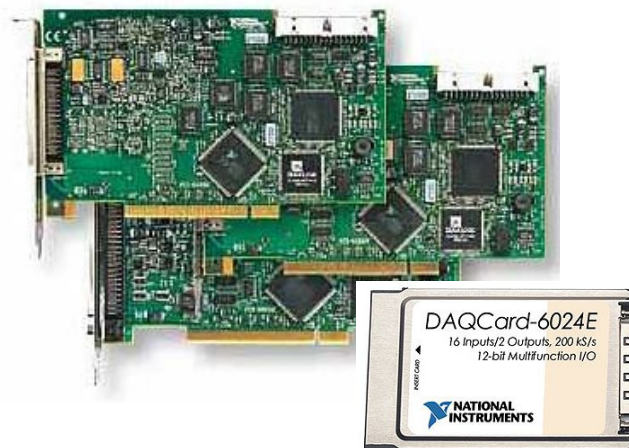


About the hardware

NI 6023E Multifunction DAQ – 12-Bit, 200 kS/s, 16 Analog Inputs

- 16 analog inputs at up to 200 kS/s, 12 or 16-bit resolution
- Up to 2 analog outputs at 10 kS/s, 12 or 16-bit resolution
- 8 digital I/O lines (TTL/CMOS); two 24-bit counter/timers
- Digital triggering
- 4 analog input signal ranges
- NI-DAQ driver that simplifies configuration and measurements



Operating Systems

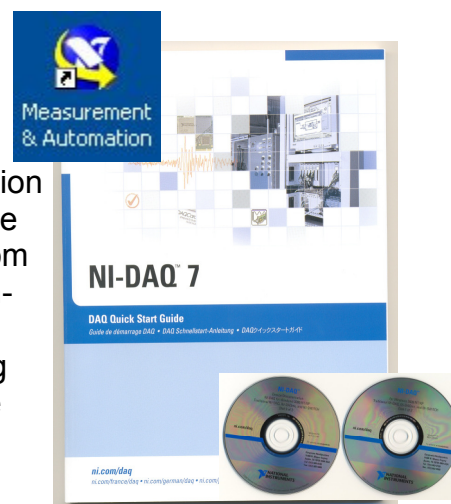
- Windows 2000/NT/XP
- Real-time performance with LabVIEW
- Others such as Linux® and Mac OS X

Driver Software (included)

- NI-DAQ 7

Overview and Applications

National Instruments low-cost E Series multifunction data acquisition devices provide full functionality at a price to meet the needs of the budget-conscious user. They are ideal for applications ranging from continuous high-speed data logging to control applications to high-voltage signal or sensor measurements when used with NI signal conditioning. Synchronize the operations of multiple devices using the RTSI bus or PXI trigger bus to easily integrate other hardware such as motion control and machine vision to create an entire measurement and control system.



Type	Bus	Analog inputs	Input resolution	Max sampling rate
NI 6023E	PCI	16 SE/8 DI	12 bits	200 kS/s
Input range	Analogue outputs	Digital I/O	Counter/Times	Triggers
±0.05 to ±10 V	0	8	2, 24-bit	Digital

NI low-cost E Series DAQ devices include the following features and technologies:

Temperature Drift Protection Circuitry – Designed with components that minimize the effect of temperature changes on measurements to less than 0.0010% of reading/°C.

Resolution-Improvement Technologies – Carefully designed noise floor maximizes the resolution.

Onboard Self-Calibration – Precise voltage reference included for calibration and measurement accuracy. Self-calibration is completely software controlled, with no potentiometers to adjust.

NI DAQ-STC – Timing and control ASIC designed to provide more flexibility, lower power consumption, and a higher immunity to noise and jitter than off-the-shelf counter/timer chips.

NI MITE – ASIC designed to optimize data transfer for multiple simultaneous operations using bus mastering with one DMA channel, interrupts, or programmed I/O.

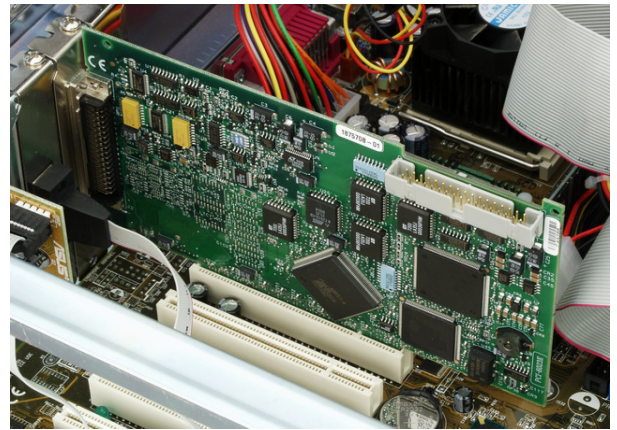
NI PGIA – Measurement and instrument class amplifier that guarantees settling times at all gains. Typical commercial off-the-shelf amplifier components do not meet the settling time requirements for high-gain measurement applications.

PFI Lines – Eight programmable function input (PFI) lines that you can use for software-controlled routing of interboard and intraboard digital and timing signals.

RTSI or PXI Trigger Bus – Bus used to share timing and control signals between two or more PCI or PXI devices to synchronize operations.

RSE Mode – In addition to differential and nonreferenced single-ended modes, NI low-cost E Series devices offer the referenced single-ended (RSE) mode for use with floating-signal sources in applications with channel counts higher than eight.

Onboard Temperature Sensor – Included for monitoring the operating temperature of the device to ensure that it is operating within the specified range.



The AIF-01, -02 and -03 connector boxes help the user for the quick and appropriate connection between the analogue amplifier and the NI A/D card.



Computer requirements:	
Minimal:	Recommended:
Processor: Intel Celeron 2 GHz or AMD AthlonXP 2000+	Processor: Intel P4 2.4 GHz or AMD AthlonXP 2600+
256 Mb RAM	512 Mb RAM
Video card: ATI Radeon 9000 series or Nvidia Geforce 2/3/MX/FX series (PCI type connector not recommended.)	Video card: ATI Radeon 9000 series or Nvidia Geforce 3/FX series (PCI type connector not recommended.)
SVGA monitor, 1024x768 recommended, (at least 17-19" diagonal size and 100 Hz frequency recommended)	SVGA monitor, 1280x1024 recommended, (at least 17-19" diagonal size and 100 Hz frequency recommended)
Windows XP Home v. Professional operation system	
Three button mouse, 101 button keyboard, CD-ROM reader - writer	
One free RS232 COM port for the stimulator	
One free PCI connector on the motherboard for the NiDaq A/D card.	