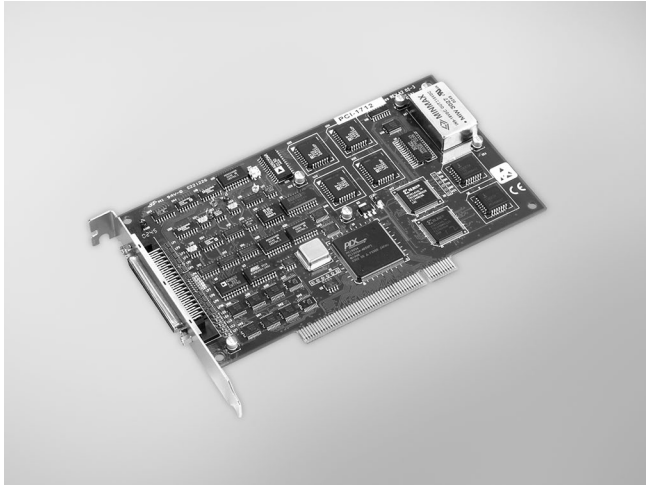


# PCI-1712/L

## 1 MS/s, 12-bit, 16-ch PCI Multifunction DAQ Card



### Features

- 16 single-ended or 8 differential or a combination of analog inputs
- 12-bit A/D converter, with up to 1 MHz sampling rate
- Programmable gain
- Automatic channel/gain scanning
- Onboard FIFO memory (AI: 1,024 samples AO: 32,768 samples)
- Two 12-bit analog output channels with continuous waveform output function (PCI-1712 only)
- 16-ch digital input or output (programmable)
- Three 16-bit programmable multifunction counter/timers on 10 MHz
- Auto-calibration (AI/AO)
- PCI-Bus mastering data transfer
- Pre-, post-, about- and delay-trigger data acquisition modes for analog input channels
- Flexible triggering and clocking capabilities

### Specifications

#### Analog Input

- **Channels** 16 single-ended/ 8 differential (software programmable)
- **Resolution** 12 bits
- **Max. Sampling Rate** Multi-channel, single gain: 1 MS/s  
Multi-channel, multi gain: 600 kS/s  
Multi-channel, multi gain, unipolar/bipolar: 400 kS/s
- **FIFO Size** 1,024 samples

Note: The sampling rate for each channels will be affected by used channel number. For example, if 4 channels are used, the sampling rate is  $600\text{k}/4 = 125\text{ kS/s}$  per channel. (multi gain, without unipolar/bipolar mixed)

- **Overvoltage Protection** 30 Vp-p
- **Input Impedance** 100 M $\Omega$ /10 pF (Off), 100 M $\Omega$ /100 pF (On)
- **Sampling Modes** Software, onboard programmable pacer and external
- **Trigger Modes** Pre-trigger, post-trigger, delay-trigger and about-trigger

#### Input Range (V, software programmable) & Absolute Accuracy

| Unipolar                      | N/A      | 0 ~ 10  | 0 ~ 5     | 0 ~ 2.5    | 0 ~ 1.25    |
|-------------------------------|----------|---------|-----------|------------|-------------|
| Bipolar                       | $\pm 10$ | $\pm 5$ | $\pm 2.5$ | $\pm 1.25$ | $\pm 0.625$ |
| Absolute Accuracy (% of FSR)* | 0.1      | 0.1     | 0.2       | 0.2        | 0.4         |

\*  $\pm 1$  LSB is added as the derivative for absolute accuracy

#### Analog Output (PCI-1712 only)

- **Channels** 2
- **Resolution** 12 bits
- **Output Rate** 1 MS/s max.
- **FIFO Size** 32,768 samples
- **Output Range** (Software programmable)

| Internal Reference | Bipolar                                                  | $\pm 5\text{ V}, \pm 10\text{ V}$       |
|--------------------|----------------------------------------------------------|-----------------------------------------|
|                    | Unipolar                                                 | $0 \sim 5\text{ V}, 0 \sim 10\text{ V}$ |
| External Reference | $0 \sim +x\text{ V} @ +x\text{ V} (-10 \leq x \leq 10)$  |                                         |
|                    | $-x \sim +x\text{ V} @ +x\text{ V} (-10 \leq x \leq 10)$ |                                         |

- **Slew Rate** 20 V/ $\mu\text{s}$
- **Driving Capability** 10 mA
- **Output Impedance** 0.1  $\Omega$  max.
- **Operation Mode** Static update, waveform generation
- **Accuracy** INLE:  $\pm 1$  LSB  
DNLE:  $\pm 1$  LSB

#### Digital I/O

- **Channels** 16
- **Compatibility** 5 V/TTL
- **Input Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min.
- **Output Voltage** Logic 0: 0.8 V max.  
Logic 1: 2.0 V min
- **Output Capability** Sink: 8.0 mA @ 0.8 V  
Source: 0.4 mA @ 2.0 V

#### Pacer/Counter

- **Channels** 3
- **Resolution** 16 bits
- **Compatibility** 5 V/TTL
- **Max. Input Frequency** 10 MHz
- **Reference Clock** Internal: 10 MHz, 1 MHz, 100 kHz, 10 kHz  
External Frequency: 10 MHz max.

#### General

- **Bus Type** PCI V 2.2
- **I/O Connector** 1 x 68-pin SCSI female connector
- **Dimensions (L x H)** 175 x 100 mm (6.9" x 3.9")
- **Power Consumption** Typical: 5 V @ 850 mA, 12 V @ 600 mA  
Max.: 5 V @ 1.0 A, 12 V @ 700 mA
- **Operating Temperature** 0 ~ 60°C (32 ~ 140°F)
- **Storage Temperature** -20 ~ 85°C (-4 ~ 185°F)
- **Storage Humidity** 5 ~ 95% RH non-condensing

### Ordering Information

- **PCI-1712** 1 MS/s, 12-bit High-speed Multifunction PCI Card
- **PCI-1712L** 1 MS/s, 12-bit High-speed Multi. PCI Card w/o AO

#### Accessories

- **PCLD-8712** DIN-rail Wiring Board for PCI-1712/L
- **PCL-10168-1E** 68-pin SCSI Shielded Cable, 1 m
- **PCL-10168-2E** 68-pin SCSI Shielded Cable, 2 m
- **ADAM-3968** 68-pin DIN-rail SCSI Wiring Board