GPIB Controller for Hi-Speed USB

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
- Maximum GPIB transfer rates
- More than 1.8 MB/s (IEEE 488.1)
- More than 7.2 MB/s (HS488)

Operating Systems
- Windows Vista/XP/2000/Me/98
- Mac OS X
- Linux®

Recommended Software
- LabVIEW
- LabWindows™/CVI
- Measurement Studio

Driver Software (included)
- NI-488.2

HI-SPEED
CERTIFIED USB

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 Vista/XP/2000/Me/98, Mac OS X, and Linux computers with a USB port.

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.
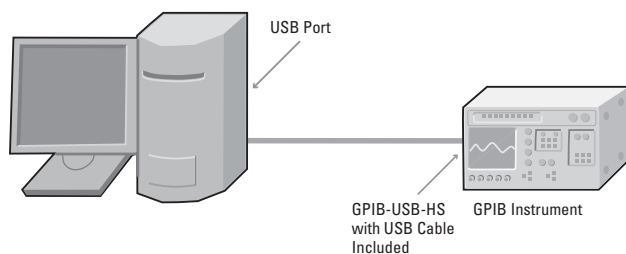
USB Port

GPIB-USB-HS
with USB Cable
Included

GPIB Instrument

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

The GPIB-USB-HS is the first GPIB interface to take advantage of the superior performance of Hi-Speed USB signaling (480 Mb/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.

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.

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GPIB Controller for Hi-Speed USB

A. Run the Getting Started Wizard
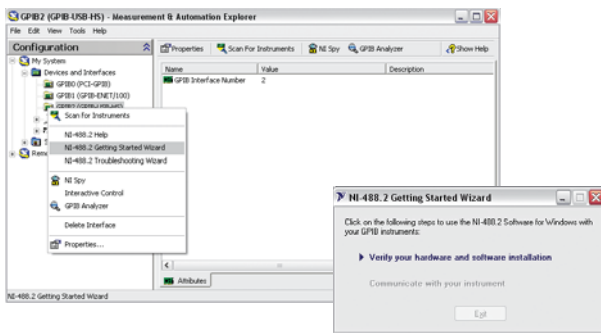
B. Communicate with Your Instrument
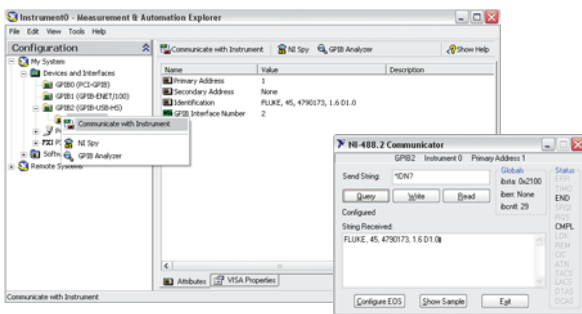
Figure 2. Take these easy steps to get up and running with your instrument communication.

Specifications

USB Port

Hi-Speed USB signaling...................... 480 Mb/s

IEEE 488 Compatibility

IEEE 488.1 and IEEE 488.2

Maximum IEEE 488 Bus Transfer Rates[1]

IEEE 488 interlocked handshake......... 1.8 MB/s
IEEE 488 noninterlocked
   handshake (HS488)........................ 7.2 MB/s

[1]Actual rates depend on system configuration, instrument capabilities, and USB port in use.

External Indicators

Ready
   Green .... USB full-speed
   Amber .... Hi-Speed USB
Active
   Green .... Device active

Power Requirement

USB bus-powered device
Maximum power consumption .... 500 mA

Physical

Dimensions.. 10.7 by 6.6 by 2.6 cm
(4.2 by 2.6 by 1.0 in.)

I/O Connectors

GPIB .... IEEE 488 standard 24-pin
USB .... USB standard series A plug

Operating Environment

Temperature .... 0 to 55 °C
Relative humidity .... 10 to 90%, noncondensing

Storage Environment

Temperature .... -20 to 70 °C
Relative humidity .... 5 to 95%, noncondensing

Safety and Compliance

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1

Note: For UL and other safety certifications, refer to the product label or visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

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

CE Compliance

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)

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain 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.

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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

NI Factory Installation Services

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with **ni.com/pxiadvisor**.

Calibration Services

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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**.

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