Introduction

NOTE

NOTICE: This document contains references to Varian. Please note that Varian, Inc. is now part of Agilent Technologies. For more information, go to www.agilent.com/chem.

If you currently have a version of ICP Expert II Software installed on your computer and would like to upgrade it to the latest version, please ensure that you read the section ‘Upgrading Your ICP Expert II Software’, below, before starting.

If you would like to install the new software on your computer for the first time, please follow the instructions in the ‘Standalone Installation’ section from Page 4 onwards. Please note that the ICP Expert II Software can be installed in two different configurations:

- Standalone on the Instrument computer. The computer controls the instrument and stores collected data.
- On a network. The Instrument computer operates the instrument, and the second computer (usually an IT Server) stores collected data.

Upgrading Your ICP Expert II Software

The procedure for upgrading your existing ICP Expert II Software version is exactly the same as installing for the first time. The procedure is described in ‘Standalone Installation’ and in ‘Network Installation’, later in this document.

There are several important points to note regarding the upgrade process:

- The ICP Expert II Help must also be upgraded to the latest version. This will not be automatically uninstalled — you must manually uninstall this before starting the upgrade process. To remove the Help:
  a  Click the Windows® Start button, then Control Panel > Add or Remove Programs.
  b  In the ‘Currently Installed Programs’ list, click ICP Expert II Help and then Remove. Follow the prompts on the screen.
  c  Repeat Step 2 for the ICP Expert II VSDA Help.
- If you are upgrading a network installation, that is, ICP Expert II Software and VSDA are on different computers, it is recommended that you upgrade both sets of software.
- Existing databases do not need to be detached before the upgrade or re-attached after the upgrade. This is performed automatically as part of the upgrade procedure. However, if you wish to use any currently detached databases in the future, it is recommended that you attach them before upgrading your software. Alternatively, these databases can be manually upgraded at a later date using the Varian Spectroscopy Database Administrator (VSDA) software.

- Upgrading your software will not delete any existing collected data. See ‘Upgrading Databases and Registering Workspaces’ for more information about using existing data. You do not need to manually remove any folders from the previous installation. The new installation will delete or overwrite existing files as necessary.

- The original ‘Supplied Worksheets’ database will not be overwritten. It will be renamed, and a new ‘Supplied Worksheets’ database will be attached.

- After upgrading to the new software version, you may need to re-register your software. You will be prompted to do so.

- When the software upgrade is complete, and before initiating any measurements with your instrument, the dark current scan, wavelength calibration and torch scan MUST be completed. These can be found on the Wavelength Calibration and Torch Align pages of the Instrument Setup window. See the following section for more information about completing these tasks.

Performing a Dark Current Scan, Wavelength Calibration and Torch Scan

To perform a dark current scan, wavelength calibration and torch scan:

1. Start the ICP Expert II S/W and open the Instrument Set-up Window.
2. Ignite the plasma.
3. Check that the Polychromator Boost purge is on.
   a. Click the Status tab and check that under the Polychromator listing Poly Boost is ‘On’.
   b. If the Poly boost purge is ‘Off’ you should turn it on.
   c. Choose Poly Boost On from the Analyze menu in the main window.
   d. Reopen the Instrument Setup window.
   e. Leave the poly boost purging for at least 20 minutes prior to performing Step 7 below (the wavelength calibration).
4. Aspirate a blank solution and then select the W/L Calib tab.
5. Click Calibrate Detector to perform a dark current scan.

**NOTE**
It will take roughly 2 minutes to calibrate the detector. Once completed, a message will be displayed confirming the dark current measurement has been completed.

5. Click Store Dark Current.

**NOTE**
It is recommended that you save the results using the default entries in a text file called “Dark Current.txt” in the Program Files\Varian\ICP Expert II 7xx\Run\Log directory on the drive on which the ICP Expert II software is installed.
6 Aspirate the wavelength calibration solution. Select the W/L Calib tab. Click Calibrate Wavelength to perform a wavelength calibration.

NOTE It will take roughly 2 to 3 minutes to calibrate the detector. Once completed, a message will be displayed confirming the wavelength calibration is complete, and the range of wavelengths over which the instrument has been calibrated.

7 Click the Torch Align tab. Check that the Graph Type is set to Intensity. Set the Orientation to Horizontal and click the Torch Scan button.

NOTE The signal (Intensity or SRBR) as a function of the torch viewing position will be displayed. The highest point in the scan is identified by the software, and the corresponding viewing position value is stored and used for all subsequent measurements.

8 If you have an ICP-OES with an axially oriented plasma, change the setting or ‘Orientation’ to Vertical and click Torch Scan again. If you have an ICP-OES with a radially oriented plasma, this step is not required.

The instrument is now ready for routine analysis.

Upgrading Databases and Registering Workspaces

You can use databases created in previous versions of ICP Expert II Software in the new software.

- Databases created in ICP Expert II Software version 1.1.2 do not require upgrading or workspace registration.
- Databases created in versions 1.0 and 1.1 require upgrading before they can be used in the new version. ICP Expert II Software version 1.1.3 will automatically upgrade any attached databases. Any databases that are not attached at the time of upgrading will need to be upgraded manually before they can be used. Instructions are provided below.
- Databases created in versions 1.0 and 1.1 must have the new workspace registered before they can be used in the new version. Instructions are provided below.

To manually upgrade databases for use in the new software:

1 Start VSDA, select the Advanced Setup view, and log on to the appropriate server.
2 Click the Database tab.
3 Ensure that the databases of interest are attached. This is done using the Attach sub-tab.
4 Click the Upgrade sub-tab.
5 Any attached databases that require upgrading will automatically appear in the ‘Databases’ panel on the left. Select the database(s) and then click the Upgrade button.
6 When prompted, enter a reason and comment for the event log.
7 Register the workspace as described below.
ICP Expert II Software Installation Instructions

To register the new workspace for version 1.0 and 1.1 databases:
1. Select the Advanced Setup view in VSDA and log on to the appropriate server.
2. Go to the Database tab and click the Information sub-tab.
3. Select a database.
4. Select the check box in the ‘Unregistered workspaces’ panel on the lower right.
5. Click the Register button.
6. Repeat for the remaining databases.

NOTE The registration of the new workspace will not be evident until you log on to the server again.

Standalone Installation
This section describes how to install the ICP Expert II Software for the first time on a standalone computer connected to the instrument.
The disks you will need are:
- ICP Expert II Software, part number 8510230400
- ICP Expert II Help, part number 8510230500.

NOTE Do not plug the PCI-GPIB card into the PCI slot of the controlling computer before installing the ICP Expert II Software. When installing the ICP Expert II Software for the first time, it is important to make sure that the PCI-GPIB card driver is installed before plugging in the PCI-GPIB card. PCI-GPIB driver installation automatically occurs during installation of the ICP Expert II Software.

NOTE If any of the CD-ROM installations do not automatically start, click the Windows Start button then My Computer. Browse to the CD drive and then click the Setup icon.

NOTE Before setting up VSDA, if you intend to register your software by e-mail or the Web, you will need to ask your Network Administrator to allow .lic files to be transmitted over your Internet connection and via e-mail attachments, so they are not caught as SPAM when we return our confirmation message.

NOTE In some instances, it has been necessary to list the SQL Server as an Exception in the Security Center of Microsoft Windows XP. To do this:
1. Click the Windows Start button, then Control Panel > Security Center.
2. Select Windows Firewall.
3. On the General page, check that the default is OFF.
4. Click the Exceptions tab. Check if the sqlserver file is included in the list of Exceptions. If not, click Add Programs, browse to C:\Program Files\Microsoft SQL Server\MSSQL1\MSSQL\Binn and select the sqlservr application.
To perform a standalone installation:

1. Log on to the instrument computer with Administrative rights.
2. Insert the ICP Expert II Software disk into your CD-ROM drive. The installation should automatically start.
3. Follow the prompts on the screen.
4. In the ‘Setup Type’ window, select a Complete installation type. This is because all components and applications are required for a standalone installation. Click Next.
5. To install the application in the default directory, click Next. If you would like to change the default installation directory, click Change to choose a different location and then click Next.
6. Click the Install button.
7. Click Finish in the ‘Install Completed’ window and remove the ICP Expert II Software disk from the CD-ROM drive.
8. Click Yes to restart the computer.
9. Once the computer has restarted, insert the ICP Expert II Help disk into the CD-ROM drive. The installation should automatically start.
10. All necessary Help files will be selected. Click Install Help and then follow the prompts on the screen.
11. If you are using the Productivity Package, remove the ICP Expert II Help disk from the CD-ROM drive and insert the Productivity Package disk. The installation should automatically start.
12. Follow the prompts on the screen.
13. If there are Patches available for the ICP Expert II Software, remove any CD-ROMs from the CD-ROM drive and insert the Patches CD-ROM. The installation should automatically start.
14. Follow the prompts on the screen.
15. After successful installation of the software, shut down the computer and install the National Instruments PCI-GPIB card into the PCI slot. Refer to the spectrometer operation manual for instructions on how to do this.

Once installation is complete, you will need to register your ICP Expert II Software. To start the ICP Expert II Software, click the Windows Start button then All Programs > ICP Expert II > ICP Expert II. Complete the Software Registration, referring to the online Help if required.

You will also need to configure VSDA, which is used to manage stored collected data. To start VSDA, click the VSDAdministrator desktop shortcut, or click the Windows Start button then All Programs > Varian > Database Utilities > VSDAdministrator. Refer to the online Help for instructions on setting up VSDA.
Network Installation

This section describes how to install the ICP Expert II Software on a network. It demonstrates how to install the:

- ICP Expert II Software on an Instrument computer
- VSDA on a separate IT Server. VSDA is used to manage stored collected data.

The disks you will need are:

- ICP Expert II Software, part number 8510230400
- ICP Expert II Help, part number 8510230500.

For each computer, follow the appropriate instructions, ensuring you perform a Custom installation and that you disable the correct application(s).

Instrument Computer

**NOTE**

Do not plug the PCI-GPIB card into the PCI slot of the controlling computer before installing the ICP Expert II Software. When installing the ICP Expert II Software for the first time, it is important to make sure that the PCI-GPIB card driver is installed before plugging in the PCI-GPIB card. PCI-GPIB driver installation automatically occurs during installation of the ICP Expert II Software.

**NOTE**

If any of the CD-ROM installations do not automatically start, click the Windows Start button then My Computer. Browse to the CD drive and then click the Setup icon.

**NOTE**

Before setting up VSDA, if you intend to register your software by e-mail or the Web, you will need to ask your Network Administrator to allow .lic files to be transmitted over your Internet connection and via e-mail attachments, so they are not caught as SPAM when we return our confirmation message.

**NOTE**

In some instances, it has been necessary to list the SQL Server as an Exception in the Security Center of Microsoft Windows XP. To do this:

1. Click the Windows Start button, then Control Panel > Security Center.
2. Select Windows Firewall.
3. On the General page, check that the default is OFF.
4. Click the Exceptions tab. Check if the sqlserver file is included in the list of Exceptions. If not, click Add Programs, browse to C:\Program Files\Microsoft SQL Server\MSSQL1\MSSQL\Binn and select the sqlservr application.
To install the software on the instrument computer:

1. Log on to the computer with Administrative rights.
2. Insert the ICP Expert II Software disk into your CD-ROM drive. The installation should automatically start.
3. Follow the prompts on the screen.
4. In the ‘Setup Type’ window, select a Custom installation type. This is because only the ICP Expert II and Firmware Installer components are required on the Instrument computer. VSDA is not required on the Instrument computer. Click Next.
5. Deselect VSDA by clicking the ‘✓’ symbol to the left and clicking the cross symbol (✗), as shown below.

![Image of selected components]

6. To install the application in the default directory, click Next. If you would like to change the default installation directory, highlight the application, click Change, select an alternative location and then click Next.
7. Click the Install button.
8. Click Finish in the ‘Install Completed’ window and remove the ICP Expert II Software disk from the CD-ROM drive.
9. Click Yes to restart the computer.
10. Once the computer has restarted, insert the ICP Expert II Help disk into the CD-ROM drive. The installation should automatically start.
11. All necessary Help files will be selected. Click Install Help and then follow the prompts on the screen.
12. If you are using the Productivity Package, remove the ICP Expert II Help disk from the CD-ROM drive and insert the Productivity Package disk. The installation should automatically start.
13. Follow the prompts on the screen.
14. If there are Patches available for the ICP Expert II Software, remove any CD-ROMs from the CD-ROM drive and insert the Patches CD-ROM. The installation should automatically start.
15. Follow the prompts on the screen.
16. After successful installation of the software, shut down the computer and install the National Instruments PCI-GPIB card into the PCI slot. Refer to the spectrometer operation manual for instructions on how to do this.

Once installation is complete, you must register your ICP Expert II Software. To start the ICP Expert II Software, click the Windows Start button then All Programs > ICP Expert II > ICP Expert II. Complete the Software Registration, referring to the online Help, if required.
IT Server

To install the VSDA software on the IT Server:

1. Log on to the IT Server with Administrative rights.
2. Insert the ICP Expert II Software disk into your CD-ROM drive. The installation should automatically start.
3. Follow the prompts on the screen.
4. In the ‘Setup Type’ window, select a Custom installation type. This is because only the VSDA component is required on the IT Server. ICP Expert II Software and Firmware Installer are not required on the IT Server. Click Next.
5. Deselect ICP Expert II and Firmware Installer by clicking the ‘▼’ symbol to the left and clicking the cross symbol (×), as shown below.

6. To install VSDA in the default directory, click Next. If you would like to change the default installation directory, highlight the application, click the Change button, select an alternative location and then click Next.
7. Click the Install button.
8. Click Finish in the ‘Install Completed’ window and remove the ICP Expert II Software disk from the CD-ROM drive.
9. Click Yes to restart the computer.
10. Once the computer has restarted, insert the ICP Expert II Help disk into the CD-ROM drive. The installation should automatically start.
11. All necessary Help files will be selected. Click Install Help and then follow the prompts on the screen.
12. To configure the IT Server for remote connections, go to the Windows Start button, then All Programs > Microsoft SQL Server 2005 > Configure Tools > SQL Server Surface Area Configuration.
13. In the ‘SQL Server Surface Area Configuration’ dialog box, click Surface Area Configuration for Services and Connections. Go to Remote Connections and click the Local and remote connections button and the Using TCP/IP only button. Click Apply. The message ‘Connection Settings Change Alert’ is displayed. Click OK.
14. Go back to the Database Engine and select Service, then Stop. Click Start to start the update of the new configuration. Click OK. Shut down and restart the IT server computer.

Once installation is complete, you will need to configure VSDA, which is used to store collected data. To start VSDA, click the VSDAdministrator desktop shortcut, or click the Windows Start button then All Programs > Varian > Database Utilities > VSDAdministrator. Refer to the online Help for instructions on setting up VSDA.
Troubleshooting

The online Help contains Troubleshooting for the ICP Expert II Software, VSDA and Software Registration. If you are unable to open the Help, contact your Agilent field service engineer.

Uninstalling ICP Expert II Software

If you ever need to uninstall your ICP Expert II Software and all associated software from your computer, you must follow these steps in this order:

1. Click the Windows Start button then Control Panel > Add or Remove Programs.
2. In the ‘Currently Installed Programs’ list, click ICP Expert II and then Remove. Follow the prompts on the screen to remove the ICP Expert II Software.
3. In the list, click ICP Expert II Help and then Remove. Follow the prompts on the screen.
4. In the list, click ICP Expert II VSDA Help and then Remove. Follow the prompts on the screen.
5. In the list, click Microsoft SQL Server 2005 and then Remove.
6. Click Varian Database Engine and Workstation Components and then Next. Follow the prompts on the screen.
7. If there are still some Microsoft SQL Server 2005 applications that have not been removed, repeat Step 4 to remove these components.
8. Click Microsoft .Net Framework 2.0 and then Remove. Follow the prompts on the screen.

Important: You do not need to follow this procedure when upgrading your software. These instructions for uninstalling are provided only for future reference.

9. Important: Check that all VSDA folders have been removed by going to C:\Varian Spectroscopy Databases (or, if you changed the default, to the location where you installed your databases) and ensuring all subfolders have been deleted. Then, delete the Varian Spectroscopy Database folder.
10. Delete the ICP Expert II folder in C:\Program Files\Varian

Important: If Microsoft .Net Framework 2.0 is used by other applications on the computer, you do not have to uninstall that program.

It is vital that Microsoft .Net Framework 2.0 is uninstalled after Microsoft SQL Server. Removing Microsoft .Net Framework 2.0 first will cause the remaining uninstall procedures to fail.
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