
Installing the HP I/O Libraries for HP VEE for Windows

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About This Manual

This manual explains how to install the version 4.0 HP I/O Libraries that are used with version 4.0 of HP VEE in a Windows 95 or Windows NT environment (versions 3.51 or 4.0). Take steps to ensure you install the appropriate versions on the appropriate environments, regardless of your type of media (CD-ROM or flexible disks).

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.

Typographical Conventions Used in this Manual

Example	Represents
<i>HP VEE Advanced Programming Techniques</i>	Italicized words are used for book titles and for emphasis.
File	Computer font represents text you will see on the screen, including menu names, features, buttons, toolbar button names, or text you have to enter.
dir <i>filename</i>	In this context, the word in computer font represents text you type exactly as shown, and the italicized word represents an argument that you must replace with an actual value.
File \Rightarrow Open	The " \Rightarrow " is used in a shorthand notation to show the location of HP VEE features in the menus. For example, " File \Rightarrow Open " means to select the File menu and then select Open .
Flat Sunken Raised	Choices in computer font, separated with a bar (), indicate that you should choose one of the options.
Return	The keycap font graphically represents a key on the keyboard.
Press Ctrl + O	Represents a combination of keys on the keyboard that you should press at the same time.
Dialog Box	Bold font indicates the first instance of a word defined in the glossary.

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Overview of the HP I/O Libraries

Overview of the HP I/O Libraries

HP VEE 4.0 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 4.0 version.

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

- **HP VISA Transition Library (VTL)** 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 Windows environments and I/O interfaces are supported for VISA and SICL.

Support for the HP I/O Libraries

Environment	Library	GPIB/ HP-IB	VXI	GPIB-VXI	RS-232	GPIO	LAN
Windows® 95	VISA	X	X	X			X ¹
	SICL	X	X		X	X	X
Windows NT™	SICL	X			X		

¹ 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 go on to the next chapter, “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 on:
 - Windows 95
 - Windows NT
- Configuring the HP I/O Libraries on:
 - Windows 95
 - Windows NT

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 hardware and software requirements, refer to the installation insert that attended the CD-ROM (or floppies) for HP VEE 4.0.

Installing the HP I/O Libraries

NOTE

If you purchased the option for 3.5-inch disks for installation of the HP I/O Libraries, please follow the installation instructions provided in Appendix A instead of the instructions in this section. (This section contains instructions for installation of the HP I/O Libraries from CD-ROM only.)

This section contains subsections for installing the HP I/O Libraries from CD-ROM on:

- Windows 95
- Windows NT

Work through the installation subsection for the Windows environment you are using (Windows 95 or Windows NT).

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 you will use with the HP I/O Libraries.

Installation on Windows 95

NOTE

To simplify the installation, both VISA and SICL will be installed on your Windows 95 environment during the following procedures.

Follow these steps to install VISA and SICL software on Windows 95 from CD-ROM:

1. If you have not already done so, start up Windows 95.
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 might start up automatically. If it does, work through the screens as described, beginning with Step 5. If it does not start up automatically, go on to Step 3.
3. Click on **Start** and then select **Run**.
4. In the dialog box, type **e:setup** and click on the **OK** button.
5. The setup program displays a dialog box that shows possible Windows environments. Any that are not running are greyed-out. Click on the appropriate environment.
6. 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 **\VXIPNP** on your primary hard drive. (**VXIPNP** 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 **Continue** and **Install**.

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Installing the HP I/O Libraries

The setup program automatically copies all of the VISA and SICL files onto your hard drive.

7. The setup program then prompts you when it has completed successfully. When the setup is complete, remove the CD-ROM and store it in a safe location.

What Happened During
Installation

During installation, the setup program installed VISA and SICL on your Windows 95 environment. It also created the following:

1. An **HP I/O Libraries** program group for VISA and SICL. It also defined an icon for each of the following:
 - **SICL Read Me** file
 - **VISA Read Me** file
 - **SICL Help** (online help)
 - **VISA Help** (online help)
 - **I/O Config** utility
 - **Message Viewer** utility
 - **LAN Server**
 - **SICL I/O Command Utility**
2. A **VXIPNP** (*VXIplug&play*) **Start** menu folder, where you can store your *VXIplug&play* drivers for VISA.

The Windows 95 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.

NOTE

It is very important that you look through the **Read Me** files for VISA and SICL before proceeding with any VISA or SICL application development. Double-click on the **Read Me** icons in the **HP I/O Libraries** program group to view these files.

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

Where to Go Next

You have now completed installing the HP I/O Libraries, on your Windows 95 environment. Please go on to the next main section, “Configuring the HP I/O Libraries”, for instructions on how to configure your system to use the HP I/O Libraries.

Installation on Windows NT

NOTE

You must have system administrator privileges to be able to install SICL on Windows NT.

Follow these steps to install the SICL software on Windows NT from CD-ROM:

1. If you have not already done so, start up Windows NT.
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 might start up automatically. If it does, work through the screens as described, beginning with Step 5. If it does not start up automatically, go on to Step 3.
3. There are two options for starting:
 - a. For Windows NT, version 4.0 or higher, click on **Start**. Then click on **Run**.
 - b. For Windows NT, version 3.51, select **File** and then **Run** from the Program Manager.
4. In the dialog box, type **e:setup** and click on **OK** (or press **(Enter)**).
5. The setup program displays a dialog box that shows possible Windows environments. Any that are not running are greyed-out. Click on the appropriate environment.
6. The setup program prompts you for the directory in which to install the files. The default is **\SICL** on your primary hard drive.

Either click the **Install** button to use the default location, or click **Set Location** to type in the desired directory and then click **Continue** and **Install**.

The setup program automatically copies all of the SICL files onto your hard drive.

7. The setup program then prompts you when it has completed successfully. When the setup is complete, remove the CD-ROM and store it in a safe location.

What Happened During Installation

During installation, the setup program installed SICL on your Windows NT environment and created an **HP SICL** program group. It also defined an icon for each of the following:

- **SICL Read Me First** file
- **SICL Help** (online help)
- **SICL I/O Config** utility

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

NOTE

It is very important that you look through the **Read Me First** file for SICL before proceeding with any SICL application development. Double-click on the **Read Me First** icon in the **HP SICL** program group to view this file.

Where to Go Next

You have now completed installing SICL on your Windows NT environment. Please go on to the next main section, "Configuring the HP I/O Libraries", for instructions on how to configure your system to use SICL.

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. Then it provides subsections for configuring the HP I/O Libraries on:

- Windows 95
- Windows NT

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 following, appropriate configuration subsection for the Windows environment you are using.

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 in the following, appropriate subsections 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 appropriate configuration subsection on the following pages for the Windows environment you are using. 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 in the following, appropriate subsections for *all* the Windows environments you will use with the HP I/O Libraries.

Configuration on Windows 95

NOTE

To configure your interfaces for use with SICL and VISA, do *not* attempt to manually edit the Windows 95 registry, or use either the **Add New Hardware Wizard** or **Device Manager** features of Windows 95. 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 subsection explains how to run the HP I/O Libraries configuration utility, **I/O Config**. This utility will configure your Windows 95 environment VISA to use 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

Run the **I/O Config** utility 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.

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 **hpiib7**, 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 95 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 95 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 95 task bar at the bottom of the screen.

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the HP I/O Libraries
Configuring the HP I/O Libraries

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

Stopping the LAN Server	<p>To stop the LAN server process from running on a Windows 95 PC, do the following:</p> <ol style="list-style-type: none">1. Click on the LAN Server process listed in the Windows 95 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 <i>simultaneously</i> on your keyboard. The LAN server process is stopped.
Where to Go Next	<p>You have now completed configuring VISA and SICL on Window 95. You can begin developing HP VEE applications that use instrument I/O.</p>

Configuration on Windows NT

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

Running the HP SICL
Configuration Utility

NOTE

On Windows NT, you must have system administrator privileges to run the SICL **I/O Config** utility. You will also be instructed to reboot the computer if you add or modify interfaces with the **I/O Config** utility. This is required in order to load or update the driver files in the Windows NT kernel.

Run the SICL **I/O Config** utility by double-clicking on the **I/O Config** icon in the **HP SICL** program group. The SICL **I/O Config** utility is an interactive program that searches your system for installed interfaces that SICL supports. 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.

Any configurable hardware options, such as which computer interrupt line to use, plus important 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 **Help** from the **I/O Config** utility menu.

In most cases, you will be able to use the automatic defaults. But if you need to change a value, simply click on the field and select 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. 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** and **Yes** to store the changes you have made. Now you must reboot your system for these changes to take effect.

Where to Go Next

You have now completed configuring SICL on Windows NT. You can begin developing HP VEE applications that use instrument I/O.

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Installing the
HP I/O Libraries
from Flexible Disks

Installing the HP I/O Libraries from Flexible Disks

This appendix contains sections for installing the HP I/O Libraries from flexible disks on:

- Windows 95
- Windows NT

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 in the following, appropriate sections for *all* the Windows environments you will use with the HP I/O Libraries.

Installation on Windows 95

NOTE

To simplify the installation, both VISA and SICL will be installed on your Windows 95 environment during the following procedures.

Follow these steps to install VISA and SICL software on Windows 95 from flexible disks:

1. If you have not already done so, start up Windows 95.
2. Locate the software installation disk labeled “HP I/O Libraries, Windows 95, 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 **\VXIPNP** on your primary hard drive. (**VXIPNP** 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.

Installing the HP I/O Libraries
from Flexible Disks

Installation on Windows 95

6. When prompted, remove the first flexible disk and insert the second disk labeled “HP I/O Libraries, Windows 95, Disk 2.”

The setup program automatically copies the rest of the HP I/O Libraries files.

7. The setup program then prompts you when it has completed successfully. When the setup is complete, remove the flexible disk and store both the HP I/O Libraries disks in a safe location.

What Happened During Installation

During installation, the setup program installed both VISA and SICL on your Windows 95 environment. It also created the following:

1. An **HP I/O Libraries** program group for VISA and SICL. It also defined an icon for each of the following:
 - SICL Read Me file
 - VISA Read Me file
 - SICL Help (online help)
 - VISA Help (online help)
 - I/O Config utility
 - Message Viewer utility
 - LAN Server
 - SICL I/O Command Utility
2. A **VXIPNP** (*VXIplug&play*) **Start** menu folder, where you can store your *VXIplug&play* drivers for VISA.

The Windows 95 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 look through the **Read Me** files for VISA and SICL before proceeding with any VISA or SICL application development. Double-click on the **Read Me** icons in the **HP I/O Libraries** program group to view these files.

Where to Go Next

You have now completed installing the HP I/O Libraries, on your Windows 95 environment. Please go on to “Configuring the HP I/O Libraries” in Chapter 2 for instructions on how to configure your system to use the HP I/O Libraries.

Installation on Windows NT

NOTE

You must have system administrator privileges to be able to install SICL on Windows NT.

Follow these steps to install the SICL software on Windows NT from flexible disks:

1. If you have not already done so, start up Windows NT.
2. Locate the SICL software installation disk labeled “HP I/O Libraries, Standard Instrument Control Library, Windows NT.” Insert the disk in the appropriate disk drive. (Drive **a:** is used in these instructions.)
3. You have two options, depending on your version of Windows NT:
 - a. For version 4.0, or higher, click on **Start** and then **Run**.
 - b. For version 3.51, select **File** and then **Run** from the Program Manager.
4. In the box, type **a:setup** and click on **OK** (or press **Enter**).
5. The setup program prompts you for the directory in which to install the files. The default is **\SICL** on your primary hard drive.

Either click the **Install** button to use the default location, or click **Set Location** to type in the desired directory for SICL and then click **Continue** and **Install**.

The setup program automatically copies all of the files.
6. The setup program then prompts you when it has completed successfully. When the setup is complete, remove the SICL disk and store it in a safe location.

What Happened During Installation

During installation, the setup program installed 32-bit SICL on your Windows NT environment and created an **HP SICL** program group. It also defined an icon for each of the following:

- **SICL Read Me First** file
- **SICL Help** (online help)
- **SICL I/O Config** utility

NOTE

It is very important that you look through the **Read Me First** file for SICL before proceeding with any SICL application development. Double-click on the **Read Me First** icon in the **HP SICL** program group to view this file.

Where to Go Next

You have now completed installing SICL on your Windows NT environment. Please go to “Configuring the HP I/O Libraries” in Chapter 2 for instructions on how to configure your system to use SICL.

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