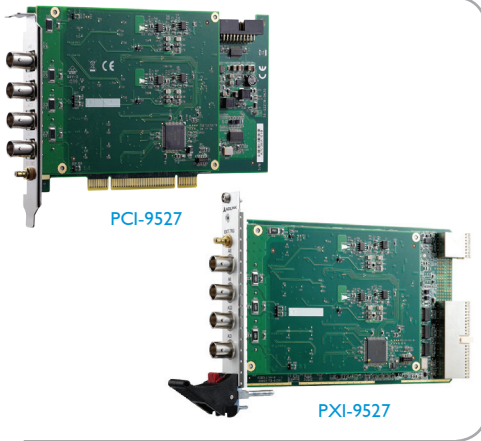


# PCI/PXI-9527

## 24-Bit High-Resolution Dynamic Signal Acquisition and Generation Modules



### Introduction

The PCI/PXI-9527 is a high-performance, 2-CH analog input and 2-CH analog output dynamic signal acquisition module. This module is specifically designed for audio testing, acoustic measurement, and vibration analysis applications.

The ADLINK PCI/PXI-9527 features two 24-bit simultaneous sampling analog input channels. The 24-bit sigma-delta ADC provides a sampling rate up to 432 kS/s at high resolutions, making it ideal for higher bandwidth dynamic signal measurements. The sampling rate can be adjusted by setting the module DDS clock source to an appropriate frequency. All channels are sampled simultaneously and accept an input range from  $\pm 40$  V to  $\pm 0.316$  V. The PCI/PXI-9527 analog input supports software selectable AC or DC coupling and 4 mA bias current for integrated electronic piezoelectric (IEPE) sensors.

The ADLINK PCI/PXI-9527 also has two channels of 24-bit resolution, high fidelity analog output. The outputs occur simultaneously at software programmable rates up to 216 kS/s. A software programmable output range of  $\pm 0.1$  V,  $\pm 1$  V, and  $\pm 10$  V is available on the output channels.

### Features

- PXI specifications Rev. 2.2 compliant (PXI-9527)
- 24-bit Sigma-Delta ADC and DAC
- 2-CH simultaneous sampling analog input
- 2-CH simultaneous updated analog output
- 432 KS/s maximum sampling rate with software programmable rate
- Programmable input range:  $\pm 40$  V,  $\pm 10$  V,  $\pm 3.16$  V,  $\pm 1$  V,  $\pm 0.316$  V
- Programmable output range:  $\pm 10$  V,  $\pm 1$  V,  $\pm 0.1$  V
- AC or DC input coupling, software selectable
- Trigger I/O connector for external digital trigger signal
- Supports IEPE output on each analog input, software-configurable

### OS Information

- Windows XP/7/8, x64/x86

### Software Compatibility

- LabVIEW, MATLAB, Visual Studio, Visual Studio.NET

### Software Recommendations

- AD-Logger, DAQBench, DSA Utility

### Dynamic Signal Assistant

ADLINK's Dynamic Signal Assistant is a ready-to-run software utility designed for dynamic signal acquisition modules, such as the PCI/PXI-9527. This software provides a windows-based configuration interface for setting parameters, in addition to a real-time visualized data display on the screen. An instrument-like user interface is also provided for basic waveform generation. The Dynamic Signal Assistant can also log data acquired from hardware modules. With the Dynamic Signal Assistant, signal acquisition and generation can be performed in just a few minutes without any programming effort.



### Specifications

#### Analog Input

- Number of simultaneously sampled channels: 2
- Input configuration: Differential or pseudo-differential, each channel independently software-selectable
- Input impedance:

Input Impedance	Differential Configuration	Pseudodifferential Configuration
Between positive input and system ground	1 M $\Omega$	1 M $\Omega$
Between negative input and system ground	1 M $\Omega$	50 $\Omega$

- Input coupling: AC or DC, software-selectable on each channel
- ADC resolution: 24-bit
- ADC type: Delta-sigma
- Sampling rate: Up to 432 kS/s maximum, 2 kS/s to 432 kS/s in 454.7  $\mu$ S/s increments
- Input signal range:  $\pm 0.316$  V,  $\pm 1.00$  V,  $\pm 3.16$  V,  $\pm 10.0$  V,  $\pm 40.0$  V
- Integrated Electronic Piezoelectric (IEPE)
  - Current: 4 mA each channel independently software-selectable
  - IEPE compliance: 24 V
- Data transfer: DMA
- FIFO buffer size: 4096 samples shared for AI channels
- Input Common Mode Range:  $\pm 10$  V for both differential and pseudo-differential configuration
- Overvoltage protection
  - Differential input:  $\pm 40$  V<sub>pk</sub>
  - Pseudo-differential:
    - Positive terminal:  $\pm 40$  V<sub>pk</sub>
    - Negative terminal:  $\pm 10$  V<sub>pk</sub>