

EnviroLink on Windows Vector/2 on Windows

A User's Guide

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Table of Contents

Introduction.....	4
Setting Up.....	5
Installation Requirements.....	5
Installation Steps.....	6
GPIB Card & Driver.....	6
Connectix Virtual PC for Windows.....	7
Loopback Adapter.....	8
Windows 2000.....	8
Windows XP.....	9
Adron Server.....	10
OS/2 Warp Image.....	11
Configuring Connectix Virtual PC.....	12
Agilent ChemStation®.....	13
ProLab Extend MS.....	13
Network Domain Configuration.....	14
Using EnviroLink for Windows.....	15
Using Vector/2 for Windows.....	15
Managing Drive Letters.....	15
Configuring EnviroQuant Methods for Automation.....	17
Starting and Stopping the Adron Server.....	18
Shutting Down the OS/2 Session.....	19
Additional Resources.....	20
Connectix Virtual PC.....	20
Innotek Web Site and Forum.....	20
Extend MS User Guide.....	20
EnviroQuant User Guide.....	20
ProLab EnviroLink and Vector/2 Manuals.....	20
Troubleshooting.....	21
OS/2 Freezes during Bootup.....	21
Multiple OS/2 Errors during Bootup.....	21
Chkdsk during OS/2 Bootup.....	21
No Communication with Instrument.....	21

Introduction

EnviroLink on Windows and *Vector/2 on Windows* are data systems for GC/MS and LC/MS instruments. *EnviroLink on Windows* targets laboratories doing environmental testing and quantitative analysis. *Vector/2 on Windows* targets the researcher, typically in university or government laboratory settings.

Both products endeavor to extend the useful life span of the analytical instrument. These products replace obsolete computer systems while continuing to support the laboratory investment in the actual analytical instrument. Computer data systems age more rapidly than the analytical instrument. In the past 20 years, computers, especially personal computers, have evolved at a tremendous rate. We are all familiar with how quickly the latest, high-end PC becomes outdated.

EnviroLink on Windows and *Vector/2 on Windows* provide good return-on-investment because it is much cheaper to replace the data system portion of the instrument than the instrument itself. These products allow the user access to a modern PC, with its networking abilities and high performance, without replacing a working analytical instrument.

EnviroLink and *Vector/2* are OS/2 based data systems. In the early to mid 90's, OS/2 was a top-end operating system for the PC. However, top-end operating systems from Microsoft, *Windows 2000* and *Windows XP*, are now the preferred operating system for most PC users and organizations.

EnviroLink on Windows and *Vector/2 on Windows* provide an upgrade path for *EnviroLink* and *Vector/2* users by moving the user to a Windows operating system while still maintaining their investment in their data system. *EnviroLink on Windows* and *Vector/2 on Windows* utilize an OS/2 environment within Windows. The configurability and robustness of *EnviroLink* and *Vector/2* is maintained in the new products. The user interface remains largely unchanged.

This guide describes how to install, start, shutdown and troubleshoot the *EnviroLink on Windows* and *Vector/2 on Windows* products. This guide does not reproduce information already present in other manuals; instead, a section describes these additional resources.

This guide also presents recommendations on how to effectively use these products. These recommendations aim to make these products easier to use.

Setting Up

This section provides step-by-step instructions for setting up *EnviroLink on Windows* and *Vector/2 on Windows*. Setting up these products is not difficult but there are many details; so please follow these directions carefully.

Installation Requirements

Before you install *EnviroLink on Windows* or *Vector/2 on Windows*, note these requirements:

Computer

1.2 GHz CPU minimum, 1.8 GHz or greater recommended

CPU: Athlon, Celeron, Pentium III or Pentium 4

256 MB of RAM minimum

10 GB hard drive minimum, 40 GB or greater recommended

CD-ROM

2 serial ports (one for chromatograph; one for autosampler)

1 parallel port

1 full-height PCI port (for PCI-GPIB card)

or

PCMCIA slot (for PCMCIA-GPIB card)

Monitor

17" minimum, 19" recommended

1024x768 resolution minimum, 1280x1024 preferred

60 Hz refresh rate minimum, 75 Hz or greater preferred

Operating System

Windows 2000 (Service Pack 2) or Windows XP Pro

Installation Steps

This section describes how to install *EnviroLink on Windows* and *Vector/2 on Windows*.

If you purchased a PC directly from Adron Systems, your system is preconfigured and you can skip this section.

Software is located on the Adron Systems installation CD labeled:

EnviroLink on Windows

Vector/2 on Windows

Important: Follow the steps in the order presented.

Important: To run or install *EnviroLink on Windows* and *Vector/2 on Windows*, you must log onto the PC as an administrator or as a user with local administrative privileges.

Recommendation: Divide your hard drive space into two partitions, a C and a D drive. The “C” drive is where the operating system and installed programs reside. The “D” drive is where information, such as acquired data and methods reside. This partitioning should be done during operating system installation. Otherwise, use *PartitionMagic*[®] from PowerQuest to configure the disk partitions. For a 40GB drive, allocate roughly 10GB for the C drive with the remainder for the D drive.

GPIB Card & Driver

- Install the National Instrument's PCI-GPIB or PCMCIA card in the PC.
- From the installation CD, run the following program:

```
\nt\national instruments\ni488220.exe
```
- After installing the driver, restart the system as requested. Test the board using National Instrument's *Measurement and Automation* software.

Open the following items:

My Systems

Devices and Interfaces

GPIB0

Right-click with the mouse on the last time, and select:

NI-488.s Troubleshooting Wizard

This will verify the GPIB board is installed and operating correctly.

Connectix Virtual PC for Windows

From the installation CD, run the following setup program:

```
\nt\virtualpc\vpcw51_updater.exe
```

- Locate the Connectix Virtual PC serial number in materials supplied from Adron Systems.
- A shortcut to *Connectix Virtual PC* program should be placed on the desktop.

Note: A user's guide for Connectix Virtual PC in PDF format is located on the installation CD at:

```
\nt\virtualpc\vpcw5_userguide.pdf
```

You may want to copy this to your computer for future reference.

If you don't have a copy of Adobe Acrobat, an installable file is located on the installation CD at:

```
\nt\Adobe Acrobat\rp505enu.exe
```

Loopback Adapter

Windows 2000

If your operating system is Windows 2000, follow these steps:

- Open *Start*, then *Settings*, then *Control Panel*, then *Add/Remove Hardware* wizard.
- Select *Add/Troubleshoot a device*, then click *Next*.
- Let it search, then select "*Add a new device*" at the top of the list, then click *Next*.
- Select "*No, I want to select the hardware from a list*", then click *Next*.
- Select "*Network adapters*" from the list, then click *Next*.
- Select "*Microsoft*" in the *Manufacturers* column, "*Microsoft Loopback Adapter*" in the *Network Adapter* column, then click *Next*, then click *Next* again, then click *Finish*.
- From the desktop, right-click on *My Network Places*, then select *Properties*.
- Right-click on the new connection (usually named "*Local Area Connection 2*"), then select *Rename*. Rename connection to "*Adron Server Connection*".
- Right-click on the new connection and select *Properties*.
- Enable (check) the "*Adron Server Connection*" component "*Virtual PC Emulated Ethernet Switch*."
- Enable (check) the "*Adron Server Connection*" component "*Internet Protocol (TCP/IP)*".
- All other components in the "*Adron Server Connection*" should be disabled (not checked).
- Click on *Internet Protocol (TCP/IP)*, then select *Properties*.
- Enable "*Use the following IP address*", and enter the following IP address of *192.0.0.1* with a subnet mask of *255.255.255.0*. Click *OK*.
- **Important:** Open up all other connections, such as modem and network cards, and disable (uncheck) the component "*Virtual PC Emulated Ethernet Switch*."
- **Important:** Reboot your computer otherwise you will have networking problems when running *EnviroLink on Windows* or *Vector/2 on Windows*.

Windows XP

If your operating system is Windows XP, follow these steps:

- Open *Start*, then *Settings*, then *Control Panel*, then *Add Hardware* wizard.
- Click *Next* on the “*Welcome to the Wizard*” screen.
- Select “*Yes, the hardware is already connected*”, click *Next*.
- Let it search, then select “*Add a new device*” at the top of the list; click *Next*.
- Select “*Add a new device*” (the last item).
- Let it search, then click *Next*.
- Select “*Network adapters*” from the list; click *Next*.
- Select “*Microsoft*” in the *Manufacturers* column, “*Microsoft Loopback Adapter*” in the *Network Adapter* column; click *Next*; click *Next* again. Click *Finish*.
- From the desktop, right-click on *My Network Places*, then select *Properties*.
- Right-click on the new connection (usually named “*Local Area Connection 2*”), then select *Rename*. Rename connection to “*Adron Server Connection*”.
- Right-click on the new connection and select *Properties*.
- Enable (check) the “*Adron Server Connection*” component “*Virtual PC Emulated Ethernet Switch*.”
- Click on *Internet Protocol (TCP/IP)*, then select *Properties*.
- Enable “*Use the following IP address*”, and enter the following IP address of *192.0.0.1* with a subnet mask of *255.255.255.0*. Click *OK*.
- **Important:** Open up all other connections, such as modem and network cards, and disable (uncheck) the component “*Virtual PC Emulated Ethernet Switch*.”
- **Important:** Reboot your computer otherwise you will have networking problems when running *EnviroLink on Windows* or *Vector/2 on Windows*.

Adron Server

- From the installation CD, copy all files from `\nt\Adron Server\` to a directory on the PC. A suggested target directory is:
`c:\program files\Adron Server\`
- Create a desktop shortcut to the program to the program:
`PltSrv488NT.Exe`
- Specify `/PORT:4002` as its command line option.
- Specify the run mode as *Minimized*.
- Name the shortcut “*Adron Server*”.
- **Important:** The shortcut must specify the target directory as its startup directory.
- Start the server program by double-clicking on its shortcut. The program displays an IP address if it is running correctly.
- **Recommendation:** Place a copy of the “*Adron Server*” shortcut in the Windows *Startup* folder. In this way, the server program will be running when needed. It consumes little resources when not in use!

OS/2 Warp Image

OS/2 Warp is supplied as a Connectix image file.

- To install *EnviroLink on Windows*, run the following file from the installation CD:

```
\nt\Images\EnviroLink.Exe
```

- Otherwise, to install *Vector/2 on Windows*, run the following file from the installation CD:

```
\nt\Images\Vector2.Exe
```

- The recommended installation directory on the data drive is: `d:\VirtualPC`. An alternative directory is: `c:\VirtualPC`.
- Run the *Connectix Virtual PC* program installed above.
- Select *New PC...* and follow directions.
- For *PC Name*, use “*EnviroLink on Windows*” or “*Vector2 on Windows*” as appropriate.
- For *Configuration Options* select *Guide me*.
- For *Guest Operating System*, select *OS/2* from the list.
- For *Memory Settings*, use the default of 64MB.
- For *Boot Disk Options*, use “*Select an existing hard disk image.*”
- For *Boot Disk Location*, browse and select the image you stored above.

Configuring Connectix Virtual PC

- Run the *Connectix Virtual PC* program installed above.
- Select “*EnviroLink on Windows*” or “*Vector2 on Windows*” by single-clicking on it.
- Select the *Settings* button and modify the following:
 - If serial port 1 is needed, then select *COM1* and assign it to host serial port *COM1*. Uncheck the “*Wait for modem command to open port*” option.
 - If serial port 2 is needed, then select *COM2* and assign it to host serial port *COM2*. Uncheck the “*Wait for modem command to open port*” option.
 - Select *LPT1* and assign it to the host *LPT1* port.
 - The *Networking* option should be set to *Virtual Switch*.
- Close the *Settings* window by pressing *OK*.
- Start the OS/2 session by selecting “*EnviroLink on Windows*” or “*Vector2 on Windows*” and pressing the *Start Up* button. (Be patient, OS/2 takes a while to boot-up.)
- Again select the *Settings* button from the *Connectix Virtual PC* program and modify the following:
 - Select *Shared Folders*. Assign the Z drive to your data hard drive, typically *d:* or *c:*. Check the “*Share every time*” option.
- Close the *Settings* window by pressing *OK*.

Agilent ChemStation®

If migrating from a prior installation, locate the Agilent ChemStation or Hewlett-Packard ChemStation CD. Otherwise, the Agilent ChemStation software CD is part of the materials supplied by Adron Systems.

Insert CD into PC and follow installation instructions.

Note: At the dialog “*Setup Type – Please select the product you wish to install*”, select *Full* installation. Usually this would be G1701AA or G1701DA.

Once ChemStation is installed, and computer has rebooted, execute the *Configure* program.

In the “*Configure Instrument*” dialog, enable (check) the *Offline Instrument* option.

Delete the “*Instrument #1*” icon from the desktop. This is not needed.

Important: A copy of the “*Data Analysis*” icon needs to be created and modified. Do this in the following way:

- Through the Windows *Start* menu, bring up the *Programs* list. Find the “*Data Analysis*” icon for the ChemStation instrument. Use the *Send To* right menu item to send this to the desktop.
- Rename this icon *Automated Processing*.
- Open the icon properties, and rename *envorphinit* to *envtrginit*. (This is for automated processing.)

ProLab Extend MS

A new version of Extend MS is part of the materials supplied by Adron Systems.

Important: Do not use an older version of Extend MS. Older versions are incompatible with *EnviroLink on Windows* and *Vector/2 on Windows*.

Insert CD into PC and follow installation instructions.

Important: When filling in the product serial number, append *TEK* to the serial number as in this example:

XMS01-A001W-TEK

This allows Agilent and Hewlett-Packard ChemStation to pickup acquired data files for automated processing.

Network Domain Configuration

To run or install *EnviroLink on Windows* and *Vector/2 on Windows*, you must log onto the PC as a local administrator or as a user with local administrative privileges.

If the PC running *EnviroLink on Windows* or *Vector/2 on Windows* is **not** part of a Windows 2000 domain, then skip on to the next section.

An important configuration issue is how to grant a PC local administrator privileges without granting administrator rights to the domain.

Consider an account that is part of some Windows 2000 domain. Let this account be represented by:

`myaccount@mycompany.com`

Assume this account has normal user rights to the domain. The following describes how to set local administrator rights:

- Logon to the PC locally as an administrator or as a user with administrative privileges. (Do **not** logon to the domain.)
- Open the *Control Panel*.
- Open *Users and Passwords*.
- Select the *Advanced* tab, and then the *Advanced* button.
- From the “*Local Users and Groups*” dialog, select “*Groups*,” then select “*Administrators*.”
- From the “*Administrators Properties*” dialog, select the *Add* button.
- Type in the network identity (account) you would like to add as a local administrator. In the example above, this would be:

`myaccount@mycompany.com`

- Press the *OK* button to complete the process.
- Logoff as the local administrator.
- Logon using the “myaccount” identity to the domain.

You should now have local administrator rights but normal user rights to the domain.

Using EnviroLink for Windows

Using Vector/2 for Windows

Managing Drive Letters

EnviroLink on Windows and *Vector/2 on Windows* run on a single PC but simultaneously uses two operating systems.

The primary operating system is Windows 2000 or Windows XP. It is the “host” operating system.

The secondary operating system is OS/2 and it runs within the host operating system. It is a “guest” operating system.

The hard drive on the host operating system is often divided into a program partition and a data partition, the C and D drives.

The guest operating system, OS/2, may have its virtual hard drive divided into a program partition and a data partition, again C and D drives.

A point of confusion is these two sets of C and D drives. Remember that these drives are distinct from each other just as if the host and guest were running on different PC's.

Recommendation: The OS/2 session should map only one drive from the host operating system, the data drive. Use Z as the mapped drive letter.

Recommendation for *EnviroLink on Windows: ChemStation EnviroQuant* methods should be stored in the mapped OS/2 Z drive at the location:

```
Z:\ELink\Instr1\Quant\
```

This corresponds to the Windows location:

```
D:\ELink\Instr1\Quant\
```

with D being the Windows hard drive data partition.

Data acquired from *EnviroLink* should be stored in the mapped OS/2 Z drive within the directory tree:

Z:\ELink\Data\

or

Z:\ELink\Instr1\Data\

This corresponds to the Windows locations of:

D:\ELink\Data\

and

D:\ELink\Instr1\Data\

It is crucial that *ChemStation EnvironQuant* methods and data files reside on the same drive otherwise macros executed from *EnviroLink* will fail.

Storing data to the shared drive allows easier backup of data files and *EnviroQuant* methods using the Windows operating system.

Recommendation for Vector/2 on Windows: Data acquired from *Vector/2* should be stored in the mapped OS/2 Z drive within the directory tree:

Z:\Vector2\Data\

or

Z:\Vector2\Instr1\Data\

This corresponds to the Windows locations of:

D:\Vector2\Data\

and

D:\Vector2\Instr1\Data\

Storing data to the shared drive allows backup of data files utilizing the Windows operating system.

Configuring EnviroQuant Methods for Automation

Vector/2 on Windows users should skip this section since it applies only to *EnviroLink on Windows*. ProLab's *Extend MS* contains additions that help in the automated processing of data files.

- Start Agilent or HP *EnviroQuant ChemStation* through the *Data Analysis* shortcut on the desktop.
- Load the quantitation method of your choice.
- From the **File** menu, select:
 - Set *EnviroLink* automation parameters...
- For the entry *Quant PC Drive Alias:*, select one of the following:

C:

or

D:

The choice depends on the drive used to store data. This should be the same drive where the quantitation method is stored.

- For the entry *OS/2 Drive:*, specify the drive letter used by the OS/2 session to store data. Normally, this would be "Z:".
- Fill in other information as needed. Additional fields are documented in the ProLab *Extend MS* documentation.

Once completed, a set of macros are generated, and stored in the *EnviroQuant* method directory. These macros can be called from *EnviroLink* acquisition as a post-run macro: These macros are:

- *Std.Cmd*
- *Unk.Cmd*
- *BFB.Cmd*
- *DFTPP.Cmd*
- *CC.Cmd*
- *Percent.Cmd*

Once created, these macros do not need to be regenerated unless different options are needed or the *EnviroQuant* method is moved to a different location.

Starting and Stopping the Adron Server

The *Adron Server* provides access to the Windows GPIB driver from the OS/2 session. If it is not running, then OS/2 acquisition and calibration will be unable to communicate with the mass spectrometer.

The recommendation made above, was to place a copy to the shortcut for the *Adron Server* in the Windows startup folder. This allows the server to startup automatically when the system is restarted. Otherwise, the user needs to manually start the server by invoking its shortcut. Do this before running OS/2 acquisition or calibration.

The recommended method of shutting down the server, is to open the server window, and enter a *Ctrl-C*. This stops the program and allows it to free up resources. (Closing the server window will also close the program.)

Shutting Down the OS/2 Session

The OS/2 session running under Connectix Virtual PC can be shutdown in several ways.

Recommendation: Shutdown the calibration and acquisition systems before closing out the OS/2 session.

To invoke OS/2 shutdown, do one of the following:

From the *Virtual PC* program, invoke the “*Shut Down*” button.

Or

From the OS/2 session, click on the Windows close button, an “X” in the upper right corner.

Or

From the OS/2 session, invoke the PC menu and the “*Shut Down . . .*” menuitem.

All these actions bring up the “*Shut Down*” dialog. The shutdown options are:

Save PC State

Saves the current OS/2 state. On startup, the OS/2 session is completely restored. This is convenient since it is fast.

Shut down OS/2

This is the standard method of shutting down OS/2. On startup, the system goes through the normal boot process.

Turn off PC

Recommendation: Don't use this option unless you can't shutdown using the standard shutdown method. This method is equivalent to turning off a PC by turning the power switch off. On startup, the system will need to perform a ChkDsk to check for errors on the hard drive. This really slows down the startup process.

Additional Resources

Connectix Virtual PC

Information on *Connectix Virtual PC* can be found on the Connectix Internet site at <http://www.connectix.com>.

As mentioned in the section “*Connectix Virtual PC for Windows*”, a user's guide in PDF format is available.

Help is also available from the *Help* menu of the *Connectix Virtual PC* program. In the *Documentation* folder where *Virtual PC* is installed, are various ReadMe files containing additional information.

Innotek Web Site and Forum

Connectix partnered with InnoTek Systemberatung GmbH, a leading German software development and consulting company to develop OS/2 additions. For more information, visit:

<http://www.innotek.de>.

Along with FAQs, users can register for the InnoTek support forum.

Extend MS User Guide

ProLab Extend MS is enhancement software for the *Agilent ChemStation* and *Hewlett-Packard ChemStation*. Refer the *Extend MS* user manual for usage.

EnviroQuant User Guide

ChemStation and *EnviroQuant* are products of *Agilent Technologies* and *Hewlett-Packard*. Help files and manuals are available for these products.

ProLab EnviroLink and Vector/2 Manuals

ProLab Resources provides manuals for the *EnviroLink* and *Vector/2* products. Additional information is available in the products help files.

Troubleshooting

OS/2 Freezes during Bootup

Infrequently, OS/2 locks up during its boot sequence. If the hard drive indicator, (lower left of OS/2 Virtual PC window is flickering) or the small OS/2 cursor blinks, then the system is probably booting up correctly and you need to be patient.

If the bootup sequence really has stalled, then turn off OS/2 as described in the “Shutting Down the OS/2 Session” section above. Then try starting up the OS/2 session again.

Multiple OS/2 Errors during Bootup

During OS/2 start up, if a continuous stream of error messages appear in the OS/2 session, the likely cause is that you are not logged on as a local administrator. Log on as a local administrator to correct this problem.

(Windows XP requires local administrator rights when running Virtual PC. It appears that Windows 2000 may run Virtual PC with a lower privilege level.)

Chkdsk during OS/2 Bootup

During OS/2 startup, if the *CHKDSK* program runs, the likely cause is that OS/2 session wasn't shutdown properly. Refer to the section above “*Shutting Down the OS/2 Session*” for directions.

No Communication with Instrument

Many factors could result in no communication with the instrument. This includes such trivial items as disconnected cables or a powered-down instrument.

From the software perspective, verify that the “*Adron Server*” is running. See the section on “*Setting Up*” the “*Adron Server*” above.

If the “*Adron Server*” is running, restore its windows view. If communication is occurring, then messages appear on the screen as communication occurs with the instrument. If no messages appear, shutdown the “*Adron Server*” program and restart. Try establishing communications with the instrument again.