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Agilent 82357A USB/GPIB Interface for Windows®

Data Sheet

- **Easy connection to GPIB instruments**
- **Use standard USB interface**
- **Interface with up to 14 GPIB instruments**
- **IEEE-488 compatible**
- **Transfer over 750Kbytes/sec with large block transfers**
- **Use industry standard software – no need to rewrite your software**



The Fastest, Easiest Connection

Gain the ultimate in speed and efficiency by connecting your PC or laptop to your test and measurement instruments. The Agilent 82357A USB/GPIB Interface provides instant connections, enabling a direct connection from the USB port on your PC to GPIB instruments.

USB (Universal Serial Bus) is built into most of today's desktop and laptop computers, offering Plug-and-Play connections and auto configuration. And with the new Agilent interface there are no switches to set, and no PC cards to install.

With the 82357A USB/GPIB Interface, getting connected has never been easier. Thanks to automatic configuration and use of industry standards, your measurement applications will be up and running faster than ever before.

Totally Transparent, Fully Compatible

The USB/GPIB Interface software allows transparent communication between a PC and one or more GPIB instruments. The included VISA (Virtual Instrument Software Architecture) software provides GPIB emulation so that your existing GPIB programs work immediately, without modification. You don't need to learn a new programming paradigm.

USB support is standard in Windows 98 (SE)/Me and Windows 2000/XP. These operating systems support the automatic Plug-and-Play configurations, so it's easy to install, configure, and use USB devices. Standard Plug-and-Play devices, like the 82357A, are automatically detected as soon as they're connected to the computer USB port.

With the USB/GPIB Interface, you just plug and go. It's hot pluggable, making it easy to connect and disconnect without having to shutdown the computer. No external power supplies are necessary.

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Full Assurance for Interoperability

The USB/GPIB Interface ships with the Agilent I/O Libraries that include VISA and SICL. VISA provides the interoperability among different instrument and software vendors.

Standard GPIB functionality is provided by implementing the IEEE 488.1 and IEEE 488.2 specifications. These specifications provide defined mechanical and electrical characteristics, and a basic set of instrument commands and common data formats.

Using industry standards gives you the assurance and confidence that your programs will work with multiple hardware and software vendors, and migrate to new standards in the future.

Standard Computer I/O

In the past, RS-232 and GPIB have been the primary interfaces used for connecting instruments to PCs in test and measurement applications. Although RS-232 offers a low-cost solution, RS-232's lower baud rate and connection limitations are cumbersome and too slow for many of today's measurement needs.

GPIB has provided a high performance, stable solution for more than 25 years. Today, however, PC's have fewer available I/O slots, forcing engineers to use more expensive solutions such as industrial PCs.

With USB and LAN built into most of today's PCs, standard computer I/O has evolved into a solution that is acceptable for automation and control of test and measurement instruments.

The early USB devices that were initially developed for connecting PCs to peripherals such as keyboard, mouse, etc., offered little bandwidth. But today USB offers bandwidths up to 12Mbits/sec for USB 1.1 and 480Mbits/sec for USB 2.0. The 82357A USB/GPIB Interface fully implements USB 1.1 and runs under USB 2.0.

The 82357A USB/GPIB Interface also uses a thin, flexible, high-quality USB cable that is USB 1.1 and 2.0 compliant. This cable is shielded and specified to 1,500 insertions, ensuring a durable connection and reliable data transfers.

The 82357A is capable of transfer rates over 750KBytes/sec with large block transfers. The performance is better than typical GPIB cards for block sizes over 32KBytes. Small block transfers are limited by the USB implementation and the overhead associated with setting up the transfer. However since the instrument setup times can dominate the overall test time, this impact may be minimal. If small block transfer performance is critical, then consider the Agilent 82350A PCI GPIB Interface.

Make the Connection

With the 82357A USB/GPIB Interface you can connect directly to one instrument with no additional GPIB cables required.

To connect to multiple instruments, simply use a daisy chain or star configuration with your GPIB instruments using standard GPIB cables. Once the instruments are connected, connect the USB/GPIB Interface as the last connection on one of the instruments. One 82357A USB/GPIB Interface supports up to 14 GPIB instruments. Multiple 82357A USB/GPIB Interfaces can be connected to improve system performance.



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Software Included

The VISA standard is a system-level industry standard supported by a multivendor foundation for instrument software. It offers an easy-to-use set of I/O control functions and provides a migration path to new standards such as IVI (Interchangeable Virtual Instruments). IVI is a new driver standard developed by instrument and software vendors to define software standards for instrument interchangeability. This new standard is layered on Agilent VISA and offers interchangeability and high performance.

Also included is the VISA Assistant software which provides communication and diagnostic tools to help troubleshoot your applications.

Take a Look for Yourself

Want to see the 82357A USB/GPIB Interface in action? Check out the demo at **www.agilent.com/find/82357** You'll see how Agilent Technologies can make your work easier.

You can order the Agilent 82357A USB/GPIB Interface by calling one of our toll free numbers.

Technical Specifications

Minimum System Requirements

Windows 98 Second Edition/Me/2000/XP Professional
Pentium® 200, 32 MB RAM, 50 MB free disk space, USB port (OS may require additional resources)

Supported Standards

USB 1.1
IEEE 488.1 and IEEE 488.2 compatible
Agilent VISA 2.2 and SICL IO Libraries (included)

Maximum Data Rates

Over 750KBytes/sec (for large block transfers)

General Characteristics

Power	USB bus powered device, +5V, 500 mA (max), 200 mA (typ)
Connectors	Standard 24pin IEEE-488 Standard USB A
USB Hubs	Self-powered hubs
Dimensions	105 mm (L) x 64 mm (W) x 30 mm (H) (includes connectors)
Weight	215 grams
Cable	2.5 meters, shielded, 1500 insertions
Indicators	Ready, Access, Fail
Warranty	3 years

Environmental Specifications

Operating Environment	
	0°C to 55°C
Humidity	up to 90% (40°C)
Storage Environment	
	-40°C to +70°C
Storage Humidity	
	up to 90% (65°C)

Supported Languages and Applications

Applications (with IntuiLink)
- Microsoft® Excel 97 and 2000
- Microsoft Word 97 and 2000

Software Development
- Visual Basic 6. 0
- Visual C++ 6.0
- Visual Studio 6.0
- Agilent VEE 6.0 or greater
- BASIC for Windows
- LabVIEW 6.0 or greater

Ordering Information

82357A USB/GPIB Interface for Windows

Options

Option 0B1 – Add Paper Manual Set

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