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

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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 600k/4 = 125 kS/s per channel. (multi gain, without unipolar/bipolar mixed)

- **Overvoltage Protection**   30 Vp-p
- **Input Impedance**   100 MΩ/10 pF (Off), 100 MΩ/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	±5 V, ±10 V
	Unipolar	0 ~ 5 V, 0 ~ 10 V
External Reference		0 ~ +x V @ +x V (-10 ≤ x ≤ 10) -x ~ +x V @ +x V (-10 ≤ x ≤ 10)

- **Slew Rate**   20 V/μs
- **Driving Capability**   10 mA
- **Output Impedance**   0.1 Ω max.
- **Operation Mode**   Static update, waveform generation
- **Accuracy**   INLE: ±1 LSB
  DNLE: ±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