ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *National Instruments PCIe-GPIB* at our website: ***Click HERE***

High-Performance GPIB Interfaces for PCI Express

NI PCIe-GPIB, NI PCIe-GPIB/Low-Profile (LP) NEW!

- Complete IEEE 488.1 and 488.2 compatibility
- FIFO buffers to decouple GPIB transfers from PCI Express transfers
- Maximum GPIB transfer rates
  - More than 1.5 MB/s (IEEE 488.1)
  - More than 7.9 MB/s (HS488)

Operating Systems

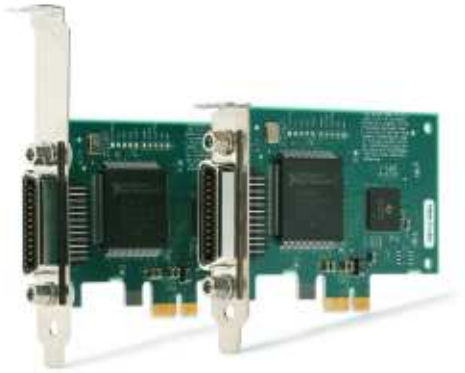
- Windows Vista (32- and 64-bit)/XP/2000
- Mac OS X
- Linux®
- Solaris (SPARC) and Solaris x86

Recommended Software

- LabVIEW
- LabWindows™/CVI
- Measurement Studio for Microsoft Visual Studio

Driver Software (included)

- NI-488.2



Overview

The NI PCIe-GPIB and PCIe-GPIB/LP are GPIB controller interfaces for PCI Express that combine high-performance hardware with a complete suite of development tools to get your applications up and running fast. The NI TNT ASIC makes these controllers maximum-performance IEEE 488.2 interfaces for PCI Express. The TNT ASIC performs the basic IEEE 488 talker, listener, and controller functions required by all versions of IEEE 488, including IEEE 488.2. NI PCIe-GPIB and PCIe-GPIB/LP controllers can sustain data transfer rates of more than 1.5 MB/s using the IEEE 488.1 three-wire interlocked handshake and implement the high-speed IEEE 488.1 noninterlocked handshake (HS488) for benchmarked data transfers at more than 7.9 MB/s.

HS488

These controllers can use HS488, the high-speed GPIB protocol originally patented by National Instruments and approved by the IEEE in ANSI/IEEE Standard 488.1-2003. HS488 increases the maximum data transfer rate of ANSI/IEEE Standard 488.1-1987 to 8 MB/s and is a superset of the IEEE 488.1 protocol that attempts to conduct data transfers with the new high-speed noninterlocked handshake. If any active listener is not capable of HS488 transfers, the protocol automatically uses the IEEE 488.1 three-wire interlocked handshake protocol. Maximum data transfer rates using HS488 depend on the host computer architecture and system configuration. NI PCIe-GPIB and PCIe-GPIB/LP controllers have transfer rates of more than 7.9 MB/s when using the HS488 protocol. The TNT family of ASICs completely and transparently handles the HS488 protocol without additional circuitry. Because HS488 is a superset of IEEE 488.1, you can mix existing GPIB devices with high-speed-capable devices without changing your application programs. The TNT ASICs can implement high-speed data transfers automatically. Thus, devices that have a TNT ASIC can transparently communicate using HS488 if the corresponding talker or listener can also use HS488.

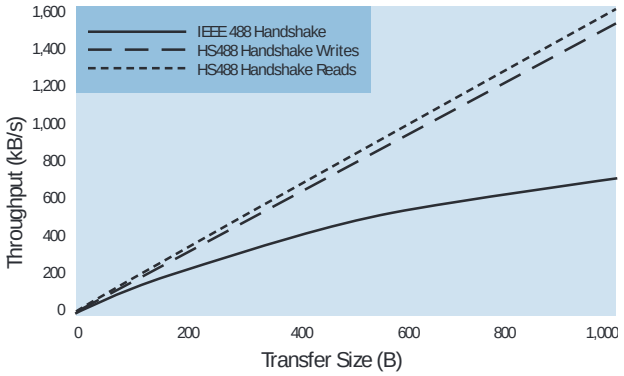


Figure 1. NI PCIe-GPIB and PCIe-GPIB/LP Controller Data Transfer Benchmarks (Small Data Blocks)

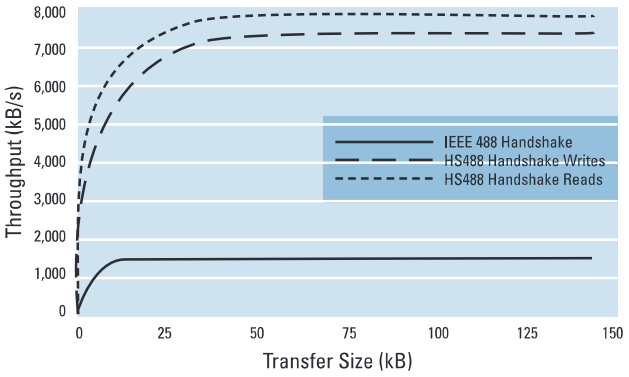


Figure 2. NI PCIe-GPIB and PCIe-GPIB/LP Controller Data Transfer Benchmarks

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Hardware

The key functional components of NI PCIe-GPIB and PCIe-GPIB/LP controllers include the TI XIO2000a PCI Express bridge and the NI TNT ASIC.

TI XIO2000a PCI Express Bridge

The TI XIO2000a has a x1 PCI Express interface that is fully compliant with the PCI Express Base Specification, Revision 1.0a.

TNT ASIC

The TNT ASIC comprises the first maximum performance single-chip IEEE 488.2 talker, listener, and controller interfaces with integrated IEEE 488.1-compatible transceivers. The TNT ASIC also implements the HS488 mode of operation for high-speed GPIB data transfers. The transfer functions implement automatic handshake hold-off on the last byte of a GPIB read and automatic END transmission on the last byte of a GPIB write. Because these functions are performed in hardware, you save significant CPU time relative to performing the same functions in software. The TNT ASIC implements all PCI-defined configuration registers and additional control and status registers. The TNT ASIC also provides bus mastering using a sophisticated DMA controller to enhance overall performance during data transfers.

Ordering Information

NI PCIe-GPIB and NI-488.2 for

Windows Vista/XP/2000	778930-01
Windows Vista/XP/2000 (with 2 m X2 cable)	778930-51
Mac OS X	779142-01
Linux	779779-01
Solaris (SPARC)	779885-01
Solaris x86	781023-01

NI PCIe-GPIB/LP and NI-488.2 for

Windows Vista/XP/2000	780575-01

BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to **ni.com/gpib.**

Specifications

IEEE 488 Compatibility

IEEE 488.1 and IEEE 488.2

PCI Express Compatibility

PCI Express 1.0a

Maximum IEEE 488 Bus Transfer Rates

IEEE 488 interlocked handshake	1.5 MB/s
IEEE 488 noninterlocked (HS488) handshake	7.9 MB/s

(Actual rates depend on system configuration and instrument capabilities.)

Power Requirements

+3.3 VDC	1.1 W typical

Physical

Dimensions	9.8 by 6.9 cm (3.8 by 2.7 in.)

I/O Connectors

GPIB	IEEE 488 standard 24-pin
PCI Express	x1

Operating Environment

Ambient temperature	0 to 55 °C (tested in accordance with IEC-60068-2-1 and IEC-60068-2-2)
Relative humidity	10 to 90%, noncondensing (tested in accordance with IEC-60068-2-56)

Storage Environment

Ambient temperature	-20 to 70 °C (tested in accordance with IEC-60068-2-1 and IEC-60068-2-2)
Relative humidity	5 to 95%, noncondensing (tested in accordance with IEC-60068-2-56)

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

NI Services and Support



NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit **ni.com/services**.

Training and Certification

NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products. Visit **ni.com/training**.

Professional Services

Our NI Professional Services team is composed of NI applications and systems engineers and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit **ni.com/alliance**.

NATIONAL INSTRUMENTS™
Certified Alliance Partner

OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit **ni.com/oem**.

Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at **ni.com/support**.

We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit **ni.com/ssp**.

Hardware Services

System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at **ni.com/advisor** to find a system assurance program to meet your needs.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit **ni.com/calibration**.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit **ni.com/services**.

NATIONAL INSTRUMENTS™

ni.com • 800 813 3693
National Instruments • info@ni.com

©2009 National Instruments. All rights reserved. CompactRIO, CVI, FieldPoint, HS488, LabVIEW, Measurement Studio, National Instruments, National Instruments Alliance Partner, NI, and ni.com are trademarks or trade names of National Instruments. The mark LabWindows is used under a license from Microsoft Corporation. Windows is a registered trademark of Microsoft Corporation in the United States and other countries. Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries. Other product and company names listed are trademarks or trade names of their respective companies. A National Instruments Alliance Partner is a business entity independent from National Instruments and has no agency, partnership, or joint-venture relationship with National Instruments. 2009-11107-301-101-D

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP