
HP VEE for Windows

Installing the HP I/O Libraries

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About this Manual

This manual explains how to install the current version of the HP I/O Libraries that are used with version 5.0 of HP VEE in a Windows® 95 or Windows NT® 4.0 environment. You must install this version of the libraries; you cannot continue using a previous version if one is installed on your system.

The manual assumes you are familiar with Windows, HP VEE, instruments, and I/O libraries. Also, it assumes you are familiar, in general, with installation procedures. If you have little or no knowledge of these things, you might want to have someone perform the installation for you.

Note

If you are using *only* National Instruments GPIB interface card and software, you do not need to install the HP I/O Libraries. The NI GPIB card will appear as `hpib14`.

Conventions Used in This Manual

This manual uses the following typographical conventions:

<i>Getting Started</i>	Italicized text is used for book titles and for emphasis.
Dialog Box	Bold text is used for the first instance of a word that is defined in the glossary.
File	Computer font represents text that you will see on the screen, including menu names, features, buttons, or text that you have to enter.
dir <i>filename</i>	In this context, the text in computer font represents an argument that you type exactly as shown, and the italicized text represents an argument that you must replace with an actual value.
File ⇒ Open	The “⇒” is used in a shorthand notation to show the location of HP VEE features in the menu. For example, “File ⇒ Open” means to select the File menu and then select Open.
Sml Med Lrg	Choices in computer font, separated with bars (), indicate that you should choose one of the options.
Press Enter	In this context, bold represents a key to press on the keyboard.
Press Ctrl + O	Represents a combination of keys on the keyboard that you should press at the same time.

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Overview of the HP I/O Libraries

Overview of the HP I/O Libraries

HP VEE 5.0 uses the HP I/O Libraries to communicate with instruments. You must install and configure the HP I/O Libraries before creating programs that perform instrument I/O, and the HP I/O Libraries must also be the current version shipped with HP VEE 5.0.

Note

If you are using *only* National Instruments GPIB interface card and software, you do not need to install the HP I/O Libraries. The NI GPIB card will appear as `hpi14`.

The HP I/O Libraries consist of the following two libraries:

- **HP VISA Library** is an I/O library designed according to the *VXIplug&play* System Alliance that allows software developed from different vendors to run on the same system.
- **HP Standard Instrument Control Library (SICL)** is an I/O library developed by HP that is portable across many I/O interfaces and systems.

Interface Support Summary for the HP I/O Libraries

The following table summarizes which I/O interfaces are supported for VISA and SICL on Windows 95 and NT.

Table 1-1. Support for the HP I/O Libraries

Library	GPIB/ HP-IB	VXI	GPIB-VXI	RS-232	GPIO	LAN
VISA	X	X	X	X		X ^a
SICL	X	X		X	X	X

- a. LAN support from within VISA occurs via an address translation such that a GPIB interface can be accessed remotely over a computer network.

Where to Go Next

Now that you have a better understanding of VISA and SICL, you are ready to install the HP I/O Libraries. Please see Chapter 2, “Installing and Configuring the HP I/O Libraries”.

**Installing and Configuring
the HP I/O Libraries**

Installing and Configuring the HP I/O Libraries

This chapter explains how to install and configure the HP I/O Libraries on your system. The main sections of this chapter are:

- Preparing to Install the HP I/O Libraries
- Installing the HP I/O Libraries
- Configuring the HP I/O Libraries

Preparing to Install the HP I/O Libraries

You can install the HP I/O Libraries before or after installing HP VEE, however, it is strongly recommended that you install the hardware interface card(s) in your computer before you install the HP I/O Libraries software.

To install each interface card, see the installation guide that was shipped with the interface card. For example, if you need to install an HP-IB card, see the *HP-IB Interface Installation Guide for HP I/O Libraries* for interface installation procedures.

Verifying the System Requirements

For a description of the system requirements, see the inside of the CD-ROM jewel case for HP VEE 5.0.

Installing the HP I/O Libraries

This section explains how to install the HP I/O Libraries on Windows 95/NT from CD-ROM.

Note

If you must install the software using flexible disks, you can make a set of disks from the CD-ROM. See Appendix A, “Installing the HP I/O Libraries from Flexible Disks”, for information.

Note

If you have more than one Windows environment on your PC, and you want to use the HP I/O Libraries on more than one environment, you must perform an installation procedure for each Windows environment.

Installation Steps

Follow these steps to install the VISA and SICL software. To simplify the installation, both VISA and SICL will be installed using default installation locations.

1. If you have not already done so, start up Windows.
2. Insert the CD-ROM labeled "HP I/O Libraries for Windows" in the CD-ROM drive. (Drive e: is used in these instructions.) Be aware that the installation process will probably start up automatically. If it does, work through the installation screens, providing information when requested. If it does not start up automatically, go on to Step 3.
3. Click on **Start** and then select **Run**.

In the dialog box, type `e:setup` and click on the **OK** button.

4. The setup program prompts you for the directories in which to install the files. We recommend that you use the default locations that are suggested.

5. The setup program prompts you when it has completed successfully. It then gives you two options; you can review the `Readme` file and continue with interface configuration. We recommend that you do both. After you review the `Readme` and close the file, the interface configuration starts automatically.

Please see, “Configuring the HP I/O Libraries” on page 10, for instructions on how to configure your system to use the HP I/O Libraries.

Note

It is very important that you review the `I/O Libraries Readme` file before proceeding with any `VISA` or `SICL` application development. If you do not read it during the installation, then double-click on the `I_O Readme` icon in the `HP I/O Libraries` program group to view the file.

**What Happened
During Installation**

During installation, the setup program installed `VISA` and `SICL` on your Windows environment. It also created the following:

1. An `HP I/O Libraries` program group for `VISA` and `SICL` containing the following icons:
 - `I/O Config utility`
 - `I_O Readme file`
 - `LAN Server`
 - `Message Viewer utility (Windows 95 only)`
 - `SICL Help (online help)`
 - `VISA Help (online help)`
 - `VISA Assistant`
 - `VISA Assistant Help`
 - `SICL Manual (optional)`
2. A `VXIPNP (VXIplug&play)` Start menu folder, where you can store your `VXIplug&play` drivers for `VISA`.

The Windows registry was also modified by the setup program to record the locations of the `SICL` and `VXIPNP` directories. This change will have no other effect on your Windows environment.

Configuring the HP I/O Libraries

This section first explains how to configure an HP 82341 or HP 82340 HP-IB interface for use in EISA computers. If you do not need to configure an HP 82341 or HP 82340 for use in an EISA computer, simply skip the first subsection and go on to the next configuration section.

If you have more than one Windows environment on your PC, and you have installed the HP I/O Libraries on more than one environment, you must perform the configuration procedures for *all* the Windows environments you will use with the HP I/O Libraries.

Note

If you have not yet installed the hardware interface card(s) in your computer, you must do so before proceeding with the software configuration procedures in this section. To install each interface card, see the installation guide that was shipped with the interface card. For example, if you need to install an HP-IB card, see the *HP-IB Interface Installation Guide for HP I/O Libraries* for interface installation procedures.

Configuration of an HP 82341 or HP 82340 HP-IB with EISA Computers

Some personal computers have 32-bit EISA backplanes. If you installed an HP 82341 or HP 82340 HP-IB interface in an EISA slot, you may wish to run the EISA configuration utility provided with your computer. The EISA configuration utility will assign hardware resources to the interface to avoid system conflicts.

When you ran the HP I/O Libraries installation setup program, the EISA .CFG files were placed in the EISACFG directory under the SICL base directory (for example, under C:\SICL\EISACFG if you installed the SICL software in the default location).

When you run the EISA configuration utility and assign resources, be sure to note the settings for use with the configuration utility described in the next subsections.

Once you have run the EISA configuration utility, go on to the next configuration section on the following pages. If you have more than one

Windows environment on your PC, and you have installed the HP I/O Libraries on more than one environment, you must perform the configuration steps for *all* the Windows environments you will use with the HP I/O Libraries.

Configuration Steps

Note

To configure your interfaces for use with SICL and VISA, do *not* attempt to manually edit the Windows registry, or use either the Add New Hardware Wizard or Device Manager features of Windows. Instead, you must exclusively use the I/O Config utility, as explained in this section, to configure all interfaces used with SICL and VISA.

This section explains how to run the HP I/O Libraries configuration utility, I/O Config. This utility will configure your Windows environment to use VISA and SICL. When you finish running I/O Config, VISA and SICL will be completely installed and configured on your system.

Running the HP I/O Libraries Configuration Utility

The installation program runs the I/O Config utility automatically after installing the HP I/O Libraries if you choose the option to do so. You can run the I/O Config utility later by double-clicking on the I/O Config icon in the HP I/O Libraries program group. The I/O Config utility is an interactive program that searches your system for installed interfaces that have VISA and SICL support. (LAN is an exception to this — see the following Note.) You must select the interfaces you wish to use, and the I/O Config utility will choose a number of default parameters needed to configure each interface.

Note

The I/O Config utility *cannot* automatically detect a LAN interface. Therefore, if you have a LAN interface installed which you want to use with VISA and/or SICL, simply select LAN from the list of possible interfaces you may configure within I/O Config. Then select the appropriate configuration parameters needed to configure your LAN interface for use with VISA and/or SICL.

Configuring the HP I/O Libraries

Any configurable hardware options, such as which computer interrupt line to use, plus important VISA and SICL configuration details will be displayed for each selected interface. If you have any questions about the use of the `I/O Config` utility for a specific interface, select the `Help` button within the interface's `I/O Config` dialog box.

In most cases, you will be able to use the automatic defaults. But if you need to change a value, either click on the arrows next to the value's field or, if there are no arrows, click on the field and type in the new value that you want.

You should note the name of the interface, such as `hpib7`, and the logical unit number of the interface for later use in your SICL applications, and the device address for later use in your VISA applications. However, note that you can run the `I/O Config` utility at any future time to check or make changes to the configuration settings of your interfaces.

When you have finished configuring the interfaces, click on `OK` to store the changes you have made. If you:

- Will *not* use this system as a LAN server, you are now ready to begin creating I/O applications with VISA or SICL. Skip the next two subsections and continue on to the subsection titled "Where to Go Next".
- Will use this system as a LAN server, go on to the next subsection to start the LAN server on this system.

Starting the LAN Server

If you configured the LAN server on this Windows PC using I/O Config, you must now start the LAN server process on this system. To start the LAN server, you can *either*:

- Restart (reboot) this system now. When the system is restarted, the LAN server process (which is listed in the Windows registry) will be started automatically.

Note that the LAN server will be started automatically each time this system is restarted (rebooted) in the future.

OR:

- Manually start the LAN server process on this system. To do this, click on the LAN Server icon in the HP I/O Libraries program group. The LAN server is now running. Note that you can minimize the LAN Server window so that the LAN Server process is listed on the Windows task bar at the bottom of the screen.

Also note that the LAN server will be started automatically each time this system is restarted (rebooted) in the future.

Stopping the LAN Server

To stop the LAN server process from running on a Windows PC, do the following:

1. Click on the LAN Server process listed in the Windows task bar at the bottom of the screen. The LAN Server window opens on the screen.
2. Move your cursor into the LAN Server window. Then press **Ctrl+C** *simultaneously* on your keyboard. The LAN server process is stopped.

Where to Go Next

You have now completed configuring VISA and SICL on Windows. Remove the CD-ROM and store it in a safe location. You can begin developing HP VEE applications that use instrument I/O.

Installing and Configuring the HP I/O Libraries
Configuring the HP I/O Libraries

A

**Installing the HP I/O Libraries
from Flexible Disks**

Installing the HP I/O Libraries from Flexible Disks

This appendix explains how to install the HP I/O Libraries from flexible disks on Windows 95 and Windows NT.

Note

The HP I/O Libraries are available only on CD-ROM. If you must install the software using flexible disks, you can make a set from the CD-ROM. The CD-ROM contains disk images named `Disk1` through `Disk6`. Copy each disk image to a separate flexible disk. *Be sure to label each disk with "HP I/O Libraries" and the disk number.* The `setup.exe` program is in `Disk1`. After making the flexible disk copies, please follow the installation instructions in this appendix.

Refer to the following, appropriate installation section for the Windows environment you are using. If you have more than one Windows environment on your PC, and you want to use the HP I/O Libraries on more than one environment, you must perform the installation procedures for *all* the Windows environments you will use with the HP I/O Libraries.

Installation Steps

Note

To simplify the installation, both VISA and SICL will be installed on your Windows environment during the following procedures.

Follow these steps to install VISA and SICL software on Windows from flexible disks:

1. If you have not already done so, start up Windows.
2. Locate the software installation disk labeled "HP I/O Libraries, Disk 1". Insert the disk in the appropriate disk drive. (Drive a: is used in these instructions.)
3. Click on `Start`, then click on `Run`.
4. In the dialog box, type `a:setup`. Then click on `OK`.
5. The setup program prompts you for the directories in which to install the files:
 - For SICL, the default is `\SICL` on your primary hard drive.
 - For VISA, the default is `\VXIIPNP` on your primary hard drive. (VXIIPNP stands for *VXIplug&play*.)

Either click the `Install` button to use the default locations for VISA and SICL, or click `Set Location` to type in the desired directory for VISA and/or SICL. Finally, click on `Continue` and then on `Install`.

The setup program automatically copies the HP I/O Libraries files onto your hard drive.

Installation Steps

6. When prompted, remove the first flexible disk and insert the second disk labeled "HP I/O Libraries, Disk 2".

The setup program automatically copies the rest of the HP I/O Libraries files requesting disks as needed.

7. The setup program then prompts you when it has completed successfully. When the setup is complete, you will have two options; you can review the `Readme` file and continue with interface configuration. We recommend that you do both. After you review the `Readme` and close the file, the interface configuration starts automatically.

Please see, "Configuring the HP I/O Libraries" on page 10, for instructions on how to configure your system to use the HP I/O Libraries. Be sure to store the disks in a safe location when installation and configuration are done.

What Happened During Installation

During installation, the setup program installed both VISA and SICL on your Windows environment. It also created the following:

1. An `HP I/O Libraries` program group for VISA and SICL containing the following icons:
 - I/O Config utility
 - I_O Readme file
 - LAN Server
 - Message Viewer utility (Windows 95 only)
 - SICL Help (online help)
 - VISA Help (online help)
 - VISA Assistant
 - VISA Assistant Help
 - SICL Manual (optional)
2. A `VXIIPNP (VXIplug&play)` Start menu folder, where you can store your `VXIplug&play` drivers for VISA.

The Windows registry was also modified by the setup program to record the location of the SICL and VXIPNP directories. This change will have no other effect on your Windows environment.

Note

It is very important that you review the I/O Libraries Readme file before proceeding with any VISA or SICL application development. If you do not read it during the installation, then double-click on the I_O Readme icon in the HP I/O Libraries program group to view the file.

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