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Keysight 82351A PCIe®-GPIB Interface

Quick Start Guide

KEYSIGHT TECHNOLOGIES

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NOTICE: This document contains references to Agilent Technologies. Agilent's former Test and Measurement business has become Keysight Technologies. For more information, go to **www.keysight.com.**



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Safety Information

Use the product only as specified by the manufacturer. Do not install substitute parts or perform any unauthorized modification to the product. Return the product to Keysight Technologies or a designated Keysight Service Center to ensure that safety features are maintained.

The Keysight 82351A PCIe-GPIB Interface complies with the following safety and EMC requirements:

- IEC 61010-1:2001/EN61010-1:2001
- IEC 61326:2002 / EN61326:1997+A1:1998+A2:2001+A3:2003

Safety Terms

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

CAUTION

A CAUTION notice denotes a hazard. It calls attention to operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

Safety Symbols

	Direct current
	Alternating current
	Both direct and alternating current
	Three-phase alternating current
	Earth (ground) terminal
	Protective conductor terminal
	Frame or chassis terminal
	Equipotentiality
	Equipment protected throughout by double insulation or reinforced insulation
	Caution, risk of electric shock
	Caution, risk of danger (refer to the manual for specific Warning or Caution information
	Caution, hot surface

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Regulatory Markings

CE ISM 1-A	The CE mark is a registered trademark of the European Community. This CE mark shows that the product complies with all the relevant European Legal Directives.
ICES/NMB-001	ICES/NMB-001 indicates that this ISM device complies with Canadian ICES-001.
N10149	The C-tick mark is a registered trademark of the Spectrum Management Agency of Australia. This signifies compliance with the Australia EMC Framework regulations under the terms of the Radio Communication Act of 1992.
	This instrument complies with the WEEE Directive (2002/96/EC) marking requirement. This affixed product label indicates that you must not discard this electrical/electronic product in domestic household waste.

WARNING

- **Do not use the device if it appears damaged or defective.**
- **Observe all markings on the device before connecting any wiring to the device.**
- **Do not operate the device in the presence of flammable gases or fumes.**
- **Do not install substitute parts or perform any unauthorized modification to the device.**

CAUTION

- Use the device with the cables provided.
- Repair or service that this not covered in this manual should only be performed by qualified personnels.

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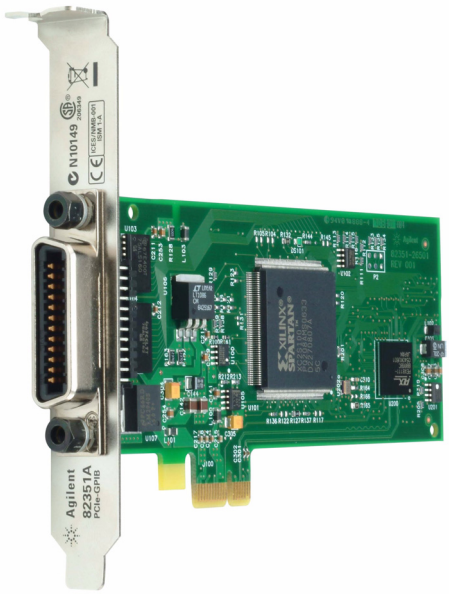
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Introduction

This Quick Start Guide provides a quick approach for installing and configuring the 82351A PCIe-GPIB interface card in your PC. For detailed step-by-step installation and configuration instructions, refer to *Keysight 82351A PCIe- GPIB Interface User's Guide*.

NOTE Ensure the Keysight IO Libraries Suite software is installed in your PC before installing the 82351A PCIe-GPIB interface card.

Product at a Glance



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Related Documentation

See the following documents for information related to the 82351A. All documents are available in electronic format by clicking the IO icon on the Windows® taskbar notification area and selecting **Documentation**.

- *Keysight 82351A PCIe- GPIB Interface User's Guide* describes the 82351A and provides installation and troubleshooting information.
- *Keysight IO Libraries Connectivity Guide* provides a description of the Keysight IO Libraries and utilities, and detailed installation information.
- *Keysight IO Libraries Suite Online Help* provides detailed usage information on the Keysight IO Libraries Suite utilities, including Connection Expert.
- *Keysight VISA User's Guide* describes the Keysight Virtual Instrument Software Architecture (VISA) library.
- *Keysight SICL User's Guide* for Windows describes the Keysight Standard Instrument Control Library (SICL) for Windows.

Go to http://www.keysight.com/find/82351A for additional information on the 82351A.

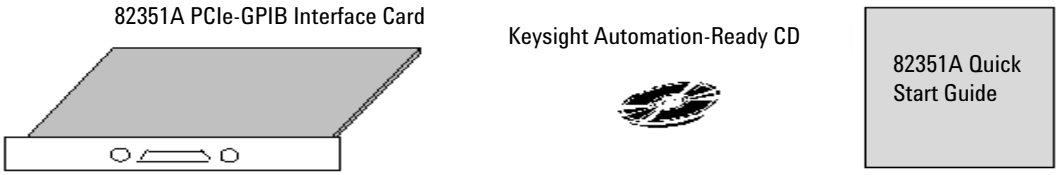
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1 Before Installing the 82351A

✔ **Unpack and inspect the shipping container for damage**

Verify that you received the following items in your shipment of the 82351A PCIe-GPIB Interface:

- Keysight 82351A PCIe-GPIB Interface Card
- Automation-Ready CD with Keysight IO Libraries Suite
- 82351A Quick Start Guide



If your shipping container appears to be damaged, keep the shipping container or cushioning material until you have inspected the contents of the shipment for completeness. See the last page for Keysight Technologies phone and web contact information.

✔ **Check your PC operating system**

To install the 82351A PCIe-GPIB card, your PC operating system must be installed with one of the following: Windows 8, Windows 7, Windows Vista®, or Windows XP.

NOTE

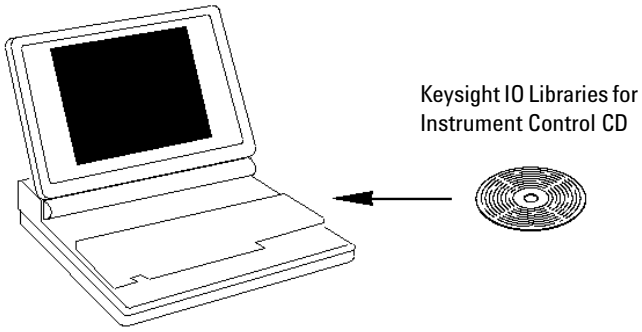
- For those users who had Keysight IO Libraries v14.2 installed and would like to use 82351A PCIe-GPIB Interface, you need to install 82351A driver. You can download the driver from the following site: http://www.keysight.com/find/82351A
- PC installed with Windows Vista or above MUST upgrade to Keysight IO Libraries v15.0 or above.

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2 Installing Keysight IO Libraries Suite

✔ **Insert *Automation-Ready CD***

Turn on your PC and insert the *Automation-Ready CD* with Keysight IO Libraries Suite into the CD-ROM drive. If the installer is not automatically activated, click **Start > Run** and type `<drive>:autorun\auto.exe`

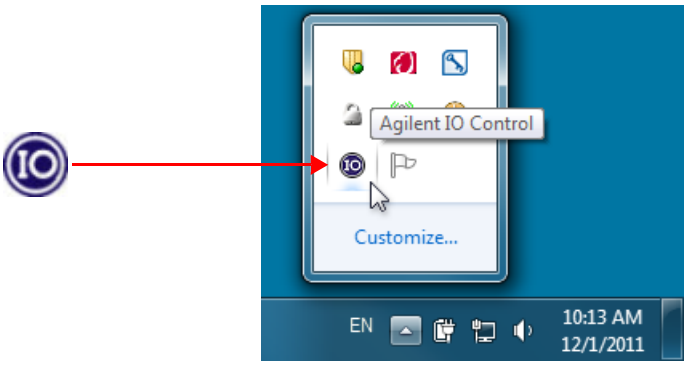


✔ **Install the libraries**

When the Keysight IO Libraries Suite window appears, follow the on-screen instructions to install the libraries. You do not need to run Keysight Connection Expert at this time.

✔ **Look for IO icon**

After the libraries are installed, the IO icon is displayed on the Windows taskbar notification area. You can click the icon to manually run I/O configuration utilities and to display online documentation. It is not necessary to use the icon at this time.



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3 Installing the 82351A in Your PC

✔ **Record the card serial number**

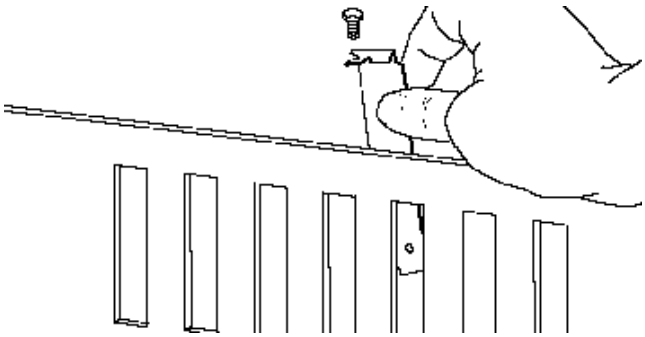
Remove the card from its anti-static bag and record the serial number for future reference. Keep the anti-static bag for storing purpose when you need to remove the card from the PC.

✔ **Remove PC cover**

Turn off power to the PC and to all of its peripherals. Remove the power cord from the PC. Remove the cover from the PC to allow access to the I/O slots. See your PC documentation for instructions. Take precautions against static discharge when handling and installing cards.

✔ **Remove a cover plate**

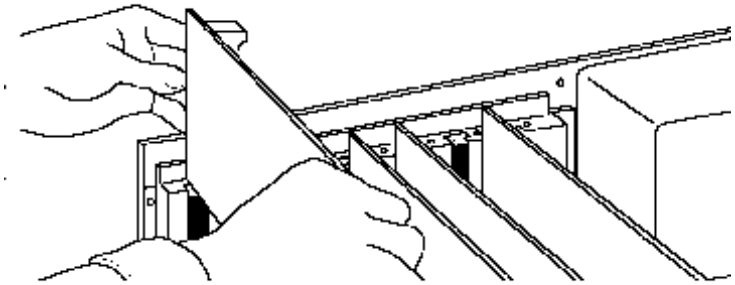
Remove one of the PC back panel cover plates. The 82351A is a 3.3 V PCIe card and it can be fit in a PCIe 1x, PCIe 4x or PCIe 8x slot. Choose a 3.3 V PCIe slot that will give adequate clearance for the GPIB connector.



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✔ **Install the 82351A**

Insert the card's edge connector into the PCIe expansion slot connector of the PC. Ensure the interface is fully seated by pushing firmly on the top edge of the card with the palm of your hand. The GPIB connector should extend through the back panel opening to allow GPIB cable connection. Be sure to hold the card by its edges. Also, be careful with the metal faceplate around the GPIB connector as the faceplate can be bent.



✔ **Replace the cover plate screw**

This will hold the 82351A in place. Save the blank cover plate for future use if the 82351A is later removed. Replace the PC cover(s) as described in your PC documentation.

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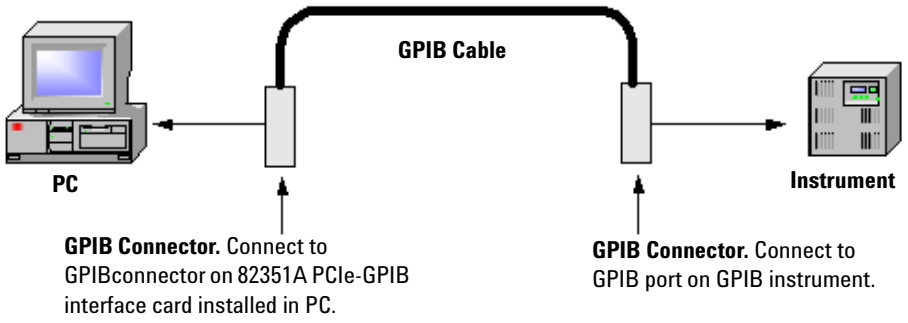
4 Connecting GPIB Instruments

✔ **Review connection guidelines**

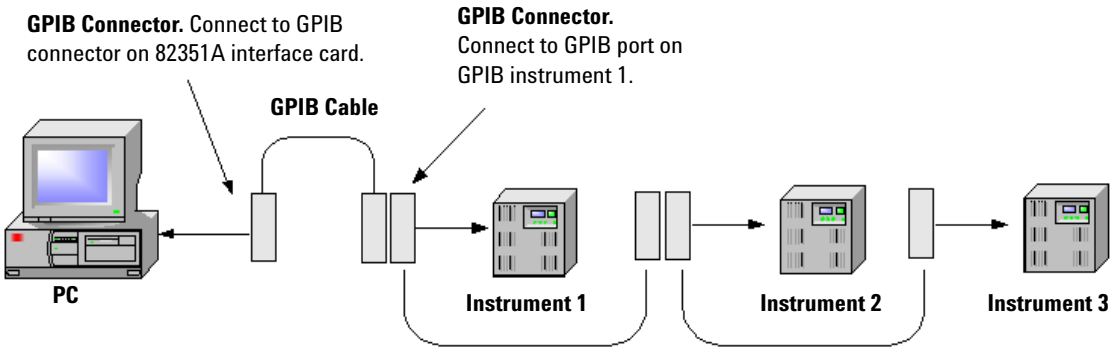
- To minimize stress on connector mountings, stack not more than three cable connectors blocks.
- Minimize cable length as much as possible. See the *Keysight 82351A PCIe- GPIB Interface User's Guide* for maximum cable lengths.

✔ **Connect GPIB cables to the 82351A**

Tighten the GPIB connector screws finger-tight only.



Example: Single instrument connections



Example: Multiple instrument connections

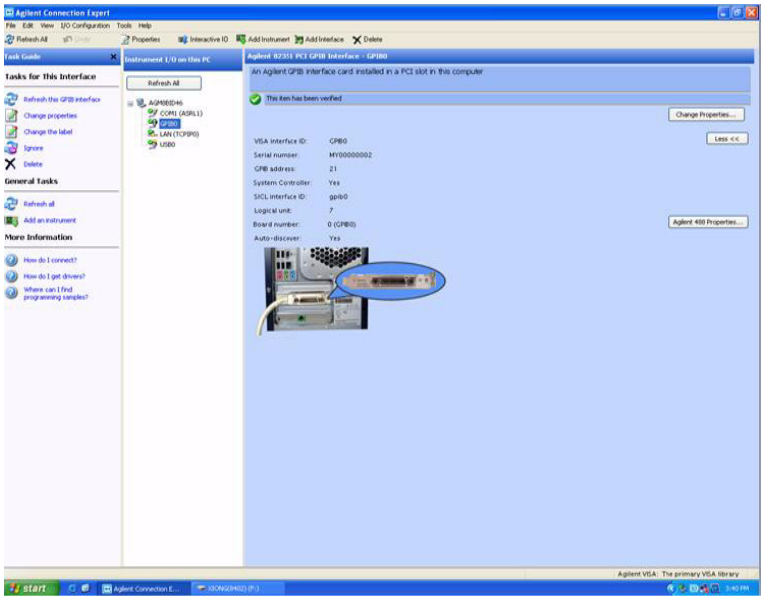
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5 Configuring 82351A Interface

✔ **Start your PC**
You may see a Windows **Found New Hardware** wizard. Click **Next>** to step through the wizard. It is not necessary to insert a CD.

✔ **Start the Keysight Connection Expert**
Click the IO icon on the Windows taskbar notification area. Click **Keysight Connection Expert.**

✔ **Observe the Keysight Connection Expert**
The 82351A will appear as a PCIe-GPIB interface in the Connection Expert explorer. Connected instruments will be displayed beneath the interface. At any time, you can click **Refresh All** to update the displayed information.



✔ **Configure the 82351A**
Once you see the 82351A displayed in Connection Expert, it has been configured and can be used for programming.

To edit the configuration settings, click **Change Properties...** in the detail pane on the right side of the window.

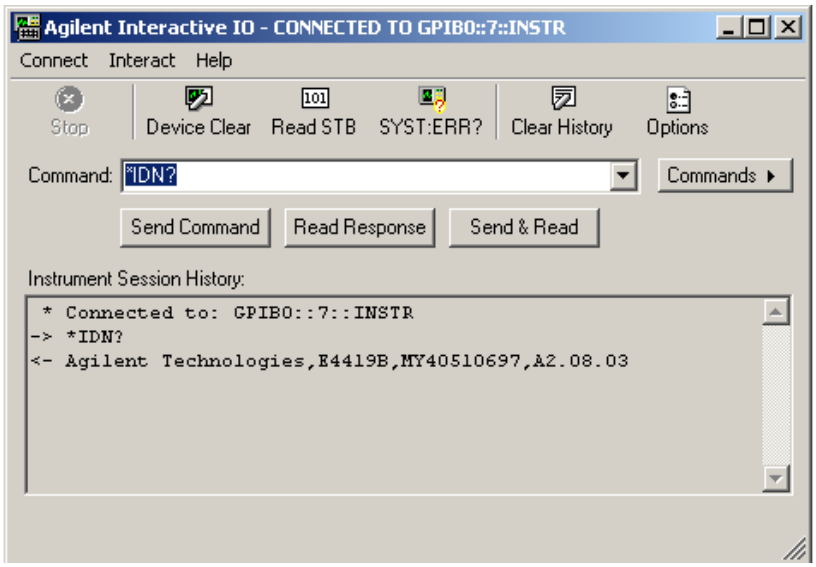
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6 Programming Instruments via 82351A

✔ **Use Interactive IO to communicate with instruments**

After the 82351A has been connected to GPIB instruments and configured, you can use **Interactive IO** to establish communication between your PC and GPIB instruments. To run **Interactive IO** for an IEEE-488.2 compliant instrument, do the following steps:

1. Click the instrument's icon in the **Connection Expert** window.
2. Click **Send Commands To This Instrument** to display **Interactive IO**.
3. With the default command, `*IDN?`, displayed in the text box, click the **Send & Read** button.
4. The instrument identification string will appear.
5. Repeat steps 1 to 3 for the next instrument.



✔ **Program GPIB instruments (optional)**

After communication has been established, you can program your GPIB instruments using VISA, VISA COM, or SICL. See page 2 for related documentation.

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Contact us

To obtain service, warranty, or technical support assistance, contact us at the following phone numbers:

United States:
(tel) 800 829 4444 (fax) 800 829 4433
Canada:
(tel) 877 894 4414 (fax) 800 746 4866
China:
(tel) 800 810 0189 (fax) 800 820 2816
Europe:
(tel) 31 20 547 2111
Japan:
(tel) 0120 (421) 345 (fax) 0120 (421) 678
Korea:
(tel) (080) 769 0800 (fax) (080) 769 0900
Latin America:
(tel) (305) 269 7500
Taiwan:
(tel) 0800 047 866 (fax) 0800 286 331
Other Asia Pacific Countries:
(tel) (65) 6375 8100 (fax) (65) 6755 0042

Or visit Keysight worldwide Web at:
www.keysight.com/find/assist

Product specifications and descriptions in this document are subject to change without notice. Always refer to the Keysight Web site for the latest revision.

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