

PCI-1712/L

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



FCC CE RoHS

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 Ω /10 pF (Off), 100 M Ω /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	± 10	± 5	± 2.5	± 1.25	± 0.625
Absolute Accuracy (% of FSR)*	0.1	0.1	0.2	0.2	0.4

* ± 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/ μ s
- **Driving Capability** 10 mA
- **Output Impedance** 0.1 Ω max.
- **Operation Mode** Static update, waveform generation
- **Accuracy** INLE: ± 1 LSB
DNLE: ± 1 LSB

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

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