	0.04% of FSR $\pm$ 1 LSB

- Input coupling: DC
- Overvoltage protection: continuous  $\pm 35$  V
- Input impedance: 1 G $\Omega$
- Trigger modes: software
- Data transfers: programmed I/O, interrupt, bus-mastering DMA

### Analog Output

- Number of channels: 2 voltage outputs
- Resolution: 12 bits
- Output ranges (software programmable)

Output Range	
Unipolar	0 to 10 V, 0 to 5 V, 0 to EXTREF

- Output driving capacity:  $\pm 5$  mA max
- Settling time: 30  $\mu$ s to 0.5 LSB
- Data transfers: programmed I/O

### Digital I/O

- Number of channels: 16 inputs and 16 outputs
- Compatibility: 5 V/TTL
- Data transfers: programmed I/O

### General-Purpose Timer/Counter

- Number of channels: 1
- Resolution: 16 bits
- Compatibility: 5 V/TTL
- Base clock available: 2 MHz, external clock to 10 MHz

### General Specifications

- I/O connector: 37-pin D-sub female
- Operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 5% to 95%, non-condensing
- Power requirements

	+5 V	+12 V
cPCI-9112(R)	600 mA typical	20 mA typical
PCI-9112	460 mA typical	110 mA typical
LPCI-9112	500 mA typical	110 mA typical

- Dimensions (not including connectors)
  - 160 mm x 100 mm (cPCI-9112/9112R)
  - 175 mm x 107 mm (PCI-9112)
  - 120 mm x 65 mm (LPCI-9112)

