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Requirements and Compatibility | Ordering Information | Detailed Specifications
For user manuals and dimensional drawings, visit the product page resources tab on ni.com.

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NI GPIB-USB-HS

- Completely IEEE 488.2 compatible
- Controls up to 14 GPIB instruments
- Compact size and light weight
- Plug-and-play configuration
- No external power required
- Built-in 2 m USB cable
- No GPIB cable required to connect to instruments
- Hi-Speed USB compliance

Overview

The compact NI GPIB-USB-HS transforms any computer with a USB port into a full-function, IEEE 488.2 controller that can control up to 14 programmable GPIB instruments. The small size and light weight of this controller make it ideal for portable applications using a laptop computer or other applications in which the computer has no available internal I/O slots. The GPIB-USB-HS works with Windows 7/Vista/XP/Me/2000/98, Mac OS X, and Linux computers with a USB port.

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Requirements and Compatibility

OS Information

Linux®
Mac OS X
Windows 2000/XP
Windows 7
Windows 8
Windows 98
Windows ME
Windows Vista

Driver Information

NI-488.2

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Application and Technology

This controller is easy to install and use because there are no external DIP switches and you do not need to restart your computer for the system to recognize your IEEE 488.2 interface. It is a plug-and-play interface that the OS automatically recognizes and configures as soon as you physically attach it to the USB port on your computer. With the GPIB-USB-HS, you can get up and running quickly, so you can focus on developing your instrument control applications.

The GPIB-USB-HS is the first GPIB interface to take advantage of the superior performance of Hi-Speed USB signaling (480 Mbit/s). Plugging it into a Hi-Speed USB port provides industry-leading GPIB performance using both the standard and high-speed IEEE 488.1 handshake. Using a TNT family talker/listener/controller IEEE 488.2 ASIC, the GPIB-USB-HS implements the full range of GPIB controller functions, including those required and recommended by IEEE 488.2. It also implements normal and extended talker and listener, serial and parallel polling, service request, and pass/receive control functions. Drawing power directly from the USB port, the GPIB-USB-HS requires no external power input.

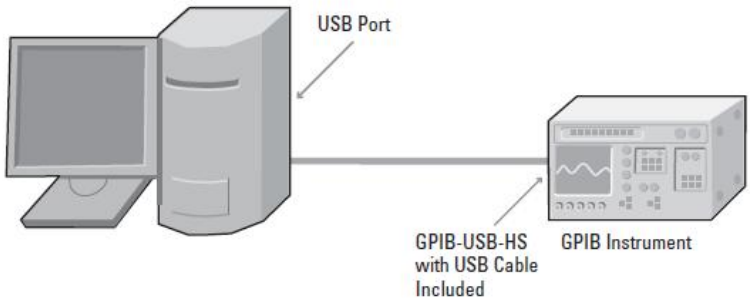

Figure 1. Easily connect your GPIB instruments to the USB port of your computer.

With NI-488.2, you get a robust driver with additional utilities and wizards that help you troubleshoot your applications and decrease your development time (see Figure 2). Furthermore, you maintain compatibility with existing systems. Applications previously written for other National Instruments GPIB controllers can run unmodified with the GPIB-USB-HS.

Connecting the GPIB-USB-HS to Your Instruments

This controller does not require a GPIB cable to connect to your instruments. You can attach it directly to the GPIB port on your instrument and then connect the USB cable to the USB port on your computer. If you have multiple instruments in a daisy-chain or star configuration, attach any cables that connect to the other instruments first, and then piggyback the GPIB-USB-HS as the last connector in the stack.

A. Run the Getting Started Wizard

B. Communicate with Your Instrument

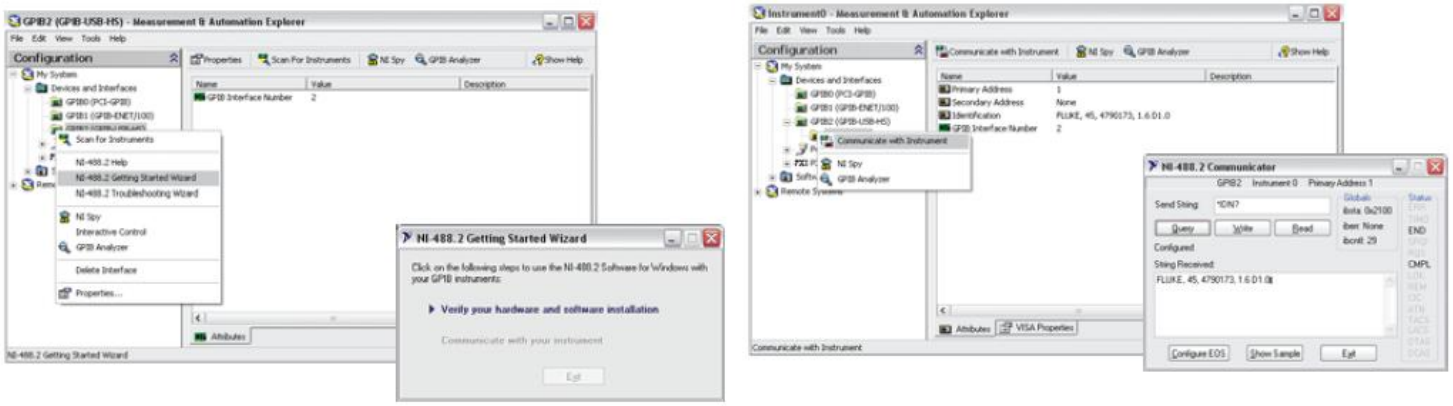

Figure 2. Take these easy steps to get up and running with your instrument communication.

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Ordering Information

For a complete list of accessories, visit the product page on ni.com.

Products	Part Number	Recommended Accessories	Part Number
NI GPIB-USB-HS			
NI-488.2 Software for Windows 8/7/Vista/XP	778927-01	No accessories required.	
NI-488.2 Software for Linux	779705-01	No accessories required.	
NI-488.2 Software for Mac OS X	780570-01	No accessories required.	
NI-488.2 Software for Windows Me/98	779704-01	No accessories required.	

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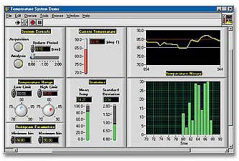
Software Recommendations

LabVIEW Professional Development System for Windows

Advanced software tools for large project development
Automatic code generation using DAQ Assistant and Instrument I/O Assistant
Tight integration with a wide range of hardware
Advanced measurement analysis and digital signal processing
Open connectivity with DLLs, ActiveX, and .NET objects
Capability to build DLLs, executables, and MSI installers

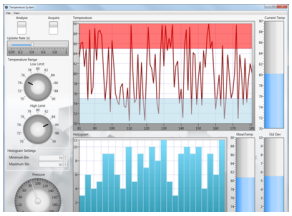
NI LabWindows™/CVI for Windows

Real-time advanced 2D graphs and charts
Complete hardware compatibility with IVI, VISA, DAQ, GPIB, and serial
Analysis tools for array manipulation, signal processing statistics, and curve fitting
Simplified cross-platform communication with network variables



Measurement Studio .NET tools (included in LabWindows/CVI Full only)
The mark LabWindows is used under a license from Microsoft Corporation.

NI Measurement Studio Professional Edition



Customizable graphs and charts for WPF, Windows Forms, and ASP.NET Web Forms UI design
Analysis libraries for array operations, signal generation, windowing, filters, signal processing
Hardware integration support with native .NET data acquisition and instrument control libraries
Automatic code generation for all NI-DAQmx data acquisition hardware
Intelligent and efficient data-logging libraries for streaming measurement data to disk
Support for Microsoft Visual Studio .NET 2012/2010/2008

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Support and 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.

Technical Support

Get answers to your technical questions using the following National Instruments resources.

Support - Visit ni.com/support to access the NI KnowledgeBase, example programs, and tutorials or to contact our applications engineers who are located in NI sales offices around the world and speak the local language.
Discussion Forums - Visit forums.ni.com for a diverse set of discussion boards on topics you care about.
Online Community - Visit community.ni.com to find, contribute, or collaborate on customer-contributed technical content with users like you.

Repair

While you may never need your hardware repaired, NI understands that unexpected events may lead to necessary repairs. NI offers repair services performed by highly trained technicians who quickly return your device with the guarantee that it will perform to factory specifications. For more information, visit ni.com/repair.

Training and Certifications

The NI training and certification program delivers the fastest, most certain route to increased proficiency and productivity using NI software and hardware. Training builds the skills to more efficiently develop robust, maintainable applications, while certification validates your knowledge and ability.

Classroom training in cities worldwide - the most comprehensive hands-on training taught by engineers.
On-site training at your facility - an excellent option to train multiple employees at the same time.
Online instructor-led training - lower-cost, remote training if classroom or on-site courses are not possible.
Course kits - lowest-cost, self-paced training that you can use as reference guides.
Training memberships and training credits - to buy now and schedule training later.

Visit ni.com/training for more information.

Extended Warranty

NI offers options for extending the standard product warranty to meet the life-cycle requirements of your project. In addition, because NI understands that your requirements may change, the extended warranty is flexible in length and easily renewed. For more information, visit ni.com/warranty.

OEM

NI offers design-in consulting and product integration assistance if you need NI products for OEM applications. For information about special pricing and services for OEM customers, visit ni.com/oem.

Alliance

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 700 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit ni.com/alliance.

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Detailed Specifications

AT-GPIB/TNT (PnP), GPIB-USB Interfaces, PCI-8232, NI PCIe-GPIB (Part Number 198405*x*-0xL), NI PCIe-GPIB+, PCI-GPIB, PCI-GPIB+, PCMCIA-GPIB, PMC-GPIB	
Environment	
Operating ambient temperature	0 to 55 °C
Operating relative humidity	10 to 90%, noncondensing
Storage environment	
Storage ambient temperature	–20 to 70 °C
Storage relative humidity	5 to 95%, noncondensing (Tested in accordance with IEC-60068-2-1, IEC-60068-2-2, and IEC-60068-2-56.)
Power Requirements	
AT-GPIB/TNT (PnP)	+5 VDC @ 120 mA typical, 240 mA max
GPIB-USB Interfaces	Bus Power @ 500 mA max
PCI-8232	+5 VDC @ 874 mA typical, 1160 mA max
NI PCIe-GPIB (part number 198405x-0xL)	+3.3 VDC @ 320 mA typical, 500 mA max
NI PCIe-GPIB+	+3.3 VDC @ 360 mA typical, 560 mA max
PCI-GPIB (with TNT4882C controller)	+3.3 VDC @ 121 mA typical, 182 mA max, +5 VDC @ 300 mA typical, 450 mA max
PCI-GPIB (with TNT5004 controller)	+5 VDC @ 150 mA max, +VIO @ 5 mA max
PCI-GPIB+	+3.3 VDC @ 170 mA typical, 575 mA max
PCMCIA-GPIB	+5 VDC @ 65 mA typical, 85 mA max
PMC-GPIB	+5 VDC @ 50 mA typical, 100 mA max
Performance	
AT-GPIB/TNT (PNP)	
3-wire	Up to 1480 Kbytes/s
HS488	Up to 1580 Kbytes/s
GPIB-USB-B	
3-wire	Up to 930 Kbytes/
HS488	Up to 930 Kbytes/s
GPIB-USB-HS	
3-wire	Up to 1800 Kbytes/s
HS488	Up to 7820 Kbytes/s
NI PCIe-GPIB (198405*x*-0xL)	
3-wire	Up to 1670 Kbytes/s
HS488	Up to 7980 Kbytes/s
PCI-GPIB	
3-wire	Up to 1620 Kbytes/s
HS488	Up to 7980 Kbytes/s
PCMCIA-GPIB	
3-wire	Up to 1350 Kbytes/s
HS488	Up to 1350 Kbytes/s
PXI-8232, PXI-GPIB	
Environment	

Operating ambient temperature	0 to 55 °C
Operating relative humidity	10 to 90%, noncondensing
Storage ambient temperature	–20 to 70 °C
Storage relative humidity	5 to 95%, noncondensing (Tested in accordance with IEC-60068-2-1, IEC-60068-2-2, and IEC-60068-2-56.)
Shock and Vibration	
Functional shock	30 g peak, half-sine, 11 ms pulse (Tested in accordance with IEC-60068-2-27. Test profile developed in accordance with MIL-PRF-28800F.)
Random vibration	
Operating	5 to 500 Hz, 0.3 g_{rms}
Nonoperating	5 to 500 Hz, 2.4 g_{rms} (Tested in accordance with IEC-60068-2-64. Nonoperating test profile exceeds the requirements of MIL-PRF-28800F, Class 3.)
Power Requirements	
PXI-8232	+3.3 VDC @ 910 mA typical, 1,500 mA max
PXI-GPIB (with TNT4882C controller)	+3.3 VDC @ 122 mA typical, 182 mA max, +5 VDC @ 300 mA typical, 450 mA max
PXI-GPIB (with TNT5004 controller)	+3.3 VDC @ 80 mA typical, 165 mA max, +VIO @ 3 mA typical, 10 mA max
Performance	
GPIB	
3-wire	Up to 1620 Kbytes/s
HS488	Up to 7980 Kbytes/s
NI PCIe-GPIB (Part Number 190243*x*-01)	
Environment	
Operating ambient temperature	0 to 35 °C
Operating relative humidity	10 to 90%, noncondensing
Storage ambient temperature	–20 to 70 °C
Storage relative humidity	5 to 95%, noncondensing (Tested in accordance with IEC-60068-2-1, IEC-60068-2-2, and IEC-60068-2-56.)
Power requirements	+3.3 VDC @ 970 mA typical, +12 VDC @ 124 mA typical
Performance	
GPIB	
3-wire	Up to 1610 Kbytes/s
HS488	Up to 7960 Kbytes/s
GPIB-ENET/100	
Environment	
Operating ambient temperature	0 to 65 °C
Operating relative humidity	10 to 90%, noncondensing
Storage ambient temperature	–40 to 100 °C
Storage relative humidity	5 to 95%, noncondensing (Tested in accordance with IEC-60068-2-1, IEC-60068-2-2, and IEC-60068-2-56.)
Power requirements	External source 9 to 30 VDC, +15 VDC @ 250 mA typical, 425 mA max
Performance	
GPIB	
3-wire	Up to 1000 Kbytes/s
GPIB-ENET/1000	

Physical	
Dimensions	20.6 × 12.7 × 3.7 cm (8.125 × 5 × 1.438 in.)
Weight	402 g (14.2 oz)
Operating Environment	
Ambient temperature range	0 to 55 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range	10 to 90%, noncondensing (Tested in accordance with IEC-60068-2-56.)
Power requirements	External source 9 to 30 VDC, +12 VDC @ 250 mA typical, 500 mA max
Storage Environment	
Ambient temperature range	–40 to 70 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range	5 to 95%, noncondensing (Tested in accordance with IEC-60068-2-56.)
Shock and Vibration	
Operational shock	30 g peak, half-sine, 11 ms pulse (Tested in accordance with IEC-60068-2-27; test profile developed in accordance with MIL-PRF-28800F.)
Random vibration	
Operating	5 Hz to 500 Hz, 0.3 g_{rms}
Nonoperating	5 Hz to 500 Hz, 2.4 g_{rms}
Random vibration is tested in accordance with IEC-60068-2-64. The nonoperating test profile exceeds the requirements of MIL-PRF-28800F, Class 3.	
Performance	
GPIB	
3-wire	Up to 1480 Kbytes/s
HS488	Up to 5600 Kbytes/s

NI ExpressCard-GPIB

Environment	
Operating ambient temperature	0 to 65 °C
Operating relative humidity	5 to 95%, noncondensing
Storage ambient temperature	–20 to 65 °C (Tested in accordance with IEC-60068-2-1, IEC-60068-2-2, and IEC-60068-2-56.)
Nonoperating thermal shock	–20 to 65 °C, 5 shocks
Shock and Vibration	
Nonoperating shock	50 g, 11 ms (Tested in accordance with IEC-60068-2-27.)
Nonoperating vibration, sinusoidal	15 g, 100 to 2,000 Hz (Tested in accordance with IEC-60068-2-6.)
Nonoperating drop test	2 drops in 3 mutually exclusive axes from 75 cm onto no-cushioning vinyl tile surface
Power requirements	+3.3 VDC ± 10% @ 140 mA typical, 500 mA max
Performance	
GPIB	
3-wire	Up to 1830 Kbytes/s
HS488	Up to 7230 Kbytes/s

All Devices

Altitude	2,000 m (at 25 °C ambient temperature)
Pollution Degree	2
Indoor use only.	
Safety	

This product is designed to meet the requirements of the following standards of safety for information technology equipment:

IEC 60950-1, EN 60950-1
UL 60950-1, CSA 60950-1

Caution Overloading the circuits may damage supply wiring. Do not exceed the ratings on the equipment nameplate when connecting equipment to the supply circuit.

Note For UL and other safety certifications, refer to the product label or the *Online Product Certification* section.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:
EN 61326 (IEC 61326): Class A emissions; Basic immunity
EN 55011 (CISPR 11): Group 1, Class A emissions
AS/NZS CISPR 11: Group 1, Class A emissions
FCC 47 CFR Part 15B: Class A emissions
ICES-001: Class A emissions

Note For EMC declarations and certifications, refer to the *Online Product Certification* section.

Note When operating this product, use shielded cables and accessories.

CE Compliance CE

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:
2006/95/EC; Low-Voltage Directive (safety)
2004/108/EC; Electromagnetic Compatibility Directive (EMC)

Online Product Certification

To obtain product certifications and the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial not only to the environment but also to NI customers.

For additional environmental information, refer to the *NI and the Environment* Web page at ni.com/environment. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers At the end of the product life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers, National Instruments WEEE initiatives, and compliance with WEEE Directive 2002/96/EC on Waste Electrical and Electronic Equipment, visit ni.com/environment/weee.htm.

电子信息产品污染控制管理办法 （中国 RoHS）

中国客户 National Instruments 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。
关于 National Instruments 中国 RoHS 合规性信息，请登录 ni.com/environment/rohs_china。
(For information about China RoHS compliance, go to ni.com/environment/rohs_china.)

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