Agilent ChemStation for LC and CE Systems

Installation Manual

Agilent Technologies

Notices

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Software Revision

This guide is valid for B.04.02 SP1 revisions or higher of the Agilent ChemStation software.

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In This Guide ...

This guide describes how to install the initial ChemStation software for LC or CE instruments, how to add further instrument modules, how to configure your analytical system, and how to verify that the installation and configuration are complete and operational.

1 Introduction

This chapter provides an introduction into the ChemStation software and summarizes requirements for hardware and software.

2 Installation Preparation

This chapter summarizes procedures to prepare for a successful installation of Agilent ChemStation.

3 Installing the Agilent ChemStation

This Chapter contains the detailed installation procedures to install the Agilent ChemStation, add instruments, upgrade or uninstall the software.

4 Configuring the Instruments

This chapter explains how to use the Configuration Editor to configure your instruments to work with the Agilent ChemStation.

5 Validating and Starting the Agilent ChemStation

This chapter explains how to use the Agilent ChemStation Installation Qualification utility to validate the proper installation and operation performance of the Agilent ChemStation on your PC. It also explains how to begin using the Agilent ChemStation once the installation has been validated.

6 Troubleshooting

This chapter summarizes helpful hints for troubleshooting potential problems you might see during the installation process.

7 Upgrade History - Previous Revision A/B ChemStations

This Chapter gives information on the Upgrade history of ChemStation revisions

8 Additional Resources

This chapter summarizes additional resources for ChemStation Users

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This chapter provides an introduction into the ChemStation software and summarizes requirements for hardware and software.

Agilent ChemStation Product Structure

The Agilent ChemStation for GC, LC, LC/MS, CE, and A/D has been designed as a series of software modules for instrument control, data acquisition, data analysis, and reporting. Technique-specific single instrument modules provide control capabilities for a given separation technique, e.g. for one Gas or Liquid Chromatograph. A single instrument configuration may be expanded by adding an additional instrument control module. With this approach, one Agilent ChemStation is capable of controlling more than one analytical system, e.g. two chromatographs of the same or different separation techniques.

For CE/MS and LC/MS no additional instruments are supported on the PC system. For CE additional CE, LC or GC instruments are supported only as co-existing instruments on the same PC, but co-execution is not supported.

Please note the memory requirements for every additional instrument module (see "Minimum PC Requirements" on page 10).

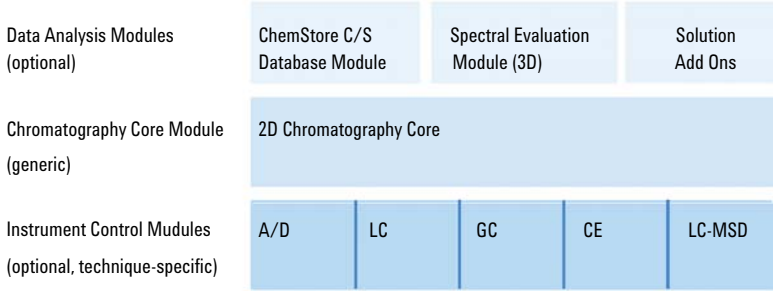

Figure 1 Agilent ChemStation Module Architecture

Additional Data Evaluation Modules

The acquired data is typically two-dimensional ("2D"), i.e. by measuring detector response over time. Spectroscopic detectors can deliver three-dimensional ("3D") data, by additionally measuring detector

response over a third axis (e.g. wavelength or mass range). The optional "Spectral Evaluation Module" permits analysis and reporting of this "3D" data and is included with the CE/MS modules, and optional for an LC module.

The Agilent ChemStore Database Module, a results storage and organization module, may be added to all separation techniques.

The Agilent ChemStation is capable of controlling up to four instruments. The number of allowed modules per instrument is depending on the used communication module. For configuration limitations please refer to Table 2 on page 14. For CE/MS and LC/MS no additional instruments are supported on the PC system. For CE additional CE, LC, or GC instruments are supported only as co-existing instruments on the same PC, but co-execution is not supported.

Please note the memory requirements for each additional data evaluation module. For further details on supported configurations and their PC requirements, see "Minimum PC Requirements" on page 10.

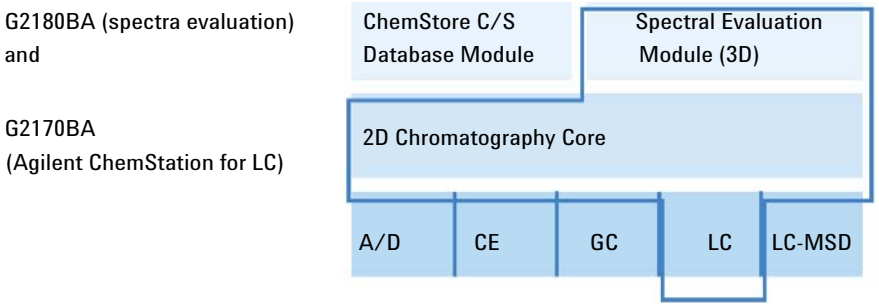

Figure 2 A Combination of Modules

Hardware Requirements

Minimum PC Requirements

Minimum hardware requirements for your Agilent Technologies ChemStation software (version B.04.02 SP1) are:

- A personal computer with an Intel Pentium IV processor (1.5 GHz for Windows XP, 3.4 Ghz single core for Windows Vista)
- 1280 x 1024 Super VGA resolution, 17 inch display, 16k colors or better (recommended: 19 inch, resolution 1440 x 900)
- 40 GB hard disk (with 600 MB free disk space) for Windows XP, 160 GB hard disk for Windows Vista
- DVD-ROM drive
- Windows XP: 512 MB RAM (recommended: 1 GB); Windows Vista: 1 GB RAM (recommended: 2 GB)
- MS Windows compatible pointing device
- LAN = Ethernet IEEE 802.3 Industry Standard 10/100 Base T
- LAN Cabling between the hub and LAN boards, category 4 or greater UTP with RJ-45 connections
- Maximum supported cable distance = 100 meters
- Operating system compatible printer:
  - For the English system a printer using PCL 5c, 5e, 5e, 5.02 or 6
  - For Japanese system use Canon LBP-430, 450, 470, 1310, or 3410
  - for the Chinese System a printer using PCL 6
- Either a Microsoft Windows XP Professional (Service Pack 3) or Microsoft Windows Vista Business (Service Pack 2) operating environment
- TCP/IP protocol support installed, if you are using LAN communications

- If you are using GPIB communication: The 82350 (A or B model) GBIB Board or 82357 (A or B model) USB-GPIB interface, depend on suitable personal computer, and Agilent IO Libraries Suite 15.0. Refer to the Manuals\Installation folder of the ChemStation DVD for IO Libraries Suite installation instructions.

All PC hardware and peripherals must be listed in the Microsoft Hardware Compatibility List (HCL) which is available from the Microsoft home page on the World Wide Web (http://www.microsoft.com). If your PC hardware is not listed in the HCL, the system may not work correctly with the Agilent ChemStation software.

Non-HP Computers

The Agilent ChemStation is designed to successfully run on a wide range of compatible personal computers equipped with accessories and peripherals that adhere to the programming standards for the Intel PC platform and Microsoft Windows operating systems.

However, Agilent has tested the Agilent ChemStation software mainly on Hewlett-Packard/Compaq equipment. All configuration information listed in this manual applies to Hewlett-Packard/Compaq Kayak, Vectra and EVO computers and may not be optimized for other vendor's PCs. The standard configuration of the GPIB interface, for instance, may conflict with the memory configuration of a non Hewlett-Packard computer. Additional accessory interface boards may cause conflicts of hardware related resources (I/O ports, interrupt settings, DMA channels).

For a non Hewlett-Packard computer, use the setup utility program supplied by the manufacturer to configure your computer and check the documentation supplied with it and the accessories to eliminate resource conflicts in your PC's setup, especially regarding the configuration of the GPIB interface.

Printers for the Agilent ChemStation

The Agilent ChemStation is designed to work with printers that are compatible with the operating system. Printers may be attached to a local (preferably parallel) or networked port on the PC. Serial port printers are supported by the operating system but may exhibit speed performance limitations. Networked printers must be shared by a network server running a network protocol supported by the Microsoft operating system. We recommend printers that are capable of interpreting an escape code language (such as PCL) or page description language (such as PostScript®). Host-based printers (such as GDI or PPA printers) impose more printer processing tasks on the CPU and are not recommended for use with Agilent ChemStation online sessions.

For best printing results with your Agilent ChemStation, use HP LaserJet printers. High performance HP DeskJet printers may also be used if the amount of printing required is low. Check the readme.txt files for information on recommended printer driver versions.

Agilent Technologies has not tested all printer and printer driver combinations that are supported in the Windows environment. Print performance and results may vary on other manufacturer's printers and appropriate drivers. The printers listed in Table 1 on page 12 have been successfully tested at the time this handbook was printed.

Table 1 Successfully tested Printers

Printer Model	Driver comment
HP LaserJet 4050 and HP LaserJet 4100	HP PCL 5e Driver or PCL 6
HP LaserJet 4200	HP PCL 5e Driver or PCL 6
HP LaserJet 4250	PCL 6 Driver
HP LaserJet P3005D	PCL 6 Driver
HP Color LaserJet 2500TN (C9707A)	PCL 6 Driver
OfficeJet Pro K550DTWN	PCL 3 Driver
OfficeJet Pro K5400	PCL 3 Driver
HP LaserJet 2200D	HP PS 5.02 or PCL 6 Driver
HP LaserJet 2300dn	HP PS 5.02 or PCL 6 Driver

Table 1 Successfully tested Printers

Printer Model	Driver comment
HP LaserJet 2300D (Q2474A)	HP PCL 5e Driver or PCL 6 Driver
HP LaserJet 2420D	HP PCL 6 Driver
HP LaserJet P3005D	PCL 6 Driver
Adobe Acrobat	version 7.0, 8.0
Amyuni PDF Converter	version 2.50
PDF-XChange	version 4.0 installed during ChemStation installation

NOTE Please note that this list is not comprehensive and does not include printers and printer drivers made available after the release of this handbook. If your printer is not listed here, it does not mean it will not work with the Agilent ChemStation, but it has simply not been tested.

Advanced Power Management (Not Supported with Analytical Hardware)

The BIOS and operating systems of many modern PCs support Advanced Power Management (APM). After a specified idle time, the BIOS switches the system to a stand-by mode by turning off the hard disk and other devices. This reduces the PC power consumption and the internal clock frequency to save energy.

The reduction in internal clock speed and hard disk slow down can render a PC incapable of handling the real-time requirements of instrument control and data acquisition. Typically, this results in overflows of the internal instrument buffers, or, in other words, loss of data. Agilent Technologies recommends that you switch off APM for systems running on-line operation of analytical hardware.

Number of Instruments Supported

A maximum number of 4 instruments can be configured on a single Agilent ChemStation PC. Each instrument can consist of several modules, like Agilent 1100/1200 LC modules. For specific configurations and software add-ons, the maximum number of instruments is listed in Table 2 on page 14.

NOTE While acquiring data in three or four instrument configurations, interactive data reprocessing is not recommended.

Table 2 Maximum Number of Instruments

Description	max. Number of instruments
ChemStore C/S Data Management Module	3
2 modules that can acquire on-line spectra, e.g. DAD or FLD	2
Agilent LC/MSD	1

There is also a limitation on the total number of instrument modules connected to the Agilent ChemStation. Up to a maximum number of 18 modules per PC can be connected, depending on the exact module configuration and LAN connection point. These can be about 12 modules like pumps, detectors, injectors, etc. and approx. 6 CAN-slave modules like valves and UIB interfaces. A maximum of 4 detectors per instrument are supported, whereas only 2 of one kind can be used in the same instrument, for Variable Wavelength Detectors (VWD) up to 3. The maximum number of G1314C VWD SL Detectors, as well as G1315C or G1315D DAD Detectors is limited to two detectors per PC.

NOTE Please contact your Agilent representative to check if your exact configuration is possible, especially when your configuration is above 12 modules.

Operating System Requirements

ChemStation Rev. B.04.02 SP1 is available in English, and as localized versions in Japanese and Chinese. Depending of your choice of ChemStation, you will need the corresponding Microsoft Windows XP Professional *(Service Pack 3)* or Microsoft Vista Business *(Service Pack 1)* operating system:

- English Microsoft Windows XP Professional *Service Pack 3* or English Microsoft Vista Business *Service Pack 2* (32 bit)
- Japanese Microsoft Windows XP Professional *Service Pack 3* or Japanese Microsoft Vista Business *Service Pack 2* (32 bit)
- Chinese Microsoft Windows XP Professional *Service Pack 3* or Chinese Microsoft Vista Business *Service Pack 2* (32 bit)

NOTE Agilent cannot give a support statement for other non-english operating systems.

Windows XP Professional or Windows Vista Business are the only supported operating systems for the Agilent ChemStation data acquisition and analysis software.

For up-to-date information on supported operating systems please contact your local service and support center.

NOTE ChemStation Rev. B.04.02 SP1 is NOT supported on Windows 7.

If you use a LAN to connect to the analytical instruments, the Microsoft TCP/IP protocol must be installed and configured.

File Names and Naming Conventions

Detailed information regarding allowed characters used for file and directory names, as well as path length statements are documented in the *Understanding your Agilent ChemStation* manual, Chap. 1. The manual is delivered with the instruments and available as PDF file in the Support\Manuals\Understanding and Concepts directory of the Agilent ChemStation DVD.

Instrument Firmware Requirements

1100/1200 LC Instrument firmware requirements

The Agilent 1100/1200 series of LC modules have flash ROM memory. Firmware updates are distributed electronically. The latest firmware can be downloaded from the following Agilent Technologies website: http://www.chem.agilent.com/scripts/cag_firmware.asp. Starting with firmware A.06.0x/B.01.0x, a new firmware update tool is available and distributed along with the Agilent ChemStation Software DVD.

Table 3 LC 1100/1200 Series Instrument Firmware Requirements

LC Instrument	Product No	Firmware Revision
Samplers		
Agilent 1100/1200 Automation Interface	G2254A	A.06.10 or newer
Agilent 1100 Autosampler	G1313A	A.06.10 or newer
Agilent 1100/1200 Thermo. Autosampler	G1329A	A.06.10 or newer
Agilent 1200 Thermo. Autosampler SL	G1329B	A.06.10 or newer
Agilent 1100 Micro Sampler	G1389A	A.06.10 or newer
Agilent 1100/1200 Preparative Autosampler	G2260A	A.06.10 or newer
Agilent 1100 Well Plate Autosampler	G1367A	A.06.16 or newer
Agilent 1200 High Performance Autosampler	G1367B	A.06.16 or newer
Agilent 1200 High Performance Autosampler SL	G1367C	A.06.16 or newer
Agilent 1200 High Performance Autosampler SL Plus	G1367D	A.06.16 or newer
Agilent 1100 Thermost. Well Plate Autosampler	G1368A	A.06.10 or newer
Agilent 1100/1200 Micro Well Plate Autosampler	G1377A	A.06.16 or newer
Agilent 1100/1200 Thermost. Micro Well Plate Autosampler	G1378A	A.06.10 or newer
Agilent 1100/1200 Dual Loop Autosampler PS	G2258A	A.06.16 or newer
Agilent 1290 Infinity High Performance Autosampler	G4226A	A.06.30 or newer

Table 3 LC 1100/1200 Series Instrument Firmware Requirements

LC Instrument	Product No	Firmware Revision
Column Compartments		
Agilent 1100/1200 Thermostatted Column Compartment	G1316A	A.06.10 or newer
Agilent 1200 Thermostatted Column Compartment SL	G1316B	A.06.10 or newer
Agilent 1290 Infinity Thermostatted Column Compartment	G1316C	A.06.30 or newer
Agilent 1100/1200 Chip Cube Interface	G2240A	A.06.11 or newer
Pumps		
Agilent 1100/1200 Isocratic Pump	G1310A	A.06.10 or newer
Agilent 1100/1200 Quaternary Pump	G1311A	A.06.10 or newer
Agilent 1100/1200 Binary Pump	G1312A	A.06.10 or newer
Agilent 1200 Binary Pump SL	G1312B	A.06.11 or newer
Agilent 1290 Infinity Binary Pump	G4220A	B.06.30 or newer
Agilent 1100/1200 Capillary Pump	G1376A	A.06.11 or newer
Agilent 1100/1200 Preparative Pump	G1361A	A.06.11 or newer
Agilent 1100/1200 Nano Pump	G2226A	A.06.11 or newer
Detectors		
Agilent 1100 DAD	G1315A	A.06.10 or newer
Agilent 1100/1200 DAD	G1315B	A.06.10 or newer
Agilent 1100/1200 DAD SL	G1315C	B.06.30 or newer[1]
Agilent 1200 DAD	G1315D	B.06.30 or newer[2]
Agilent 1290 Infinity DAD	G4211A	A.06.10 or newer
Agilent 1100 MWD	G1365A	A.06.10 or newer
Agilent 1100/1200 MWD	G1365B	A.06.10 or newer
Agilent 1100/1200 MWD SL	G1365C	B.06.30 or newer[1]

Table 3 LC 1100/1200 Series Instrument Firmware Requirements

LC Instrument	Product No	Firmware Revision
Agilent 1200 MWD	G1365D	B.06.10 or newer[2]
Agilent 1100/1200 FLD	G1321A	A.06.11 or newer
Agilent 1100 VWD	G1314A	A.06.13 or newer
Agilent 1200 VWD	G1314B	A.06.13 or newer
Agilent 1200 VWD SL	G1314C	A.06.13 or newer
Agilent 1200 VWD	G1314D	B.06.25 or newer[3]
Agilent 1200 VWD SL Plus	G1314E	B.06.25 or newer[3]
Agilent 1100/1200 RID	G1362A	A.06.10 or newer
Agilent 1100/1200 UIB	G1390A	A.06.10 or newer
Fraction Collectors		
Agilent 1100 Fraction Collector	G1364A	A.06.10 or newer
Agilent 1100/1200 Fraction Collector PS	G1364B	A.06.10 or newer
Agilent 1100/1200 Fraction Collector AS	G1364C	A.06.10 or newer
Agilent 1100/1200 Micro Fraction Collector	G1364D	A.06.10 or newer
Valves		
2Pos/10Port Valve	G1157A	A.06.10 or newer
2Pos/6 Port Valve	G1158A	A.06.10 or newer
2Pos/6 Port Valve SL	G1158B	A.06.10 or newer
6Position Selection Valve	G1159A	A.06.10 or newer
12Pos/13 Port Selection Valve	G1160A	A.06.10 or newer
2Pos/6 Port Micro Valve	G1162A	A.06.10 or newer
2Pos/10 Port Micro Valve	G1163A	A.06.10 or newer
Agilent 1290 Infinity Flexible Cube	G4227A	C.06.30 or newer

Table 3 LC 1100/1200 Series Instrument Firmware Requirements

LC Instrument	Product No	Firmware Revision
Others		
Agilent 1100/1200 Degasser	G1322A	All Revisions
Agilent 1100 Micro Degasser	G1379A	All Revisions
Agilent 1200 Micro Degasser	G1379B	All Revisions
Agilent 1100/1200 Manual Injector	G1328B	All Revisions
Agilent 1100/1200 Thermostat f. Sampler/ Fraction Collectors	G1330B	All Revisions
Agilent 1100 Local User Interface (A.02.03)	G1323A	A.05.xx[4]
Agilent 1100/1200 Local User Interface (B.03.22 and below)	G1323B	A.05.xx
Agilent 1100/1200 Local User Interface (B.04.02 and above)	G1323B	A.06.01/02/05/1x; B.01.02/06/1x; B.06.2x
Agilent 1100/1200 Control Module Instant Pilot	G4208A	B.02.09 or newer
Agilent 1200 SFC Fusion A5	G4301A	use firmware included on CD shipping with the hardware

1 The Agilent G1315C DAD and G1365C MWD modules require minimum firmware B.01.02. This firmware is only compatible with firmware A.06.02 or higher. As soon as a G1315C/G1365C is used in an 1100/1200 stack, the whole stack needs to be compatible using firmware A.06.02 or higher.

2 The Agilent G1315D DAD and G1365D MWD modules require minimum firmware B.01.04. This firmware is only compatible with firmware A.06.02 or higher. As soon as a G1315D/G1365D is used in an 1100/1200 stack, the whole stack needs to be compatible using firmware A.06.02 or higher.

3 The Agilent G1314D and G1413E VWD modules require minimum firmware B.06.20. This firmware is only compatible with firmware A.06.1x or higher. As soon as a G1314D/E is used in an 1100/1200 stack, the whole stack needs to be compatible using firmware A.06.1x or higher.

4 The Agilent 1100 local user interface G1323A is supported in combination with the following modules: G1310A, G1311A, G1312A pumps, G1313A ALS, G1314A VWD, G1315A DAD, G1316A TCC, G1321A FLD

1120 Compact LC firmware requirements

The LC ChemStation software requires firmware B.06.2x for the 1120 compact LC.

35900E A/D converter firmware requirements

Agilent 35900E A/D converter have flash ROM memory. The GC Firmware Update Utility is provided on the ChemStation DVD under the Support directory. Firmware updates are distributed electronically. The latest firmware can be downloaded from the following Agilent Technologies website: http://www.chem.agilent.com/scripts/cag_firmware.asp

A/D Converter	Product Number	Firmware Revision
35900E		E.01.02

CE Instrument Firmware Requirements

The CE ChemStation software requires the following minimum firmware revisions in order to work with the devices shown in Table 4 on page 21.

Table 4 CE Instrument Firmware Requirements

CE Instrument	Firmware Revision
G1601A	
Built-in DAD	Rev. 1.2 or higher
Mainframe Agilent CE G1601A	Rev. 2.3 or higher
G7100	Rev. B.06.25 or higher

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Installation Preparation

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This chapter summarizes procedures to prepare for a successful installation of Agilent ChemStation.

Before You Begin

Before installing your Agilent ChemStation software, configure your PC as follows:

1. Keep your PC disconnected from the Internet during the installation phase. (We recommend that you install the latest security fixes, as supported by Agilent, and install virus definitions before connecting to any network.)
2. Verify that your PC meets the minimum PC requirements (see "Minimum PC Requirements" on page 10.)
3. The Agilent ChemStation communicates through either a LAN or GPIB (General Purpose Interface Bus) communication interface. Set up the communication channel between the instrument and the PC as described in "LAN communication" on page 26 and "GPIB and USB-GPIB Communication" on page 39.
4. Set up your instrument communications as described in "Instrument Communication" on page 44.
5. Log on with Windows administrator privileges.
6. Set the Regional Options and Language Options in the Control Panel of your System to English (US). If you use another language, the following settings are mandatory:
   - Decimal symbol = . (point)
   - Digit grouping symbol = , (comma)
   - List separator = , (comma)

   ChemStation will not start when a decimal separator other than . is used.
7. In your system's Control Panel in the Regional and Language Options at the **Advanced** tab set the language for non-Unicode programs to English (US)
8. Disable the advanced power management settings on your computer, such as system standby and system hibernation.

NOTE

For more details on optimizing operations using Windows XP or Windows Vista, please follow the instructions outlined in the document *Configure and Maintain Your ChemStation Computer*, which is available as a PDF file on the Agilent ChemStation DVD. That document describes required system settings for the best Agilent ChemStation performance.

NOTE

If you are upgrading your Agilent ChemStation software, your system may require hardware or operating system changes before installing the new software.

Please read the document entitled *Upgrade Preparation Guide for Agilent ChemStation B.04.02 SP1* for detailed instructions on how to prepare your PC for upgrading. The documentation is available as a printed document and also as a PDF file found in the Manuals directory of the Agilent ChemStation DVD.

LAN communication

The Agilent ChemStation communication uses the TCP/IP protocol, which needs to be installed as a network protocol on your PC.

The JetDirect and G1369A LAN cards used to connect an analytical instrument to a LAN require the boot strap protocol (BootP). Agilent supports only the Agilent Bootp Service, provided on the ChemStation DVD, for this use.

Version B.04.02 SP1 of the Agilent ChemStation software provides LAN-based instrument control and data acquisition for LAN-capable Agilent LCs and optional A/D controllers. You can easily control and monitor instruments by connecting them to a LAN on which the Agilent ChemStation PC resides. This allows the Agilent ChemStation PC to be located up to 100 meters from instruments it controls on an Agilent-supported standalone LAN, or anywhere in the world on a TCP/IP-based network supported by your network administrator.

About LAN

Each Agilent ChemStation can support up to four instruments on the LAN. Each device on the LAN requires a *unique* IP address, a subnet mask, and a default gateway.

If installing on a site LAN, contact the site LAN administrator. If installing on an isolated LAN, Agilent recommends the following addresses:

Device	Address
PC	10.1.1.100
LC and optional A/D Control Module	10.1.1.102 through 10.1.1.255
Subnet mask	255.255.255.0
Gateway	10.1.1.100

Agilent ChemStation supports instruments and PCs with self-assigned, fixed addresses, or addresses assigned by the Agilent Bootp Service (see "Agilent Bootp Service" on page 29). DHCP is not supported by Agilent.

Using LAN Communication

If you connect your instrument using a standard TCP/IP protocol, it needs to be installed as a network protocol on your PC. The current configuration of the LAN Assembly or Jet Direct or G1369A LAN cards that are used to connect the analytical instrument to the LAN remains during the upgrade.

When upgrading from a GPIB control instrument to LAN connection, you must install the required LAN communication components and reconfigure your instrument.

Customers using LAN communication or moving from GPIB to LAN connection have to use the Agilent BootP Service as communication component for ChemStation Rev. B.04.02 SP1. Customers currently using the CAG BootP Server need to remove this component. The Agilent BootP Service needs to be installed instead; the CAG BootP Server is no longer supported. The Agilent BootP Service Program can be found on the ChemStation DVD.

Installing LAN Communication

If you decide to connect your instrument using a standard LAN connection, you must ensure proper communication between the PC and the analytical instruments. The communication uses the TCP/IP protocol, which needs to be installed as a network protocol on your PC. For the configuration of the JetDirect card or G1369A LAN card that is used to connect the analytical instrument to the LAN, the boot strap protocol is used, which requires a BootP Service.

The installation of the TCP/IP protocol on Windows XP or Windows Vista systems is outlined below. Windows XP or Windows Vista systems will typically come with TCP/IP pre-installed. Instructions are also included for the Agilent Bootp Service program required to configure TCP/IP parameters for your instrument.

1 From the **Start** menu in the **Task** Bar, select **Start > Settings > Control Panel**.

2 Open **Network and Dial-up Connections**, select **Local Area Connection** and use right mouse click to access the properties.

3 In the **General** tab, select the internet protocol TCP/IP and choose **Properties**.

4 Select **Use the following IP address** to ensure that the system does not use the DHCP address.

5 Ask your IT department for a valid IP addresses, gateway, subnet mask, DNS and WINS server, if your PC is connected to a site network. If you are setting up your own internal network for instrument communication and are not connected to any other network, you may use the example settings from Table 5 on page 28.

Table 5 Example IP addresses

PC or instruments	IP address	Subnet mask
PC 1	10.1.1.100	255.255.255.0
LC instrument module (1100/1200)	10.1.1.101	255.255.255.0
optional 35900E A/D converter	10.1.1.102	255.255.255.0

NOTE You need one IP address per device. This means one for the PC, another one for the 1100/1200 stack of modules (usually connected by the detector) and optionally a third one for the 35900E A/D converter.

Gateway, DNS, and WINS IP addresses do not need to be configured in this case, as you do not connect to any other part of a network. Figure 3 on page 29 shows an example of the TCP/IP configuration on Windows XP.

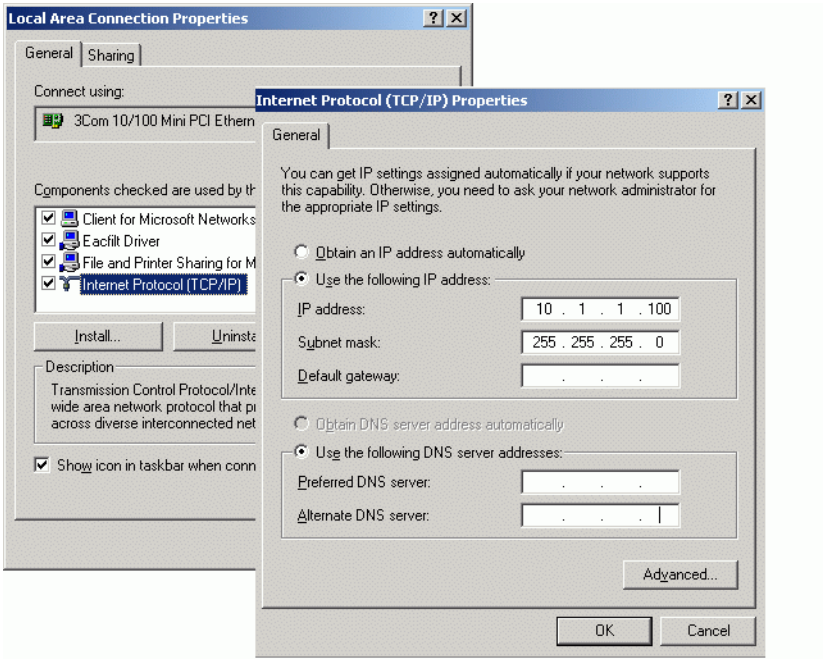


Figure 3 TCP/IP Configuration Screen

6 Select **OK** to finish the configuration.

NOTE Use the IPCONFIG utility to verify the PC's TCP/IP settings by opening a command window and typing

```
ipconfig /all
```

Agilent Bootp Service

Agilent Bootp Service provides central administration of IP addresses for Agilent instruments on a LAN. The service runs on the instrument LAN PC, which must be running TCP/IP network protocol and cannot run a DHCP server.

When an instrument is powered on, an Agilent JetDirect card in the instrument broadcasts a request for an IP address or Host Name and provides its hardware address as an identifier. The request may continue

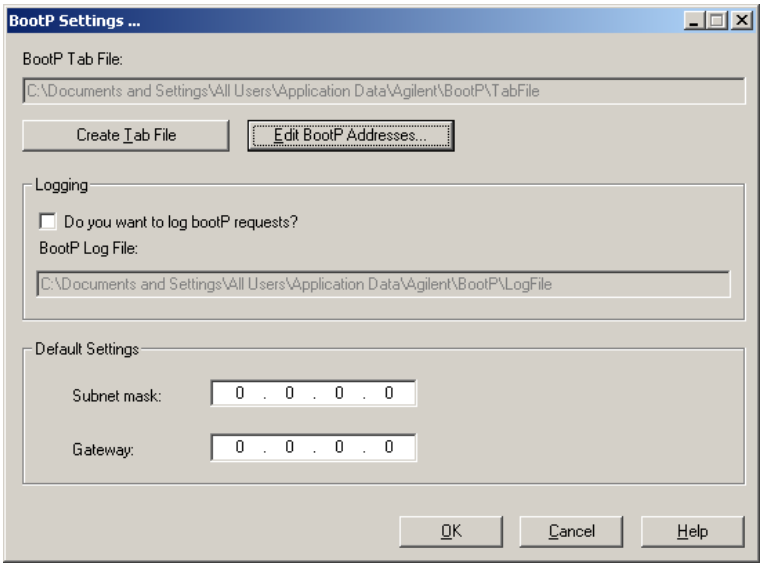
for up to 5 minutes. The Agilent Bootp Service answers this request and passes a previously defined IP address and Host Name associated with the hardware address to the requesting instrument.

When the instrument receives its IP address and Host Name, it stops broadcasting the request. It maintains the IP address as long as it is powered on. Powering down the instrument causes it to lose its IP address, so the Agilent Bootp Service must be started. Since the Agilent Bootp Service runs in the background, the instrument will receive its IP address on power-up.

Before installing and configuring the Agilent Bootp Service, you must know the IP addresses of the computer and instruments, the subnet mask, and the gateway (see "Installing LAN Communication" on page 27).

1. Log on as Administrator or other user with Administrator privileges.
2. Close all Windows programs.
3. Insert the Agilent ChemStation Software DVD in the drive. If the setup program starts automatically, click **Cancel** to stop it.
4. Open Windows Explorer.
5. Go to the Bootp directory on the Agilent ChemStation software DVD and double-click BootPPackage.msi.
6. The **Welcome** screen of the Agilent Bootp Service Setup Wizard appears. Click **Next**.
7. The End-User License Agreement screen appears. Read the terms, indicate acceptance and click **Next**.
8. Check destination folder for installation and confirm by clicking **Next**.
9. Click **Install** to begin the installation

10 Files load; when finished, the **Bootp Settings** screen appears.



NOTE The **Bootp Settings** screen contains unconfigured default settings. These settings will be entered during the configuration procedure.

11 Check **Do you want to log Bootp requests?**

NOTE The **Do you want to log Bootp request?** box must be unchecked when finished configuring instruments or the logfile will quickly fill up disk space.

12 In the **Default Settings** part of the screen, enter the subnet mask and gateway.

NOTE See your network administrator if you do not know the subnet mask and gateway.

The default subnet mask is 255.255.255.0. The default gateway is 10.1.1.100.

13 Press **Create Tab File**.

14 Click **OK**. The BootP Service Setup Wizard screen indicates completion.

15 Press **Finish** and remove the DVD from the drive.

This completes installation of Agilent Bootp Service.

Instrument configuration using the Agilent Bootp service

Assigning IP addresses to instruments using the Agilent Bootp service

Agilent Bootp Service maintains association between a unique identification code (MAC address) provided with the LAN card installed in a given instrument and the specific IP address assigned to that instrument. Therefore, you must define, or redefine this association whenever you add a new instrument, exchange an instrument (or its LAN card), or change the IP address assigned to an instrument.

Configuring instruments using the Agilent Bootp service

1 Determine the MAC address of the LC with the JetDirect card installed using *either*:

- Agilent Bootp Service (see step 2 on page 32)
- A JetDirect card (see step 3 on page 33)

2 To use Agilent Bootp Service to determine the MAC address of the LC:

a Power cycle the LC.

b After the LC completes self-test, open the logfile of the BootP Service using Notepad.

- The default location for the logfile is C:\Documents and Settings\All Users\Application Data\Agilent\BootP\LogFile.
- The logfile will not be updated if it is open.
- Assign an address only to devices that cannot set their own address. See the instrument's operating documentation for more information.

The contents will be similar to that shown below: **02/25/04 15:30:49 PM Status: Bootp Request received at outer most layer Status: Bootp Request received from hardware address: 0010835675AC Error: Hardware address not found in BootpTAB: 0010835675AC Status: Bootp Request finished processing at outer most layer**

c Record the MAC address (0010835675AC) from screen, here called the hardware address.

d Close the logfile before turning on another instrument.

e Skip to step 4 on page 33.

3 To use a JetDirect card to determine the MAC address of the LC:

a Turn off the instrument.

b Remove the JetDirect card.

c Read the MAC address from the label and record it.

The MAC address is printed on a label on the noncomponent side of the JetDirect card. It is the number *below* the barcode and *after* the colon (:) and usually begins with the letters AD.

d Reinstall the card.

e Turn on the LC.

4 Add the LC instrument to the network.

a Follow **Start > Programs > Agilent Bootp Service** and select **EditBootPSettings**. The **BootP Settings** screen appears.

b Uncheck **Do you want to log BootP requests?**

The **Do you want to log BootP requests?** box must be unchecked when finished configuring instruments or the logfile will quickly fill up disk space.

c Click **Edit BootP Addresses...**. The **Edit Bootp Addresses** screen appears.

d Click **Add...**.

The **Add Bootp Entry** screen appears.

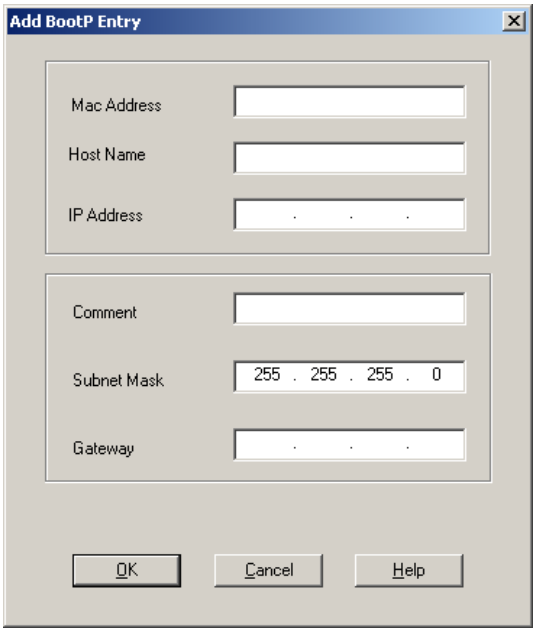


Figure 4 Add BootP Entry screen

e Make these entries for the LC:

- MAC Address, as previously obtained and recorded
- Host Name
- IP Address
- Comment, if desired
- Subnet Mask
- Gateway address (optional)

f Click **OK**.

g Leave Edit BootP Addresses by pressing **Close**.

h Exit BootP Settings by pressing **OK** and power cycle the LC.

If changing the IP address, it will be necessary to power cycle the instrument for the changes to take effect.

i Use the PING utility to verify the LAN connectivity by opening a command window and typing
`ping ip.adress` (e.g. ping 10.1.1.101) "Verify that the IP Address is correct" on page 126 .

5 Add an additional instrument or device to the network.

a Repeat step 4 on page 33 for each instrument or device on the network that requires the Bootp service.

b When finished, click **Exit Manager**.

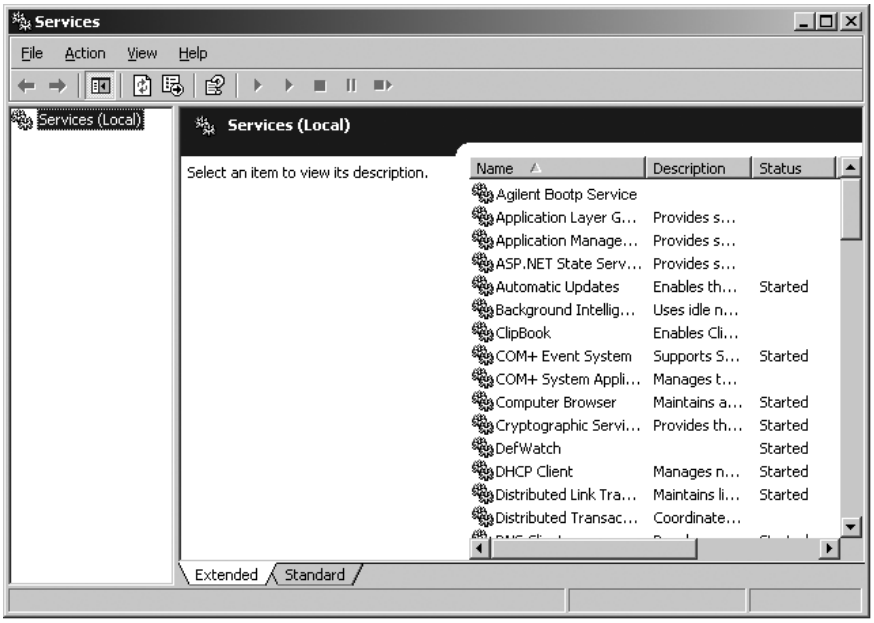
c Click **OK**.

Configuring the Agilent BootP Service

Agilent BootP Service starts automatically when your PC reboots. To change Agilent BootP Service settings, you must stop the service, make the changes, and then restart the service. Follow the procedures below to configure your Agilent BootP Service.

Stopping the Agilent BootP service

1 From the Windows Control Panel, select **Administrative Tools > Services**. The **Services** screen appears.



2 Right-click **Agilent BootP Service**.

3 Select **Stop**.

4 Close the **Services and Administrative Tools** screens.

Editing the settings

1 Follow **Start > Programs > Agilent BootP Service** and select **EditBootPSettings**. The **BootP Settings** screen appears.

2 When the **BootP Settings** screen is first opened, it shows the default settings from installation.

Editing BootP Addresses

1 Press **Edit BootP Addresses...** to edit the existing tabfile.

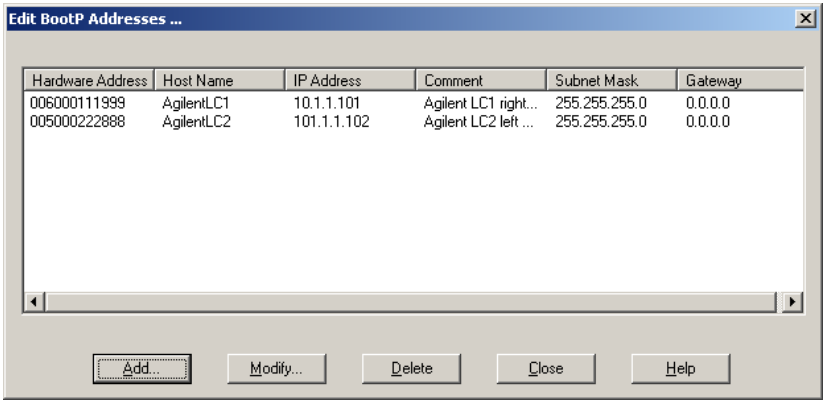


Figure 5

A default TabFile was created at installation and is located at C:\Documents and Settings\All Users\Application Data\Agilent\BootP\TabFile. It contains configuration information entered on this screen.

2 In the **Edit BootP Addresses...** screen press **Add...** to create a new entry or select an existing line from the table and press **Modify...** or **Delete** to change the TabFile.

If you change the IP address, it will be necessary to power cycle the instrument for the changes to take effect.

3 Leave **Edit BootP Addresses...** by pressing **Close**.

4 Exit **BootP Settings** by pressing **OK**.

Configuring logging

1 Check **Do you want to log BootP requests?** to enable logging

OR

Uncheck **Do you want to log Bootp requests?** to stop logging.

A default log file was created at installation and is located at C:\Documents and Settings\All Users\Application Data\Agilent\BootP\LogFile. It contains an entry for every time a device requests configuration information from Bootp.

2 Click **OK** to save the values or **Cancel** to discard them. The editing ends.

Restarting the Agilent BootP service

1 In the Windows Control Panel, select **Administrative Tools > Services**. The **Services** screen appears.

2 Right-click **Agilent BootP Service** and select **Start**.

3 Close the **Services** and **Administrative Tools** screens.

This completes configuration.

GPIB and USB-GPIB Communication

If you are not using GPIB communication, skip this section.

Analytical instruments that communicate with the Agilent ChemStation via GPIB require a GPIB board to be installed in your computer. You can use an Agilent 82350A, the Agilent 82350B PCI high-performance GPIB interface card, the Agilent 82357A USB-GPIB Interface or the Agilent 82357B USB-GPIB Interface.

Using GPIB and USB-GPIB Communication

Some analytical instruments that communicate with the Agilent ChemStation Rev. A.xx.xx via GPIB may continue to use GPIB connection for communication with ChemStation Rev. B.04.0x. In addition, a USB-GPIB Interface can be used. For details, please refer to Table 6 on page 39.

NOTE Agilent LC 1100 and 35900E using GPIB communication are no longer supported. These systems need an upgrade to LAN connection PRIOR to the upgrade to ChemStation Rev. B.04.0x.

Table 6 GPIB and Analytical Hardware Compatibility Matrix

Instrument Type	Agilent 82350 A	Agilent 82350 B	Agilent USB-GPIB Interface 82357A	Agilent USB-GPIB Interface 82357B
Agilent 1100/1200 LC	No	No	No	No
Agilent 1120 Compact LC	No	No	No	No
HP 5890 GC, 4890D GC	No	Yes	No	Yes
Agilent 7890A GC System	No	No	No	No
Agilent 6890N GC	No	No	No	No
Agilent 6890A and 6890 Plus GCs	No	Yes	No	Yes

Table 6 GPIB and Analytical Hardware Compatibility Matrix

Instrument Type	Agilent 82350 A	Agilent 82350 B	Agilent USB-GPIB Interface 82357A	Agilent USB-GPIB Interface 82357B
Agilent 6850 GC	No	No	No	No
G1600A Capillary Electrophoresis	Yes	Yes	Yes	Yes
7100 Capillary Electrophoresis	No	No	No	No
35900E	No	No	No	No

CAUTION

Electronic boards and components are sensitive to electrostatic discharge (ESD).

ESD can damage electronic boards and components.

➔ Be sure to hold the board by the edges and do not touch the electrical components. Always use an ESD protection (for example, an ESD wrist strap) when handling electronic boards and components.

A document describing the installation of the SICL libraries in order to control the GPIB systems can be found on the ChemStation DVD-ROM in the Manual/Installation folder.

Agilent 82350 A/B GPIB Interface Card

The Agilent 82350 is a PCI GPIB interface card. Therefore no additional settings such as changing the I/O base address are required.

Installing and Configuring the Agilent GPIB Interface Board

Installing the GPIB Interface Board in your PC

WARNING

Your computer may be partially energized when switched off, as long as the power cord is plugged in.

Repair work can lead to personal injuries, e.g. electric shock, when the cover is opened and the computer is connected to power.

➔ Turn OFF and unplug your computer and all attached electrical devices before removing any covers.

CAUTION

Electronic boards are static sensitive and should be handled with care so as not to damage them. Touching electronic boards and components can cause electrostatic discharge (ESD).

ESD can damage electronic boards and components.

➔ Be sure to hold the board by the edges and do not touch the electrical components. Always use an ESD protection (for example, an ESD wrist strap) when handling electronic boards and components.

To install the GPIB interface board refer to your computer manual or follow the brief instructions below.

1. Turn off and unplug your computer, then remove the computer's cover(s).
2. Select any empty slot to install your 82350 GPIB board. However, if possible, avoid placing the board in the last slot as there may be interference with the PC cabinet after connecting the GPIB cable.
3. Loosen the mounting screw and remove the selected empty slot's rear plate.
4. Holding the board by its edges, insert the board into its slot. Make certain that the board's edge connector is fully seated. Lock the board into place with the mounting screw.
5. Replace the computer's cover(s). Plug in, and restart the computer.

6 After installing the GPIB board in the computer, it is necessary to install the corresponding driver and configuration software located on the Agilent ChemStation DVD in the IO Libs directory. Refer to the IO Libraries Suite 15.0 installation guide also found on the ChemStation DVD in the Manuals folder.

GPIB Cabling

When connecting GPIB devices together, there are several basic rules that should be observed.

1 Whenever possible, turn off and unplug the computer and all attached devices - before the GPIB cables are installed.

2 Before connecting any analytical instrument to a GPIB cable, consult the documentation supplied with each device and determine its GPIB address. No two devices connected to the Agilent ChemStation may have the same address. Alter their addresses as necessary to avoid any duplication. Write down each GPIB address. This information will be needed later.

3 Try to use short GPIB cables that are two meters long or less.

- GPIB cable (0.5 m) (10833D)
- GPIB cable (1.0 m) (10833A)
- GPIB cable (2.0 m) (10833B)
- GPIB cable (4.0 m) (10833C)

NOTE The Agilent ChemStation does not support GPIB extenders.

4 Connect one end of a GPIB cable to the computer's GPIB connector.

NOTE Be certain that you properly tighten all GPIB connectors. A poor connection causes errors that are difficult to diagnose.

CAUTION

The bus is not designed for dynamic configuration according to the IEEE 488 specification for the General Purpose Instrument Bus (GPIB).

Cycling power on a GPIB instrument that is connected to the bus while other GPIB instruments are actively communicating to the GPIB controller can induce electrical spikes that may potentially corrupt the GPIB protocol. In extreme cases, this may require cycling power on all instruments, including the GPIB controller (i.e. typically the Agilent ChemStation).

➔ Close ChemStation programs before cycling power of a GPIB instrument or modifying the GPIB connection.

5 Connect GPIB devices in a *chain*. A chain occurs when a GPIB device is connected to the next GPIB device, and it is, in turn, connected to the next, and so on. Avoid *star* configurations (connecting all of the devices to a central point).

Installing and Configuring the Agilent 82357A/B USB - GPIB Interface and Driver

Before connecting the USB-GPIB interface with the computer, it is necessary to install the corresponding driver and configuration software located on the Agilent ChemStation DVD in the IO Libs directory. Refer to the *IO Libraries Suite installation guide* also found on the ChemStation DVD in the Manuals directory.

Instrument Communication

Be sure to set up the communication channel between the instrument and the PC prior to operating the system.

Connecting an Agilent 1100/1200 Series LC to the Agilent ChemStation

You can connect the following modules of the Agilent 1100/1200 Series LC to your Agilent ChemStation using LAN:

- Agilent 1100/1200 Autosampler (ALS)
- Agilent 1100/1200 Well Plate Autosampler (WPS)
- Agilent 1100/1200 Dual Loop Autosampler (DLA)
- Agilent 1100/1200 Thermostatted Autosampler (ALS)
- Agilent 1100/1200 Pumping System (PMP)
- Agilent 1100/1200 Diode Array Detector (DAD)
- Agilent 1100/1200 Multi Wavelength Detector (MWD)
- Agilent 1100/1200 Variable Wavelength Detector (VWD)
- Agilent 1100/1200 Fluorescence Detector (FLD)
- Agilent 1100/1200 Refractive Index Detector (RID)
- Agilent 1100/1200 Thermostatted Column Compartment (TCC)
- Agilent 1100/1200 Chip Cube Interface (CC)
- Agilent 1100/1200 Fraction Collector (AS/PS)
- Agilent 1100/1200 Micro Fraction Collector (MFC)
- Agilent 1100/1200 Vacuum Degasser

Instrument cabling

Installation and interconnection of your Agilent 1100/1200 Series LC modules are described in more detail in the Agilent 1100/1200 Series module user manual supplied with each module.

- Connect a controller-area network (CAN) cable between each of your Agilent 1100/1200 modules except the vacuum degasser. One CAN cable is included with each Agilent 1100/1200 module.
- Connect a remote cable (part number 5061-3378) between the Vacuum Degasser and one other Agilent 1100/1200 module.
- Connect the Agilent 1100/1200 module with the G1369A LAN card inserted to your LAN component, using the appropriate EtherTwist 10BaseT cable.
- The G1315C DAD-SL or G1365C MWD-SL as well as the G1314D VWD or G1314E VWD SL Plus detectors have on-board LAN communication, use the appropriate EtherTwist 10BaseT cable.

NOTE We recommend connecting the LAN card cable to an Agilent 1100/1200 detector. Using the G1315C DAD or G1365C MWD this is a definitive must. If no Agilent detector is used, please contact your Agilent representative to get information about the insertion point of the communication card.

Connecting an Agilent MSD/MS System

With Agilent ChemStation revision B.04.0x the following MSD/MS systems are supported:

Table 7 Supported MS Instruments

Family	Products
Agilent 1100/1200 Series LC/MSD	G1946B / G1946C /G1956A / G1956B
Agilent 6100 Series Single Quad LC/MS	G6110A /G6120A /G6130A / G6140A

Please refer to the System Installation Manual for the Agilent 1100/1200 Series LC/MSD or Agilent 6100 Series Single Quad LC/MS for details.

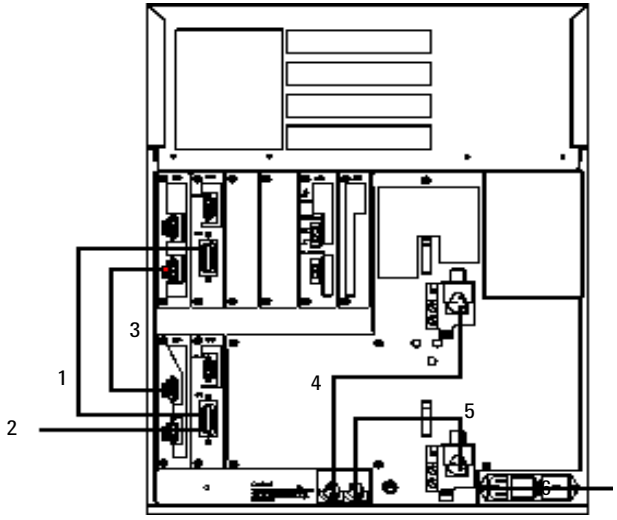
Connecting an Agilent CE instrument

NOTE Agilent CE instruments are supported with English operating systems only.

Connecting an Agilent G1600 CE Instrument to the Agilent ChemStation Computer (using GPIB)

As described in your Agilent G1600 CE instrument *User's Guide* (part-number G1600-90009), you need two GPIB cables and one start/stop-cable in order to operate the instrument from the Agilent ChemStation. The first GPIB cable transfers data from the mainframe instrument to the built-in diode array detector. The second GPIB cable connects it to the Agilent ChemStation computer. As time-critical events such as start/stop impulses are not transmitted via the GPIB bus, an additional start/stop-cable is required. It connects the core instrument to the built-in detector.

Connect a GPIB cable from the GPIB connector at the rear of the Agilent CE instrument to the GPIB connector on the computer. See Figure 6 on page 46.



1 GPIB cable to connect DAD and mainframe
2 GPIB cable to connect to PC
3 Start/stop cable
4/5 Power cables
6 Main power cable

Figure 6 Rear of Agilent G1600 CE Instrument

Connecting an Agilent G1600 CE Instrument to the Agilent ChemStation Computer (using USB-GPIB Interface)

Since Agilent ChemStation Rev. B.01.03 it is possible to use the 82357A USB-GPIB Interface. This connection requires the 82357A USB-GPIB Interface, one GPIB cable, and one start/stop-cable in order to operate the instrument from the Agilent ChemStation. The USB-GPIB interface connects the CE instrument to the Agilent ChemStation computer. The GPIB cable transfers data from the mainframe instrument to the built-in diode array detector. As time-critical events such as start/stop impulses are not transmitted via the GPIB bus, an additional start/stop-cable is required. It connects the core instrument to the built-in detector.

Connect the USB-GPIB Interface from the GPIB connector at the rear of the Agilent G1600 CE instrument to the USB connector on the computer. See Figure 7 on page 47.

Figure 7 USB-GPIB Interface Connection

Default GPIB Addresses

The Agilent G1600 CE instrument is shipped with the default GPIB addresses listed in Table 8 on page 48.

Table 8 Agilent G1600 CE Instrument Default GPIB Addresses

Agilent CE Component	Default GPIB Address
Mainframe	19
Built-in diode-array detector	17

Connecting an Agilent G7100 CE Instrument to Agilent ChemStation Computer

The Agilent G7100 CE instrument is controlled via LAN connection. For more information, please refer to the *Agilent G7100 Capillary Electrophoresis System User Manual*.

Connecting Miscellaneous Instruments to the Agilent ChemStation

Connecting Miscellaneous Instruments to the Agilent ChemStation

In addition to the Agilent 1100/1200 Series, you can connect the following stand-alone analytical instrument to your Agilent ChemStation:

- Agilent 35900E dual channel interface

To install this instrument, see the operator's handbook shipped with the instrument.

35900E Communication

These instruments are using LAN connection for communication, the setup is similar to the LAN set up for LC instruments. Please see the operators handbook shipped with the instrument.

If you configure more than one module of the same type, you must change the default settings so that each module has a unique IP address. For further details, please refer to the instrument handbooks.

Remote Control Cabling

All modules of an instrument that accept timetable entries or which go into the run mode during an analysis must be included in the remote control loop. In general, each module must be connected to the other devices with a remote control cable.

The 35900E dual channel interface use APG remote, but the two remote connectors are not pass-through connections. When you operate the 35900E with both channels simultaneously, only the A-channel remote will be connected. The B-channel acts in synchronization with the A-channel and will react to the remote signals from the A-channel remote connector. The only time you connect a remote cable to the B-channel remote connector is if you wish to operate the B-channel independently. In this mode, one instrument may start and stop the A-channel while another instrument has control of the B-channel.

3
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This Chapter contains the detailed installation procedures to install the Agilent ChemStation, add instruments, upgrade or uninstall the software.

Overview

Refer to the following, based on the type of installation you are completing:

- “Initial installation” on page 53
- “Adding instruments to an existing installation” on page 64
- “Upgrading from previous revisions” on page 65

Initial installation

The following procedure describes how to install the Agilent ChemStation for the first time.

See "Adding instruments to an existing installation" on page 64 for instructions on adding an instrument to an existing Agilent ChemStation.

1 Ensure all the steps defined in the section "Installation Preparation" on page 23 have been completed.

2 Ensure that no open programs are running on your system.

3 Insert the Agilent ChemStation DVD into the DVD drive.

4 From the **Start** menu in the Task Bar, select **Start > Run**.

5 At the command line, type `drive:\Install\Setup.exe` (for example, E:\Install\Setup.exe), then click **OK**.

   The Setup Wizard starts.

6 The Setup Wizard checks for the prerequisites PDF-XChange 4.0 and Microsoft .NET Framework 3.5 SP1.

   a Confirm installation of required components by pressing **Install**. For Microsoft .NET Framework 3.5 SP1 also read and accept the License Agreement.

NOTE

The PDF-XChange printer will only be visible in the **Start Menu > Settings > Printers and Faxes** until the computer is restarted.

When ChemStation is started, another temporary printer is created called "ChemStation PDF" based on the PDF-X-Change printer. While any ChemStation session is running, ChemStation PDF will also be listed in the **Start Menu > Settings > Printers and Faxes**

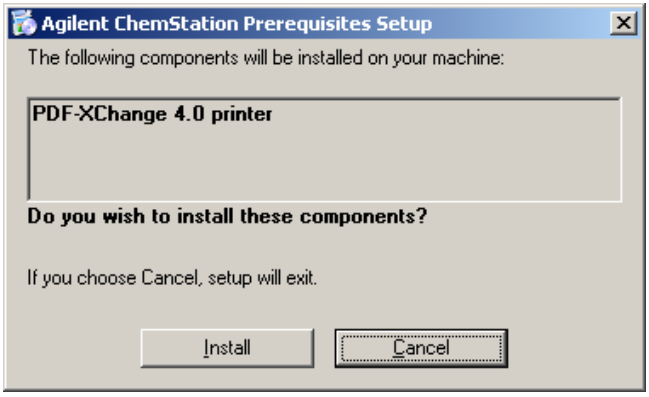


Figure 8 Agilent ChemStation Prerequisites Setup

Once the prerequisites are fulfilled the ChemStation Setup Wizard greets.

b In the next step the End-User License Agreement is presented and needs to be read.

Once its acceptance is indicated continuation by **Next** is possible.

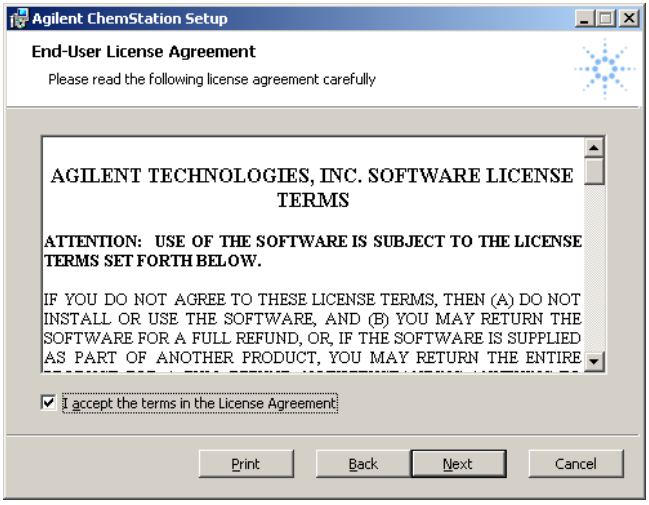


Figure 9 License Agreement

7 The destination folder for installation of ChemStation's files is presented. A different folder may be selected using the green browse button. Navigate and create new folders (optional) to determine the destination for ChemStation. Confirm with **OK**.

NOTE If the destination directory already exists (e.g from a previously removed installation of ChemStation) that directory will be moved away by renaming it to unique <directory>_xxx (e.g. Chem32_001).

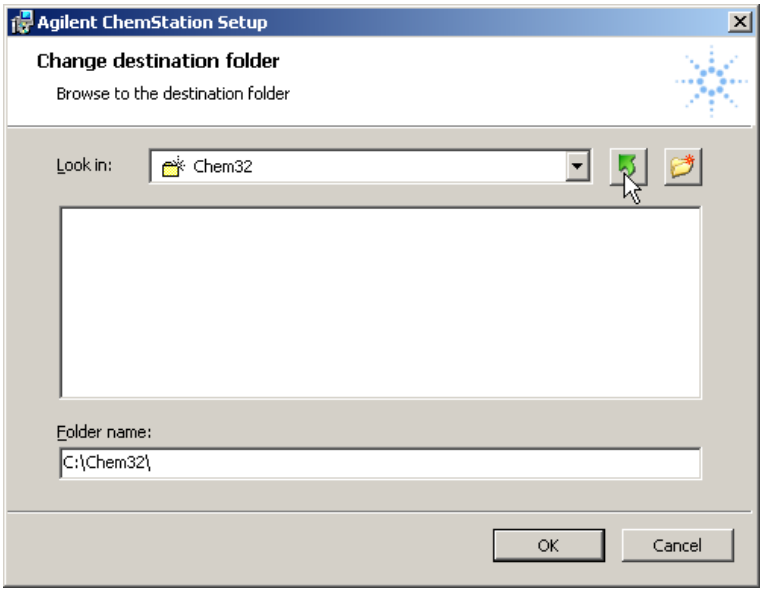


Figure 10

8 Once the files are copied and registered this phase of ChemStation's installation is completed. Press **Finish** to continue.

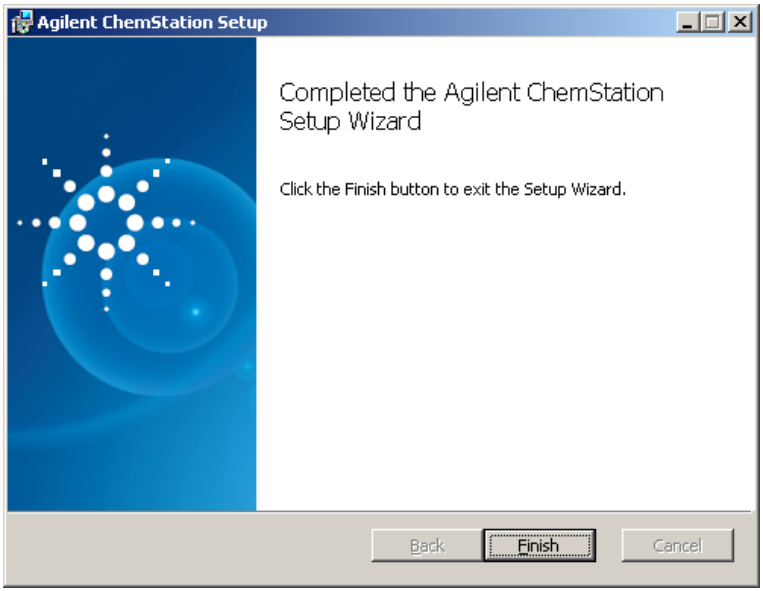


Figure 11

9 The **Setup Wizard - Instruments** screen displays and lets you select instrument-types or data analysis.

a Up to four instruments can be configured by the appropriate add-button, e.g. by pressing **Add LC** or **Add CE**.

- This will cause an appropriate entry to appear to the right in the list of selected instruments for ChemStation:

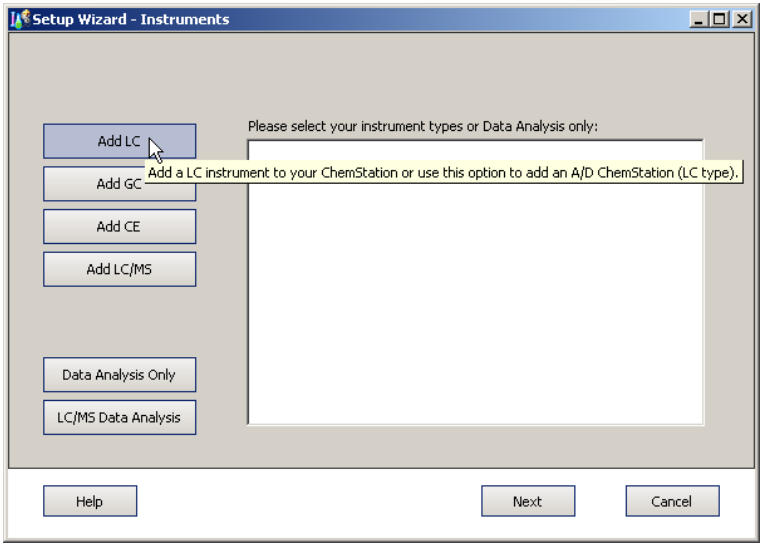
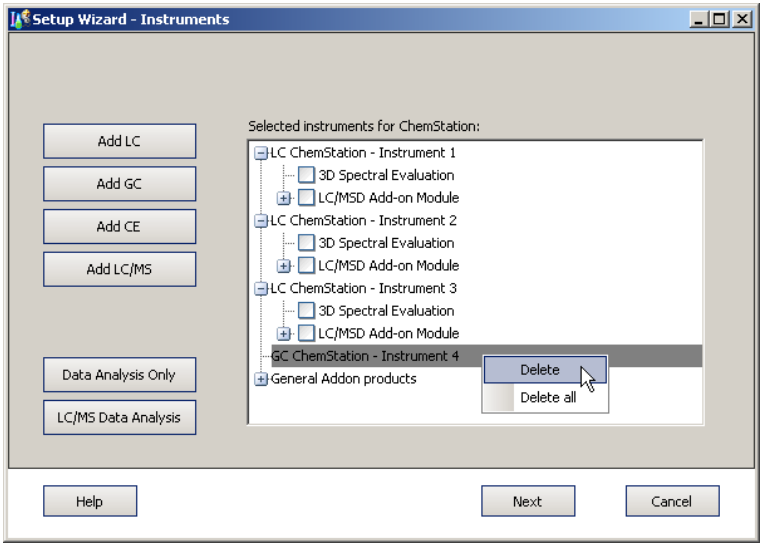


Figure 12

- If the wrong kind of instrument was added, a right mouse click onto an instrument from the list offers to **Delete** the selected one only or to **Delete all** all selected ones together.



NOTE Please observe the maximum possible number of instruments as lined out in "Number of Instruments Supported" on page 14.

b Alternatively one of the Data Analysis options can be selected, e.g. by pressing **Data Analysis Only**.

Data Analysis ChemStation

- If some instruments are selected already, a warning informs you that the previously selected instruments will be replaced. To configure **Data Analysis** confirm continuation by **Yes**.

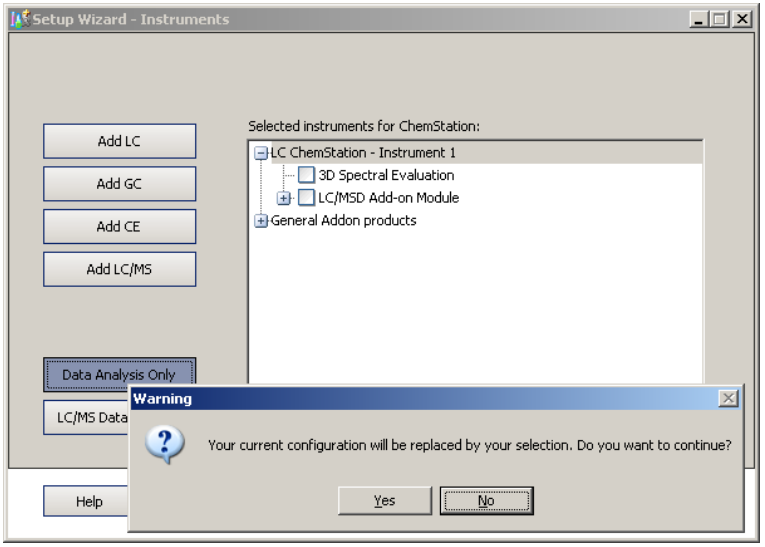


Figure 13

- Only one kind of Data Analysis may be selected.
- The selected Data Analysis will itself be replaced by selecting a different Data Analysis or an instrument from the buttons to the left, like e.g. by pressing **Add LC**.

10 Select a functionality in the list of nodes to the right

- To choose a functionality the check box next to this functionality has to be marked.

- The list's nodes may be expanded or collapsed by clicking with the mouse onto the **[+]** or **[-]** symbol to display or hide additional available functionality.

11 Once the right set of instruments or the Data Analysis is determined press **Next**.

The **Setup Wizard - Licenses** screen is displayed.

12 To install a license, enter the appropriate registration number found on the Software Registration Label as license into the central field at the bottom and click **Add**. Enter only a single license at a time.

HINT Look for products from the right column of product numbers to locate the License Registration Label of a suitable product.

Figure 14 Example License Registration Label

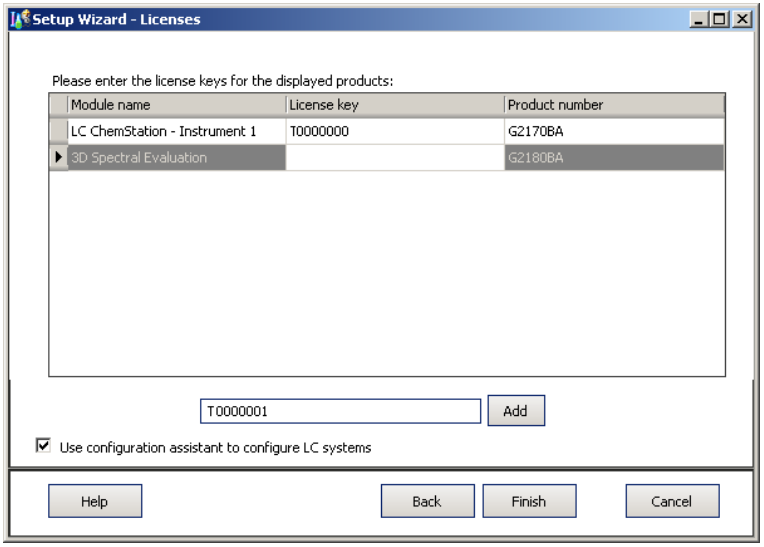


Figure 15

The entered licenses will show up in the center column of provided license keys.

NOTE You may enter the required licenses in any order - the required licenses will automatically be assigned to one of the matching modules.

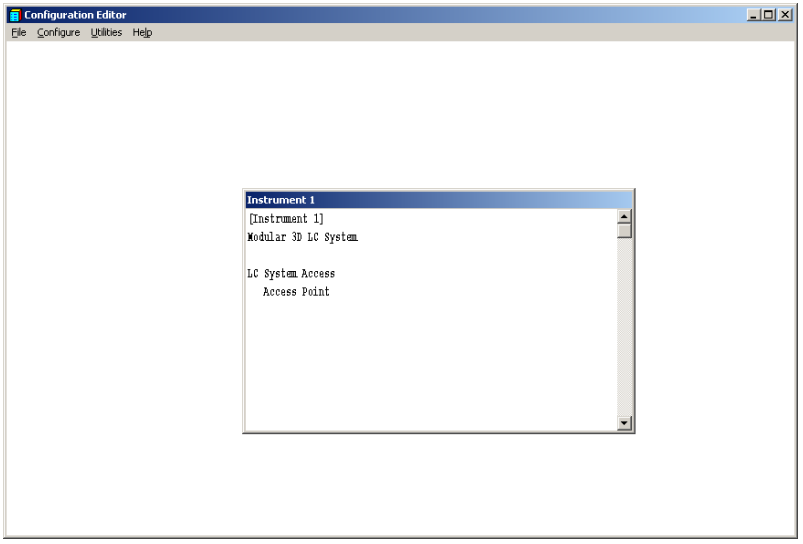
13 Repeat the previous step till all required licenses are added.

Once all the required licenses are entered the license entry process may be left by clicking **Finish**.

14 When Setup has finished installing the software click **Finish**.

15 If **Use configuration assistant to configure LC systems** was selected, the Configuration Assistant will be launched. See "Configuring the Instruments" on page 87

16 Complete the **Configuration Editor** screens. See "Configuring the Instruments" on page 87 for procedures on configuring your instrument(s).



17 Store your DVD and any license numbers in a safe place. These will be required if you wish to reinstall your software or add a new instrument module or license.

18 Run **Installation Verification Tool** to check out the installation. Installation Verification is documented in "Agilent ChemStation Installation Verification" on page 114.

Activating the XML-Based Interface

If you are using a LIMS or other external data collection systems, the Agilent ChemStation provides an XML interface to allow it to read sample input lists, analyze the samples, and then output result data back to the LIMS system. To enable this functionality, you will need to make changes to the CHEMSTATION.INI file. Please refer to the XML and LIMS Interface Guide found in the Manuals folder on the Agilent ChemStation DVD for full details.

Installing the Control Charts Reports

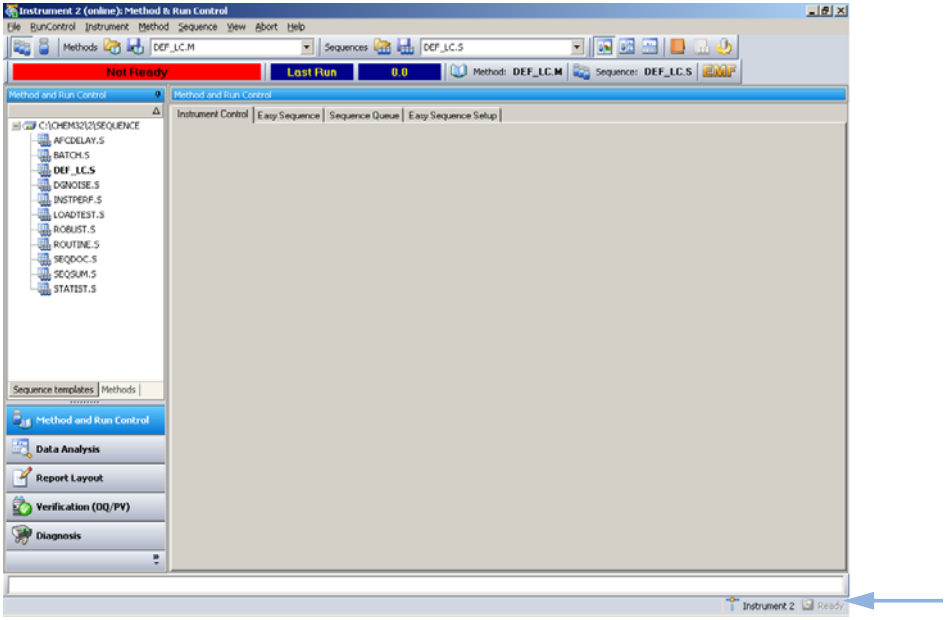
The following process adds control charts to your report menu.

NOTE Installation of Microsoft Excel 2000 is required to use this feature.

After you have installed your Agilent ChemStation you are ready to install the ChemStation Control Charts feature.

1 Start e.g. the Agilent A/D ChemStation.

2 Find the Agilent ChemStation command line. The command line is a text entry field across the bottom of the Agilent ChemStation program window.



3 At the command line, type
`MACRO STARTCHT.MAC,GO`

4 Press **Enter**.

5 A dialog box providing information about the installation appears.

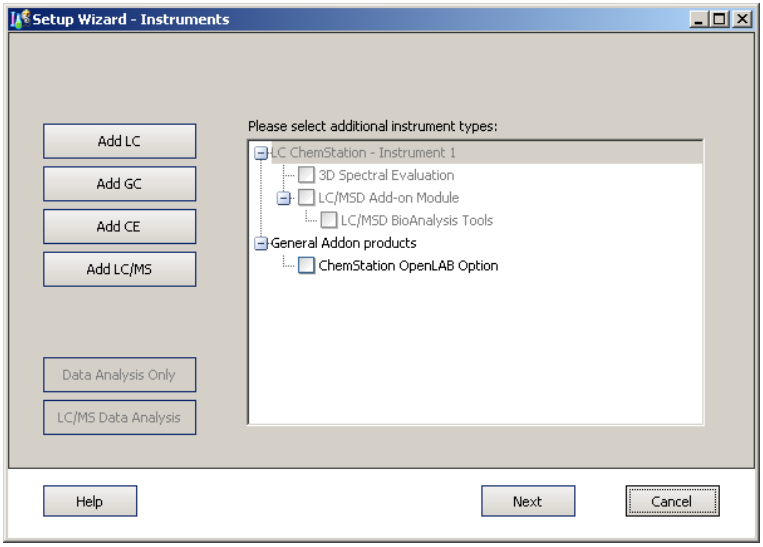
6 Select **Help** from this dialog box for information about using Control Charts with your Agilent ChemStation.

7 Select **OK** to install Control Charts feature to your Agilent ChemStation.

Adding instruments to an existing installation

1 To add further instruments select **Programs > Agilent ChemStation > Add Instrument**

This starts the ChemStation Setup Wizard for Instruments.



NOTE A modification or deletion of the already configured instrument(s) is not allowed.

NOTE Please observe the maximum possible number of instruments as lined out in "Number of Instruments Supported" on page 14.

2 Follow steps step 10 on page 58 – step 17 on page 61 of "Initial installation" on page 53.

3 Run Installation Verification Tool to check out ChemStation after adding instruments. Installation Verification is documented in "Agilent ChemStation Installation Verification" on page 114.

Upgrading from previous revisions

General Upgrade Procedure for ChemStation Systems

NOTE Before you upgrade your system, we strongly recommend that you back up your complete system.

NOTE Before starting the upgrade, read carefully the sections regarding the general upgrade, as well as the instrument-specific upgrade information. If you have Add-On Solution software installed, read the section "Upgrade Procedure for ChemStation Systems with Add-On Solutions" on page 73, prior to starting the upgrade procedure. Verify that your Add-On Solution is supported on ChemStation B.04.01. If you have used GPIB communication, read the section "GPIB and USB-GPIB Communication" on page 39 prior to starting the upgrade procedure.

Licenses in ChemStation Rev. B.04.0x

ChemStation Rev. A.xx.xx License numbers in general allow the upgrade to ChemStation Rev. B.04.0x. In addition, new installations can be performed using license numbers purchased for ChemStation Rev. A.xx.xx.

Agilent Training licenses (tx0000xxxx) are not valid for ChemStation Rev. B.04.0x. If your system was installed using a training license, a valid full license needs to be installed using the **Add Licenses** utility prior to or during the upgrade.

Automatic Upgrade of ChemStation Rev. B.0x.0x to ChemStation Rev. B.04.02 SP1

The following describes how to upgrade an existing Agilent ChemStation. See "Adding instruments to an existing installation" on page 64 for instructions on adding only an instrument to an existing Agilent ChemStation.

Preparations

- Ensure that all preparations have been completed. See "Installation Preparation" on page 23
- Ensure that no open programs are running on your system.

NOTE

ChemStation B.04.02 SP1 is supported on Windows XP and Windows Vista only. ChemStation B.01.01 up to B.02.0x was also supported on either Windows 2000 or Windows XP. So, in order to upgrade to ChemStation B.04.02 SP1, the Windows 2000 operating system needs to be updated PRIOR the ChemStation upgrade. Please check as well the minimum "Minimum PC Requirements" on page 10.

NOTE

Before starting the upgrade, close all programs and reboot your system. Verify the LAN communication software. The Agilent BootP Service needs to be installed in place of the CAG BootP Server, which is no longer supported.

1. Insert the Agilent ChemStation DVD into the DVD drive.
2. From the **Start** menu in the Task Bar, select **Start > Run**.
3. At the command line, type `drive:\Install\Setup.exe` (for example, E:\Install\Setup.exe), then click **OK**.

   The Setup Wizard starts.
4. The Setup Wizard checks for the prerequisites PDF-XChange 4.0 and Microsoft .NET Framework 3.5 SP1.

a Confirm installation of required components by pressing **Install**. For Microsoft .NET Framework 3.5 SP1 also read and accept the License Agreement.

NOTE

The PDF-XChange printer will only be visible in the **Start Menu > Settings > Printers and Faxes** until the computer is restarted.

When ChemStation is started, another temporary printer is created called "ChemStation PDF" based on the PDF-X-Change printer. While any ChemStation session is running, ChemStation PDF will also be listed in the **Start Menu > Settings > Printers and Faxes**

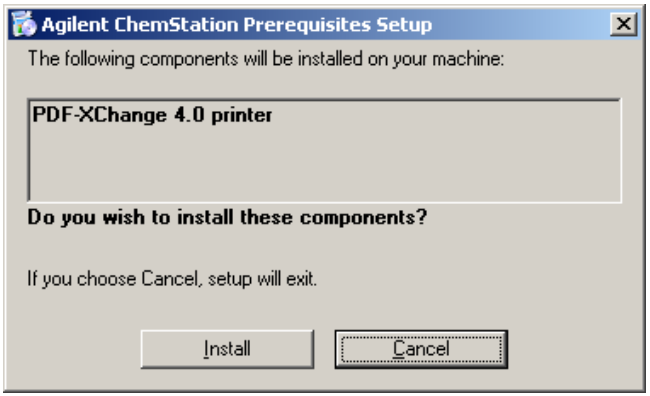


Figure 16 Agilent ChemStation Prerequisites Setup

Once the prerequisites are fulfilled the ChemStation Setup Wizard greets.

b In the next step the End-User License Agreement is presented and needs to be read.

Once its acceptance is indicated continuation by **Next** is possible.

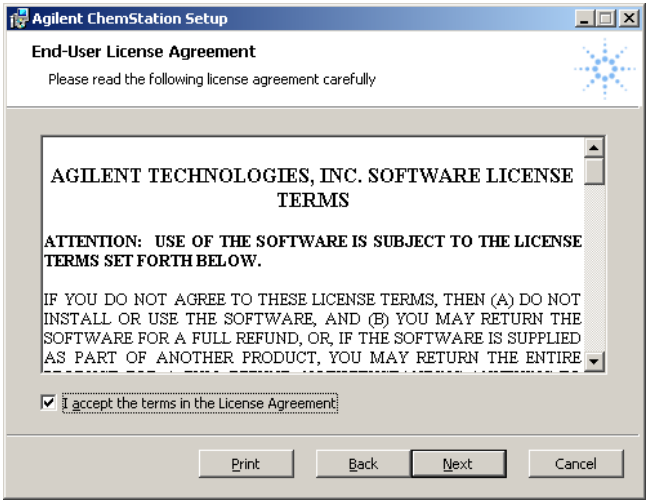
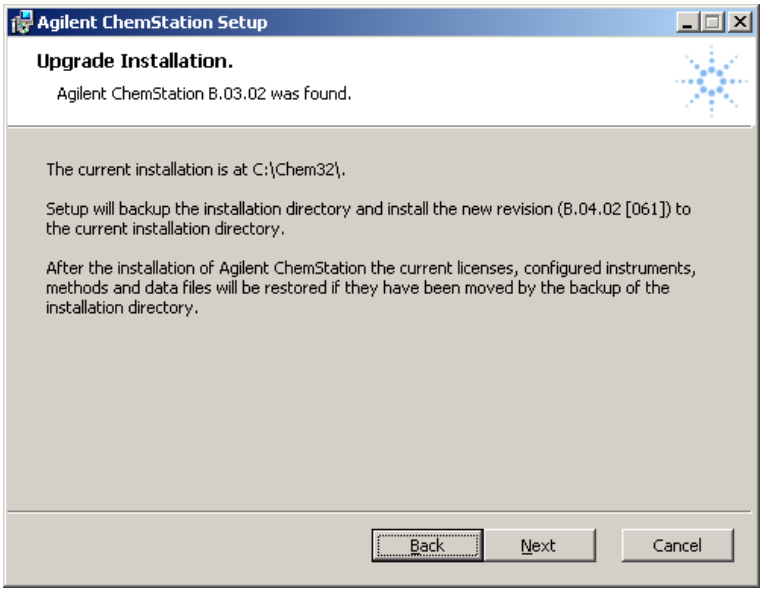


Figure 17 License Agreement

5 The **ChemStation Install Wizard** checks for the existence of an installed ChemStation.

NOTE If an A.xx.xx ChemStation is detected, the upgrade installation is terminated. For upgrade of ChemStation A.xx.xx see "No Automatic Upgrade Rev. A.xx.xx to ChemStation Rev. B.04.02 SP1" on page 70.



The **ChemStation Install Wizard** reports the detected ChemStation revision and the location of the current installation. By pressing **Next** the upgrade of this ChemStation begins.

6 The current installation directory (e.g. c:\chem32) from earlier ChemStation B.0x.0x is first preserved by moving it away. This is done by renaming it to a unique <directory>_xxx (e.g. c:\Chem32_001).

NOTE If moving the current installation is not possible (e.g. due to a remaining program accessing a file within c:\Chem32) the **ChemStation Setup Wizard** will prematurely end the upgrade.

7 A cleanup of the operating system's registry, PATH variable and ChemStation.ini is conducted. Then the ChemStation B.04.02 SP1 files are copied to the now free destination directory (e.g. c:\Chem32).

Eventually the licenses, instrument configuration, communication parameters and content of these directories are also copied to the fresh installation:

- The instrument directories (e.g. _INSTPATH$=C:\Chem32\1\)
- The data directories (e.g. _DATAPATH$=C:\Chem32\1\DATA\)
- The sequence template directories (e.g. _CONFIGSEQPATH$=C:\Chem32\1\SEQUENCE\)

- The master method directories (e.g. _CONFIGMETPATH$=C:\Chem32\1\METHODS\)
- The spectra libraries directory (e.g. _LIBPATH$=C:\CHEM32\SPECLIBS\)

Now the upgrade to ChemStation B.04.02 SP1 is completed.

8 Store your DVD and any license numbers in a safe place. These will be required if you wish to reinstall your software or add a new instrument module or license.

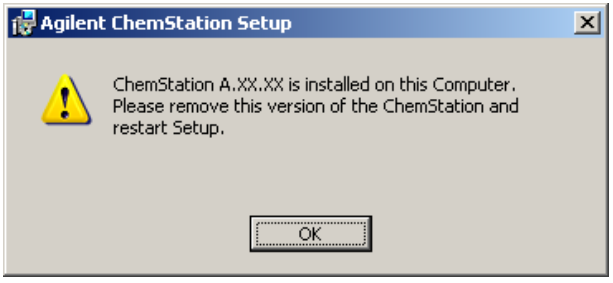
9 Run the **Installation Verification Tool** to verify the upgrade of ChemStation. Installation Verification is described in "Agilent ChemStation Installation Verification" on page 114.

No Automatic Upgrade Rev. A.xx.xx to ChemStation Rev. B.04.02 SP1

ChemStation revisions A.xx.xx cannot be upgraded automatically to B.04.02 SP1. If your ChemStation has a Rev. A.xx.xx you have to install ChemStation on a new system and move the required data manually. The new system has to match the required hardware and software specifications.

The automatic upgrade mode is supported for ChemStation Rev. B.01.03 or higher.

1 If nevertheless setup.exe from ChemStation DVD is started, the prerequisites are fulfilled and the **Agilent ChemStation Setup** wizard detects the presence of ChemStation Rev. A.xx.xx, the installation will be aborted.



Manual Upgrade from ChemStation Rev. A.xx.xx to Rev. B.04.02 SP1

NOTE ChemStation B.04.02 SP1 is supported on Windows XP and Windows Vista only. ChemStation A.09.03 for example was supported on either Windows NT 4.0 or Windows 2000, in order to upgrade to ChemStation B.04.02 SP1 the operating system needs to be updated PRIOR the ChemStation upgrade. Please check as well the PC minimum requirements, "Minimum PC Requirements" on page 10.

In order to upgrade from a revision A.xx.xx, the PC hardware and software requirements as well as the firmware requirements need to be checked. Once the prerequisites for ChemStation B.04.02 SP1 are met, install ChemStation B.04.02 SP1 on a supported, clean system.

Backup the required user-created files of interest manually to the appropriate directories. Be sure to backup all your necessary data and remove ChemStation A.xx.xx.

Then copy the required user-created files of interest manually to the appropriate directories.

NOTE If you load methods, sequences, etc. within Rev. B.04.0x, they are saved using the new file format. Files saved in ChemStation Rev. B.04.0x are not backwards-compatible with any ChemStation Rev. A.xx.xx.

Unsupported Upgrades to ChemStation Rev. B.04.02 SP1

The following instruments/modules or connections types are not supported with ChemStation Rev. B.04.0x:

- all HP 1050, 1046, 1049, 1090 modules or instruments
- GPIB connection for all Agilent LC 1100/1200 modules
- GPIB connection for 35900E

For the non supported instruments/modules, an upgrade to ChemStation Rev. B.04.0x is not possible.

Instrument Specific Upgrade Instructions

The instrument specific upgrade instructions can differ depending if the system is upgraded from Rev A.xx.xx ChemStation or Rev. B.0x.0x ChemStation to ChemStation B.04.02 SP1.

LC-Specific Upgrade Instructions:

valid to Upgrade Rev. A.09.03/A.10.01/A.10.02 to Rev. B.04.02 SP1

- *LC 1100 modules communication*

  The following system-created configuration file for LC 1100 modules needs to be copied to the upgraded ChemStation when you do a manual upgrade of ChemStation A.XX.XX: hpchem\instrument number\clusterx.mth

- *Wellplate Sampler Configuration*

  The following user-created Wellplate definition file needs to be copied to the upgraded ChemStation when you do a manual upgrade of ChemStation A.XX.XX: hpchem\instrument number*.wpt

A/D-Specific Upgrade Instructions

35900E

The G2072BA and G2073BA A/D products require a 35900E with LAN communication.

CE/MS-Specific Upgrade Instructions

CE/MS ChemStation consists of a *G1601AA CE ChemStation* including a *G2201AA MS ChemStation*. The G2201 is an Add-On program to the CE ChemStation.

Upgrade Procedure for ChemStation Systems with Add-On Solutions

NOTE Verify PRIOR to the upgrade, that your installed Add-On Solution is supported on ChemStation B.04.02 SP1. Not every Add-On Solution software is initially supported. Supported Add-On Solutions for LC and CE ChemStation with the respective minimum revision are documented in Table 9 on page 73. Please refer to the *ChemStation Upgrade Preparation Guide* for Information about Add-on software for other instrument techniques.

All Add-On software products need to be uninstalled before any automatic upgrade of an existing ChemStation Rev. B.0x.0x or higher to ChemStation Revision B.04.0x. There is no automatic upgrade for Add-On products. The different behaviors regarding uninstallation are summarized in the table below. The Add-On software must be reinstalled following the ChemStation upgrade.

Table 9 Supported Add-On Solution Products with ChemStation Rev. B.04.02

Add-On Solution for ChemStation Rev. B.04.02 SP1	Required Revision for ChemStation Rev. B.04.02 SP1	Uninstall from ChemStation
G2181BA ChemStore Client/Server	B.04.02	Uninstalls completely from the Add/Remove Programs in Control Panel, including entries in the chemstation.ini.
G2183BA Security Pack	B.04.02	Uninstall done by ChemStore
Purify	B.01.01	Uninstalls completely from the Add/Remove Programs in Control Panel, including entries in the chemstation.ini.
G2182BA GPC Gel Permeation Chromatography	B.01.01	Uninstalls completely from the Add/Remove Programs in Control Panel, including entries in the chemstation.ini.
G3383AA Control for CTC PAL Autosampler for LC and LC/MS Systems	A.01.06	Uninstalls completely from the Add/Remove Programs in Control Panel, including entries in the chemstation.ini.
G2201BA CE/MS	B.03.01	Uninstalls completely from the Add/Remove Programs in Control Panel, including entries in the chemstation.ini.

During the installation of an Add-On solution, certain information is written to a specific file (located in the windows directory of your system) in order to maintain the Add-On solution program:

- ChemStation Revision A: win.ini
- ChemStation Revision B: chemstation.ini

During the upgrade process, the upgrade program reads all win.ini/chemstation.ini entries and detects Add-On solutions by their entries in this file. Uninstalling the ChemStation software without previously removing the Add-On solution triggers an alert during the upgrade process.

Installed products belonging to the ChemStation Plus Family, such as ChemStore or ChemAccess, must be uninstalled using the standard Windows uninstall procedure (**Start > Settings > Control Panel > Add or Remove programs**). Uninstall these products using the Windows routine prior to upgrading the ChemStation.

In addition, some Add-On programs create certain entries in the win.ini/chemstation.ini file that are not removed during the uninstallation; these entries may need to be *MANUALLY* removed from the win.ini/chemstation.ini file *AFTER* the uninstallation of the Add-On solution, but *PRIOR* to the upgrade installation.

Upgrade from ChemStation B.0x.0x Revision with Add-On Solution

Required steps for performing an upgrade of ChemStation revision B.0x.0x with installed Add-On solution. e.g. Purify:

Uninstall the Add-On Solution software using the standard Windows uninstall procedure (**Control Panel > Add/Remove programs**). During this uninstallation process, the system removes the Add-On solution entries corresponding to the just uninstalled Add-On solution program. If more Add-On Solutions are installed on the system, each Add-On solution needs to be removed using **Add/Remove Programs**.

Table 10 ChemStation Rev. B.0x.0x Add-On-Solution Uninstall Instructions - Summary

Add-On Solutions for ChemStation B.0x.0x	Rev.	Add-On Entries in ChemStation.ini (may need to be removed manually AFTER running the Uninstallation via ADD/REMOVE programs)	Add/Remove Programs from Windows
G2181BA ChemStore Client/Server	starting B.03.02 SR1	[PCS] ChemStore C/S =C:\CHEM32\ChemStor\database [PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CHEM32\ChemStor\hpdbif00.mcx ChemStore C/S =C:\CHEM32\ChemStor\database	Yes, removes completely all related entries in chemstation.ini
G2183BA Security Pack	starting B.03.02 SR1	No Add-On entries in win.ini	No, will be uninstalled during ChemStore uninstallation.
Purify	starting B.01.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\Purify\bin\inl_puri.mcx [Purify] Version = xx.xx Path=c:\Purify	Yes, removes completely all related entries in chemstation.ini
Method Validation Pack	up to A.02.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CHEM32\CORE\hpca.mac MVPrevSeqFile=... MVPrevSeqPath=... MethodValidationMode=1	Yes, removes completely all related entries in chemstation.ini
Easy Access	starting A.04.00	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CHEM32\CORE\ezxmmain.mac	Yes, removes completely all related entries in chemstation.ini
Data Browser	starting A.02.00	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CHEM32\CORE\aevgen.mac	Yes, removes completely all related entries in chemstation.ini
G3383AA Control for CTC PAL Autosampler for LC and LC/MS Systems	starting A.01.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\Chem32\CTC\CTC_TOP.MAC	

Table 10 ChemStation Rev. B.0x.0x Add-On-Solution Uninstall Instructions - Summary

Add-On Solutions for ChemStation B.0x.0x	Rev.	Add-On Entries in ChemStation.ini (may need to be removed manually AFTER running the Uninstallation via ADD/REMOVE programs)	Add/Remove Programs from Windows
CTC Cycle Composer	1.5.2	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CHEM32\CORE\PALSEQ.mac	Yes, but it is required to manually delete Add-On entries from the chemstation.ini
Active Splitter	starting A.01.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CHEM32\CORE\actsplit.mac	Yes, removes completely all related entries in chemstation.ini
G1979A Multi-Signal Output Accessory	starting A.01.01	[[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CHEM32\CORE\G1979A.mac	Yes, removes completely all related entries in chemstation.ini
Analyst	starting 1.4	No Add-On entries in win.ini	
G2201A CE/MS	starting B.01.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDON1=C:\CHEM32\MS\MSTOP.MAC	Yes, but it is required to manually delete Add-On entries from the chemstation.ini

Upgrade from ChemStation Revision A.xx.xx with Add-On Solution

Required steps for performing an upgrade of ChemStations A.xx.xx with installed Add-On solution. e.g. GC Companion:

1 Uninstall the Add-On Solution software using the standard Windows uninstall procedure (**Control Panel > Add/Remove programs**)

2 From the **Start** menu in the Task Bar, select **Start > Run**.

3 Type
`Win.ini` into the command line and press **OK**. The win.ini file opens.

4 Within the [PCS] and [PCS,x] section where x reflects the number of the instruments installed, search for the Add-On solution-related entries. e.g. for ChemStation
`Companion ADDONS=1 ADDON1=C:\HPCHEM\PUI\PUITOP.mac.`

HINT When Add-On Solutions are installed on the system, the variable ADDONS=x is incremented and represents the number of installed Add-On solutions.

The win.ini entries related to the installed Add-On solutions are listed in Table 11 on page 77.

5 Delete the Add-On solution entries corresponding to the just uninstalled Add-On solution program. If more Add-On Solutions are installed on the system, the variable ADDONS=x must be decremented to represent the number of the remaining Add-On solutions, since the Add-On programs need to be deinstalled separately.

NOTE Refer to the corresponding software documentation of the Add-On Solution product for more details regarding the win.ini entries.

6 Save and close the win.ini file.

7 Verify that all Add-On programs are removed, otherwise proceed with step 1 to uninstall further Add-On solutions.

Table 11 ChemStation Rev. A.xx.xx Add-On-Solution Uninstall Instructions - Summary

Add-On Solutions for ChemStation A.xx.xx	Rev.	Add-On Entries in Win.ini (may need to be removed manually AFTER running the Uninstallation via ADD/REMOVE programs)	Add/Remove Programs from Windows
ChemStore Client/Server	up to B.03.02	[PCS] ChemStore C/S =C:\HPCHEM\ChemStor\database [PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\ChemStor\hpdbif00.mcx ChemStore C/S =C:\HPCHEM\ChemStor\database	Yes, but it is required to manually delete Add-On entries from the win.ini
Security Pack	up to B.03.02	No Add-On entries in win.ini	No, will be uninstalled during ChemStore uninstallation.

Table 11 ChemStation Rev. A.xx.xx Add-On-Solution Uninstall Instructions - Summary

Add-On Solutions for ChemStation A.xx.xx	Rev.	Add-On Entries in Win.ini (may need to be removed manually AFTER running the Uninstallation via ADD/REMOVE programs)	Add/Remove Programs from Windows
Purify	up to A.02.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\Purify\bin\inl_puri.mcx [Purify] Version = xx.xx Path=c:\Purify	Yes, removes completely all related entries in win.ini.
ChemAccess	up to A.02.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\CORE\hpca.mac	Yes, but it is required to manually delete Add-On entries from the win.ini
Method Validation Pack	up to A.02.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\CORE\hpca.mac MVPrevSeqFile=... MVPrevSeqPath=... MethodValidationMode=1	Yes, but it is required to manually delete Add-On entries from the win.ini
GPC	up to A.02.02	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\GPC\Gpc_top.mac and GPC files need to be manual removed from the installation directory, refer to the readme.txt of the GPC Software	Not possible, remove manually
Easy Access	up to A.03.00	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\CORE\ezxmmain.mac	Yes, removes completely all related entries in win.ini.
Data Browser	up to A.01.02	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\CORE\aevgen.mac	Yes, removes completely all related entries in win.ini.

Table 11 ChemStation Rev. A.xx.xx Add-On-Solution Uninstall Instructions - Summary

Add-On Solutions for ChemStation A.xx.xx	Rev.	Add-On Entries in Win.ini (may need to be removed manually AFTER running the Uninstallation via ADD/REMOVE programs)	Add/Remove Programs from Windows
G2080AA Retention Time Locking for GC	A.05.02 A.06.01 B.01.01	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\RTL\RTLTOP.MAC	Yes, but it is required to manually delete Add-On entries from the win.ini
GC Companion	no Rev.	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\PUI\PUITOP.MAC	Yes, but it is required to manually delete Add-On entries from the win.ini
G2401AA HeadSpace software for GCStandalone	A.01.01	G2401AA is not an Add-on and is not added to the win.ini file. The G2401AA is not supported with the ChemStation.	No, must be removed separately.
G2922AA Integrated HeadSpace software for GC	A.01.0x	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\HS\HSAddon.MAC	Yes, but it is required to manually delete Add-On entries from the win.ini
CC Mode	A.03.02	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\CCMODE\bin\ccmode3.mcx [CCMODE3] Path=C:\CCMODE etc. [CCMODEIII] version=À.03.xx	Yes, but it is required to manually delete Add-On entries from the win.ini
CTC Cycle Composer	1.5.2	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\CORE\PALSEQ.mac	Yes, but it is required to manually delete Add-On entries from the win.ini
Active Splitter	A.01.00	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\CORE\actsplit.mac	Yes, removes completely all related entries in win.ini.

Table 11 ChemStation Rev. A.xx.xx Add-On-Solution Uninstall Instructions - Summary

Add-On Solutions for ChemStation A.xx.xx	Rev.	Add-On Entries in Win.ini (may need to be removed manually AFTER running the Uninstallation via ADD/REMOVE programs)	Add/Remove Programs from Windows
G1979A Multi-Signal Output Accessory	A.01.00	[[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDONx=C:\HPCHEM\CORE\G1979A.mac	Yes, removes completely all related entries in win.ini.
Analyst	1.1.1/ 1.4	No Add-On entries in win.ini	
G2201A CE/MS	A.09.03 and higher	[PCS, Instrument number] ADDONS=x (whereas x is the number of installed Add-Ons) ADDON1=C:\HPCHEM\MS\MSTOP.MAC	Yes, but it is required to manually delete Add-On entries from the win.ini

General Add-On Solutions

All Add-On software products need to be uninstalled before any upgrade of Rev. A.xx.xx or higher ChemStation to ChemStation Revision B.04.0x. There is no automatic upgrade of the Add-On products ChemStore and ChemStation Plus Security Pack. This Add-On software must be upgraded after the ChemStation upgrade.

ChemStore (up to B.03.02)

The G2181BA ChemStore software on top of ChemStation Rev. A cannot be updated to ChemStore B.04.02 software. The software needs to be uninstalled according to the uninstallation section of the ChemStore C/S Installation Guide. In addition, the following entries need to be deleted from the win.ini file:

In the [PCS] section:

```
ChemStore C/S =C:\HPCHEM\ChemStor\database
```

In all [PCS,x] sections:

`ADDONS=x` (whereas x is the number of installed Add-Ons)
`ADDONx=C:\HPCHEM\ChemStor\hpdbif00.mac ADDON(x+1)= C:\HPCHEM\Core\mv.mac` (for G2184A only)
`ChemStore C/S =C:\HPCHEM\ChemStor\database`

ChemStore (above B.03.02 SR1)

The G2181BA ChemStore software on top of ChemStation Rev. B cannot be updated to ChemStore B.04.02 software. The software needs to be uninstalled according to the uninstallation section of the ChemStore C/S Installation Guide. The deinstallation program removes in addition all related section in the chemstation.ini file.

Security Pack

The ChemStore uninstallation program removes all Security Pack-related items. A separate uninstallation is not possible.

LC-Specific Add-On Solutions

All Add-On software products need to be uninstalled before any upgrade of G2170AA/G2180AA ChemStation to G2170BA/G2180BA ChemStation Revision B.04.02 SP1. The Add-on software must be upgraded after the ChemStation upgrade.

GC-Specific Add-On Solutions

All Add-On software products need to be uninstalled before any upgrade of G2070AA ChemStation to G2070BA ChemStation B.04.0x. The Add-On software must be upgraded after the ChemStation upgrade.

Retention Time Locking

The G2080AA Retention Time Locking (RTL) Add-On software must be removed using the Add/Remove Programs in Control Panel. In addition, the RTL add-on entries in the win.ini file must be manually deleted before the Rev. B.04.0x GC ChemStation is installed.

Beginning with B.03.01, RTL is now integrated in the GC ChemStation.

Companion

The Companion Add-On software must be removed using the Add/Remove Programs in Control panel. In addition, the Companion add-on entries in the win.ini file must be manually deleted.

Beginning with B.01.01, the ChemStation Companion is included with the G2070BA GC ChemStation installation.

Headspace

ChemStation G2070BA supports the integrated G2924AA HeadSpace software.

The G2922AA Integrated Headspace software is supported only on G2070AA/G2071AA ChemStation and must be removed using the Add/Remove Programs in Control Panel before upgrading to GC ChemStation revision B.04.0x. In addition, the HeadSpace add-on entries in the win.ini file must be manually deleted.

Be aware, that the G2922AA registration number will not load the G2924AA software. The G2924AA software will need to be purchased.

The G2401AA A.01.01 Headspace software is a separate standalone program and is not supported with G2070BA/G2071BA ChemStation.

LC/MS-Specific Add-On Solutions

All Add-On software products, except Analyst, need to be uninstalled before any upgrade of G2710AA LC/MSD ChemStation to G2710BA LC/MSD ChemStation Revision B.04.0x. The Add-on software must be upgraded after the ChemStation upgrade.

Purify Software

Following Purification Add-On Solution Software cannot automatically be upgraded to next higher revision B.04.0x: G2262AA Purification/HiThruput SW module G2263AA Mass based fraction collection add-on SW (LC/MS specific) G2265AA Standalone Purification/HiThruput DA SW

The uninstallation shield of the Purification software removes all Purification related entries from the win.ini file.

Active Splitter Software

The Active Splitter Add-On software must be removed using the Add/Remove Programs in Control Panel before the Rev. B.04.0x LC/MSD ChemStation software is installed.

G1979A Multi-Signal Output Accessory Software

The G1979A Multi-Signal Output Accessory Add-On software must be removed using the Add/Remove Programs in Control Panel before the Rev. B.04.0x LC/MSD ChemStation software is installed.

Analyst Software

If Analyst Rev. 1.1.1 Add-On software is installed, it must be upgraded to Analyst Rev. 1.4 before the Rev. B.03.0x LC/MSD ChemStation is installed. The Analyst Rev. 1.4 Add-on software should not be removed before the Rev. B.03.0x LC/MSD ChemStation software is installed. The Rev. B.03.0x LC/MSD ChemStation should be installed with the Analyst Rev. 1.4 still installed.

Easy-Access Software

The Easy Access Add-on software must be removed using the Add/Remove Programs in Control Panel before the Rev. B.04.0x LC/MSD ChemStation software is installed.

CTC Cycle Composer Software

The CTC Cycle Composer Add-on software must be removed using the Add/Remove Programs in Control Panel. In addition, the CTC Cycle Composer add-on entries in win.ini must be manually deleted before the Rev. B.04.0x LC/MSD ChemStation is installed.

Data Browser Software

The Data Browser Add-On software must be removed using the Add/Remove Programs in Control Panel before the Rev. B.04.0x LC/MSD ChemStation software is installed.

Uninstalling the Agilent ChemStation

In some cases you might need to uninstall the Agilent ChemStation, for example, if you wish to install it in a different location.

To completely remove a Agilent ChemStation installation you can use the standard Windows uninstall procedure (**Control Panel > Add or Remove programs**). For uninstallation, please proceed with one of the following procedures:

Uninstalling the Agilent ChemStation

NOTE

Add-On solution software needs to be uninstalled using the standard Windows uninstall procedure (**Control Panel > Add or Remove programs**). Please uninstall these products using the Windows routine PRIOR to uninstalling Agilent Chemstation B.0x.0x. This also includes all Service Releases or Patches for the Agilent ChemStation that may have been delivered for the Agilent ChemStation revision you want to uninstall. The system may need you to manually modify the chemstation.ini file. Please refer to the corresponding software documentation of the Agilent ChemStation Plus products for details.

See also

1 If the Agilent ChemStation is running close all sessions and reboot the computer.

2 Select **Start > Settings > Control Panel > Add or Remove Programs**. Select *Agilent ChemStation* and press **Remove**.

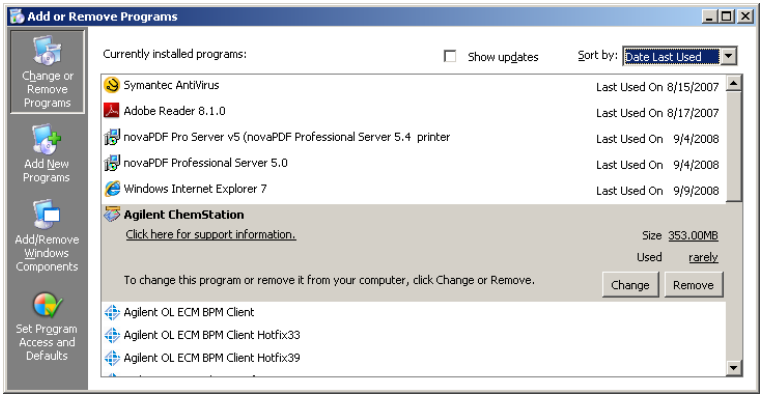


Figure 18

3 Before starting the uninstallation you will be prompted to confirm the deinstallation. Click **Yes** to continue.

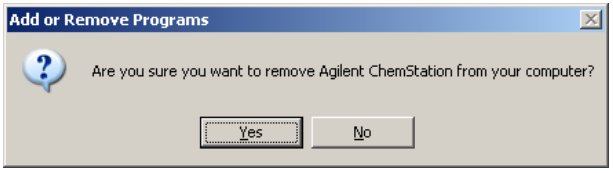


Figure 19

4 During uninstallation the system will leave your Agilent ChemStation data, methods, sequences, UV-libraries, customized report styles, tune files (for CE/MSD systems), and if present any customized macros such as user.mac untouched.

The remaining CHEM32 folder is left on your hard disk.

NOTE A subsequent installation of ChemStation would discover the remaining presence of this directory as destination and protect it from overwriting my moving it aside. This is done by renaming the directory (e.g. c:\Chem32) to <directory>_00x (e.g. c:\Chem32_001).

Uninstalling the CE-MS Add-on Software

1. If the Agilent ChemStation is running close all sessions and reboot the computer.
2. Select **Start > Settings > Control Panel > Add or Remove Programs**. Select **Agilent G2201 ChemStation CEMS Addon** and press **Change/Remove**. The wizard starts and the system will ask you whether to modify, to repair, or to remove the CE-MS addon. Continue by selecting the **Remove** option and press **Next**.
3. During uninstallation of the CE-MS Add-on your MS related Agilent ChemStation data, methods, sequences, UV-libraries, customized report styles, tune files, and if present any customized macros will not be removed. They will remain intact in the folders of the CE instrument.

4
Configuring the Instruments

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Configuring a ChemStation LC Instrument 89
Configuring an Agilent 1100 or 1200 Series LC System 95
Configuring a ChemStation CE instrument 102
Configuring your Agilent G1600A CE instrument 102
Configuring Your Agilent G7100 CE Instrument 103
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Configuring Paths 111

This chapter explains how to use the Configuration Editor to configure your instruments to work with the Agilent ChemStation.

About the Agilent ChemStation Configuration Editor

The Agilent ChemStation Configuration Editor is a program that allows the easy configuration of your Agilent ChemStation software. This includes:

- Detecting the GPIB interface in your PC
- Selecting LAN or GPIB communication
- Configuring the analytical hardware connected to the PC
- Configuring the path used for method, data, and sequence storage
- Configuring Agilent ChemStation color display

You will need to use the Configuration Editor:

- As the last step of the initial installation process for the Agilent ChemStation software,
- Each time a GPIB device is connected to, changed, or disconnected from the GPIB bus or the PC,
- Each time you change a LAN device's IP address, and whenever adding or removing a LAN device from the ChemStation

After installing the Agilent ChemStation software, you are prompted to configure the complete analytical system.

Configuring a ChemStation LC Instrument

In most cases, the Agilent ChemStation instrument configuration information has to be adapted to match the connected analytical hardware after the installation of the Agilent ChemStation application software. Most Agilent Technologies analytical hardware is modular and can be combined in various ways. The following instrument types are available for an LC configuration:

Table 12 LC Instrument Types in the Agilent Configuration Editor

Instrument Type	Supported LC Hardware	Data Evaluation Capabilities	LAN
LC 3D data analysis only	no instrument control	spectra evaluation included	No
LC data analysis only	no instrument control	no spectra evaluation included	No
Modular 3D LC system	Agilent 1120/1100/1200	spectra evaluation included	Yes
Modular LC system	Agilent 1120/1100/1200	no spectra evaluation included	Yes
Modular 3D LC system (classic)	Agilent 1100/1200	spectra evaluation included	Yes
Modular LC system (classic)	Agilent 1100/1200	no spectra evaluation included	Yes

For LC 1100/1200 modules, two different sets of instruments drivers are available (see Table 13 on page 92 to Table 17 on page 94). The classic drivers have been available in the previous versions of ChemStation. **Method and Run Control** view is represented with the classical User Interface (see Figure 20 on page 90). The Configuration Editor needs to be configured with Instrument Type **Modular LC System (Classic)** or **Modular 3D LC System (Classic)**, respectively.

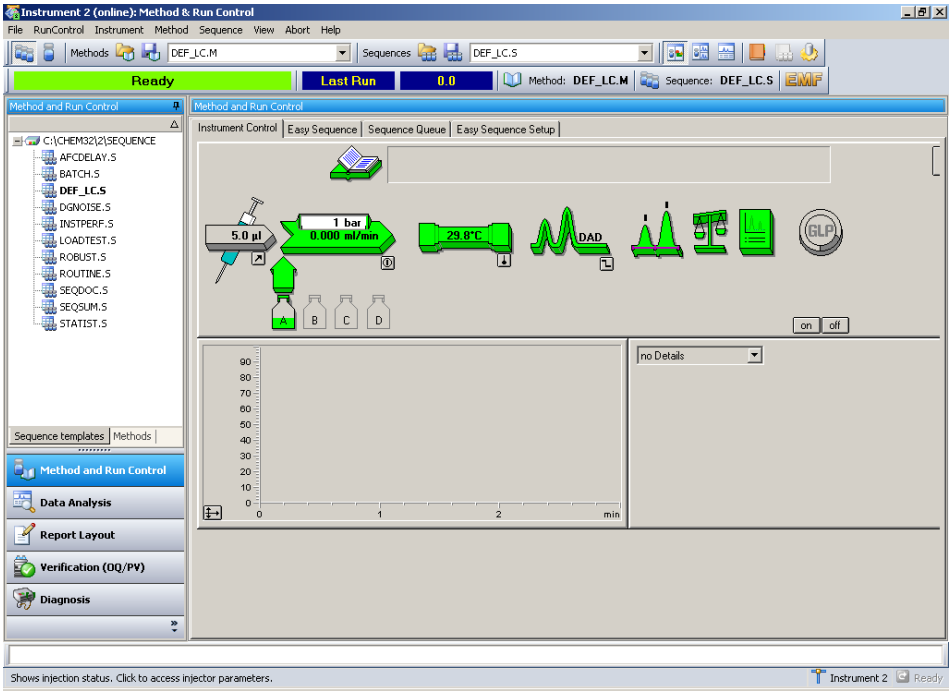


Figure 20 **Method and Run Control** view with classic drivers

ChemStation B.04.02 introduces support for a new set of drivers, the *Rapid Control.NET drivers* (see Figure 21 on page 91). In this case the Configuration Editor needs to be configured with Instrument Type **Modular LC System** or **Modular 3D LC System**, respectively.

The new drivers provide a new user interface for LC instrument control in the **Method and Run Control** view.

The new user interface offers:

- Flexible sizing of the instrument control panel to make best use of the available desktop space
- Show/hide functionality to reduce the display to the most essential information
- Graphical representation of multiple devices of the same kind (for example, two pumps)
- Graphical representation of all valves

- Direct access to method parameters and all important functions for each module
- Status display for the individual modules and resulting overall instrument status
- Tool-tips reveal most important information on specific functions
- Tabular display of the sample information for the current run or sequence line
- Direct access to data analysis parameters

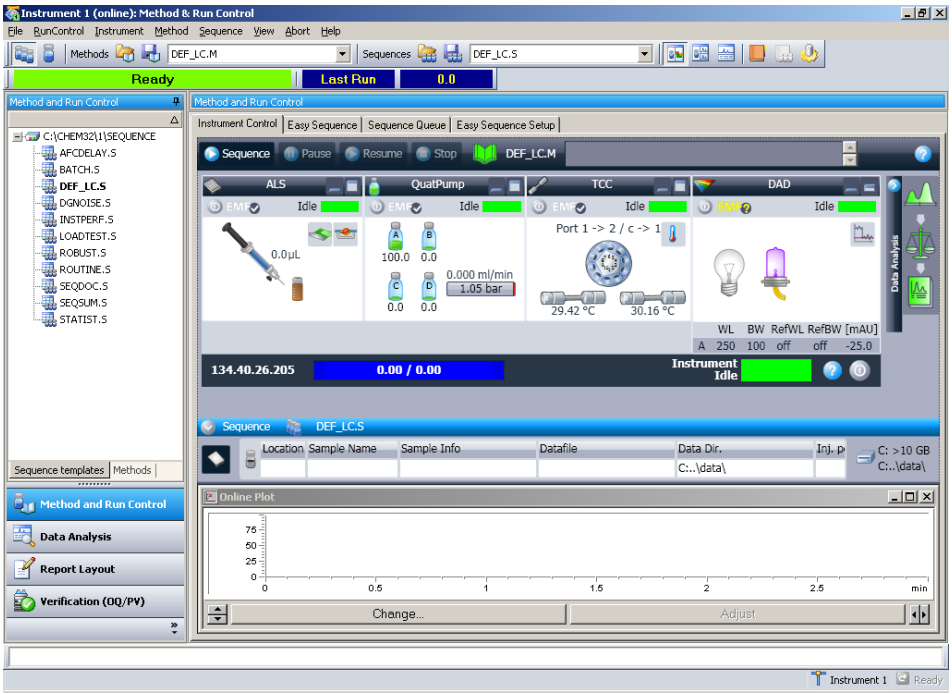


Figure 21 **Method and Run Control** view with RC.NET drivers

NOTE

For the 1120 compact LC only the RC.Net drivers are available. When configuring a ChemStation for an 1120 instrument, the **Configure LC System Access** dialog will allow to add any 1100/1200 module. However, only the RID, FLD and ELSD will work together with an 1120 Compact LC.

Table 13 Available Drivers for Agilent Detectors

Module/ Device	Product Number	Classic Driver	RC.net Driver
Agilent 1100 VWD	G1314A	Yes	Yes
Agilent 1200 VWD	G1314B/D	Yes	Yes
Agilent 1200 VWD SL	G1314C	Yes	Yes
Agilent 1200 VWD SL Plus	G1314E	Yes	Yes
Agilent 1100/1200 DAD	G1315A/B	Yes	Yes
Agilent 1100/1200 DAD SL	G1315C	Yes	Yes
Agilent 1200 DAD	G1315D	Yes	Yes
Agilent 1290 Infinity DAD	G4211A	No	Yes
Agilent 1100/1200 FLD	G1321A	Yes	Yes
Agilent 1100/1200 RID	G1362A	Yes	Yes
Agilent 1100 MWD	G1365A	Yes	Yes
Agilent 1100/1200 MWD	G1365B	Yes	Yes
Agilent 1100/1200 MWD SL	G1365C	Yes	Yes
Agilent 1200 MWD	G1365D	Yes	Yes
Agilent 1100/1200 UIB	G1390A	Yes	Yes
Agilent ELSD	G4218A	Yes	No

Table 14 Available Drivers for Agilent Pumps

Module/ Device	Product Number	Classic Driver	RC.net Driver
Agilent 1100/1200 Isocratic Pump	G1310A	Yes	Yes
Agilent 1100/1200 Quaternary Pump	G1311A	Yes	Yes
Agilent 1100/1200 Binary Pump	G1312A	Yes	Yes
Agilent 1200 Binary Pump SL	G1312B	Yes	Yes
Agilent 1200 Preparative Pump	G1361A	Yes	No

Table 14 Available Drivers for Agilent Pumps

Module/ Device	Product Number	Classic Driver	RC.net Driver
Agilent 1100/1200 Capillary Pump	G1376A	Yes	No
Agilent 1100/1200 Nano Pump	G2225A and G2226A	Yes	No
Agilent 1290 Infinity High Performance Binary Pump	G4220A	No	Yes

Table 15 Available Drivers for Agilent Sampling Systems

Module/ Device	Product Number	Classic Driver	RC.net Driver
Agilent 1100 Autosampler	G1313A	Yes	Yes
Agilent 1100/1200 Autosampler (Thermostatted)	G1327A and G1329A/B	Yes	Yes
Agilent 1100/1200 Well Plate Autosampler (Thermostatted)	G1367A and G1368A	Yes	Yes
Agilent 1200 High Performance Autosampler (SL)	G1367B/C	Yes	Yes
Agilent 1200 High Performance Autosampler SL Plus	G1367D	Yes	Yes
Agilent 1100/1200 Microwell Plate Autosampler (Thermostatted)	G1377A and G1378A	Yes	No
Agilent 1100 Micro Autosampler	G1389A	Yes	No
Agilent 1200 Well Plate Handler	G2257A	Yes	No
Agilent 1200 Dual Loop Autosampler	G2258A	Yes	No
Agilent 1100/1200 Preparative Autosampler (Thermostatted)	G2260A and G2261A	Yes	No
Agilent 1290 High Performance Autosampler	G4226A	No	Yes
CTC HTC PAL Autosampler	G4270	Yes	No
CTC HTS PAL Autosampler	G4271	Yes	No

Table 16 Available Drivers for other Agilent Modules

Module/ Device	Product Number	Classic Driver	RC.net Driver
Agilent 1100 Fraction Collector	G1364A	Yes	No
Agilent 1100/1200 Preparative Fraction Collector	G1364B	Yes	No
Agilent 1100/1200 Analytical Fraction Collector	G1364C	Yes	No
Agilent 1100/1200 Micro Fraction Collector	G1364D	Yes	No
Agilent 1100/1200 Thermostatted Column Compartment	G1316A	Yes	Yes
Agilent 1200 Thermostatted Column Compartment SL	G1316B	Yes	Yes
Agilent 1290 Infinity Thermostatted Column Compartment	G1316C	Yes[1]	Yes
1100 Chip Cube Interface	G1390A	Yes	No
Agilent 1200 SFC Fusion S5	G4301A	No	Yes[1]

[1] no support for new 2/10 and 2/6 valves and Method Development solution

Table 17 Available Drivers for Agilent Valves

Module/ Device	Product Number	Classic Driver	RC.net Driver
9Pos/7Port Valve	G1156A	Yes	Yes
2Pos/10Port Valve	G1157A	Yes	Yes
2Pos/6 Port Valve (SL)	G1158A/B	Yes	Yes
6Position Selection Valve	G1159A	Yes	Yes
12Pos/13 Port Selection Valve	G1160A	Yes	Yes
2Pos/6 Port Micro Valve	G1362A	Yes	Yes
2Pos/10 Port Micro Valve	G1363A	Yes	Yes
Valve Kits	G4230A/B	No	Yes
Agilent 1290 Infinity Flexible Cube	G4227A	No	Yes

Configuring an Agilent 1100 or 1200 Series LC System

As listed in Table 13 on page 92 to Table 17 on page 94, for most of the 1100/1200 modules both classic and RC.NET drivers are available. However, a few modules only support either of these driver set. Within one ChemStation instrument it is only possible to use either classic or RC.NET drivers.

ChemStation B.04.02 provides a configuration assistant that helps in selecting the driver set for your current LC instrument configuration. The **LC Configuration Assistant** starts automatically if the option **Use configuration assistant to configure LC system** is selected when finishing the **Setup Wizard**.

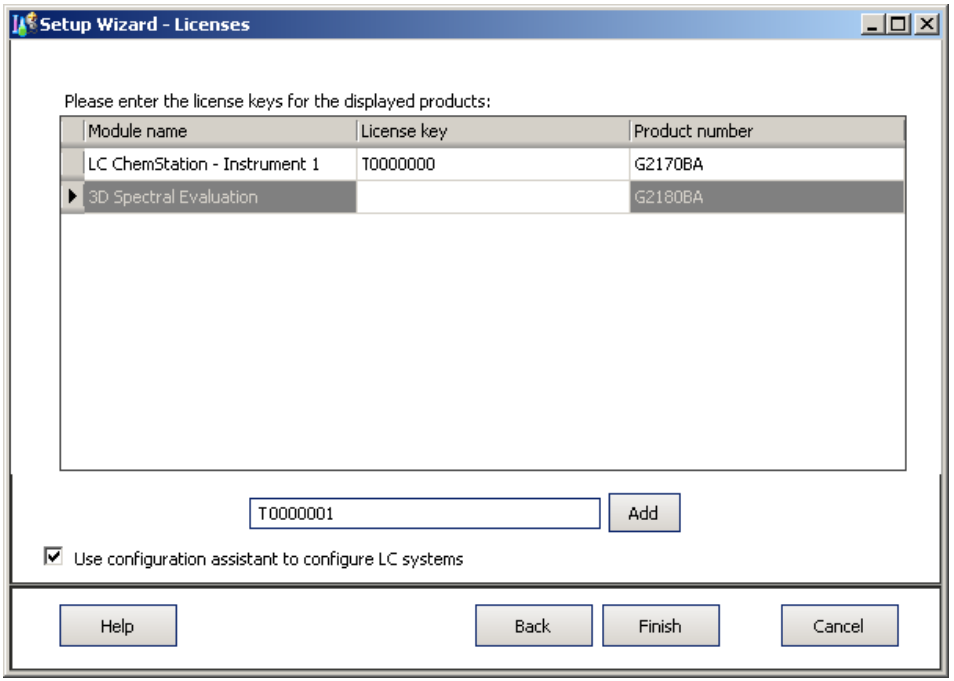
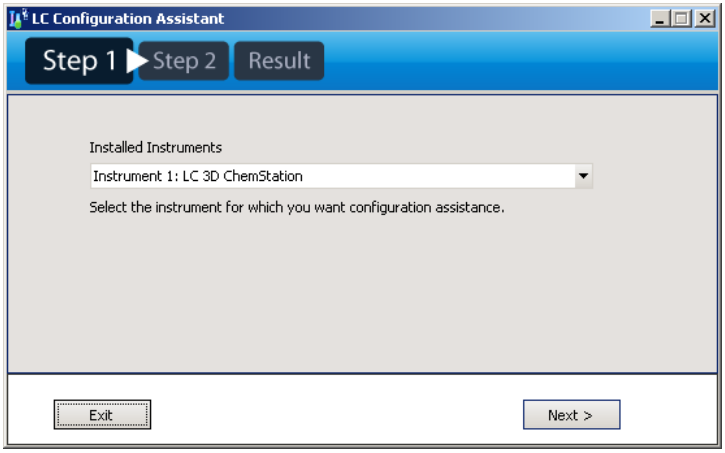


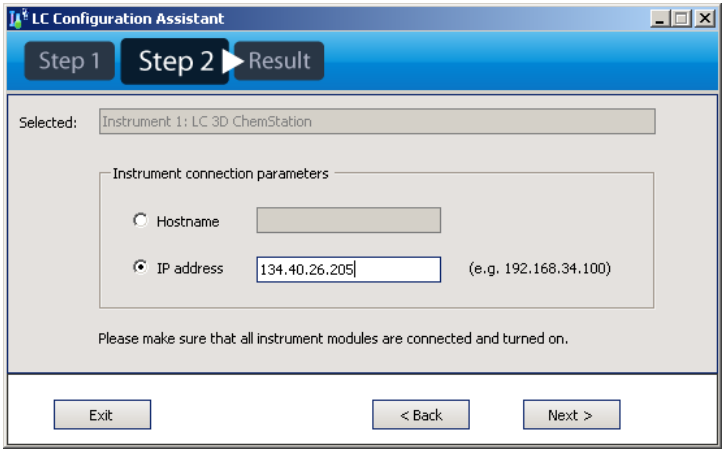
Figure 22 Setup Wizard with option **Use configuration assistant** selected

The **LC Configuration Assistant** will guide you through the required steps:

1 From the dropdown box, select the LC instrument that is to be configured. Press **Next**.

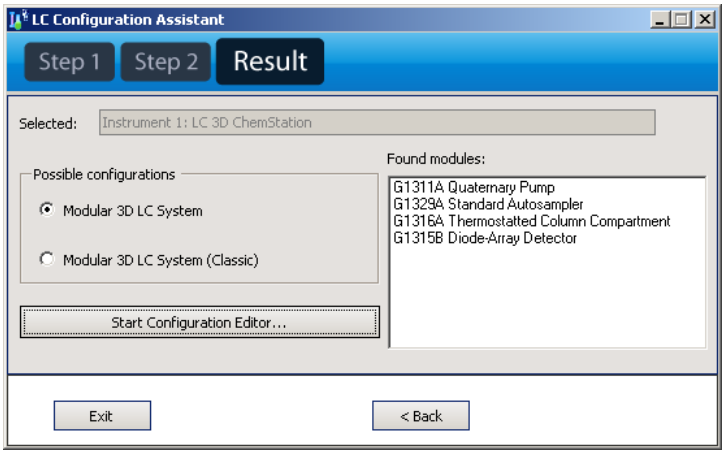


2 Type the IP address (or host name if name resolution is implemented on your network) of the 1100/1200 module with the LAN connection into the respective field. Before pressing **Next**, check that all instrument modules are connected and turned on.



3 The configuration assistant will detect the available modules.

Depending on the setup of the instrument, the assistant will provide information whether a **Modular (3D) LC System** or a **Modular (3D) LC System (classic)** can be configured. If the modules cannot be controlled by the same driver set the configuration will be marked as unsupported. The Figure below shows an example where both driver sets can be used.



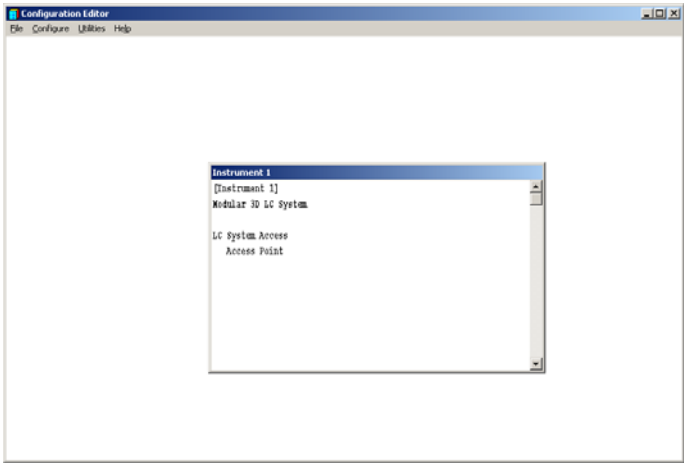
You may start the **Configuration Editor** directly from the Configuration Assistant. In this case **Modular (3D) LC System** or **Modular (3D) LC System (classic)** is already preselected according to the selection in the Configuration Assistant.

Configuring a Modular 3D LC System or Modular LC System

The following example describes how to configure an Agilent 1100/1200 Series system using the new RC.NET drivers.

1. Start the Agilent ChemStation **Configuration Editor**.
2. Select the **Configure > Instruments** menu.
3. Select the appropriate instrument type (**Modular LC System** or **Modular 3D LC System**).
4. Assign a name to your analytical instrument.
5. Specify your preferred screen window size (**Normal**, **Icon**, **Full Screen**).
6. Click **OK**.
7. In the **Device Configuration** dialog, select **LC System Access** from the list.

8 Select **Add** to add the selected system access to the list of configured modules.



9 Select **OK** to exit and return to the **Configuration Editor** display.

10 Save your configuration changes by selecting **File > Save**.

11 Restart the Agilent ChemStation.

When you start the Agilent ChemStation for the first time, a message comes up asking whether Auto-Configuration should be run to configure the instrument. Press **Yes.**

12 The **Instrument Configuration Dialog** is displayed. Press the **Auto Configuration** button.

13 Enter the IP address (or host name) of the instrument.

The Instrument Configuration will then detect the connected modules.

NOTE The **Configure LC System Access** dialog is also available from the **Instrument** menu in the **Method and Run-Control** view, when **Full Menus** are displayed.

Configuring a Modular 3D LC System (classic) or Modular LC System (classic)

The following example describes how to configure an Agilent 1100/1200 Series system with classic drivers.

1 Start the Agilent ChemStation **Configuration Editor**.

2 Select the **Configure > Instruments** menu.

3 Select the appropriate instrument type (**Modular LC System (classic)** or **Modular 3D LC System (classic)**).

4 Assign a name to your analytical instrument.

5 Specify your preferred screen window size (**Normal**, **Icon**, **Full Screen**).

6 Click **OK**.

7 In the **Device Configuration** dialog, select **1100/1200 System Access** from the list.

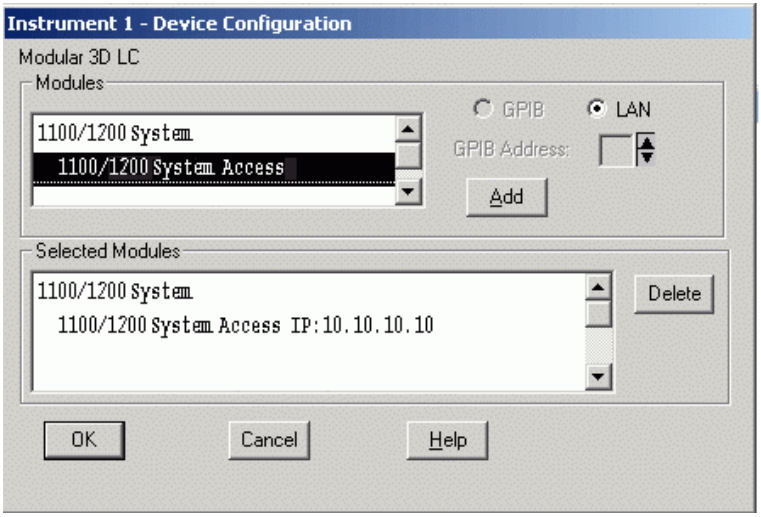


Figure 23 Agilent ChemStation Configuration Editor: Device Configuration Dialog

8 Select **Add** to add the selected system access to the list of configured modules. Type in the IP address (or host name if name resolution is implemented on your network) of the Agilent 1100/1200 module with the LAN connection.

9 Select **OK** to exit and return to the **Configuration Editor** display.

10 Save your configuration changes by selecting **File > Save**.

11 If your IT department did not set up a BootP Service for you, you need to do this yourself or you need to fix the IP address with the analytical instrument.

NOTE This step is applicable for online instruments using LAN connection only. For data analysis only configurations, proceed with the next step.

12 After modifying the configuration, you must restart the Agilent ChemStation.

When you start the Agilent ChemStation for the first time, the **Configure System Access** dialog box displays the Agilent 1100/1200 modules detected during instrument initialization. Agilent 1100/1200 modules that have been recognized are listed as **online** (indicated by a green icon) along with their serial numbers. Agilent 1100/1200 modules that have not been detected are marked **offline**.

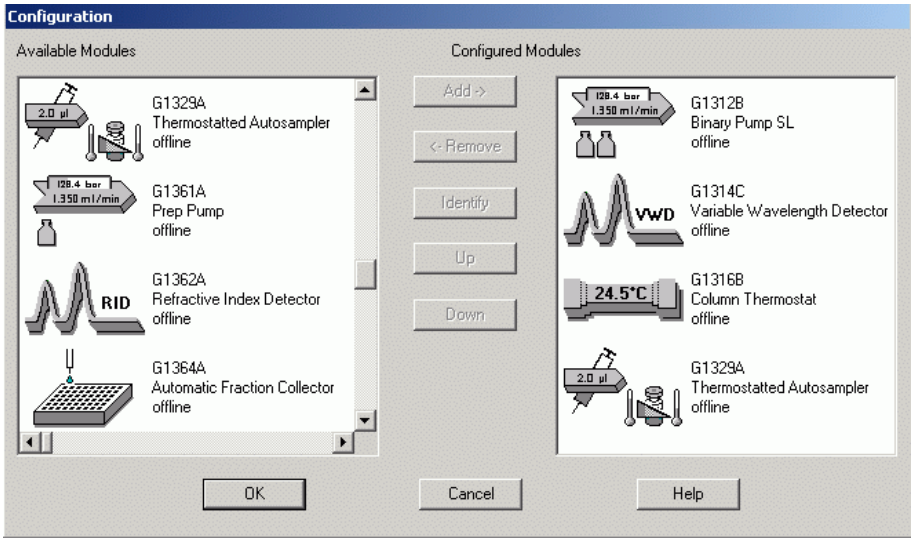


Figure 24 The Configure LC System Access dialog allows to selectively include detected Agilent 1100/1200 modules into the configuration.

NOTE You can selectively take certain modules out of the software configuration, e.g. if your Agilent 1100/1200 system includes two Agilent 1100/1200 detectors and your next analysis only requires one of them. The unneeded Agilent 1100/1200 module may then stay turned off but remain connected. You may also re-order modules, for example if you wish to use one pump as the primary analytical pump and another as a make-up pump.

NOTE The **Configure LC System Access** dialog is also available from the **Instrument** menu in the **Method and Run-Control** view, when **Full Menus** are displayed.

Configuring a ChemStation CE instrument

Table 18 Available Drivers - Agilent CE Systems

System	Product Number	Classic Driver	RC.net Driver
CE Series II	G7100	Yes	No
CE Series I	G1600	Yes	No

Configuring your Agilent G1600A CE instrument

This section describes how to set up your Agilent G1600A CE instrument from the Agilent ChemStation for CE Systems.

The default addresses of an Agilent CE instrument are automatically configured in the Agilent ChemStation. You only need to change the configuration if you changed the default GPIB addresses. If changes are required, you can access the Agilent ChemStation Configuration Editor and define your own parameters. The default steps are outlined below:

1. Start the Agilent ChemStation **Configuration Editor**.
2. Select the **Configure > Instruments** menu.
3. Select **3D-CE System (classic)** from the list.
4. Assign a name to your analytical instrument.
5. Specify whether your instrument session should start when you start your Agilent ChemStation. If you select **No**, you may start your instrument at a later time by using the **Utilities** menu of your active **Agilent ChemStation** icon.
6. Specify your preferred screen window size (**Normal**, **Icon**, **Full Screen**).
7. Click **OK**.
8. Select **Help** to obtain the factory set default GPIB addresses.
9. Set the GPIB address of your Agilent CE instrument (the default address is 19).

10 Select the Diode-Array Detector from the **Modules** list box.

11 Set the GPIB address and select **Add** to add the Diode-Array Detector in the **Selected Modules** list box (default address is 17).

12 Select **OK** to exit and return to the **Configuration Editor** display.

13 Save your configuration changes by selecting **File > Save**.

Configuring Your Agilent G7100 CE Instrument

This section describes how to set up your Agilent 7100 CE instrument from the Agilent ChemStation for CE Systems.

The default steps are outlined below:

1 Start the Agilent ChemStation **Configuration Editor**.

2 Select the **Configure > Instruments** menu.

3 Select **Agilent 3D-CE 7100 System** from the list.

4 Assign a name to your analytical instrument.

5 Specify your preferred screen window size (**Normal**, **Icon**, **Full Screen**).

6 Click **OK**.

7 Select the **7100 CE System Access Point** and press **Add**

8 Select **OK** to exit and return to the **Configuration Editor** display.

9 Save your configuration changes by selecting **File > Save**.

10 Restart the Agilent ChemStation.

When you start the Agilent ChemStation for the first time, a message comes up asking whether Auto-Configuration should be run to configure the instrument. Press **Yes.**

11 The **Instrument Configuration Dialog** is displayed. Press the **Auto Configuration** button.

12 Enter the IP address (or host name) of the instrument.

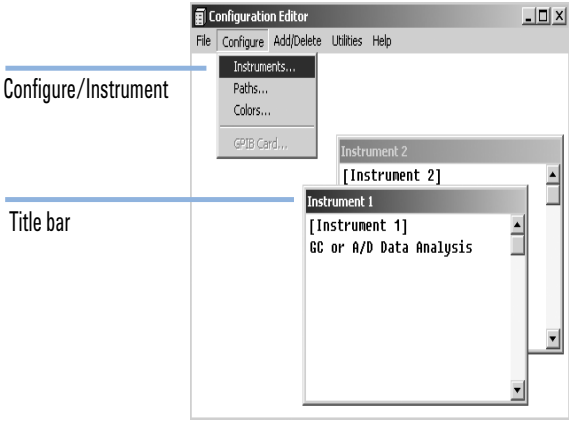
The Instrument Configuration will then detect the connected modules.

Configuring the Agilent ChemStation for Data Analysis Systems

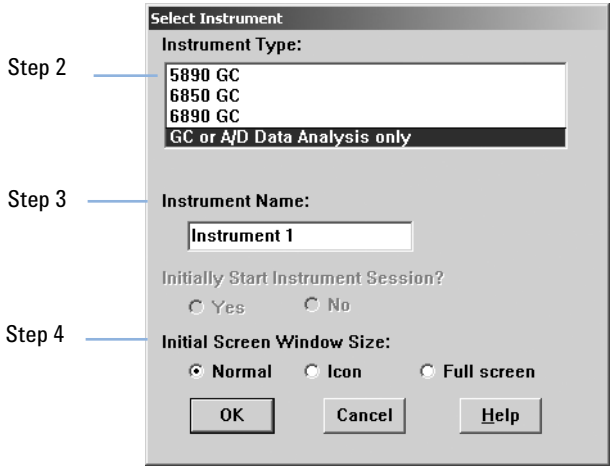
After installing the ChemStation software follow the procedure below so the Agilent ChemStation can identify and control your data analysis system.

1 If it is not already started, start the Configuration Editor: **Start > Agilent ChemStation > Configuration Editor**. At the **Configuration Editor**'s opening screen, highlight the title bar of the applicable instrument and select **Configure > Instruments...**.

The **Select Instrument** screen is displayed.



2 Select **GC or A/D Data Analysis only** from the **Instrument Type** list provided.



3 Accept the instrument name or type a new one in the **Instrument Name** field. This field will appear in the title bar when using the Agilent ChemStation.

NOTE For "Data Analysis Only" configurations, do not change any default settings in the **Configuration Editor** other than **Instrument Name**, if desired accept the instrument name. Instrument 1 must be set as a Gas Chromatograph (**GC or A/D Data Analysis Only**) and Instrument 2 must be set as a Liquid Chromatograph (**LC Data Analysis Only**).

4 Select the **Initial Screen Window Size** to specify how the program will open.

5 Click **OK** to continue.

6 Select **File > Save**.

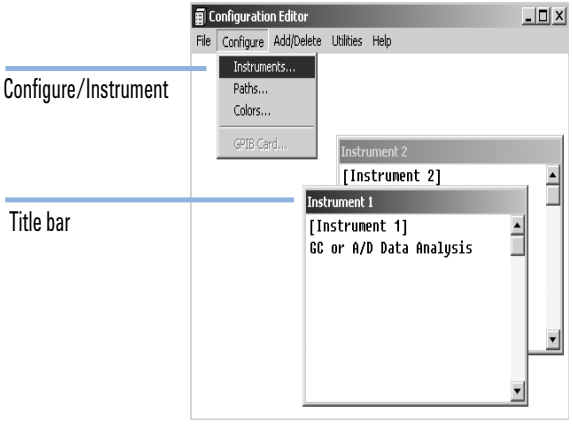
7 Select **File > Exit** to return to Windows.

Configuring the Agilent ChemStation for 35900E A-D Interface Systems

This section describes how to configure the 35900E Analog-to-Digital Interface. Note that the 35900E A/D interface requires the Agilent Bootp Service (see "Agilent Bootp Service" on page 29).

1 If it is not already started, start the Configuration Editor: **Start > Agilent ChemStation > Configuration Editor**. At the **Configuration Editor**'s opening screen, highlight the title bar of the applicable instrument and select **Configure > Instruments...**.

   The **Select Instrument** screen is displayed.



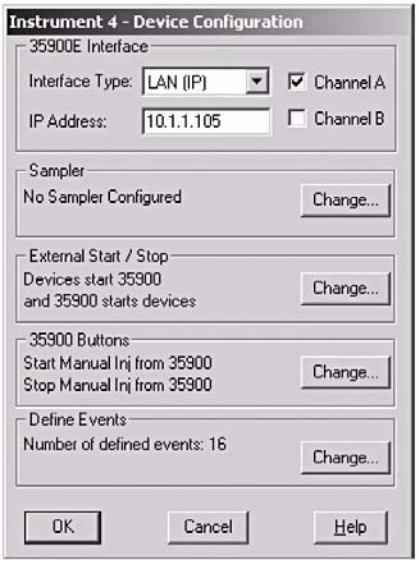
2 From the **Instrument Type** list provided select the **35900 ADC** instrument you will be controlling.

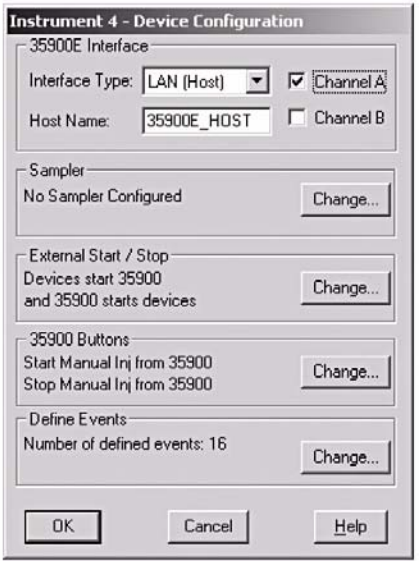
3 Accept the instrument name, or type a new one in the Instrument Name field. The name you type in this field will appear in the title bar when using the Agilent ChemStation.

4 Select the Initial Screen Window Size to specify how the program will open.

5 Click **OK** to continue.

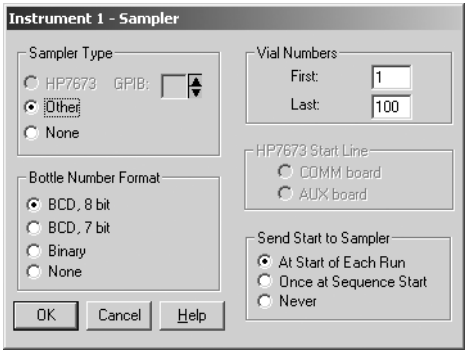
6 Select the **Interface Type** then enter the **IP Address**, or **Host Name**.



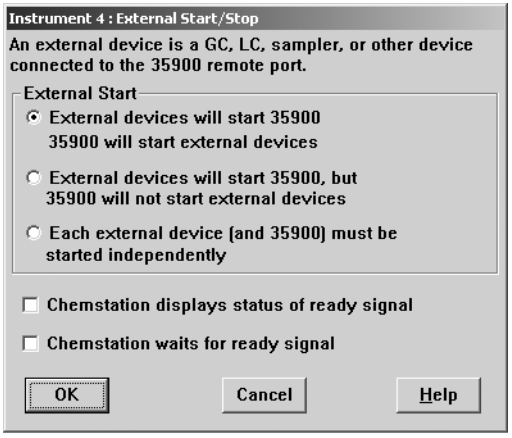


7 If the Agilent ChemStation will be collecting signals, select the appropriate channel(s) to be used. The above example shows a one-channel (A) configuration. Refer to your *35900E Users Manual* for more information.

8 If controlling a sampler, click **Change...** in the **Sampler** group. In the **Sampler** dialog box, select **Sampler TypeOther**, and make the appropriate choices for the remaining items. Click **OK**.



9 Define the **External Start/Stop** and **Ready** status options. To access the dialog box, click **Change**. This dialog box contains the start/stop and the ready status options for the 35900.



10 Select an applicable option from the available three start/stop options.

11 Select the appropriate ready status options. Select the **ChemStation displays status of ready signal** box to have the Agilent ChemStation display a run status signal on the screen when the instrument is ready. Select the **ChemStation waits for ready signal** box to have the Agilent ChemStation wait for a ready signal from the instrument before proceeding with any automatic processes.

12 To return to the **Device Configuration** dialog box, click **OK**.

13 Configure the 35900 buttons. The **35900 Buttons** dialog box options determine whether or not the front panel buttons on the 35900 interface can start or stop a manual run. To access the **35900 Buttons** dialog box in the **35900 Buttons** group box, click **Change**.

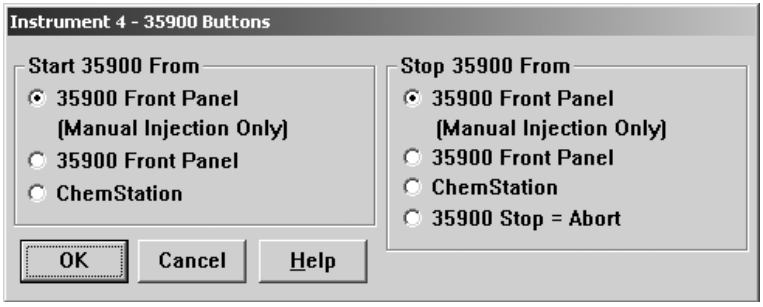


Figure 25 35900 Buttons dialog box

14 Select the appropriate start/stop button options for the 35900.

15 To return to the **Device Configuration** dialog box, click **OK**.

16 Check the timed events. To define timed events for the 35900E in the **Define Events** group box, click **Change**.

- If you are using the 35900E in the **Remote Bus** mode (the default setting), skip this section. It does not apply to your configuration.
- If you are using the 35900E in the programmable digital I/O mode, you will be able to schedule 16 timed events in the Agilent ChemStation. First, however, you must enter the *EXPRESSION* you want to use to define each event, as described below.
- Each expression will define the "energized" state (for example, open) and "de-energized" state (for example, closed) of each instrument you will be controlling with the 35900E. Later you may schedule these events using the expressions you enter here in the Agilent ChemStation's **Timed Events Table** dialog box.

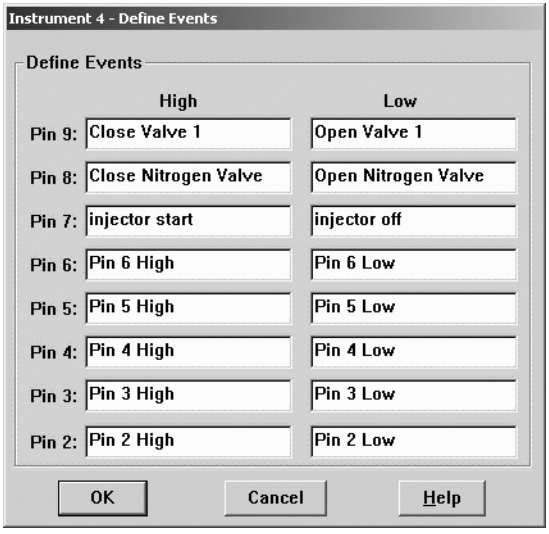


Figure 26 The **Define Events** group box

NOTE Please note that Figure 25 on page 108 shows pins 7 through 9 as user-defined and pins 2 through 6 as default settings.

NOTE

The correlation between the expression you assign and the pin number/state with which it is associated is saved with the instrument's definition file. The Method only stores and uses the EXPRESSION itself (for example, *Close Valve 1*). As a result, if you copy a Method from one Agilent ChemStation to another Agilent ChemStation, and the second Agilent ChemStation has a matching event EXPRESSION, but different instruments, unpredictable results could occur. Therefore, think of the associations you establish between an instrument and an event EXPRESSION as unique to your specific hardware configuration.

17 Check that the information displayed in the **Device Configuration** dialog box is correct. To change any of these selections, click **Change** in the appropriate group box.

18 Exit the **Device Configuration** dialog box. To return to the **Configuration Editor** main screen, click **OK**.

19 Save the new instrument configuration. Select **File/Save**.

20 If you are going to configure more than this instrument, select another instrument and continue. If this is your only instrument, select **File/Exit**.

21 Select the **Initial Screen Window Size** to specify how the program will open.

Configuring Paths

The **Configuration Editor** lets you specify alternate path settings for your sequences, methods, and data files. This allows storing data files on a separate drive. Starting with B.02.01 it is possible to configure the path for methods, sequences, and data files within the Agilent ChemStation using **Preferences** as well.

This section describes how to configure different paths for your methods, sequences, and data files. The Agilent ChemStation default path settings are also listed.

CAUTION

Default method and sequence are used as a template for new sequences and methods.

If they are missing you cannot set up new methods and sequences.

➔ Do not delete the default method and sequence ("DEF_XX.S" and "DEF_XX.M", where XX stands for the technique (LC, CE or GC).

NOTE

Before you modify the path settings using the **Configuration Editor**, you need to create the appropriate directories.

1 Choose **Paths** from the **Configure** Menu.
2 Set your data file path. Default is C:\CHEM32\1\DATA\
3 Set your method path. Default isC:\CHEM32\1\METHODS\
4 Set your sequence path. Default is C:\CHEM32\1\SEQUENCE\
5 Choose **OK** to update the path information and return to the **Configuration Editor** display.

NOTE

All path names have to be terminated with a backslash \.

5
Validating and Starting the Agilent ChemStation

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This chapter explains how to use the Agilent ChemStation Installation Qualification utility to validate the proper installation and operation performance of the Agilent ChemStation on your PC. It also explains how to begin using the Agilent ChemStation once the installation has been validated.

Agilent ChemStation Installation Verification

After installing the Agilent ChemStation system software on your computer and configuring the analytical system, you may perform an internal validation procedure to assess the correctness and completeness of the installation, and to verify that the analytical system is fully operational. This process is called Installation Qualification (IQ). The IQ tool checks version codes of the Agilent ChemStation executable system files (*.EXE, *.DLL) and reference files.

The Agilent ChemStation Installation Qualification tool uses factory delivered installation reference files to verify the existence, correctness, and integrity of the required Agilent ChemStation system files (executable program files, binary register files, macro files, initialization files, help files, and customized report templates).

File integrity is completed by comparing the cyclic-redundancy-check (CRC) checksum of the installed file with the checksum of the original file recorded on Agilent Technologies' installation master. The file details of the installation master are delivered on so-called reference files. Modified or corrupted files have different checksums and are thus detected by the IQ Tool.

The integrity of the reference files themselves is also tracked with the help of checksums. If the IQ tool is supplied with a reference file that was modified after its generation, this will be flagged in the report (section *invalid reference files*).

As with any important upgrade to your ChemStation software, Agilent recommends you to perform a full Installation Qualification (IQ) and Operational Qualification/Performance Verification (OQ/PV) after installation to assess the correctness and completeness of the installation.

Running the IQ validation procedure

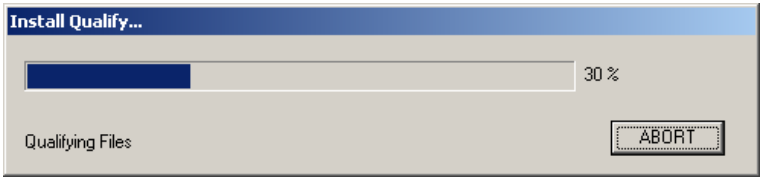
The Agilent ChemStation IQT report tool is automatically installed with the appropriate IQT reference files.

To perform the validation:

1 Make sure that any Agilent ChemStation software is closed before running the IQ Tool.

2 Select **IQT Report** as follows:

- Go to **Start > Programs > Agilent ChemStation** and select **IQT Report**.
- Checksum calculations for all Agilent ChemStation system files may take several minutes.



3 The **IQT Report Tool** creates the qualification results iqtreport.hmt in ChemStation's main directory (usually c:\chem32). This report is automatically displayed on screen by the system's internet browser (e.g. Microsoft Internet Explorer).

On a complete and consistent installation, the installation qualification completes without any error messages and no files are reported missing or modified.

4 The report can be printed from the browser.

After closing the browser the **IQT Report** program will be closed.

Verification reports

The Agilent ChemStation Verification reports the following file categories:

Table 19 File categories reported by Agilent ChemStation Installation Verification

File category	Explanation	Required action
Identical files	Required files exist and passed the version and integrity check.	No action required.
Missing files	Files are missing that are required to run the Agilent ChemStation.	Use **Repair** functionality of the Agilent ChemStation Installation. (see "Repair of ChemStation Installation" on page 123)

Table 19 File categories reported by Agilent ChemStation Installation Verification

File category	Explanation	Required action
Changed files	Files have been corrupted or modified.	Use **Repair** functionality of the Agilent ChemStation Installation unless you have intentionally customized or updated Agilent ChemStation files.
Invalid reference file	The original reference file is corrupt or has been modified after creation.	Reinstall the original reference file.

The shown report shows an overall status of PASS / FAIL and lists reference files used for the installation verification.

Example report:

Installation Qualification Report

Date:	08, Sep 2008	**Time:**	16:16:09 [GMT +02:00]	**Host Name:**	FFVM
Windows User Name:	Administrator	**Base Revision Number:**		**Product Name:**	Agilent ChemStation
Install Type:	N/A	**Additional Packages:**	None		

Base Reference File Name : iqtref.xml

Summary

Overall Evaluation of Installation Check: PASS

File Report Summary

- No missing files or invalid files found
- No system file differences found

Registry Report Summary

- No registry entries found for Qualification.

Files Registration Report Summary

- No Registerable Files found for Qualification

Operation qualification / Performance verification (OQ/PV)

The OQ/PV service from Agilent will provide documented evidence that your new ChemStation is performing to the accepted performance parameters. It will verify the operation of the integrator algorithm as part of the chromatography verification tests. Other important areas that it will cover are the instrument communication and control, as well as the data security and access controls.

To verify the ChemStation is performing according to accepted performance parameters, from the Data Analysis View within your ChemStation application, select **View > Verification > Run Test**. The system verification test will run automatically.

Qualifying Operation - Agilent ChemStation Verification Test

Overview

The Agilent ChemStation provides a verification test function that checks out the system's software operation. Using either Agilent-supplied or user-generated data files and methods, the system will match calculated integration and quantification results with ones that have been previously generated and archived in an unalterable, checksum-protected, binary register file.

When using an Agilent 1100/1200 Series detector, or Agilent CE instrument with a built-in DAD (G1600A), the verification test can be extended to include a data acquisition check. The verification test generates a report that includes a list of the tested configuration, the verification test details like the data file and method used, and the test results that indicate whether the system passed a specific test step or not.

Performing the Verification Test

- After installing the Agilent ChemStation and successfully passing the Installation Verification, start the Agilent ChemStation.
- Select Run Test from the **Verification** View and run the verification test procedure called default.val.
- Please refer to the analytical tasks section of online help system if you require further information.

Acceptance Criteria

The test was passed successfully, if the verification test report indicates that all individual test steps were passed. This proves that internal components such as the Command Processor, Method Handler, the internal

Memory Manager for data objects, registers and tables, the Data Analysis modules for peak identification, peak quantification, report formatting, and the Agilent ChemStation print spooler are fully operational.

If the test fails, the verification test report indicates which part of the test did not meet the acceptance criteria. Verify you used the correct verification procedure. If the verification test continues to fail, we recommend that you reinstall the Agilent ChemStation. Do not delete your current system installation, as the installation procedure will copy the original Agilent ChemStation files on top of the existing ones.

6 Troubleshooting

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This chapter summarizes helpful hints for troubleshooting potential problems you might see during the installation process.

Repair of ChemStation Installation

If inadvertently the installation of ChemStation was damaged, e.g. by corrupting or removing some files, restore a backup or perform a Repair.

ChemStation's current installation will be compared with the installation packages on Chemstation's DVD and corrected.

Once ChemStation B.04.0x is installed, a subsequent start of ChemStation's installation offers to repair or remove installation.

1 Ensure that no open programs are running on your system.

2 Insert the Agilent ChemStation DVD into the DVD drive.

3 From the Start menu in the Task Bar, select Start > Run.

4 At the command line, type `drive:\Install\Setup.exe` (for example, E:\Install\Setup.exe), then click **OK**.

The Setup Wizard starts.

5 Press **Next**

The window **Repair or remove installation** is offered.

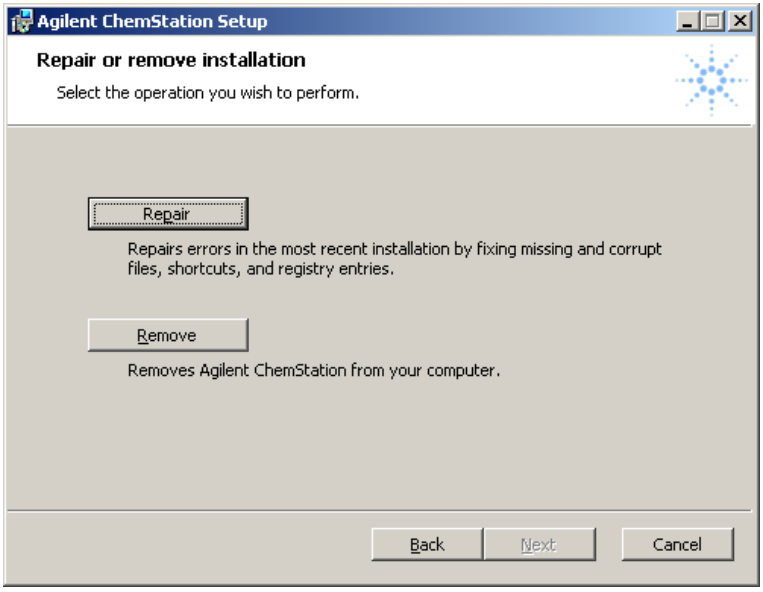

Figure 27 Repair of remove installation

6 Select **Repair** to fix current installation.

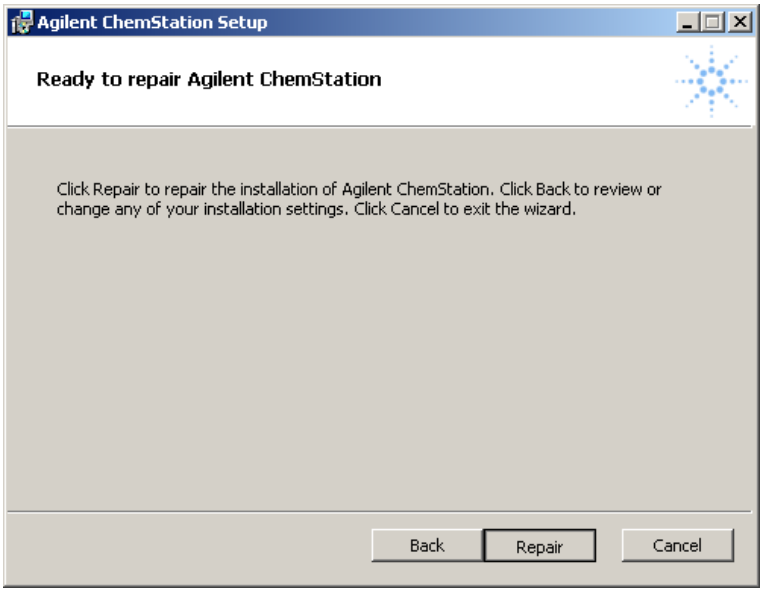

Figure 28

7 After confirmation of readiness by pressing **Repair** check of the current installation starts.

NOTE As the repair process diligently compares the current files and registry keys against the information in ChemStation's installation package, the Repair process takes its time - usually longer than the installation.

After completion of the Repair process missing and corrupt files, shortcuts and registry entries will be fixed. Press **Finish**.

8 Store your DVD and any license numbers in a safe place. These will be required if you wish to reinstall your software or add a new instrument module or license.

9 Run the **Installation Verification Tool** to check out the upgrade of ChemStation. Installation Verification is discribed in "Agilent ChemStation Installation Verification" on page 114.

Troubleshooting LAN Communication

Power fail reported on the Agilent ChemStation

If your Agilent ChemStation cannot connect to the analytical instrument configured using a LAN communication, please perform the following troubleshooting steps.

Verify that the IP Address is correct

1 Check the IP address and subnet mask of the Agilent 1100/1200 system by using the control module, if available. In the System view of the control module, select **Configure > MIO** for the module where the G1369A LAN card is inserted and scroll down to the IP address of the G1369A LAN card.

NOTE When the MIO dialog is opened on the Agilent 1100/1200 control module, the ChemStation cannot communicate with the Agilent 1100/1200 system.

Verify that Basic Communication is possible

Use the ping command, to verify that the IP address is operational.

1 Open a command prompt window on your PC.

2 Type
`ping 10.1.1.102` where *10.1.1.102* needs to be replaced by the appropriate IP address or by the selected host name; and press **Enter**

The command ping will send a request for reply to the IP address, bypassing part of the Windows TCP/IP settings. A successful ping would look like this: **Reply from 10.1.1.102: bytes=32 time<10ms TTL=128**

If **request timed out** is displayed, the IP address can not be reached by the ping command.

3 If the ping request was answered successfully by the instrument, you need to verify that your Windows TCP/IP settings are correct for the selected network, especially the subnet mask and gateway settings should be checked.

Identify by host name

If you identify the Agilent 1100/1200 system by host name, ensure that the used host name and IP address are correctly set up in the DNS server or the corresponding entry in the HOSTS file exists. Try using the IP address in the Configuration Editor.

Verify that the G1369A LAN Card is correctly configured

To ensure that all parameters of the G1369A LAN card are correctly set, use the Agilent BootP Service program from the Agilent ChemStation DVD and disable any other means that configure the G1369A LAN card of the instrument. Install the BootP Service as described in section "Agilent Bootp Service" on page 29 and configure it for the MAC address of the LAN instrument. Power cycle the PC and the instrument and verify that the BootP Service configures the G1369A LAN card correctly. Thus you ensure that the parameters for the buffer handling in the G1369A LAN card are set for analytical instruments.

DHCP Server

Check that no DHCP servers interfere with the usage of Agilent BootP Service, as these servers also respond to bootp request. They also may send a different IP address to the instrument each time it is started.

Frequent Buffer Overrun in Instrument Log Book

Please contact your system administrator to check if the network is not capable of the network traffic induced due to the data acquisition of the instruments. This can also be caused by an incorrectly configured G1369A LAN card, see above.

Troubleshooting GPIB Interface Problems

GPIB Interface not found

The most common problem encountered when using I/O Config is that an interface is not found.

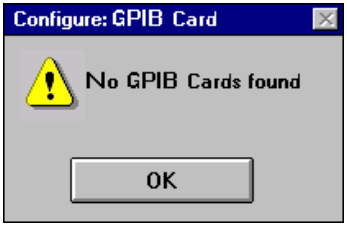

Figure 29 No GPIB Interface Was Detected on the System

For Agilent 82350 A/B GPIB interface, this is due to one of the following reasons:

- The interface was not installed in the PC before running I/O Config. Install the GPIB interface card in your system and then run I/O Config again.
- The interface is not firmly seated. Ensure that the board is in place and the boards edge connectors are fully seated.
- The GPIB interface was replaced by a different type or was installed in a different slot. Rerun I/O Config, remove the configured card and reconfigure the new one.
- The interface has already been configured by I/O Config. To solve this problem, you need to edit the existing configuration entry for the interface, instead of trying to add a new interface. In the main I/O Config window, click on the name of the interface configuration entry for the Agilent 82350 in the **Configured Interfaces** list box. Then click on the **Edit** button directly beneath the **Configured Interfaces** list box to edit the configuration entry for the Agilent 82350 GPIB interface.

“Autoadd" Button of IOCFG installs Defaults Incompatible with the Agilent ChemStation

IOCFG has an **Autoadd** button. We strongly discourage you from using the **Autoadd** button because it installs default settings that are not compatible with the Agilent ChemStation. Please configure the IO Libraries interactively as described in “Validating and Starting the Agilent ChemStation” on page 113

Software Startup Problems

In the following section a number of system messages are covered with their probable causes and suggested actions.

`An online core must be purchased in order to install additional instrument modules`

Probable cause	Suggested actions
1 Most probably, a previous version of the Agilent ChemStation was installed on the PC, but the *CHEM32* directory subtree was deleted before starting setup. *CHEMSTATION.INI* still contains references to the deleted Agilent ChemStation installation in the **[PCS]** and **[PCS,...]** sections.	Delete the **[PCS]** sections in *CHEMSTATION.INI*.

`ChemStation cannot be located on your system. You must first install Agilent ChemStation before installing an instrument`

Probable cause	Suggested actions
1 ChemStation cannot be located on your system.	Before installing an add-on instrument control module, you need to install the Agilent ChemStation core (e.g. G2170BA).

General Protection Fault in Module...

Probable cause	Suggested actions
1 The operating system reports a **General Protection Fault (GPF)** when it detects that an application has attempted write access to a memory location that belongs to another application or process. Potentially, a GPF is the consequence of a system corruption. For the diagnosis of GPFs, it is mandatory to record the exact error message and error address information in order to identify the part of an application program that caused the failure.	Windows allows tracking of GPFs with a utility called WinDebug (WinDbg). For more information on this utility, please refer to "What is the WinDebug Utility?" on page 146.

Agilent ChemStation online session does not finish startup

No valid license...

The Agilent ChemStation does not initialize an instrument module for which no valid license registration number has been entered.

Probable cause	Suggested actions
1 Before you can use the Agilent ChemStation, you need to enter the license registration number supplied with the registration packet delivered with your Agilent ChemStation installation disks. You need to enter a registration number for every instrument module that you install.	• If you installed the Agilent ChemStation yourself, the installation routine prompts you to enter the license registration number of the appropriate instrument module. • If the Agilent ChemStation core software was preinstalled by Agilent Technologies, you need to install the instrument module software and the license registration number. • If you do not specify the license registration number at time of installation, you need to start the license registration utility from the Agilent ChemStations group of Windows Program Manager. The license registration utility prompts you for the appropriate license registration numbers.

Instrument not found

GPIB communication to the configured instrument or instrument module is not possible.

Probable cause	Suggested actions
1 The instrument is turned off.	Check if all modules of your instrument are turned on.
2 The instrument's GPIB address does not match the address configured in the Agilent ChemStation.	
3 The GPIB cable is not properly connected.	
4 The GPIB board was not correctly configured.	please refer to "Installing and Configuring the Agilent GPIB Interface Board" on page 41
5 The GPIB card is incompatible with your PC.	

Not Ready

System Status shows Not Ready

Probable cause	Suggested actions
1 The cause for being in a not-ready state is detected by the instrument.	Not-ready conditions of the Agilent liquid chromatographs are described in the documentation accompanying the respective instrument.

Agilent ChemStation does not start

You receive error messages that indicate that the Agilent ChemStation initialization could not access specific libraries. You can close all of the error message boxes.

Probable cause	Suggested actions
1 Windows needs this file to run. C:\CHEM32\CORE\LAUNCHCS.EXE	Verify that the Agilent ChemStation main directories (default: C:\CHEM32 and C:\CHEM32\SYS) are included in the PATH setting of the Environment Path variable of the operating system by typing **PATH** at the MS-DOS prompt. If the Agilent ChemStation system directories are listed in the PATH setting, simply close all applications and restart the computer.

...key in section [PCS...] of CHEMSTATION.INI not valid or specified file does not exist

File initialization failed. The Agilent ChemStation reports an error during the initialization of its file structure.

Probable cause	Suggested actions
1 Some path settings point to non existing directories.	• Verify that the Agilent ChemStation data, method and sequence path settings all point to existing directories on your PC's hard disk. You can view these settings in the configuration editor. • Go to the [PCS...] section in CHEMSTATION.INI that was specified in the error message (for example, **[PCS,1]**) and check the contents of the key entry.
2 There is a mismatch is in the _Exe(cution)$ key	Check whether the _EXEPATH$ key contains the correct path specification for the Agilent ChemStation core modules (default: C:\CHEM32\CORE\).
3 If the _Meth(od)File$ key is reported to be inconsistent,	verify that your instrument method directory (for example, C:\CHEM32\1\METHOD) contains a method directory called def_lc.m
4 If the _Seq(uence)File$ key is reported to be inconsistent,	• verify that your instrument sequence directory (for example, C:\CHEM32\1\SEQUENCE) contains a sequence file called def_lc.s. • If one or both keys do not exist, either restore a backup copy, copy the corresponding files and directories from another Agilent ChemStation instrument, or reinstall the software.

`System Exception in dialogs.c`

The Agilent ChemStation was terminated abnormally and does not restart.

Probable cause	Suggested actions
1 This is usually caused by specific libraries of the application still being active in the PC's memory.	Close down all applications and restart Windows.

Configuration Editor no longer runs

Probable cause

1 If changes are made to the CHEMSTATION.INI configuration file manually, or CHEMSTATION.INI becomes corrupted, it is possible that syntax errors or inconsistencies are introduced into the Agilent ChemStation sections of this file which cause the Configuration Editor to fail.

Suggested actions

- The best solution to this problem is to restore a backup copy of the CHEMSTATION.INI file which does not have the errors. If a backup is not available, the configuration sections can be removed manually and the configuration restored using the Configuration Editor. To do this, edit the CHEMSTATION.INI file using the NOTEPAD editor and remove the sections that are preceded by [PCS,1], [PCS,2], [PCS,3], and [PCS,4], including the section titles. Then, edit the lines for devices and instruments in the main [PCS] section to read:
  `devices= instruments=`
- Remove all of the other device statements. At this point, you should be able to run the Configuration Editor. Add the instruments back to the configuration and reconfigure the instrument devices.
- If the configuration information is still inconsistent and the configuration editor does not open, we recommend that you remove the [PCS] section from CHEMSTATION.INI and re-install the software.

Autostart Macro failed

A text error message is displayed in the (red) message line of the Agilent ChemStation.

Probable cause	Suggested actions
1 During the initialization, the Agilent ChemStation automatically loads and executes macro code from a defined set of macro files. A run time error caused the autostart macro to fail.	• If you have added your own customization macro code to User.Mac in the Agilent ChemStation core directory (default path: C:\CHEM32\CORE), check that all the macros loaded in this macro file are correctly specified. • If you cannot identify or isolate the problem, rename User.Mac to Usr.Mac and restart the Agilent ChemStation. If the error message does not occur, you need to debug your customization code.
2 If the error persists, the working copy of the Agilent ChemStation's configuration register may have been corrupted.	Rename or delete the configuration register in the appropriate instrument directory: The configuration register for instrument 1 online is C:\CHEM32\1\CONFIG.REG, or the configuration register for instrument 1 off-line is C:\CHEM32\1\CONF_OFF.REG

Printing Problems

Agilent ChemStation Print Spooler hangs after an error occurred

If the Agilent ChemStation spooler does not continue after a print error has occurred, try initializing the Agilent ChemStation spooler by typing the following command on the Agilent ChemStation command line:
`_LoadServiceResetPrinting`

The Agilent ChemStation spooler prompts you whether to cancel all pending print jobs. If you do not want to cancel the pending jobs, press **No**. If the printing error comes again, you need to save your work, close all applications and restart Windows and the Agilent ChemStation to reinitialize the operating environment.

Printing in Multi-Instrument configurations

When printing simultaneously from multiple Agilent ChemStation instruments (e.g. during a sequence), resource conflicts may result in printing errors.

If you experience printing problems that appear to be related to a temporary shortage of available system resources as multiple programs print in parallel, you can reduce the Agilent ChemStation's frequency to hand back CPU control to another application by typing the following command on the Agilent ChemStation command line:
`_LoadServiceChromSplYield 2000`

This command specifies how often (in milliseconds) the Agilent ChemStation Spooler lets other application use the computer's CPU. The default value is 300 ms. Increasing this number increases the printing speed at the expense of user interface response and should only be used in automated mode.

You can make this setting permanent by adding it to a macro file called USER.MAC in the Agilent ChemStation core directory (default: C:\CHEM32\CORE). This executes the command automatically every time the

Agilent ChemStation is started. For further details on the customization possibilities associated with USER.MAC, please refer to the *Macro Programming Guide* which is available as online help.

Recovering from Printer hang-ups

If for some reason the communication to the printer hangs and the printer therefore does not finish the current printout, there are two steps that have to be done:

Depending on whether the printer is local at your PC or connected via a network:

- on a local printer do a reset on the printer panel itself, or
- on a networked printer you have to clear the network communication problem. This may involve checking cabling, or checking the printer spooler on the network host machine, or doing a reset on the printer panel itself.

On your PC the printer driver or the Windows Print Manager has to be reset. This is done by one of these alternatives:

- if a printer driver dialog box is visible that displays a **Printing...** message or similar, press the **Cancel** button, or
- if instead the icon of the **Windows Print Manager** is visible, close it. This will discard the current print jobs.

If the problem persists try stopping and restarting the **Windows Spooler Service**. Select **Services** from the **Windows Control Panel**, scroll down the list and highlight the item **Spooler**. Choose **Stop** to stop the service and restart it again selecting **Start**.

When the Agilent ChemStation spooler reports printer errors, a message window displays the error messages such as:**Printing problem 106, with page file: c:\CHEM32\1\temp\~p3d0004.tmp**.

These failed print files can be printed with a command typed on the command line, for example
`MFPrint "c:\CHEM32\1\temp\~p3d0004.tmp"`

Do not forget to delete these temporary files after you have printed them.

Printing Messages

Printing Problem 100

Probable cause	Suggested actions
1 A file belonging to the current print job could not be found.	Check the consistency of your hard disk's file structure.

Printing Problems 101, 102, 106, 108, 110, 210, 212, 300

Probable cause	Suggested actions
1 Due to low system resources or insufficient disk space, a print-file could not be accessed either in memory or on disk.	Check free system resources using the Windows Task Manager. Press Ctrl + Alt + Del and select **Task Manager**. On the Performance Tab you will find the available physical memory. If free system resources are significantly below 30 %, you should save your work, close all Windows applications and restart Windows.

Printing Problem 104

Probable cause	Suggested actions
1 The print page could not be copied in memory.	Check available memory on your computer.

Printing Problem 202

Probable cause	Suggested actions
1 The printer driver could not be initialized.	• Reset the Agilent ChemStation spooler and check the printer driver name and version of your printer. Refer to the list of tested printers on the Agilent ChemStation Software DVD. • Check available system resources.

Printing Problem 204

Probable cause	Suggested actions
1 A print page could not be sent to the printer driver.	Verify that your printer is correctly configured, connected, and online.

Printing Problems 206, 208, 302

Probable cause	Suggested actions
1 Printer escape sequences to initialize a new page or indicate the end of a print job could not be sent to the printer driver.	Verify that your printer is correctly configured, connected, and online.

Printing Problem 214

Probable cause	Suggested actions
1 A print job could not be removed from the print queue. Either the print job file does not exist in the temporary directory or the Agilent ChemStation print queue file (hpspl100.que) does not exist.	The print queue file and Agilent ChemStation temporary files must not be deleted while the Agilent ChemStation is running.

Printing Problem 400, 401, 402, 403

Probable cause	Suggested actions
1 The Agilent ChemStation spooler could not be initialized properly.	If this occurs as a consequence of previous errors, save your work, terminate all your applications and restart Windows.

Parts of the chromatogram missing on the report or strange fonts in the report

Probable cause	Suggested actions
1 This may be caused by low system resources in Windows. Either too many applications are running or one or more applications have not freed up all the system resources that they allocated during their operation.	Check the percentage free of system resources in the Windows Task Manager. When free system resources get below 30 %, you should save your work, close all applications, and restart Windows.

Computer Problems

Sporadic Hang-Ups

You can use DOS commands like e.g.
CHKDSK to verify that there are no inconsistencies in the file structure. If you find such inconsistencies on your PC's hard disk, correct them. Information about maintenance for your computer can be found in the manual *Configure and Maintain your Agilent ChemStation Computer* available in PDF format on the Agilent ChemStation DVD in the manual section.

System Crash in an Online Session

If your system crashes when trying to establish the GPIB communication to the chromatograph, there may be hardware conflict between the GPIB board and another device installed in your PC (for example, a specific graphics accelerator card, an infrared port, a soundcard). Using a different IO port and/or a different interrupt level for the GPIB card can eliminate the problem. Refer to the GPIB card configuration information in this handbook.

Cannot create file...

Check the available disk space on your system. Delete unnecessary files, for example, left-over temporary files or archive data files that you do not currently need to backup. Information about computer maintenance can be found in the manual *Configure and Maintain your Agilent ChemStation Computer*. It is available in PDF format on the Agilent ChemStation DVD in the manual section.

Slow Hard-Disk access or Hard-Disk Activity LED is continuously flickering

Your hard disk may be fragmented. Use a defragmentation utility to reorganize the logical order of file clusters on your disk. If system performance is generally low and your hard-disk appears to be accessed very frequently for relatively long periods of time, the system is most probably low on RAM and using virtual memory (i.e. the page file) excessively.

- Reduce the number of concurrent programs.
- Use **Computer Management options** (e.g. right-click on **My computer** icon and select **Manage**) to access the disk management utility.
- Check whether your disk cache utility is installed and optimally configured.

Agilent ChemStation Performance Degrades over Time

If your environment requires continuous routine operation of the Agilent ChemStation over days or even weeks without restarting Windows, the system performance may degrade over time due to memory and resource leaks in the system. To overcome this problem, we recommend rebooting the PC on a regular basis.

Windows Service Packs are available on the Microsoft Home page. Following items need to be checked prior to the installation of Service Packs:

- the Service Pack addresses performance issues
- the Service Pack is supported with the Agilent ChemStation revision in use.

LC Instrument Start-up Problems

System remains in a wait-state waiting for a module that has been taken out of the configuration

On systems that are frequently reconfigured, i.e. devices are added or removed from the current configuration, the system may remain in a wait-state as long as the unused devices are still connected to the APG remote cable. The only possible work-around is to disconnect/connect the remote cable when deleting/adding the external module from/to the current configuration.

If a second detector is not needed for certain experiments, but for convenience reasons is not taken out of the configuration, selecting a very short run-time for the unneeded detector is not recommended.

For example, when acquiring data on an FLD while the DAD is configured with a short stop-time, it may happen that the DAD lamp is switched off before the LC analysis is finished. This produces a *not ready* condition so that the next analysis does not start. Alternatively, acquiring with the DAD and selecting a short stop time for the FLD does not produce this problem as a *lamp off* status is a perfectly valid operational mode with the FLD.

Data File is empty (contains no signal)

Check the remote cabling of the detectors. A detector does not change into the run-status unless the start signal is transmitted over the remote line. Refer to the cabling diagrams in "Connecting an Agilent G1600 CE Instrument to the Agilent ChemStation Computer (using GPIB)" on page 46.

Devices report “Buffer Overflow” in the logbook

This message usually indicates by a bad performing PC, when the data transfer from the instrument to the PC is not capable of handling the data stream. The bad performance can be caused by

- Power save features of the PC, refer to section “Advanced Power Management (Not Supported with Analytical Hardware)” on page 13.
- Bad network performance, refer to section “Frequent Buffer Overrun in Instrument Log Book” on page 127.
- Bad hard disk performance, see section “Slow Hard-Disk access or Hard-Disk Activity LED is continuously flickering” on page 143.
- Other programs accessing the hard disk or using the computers resources, like scheduled defragmentation, backup, or virus scanning.

Using the WinDebug Utility

What is the WinDebug Utility?

Microsoft developed certain diagnostic tools that provide detailed information on the internal state of Windows when **General Protection Faults (GPF)** occur on the system. WinDbg.exe is the GUI version of the debugger and supports both user-mode and kernel-mode debugging.

The Window debugging package comes in three versions: a 32-bit version for x86 binaries, a 64-bit version for Itanium binaries, and a 64-bit version for AMD64 binaries. For Agilent Bundle PCs, download and install the 32-bit version for x86 binaries.

If an application error occurs, WinDbg automatically creates a special dump file in the file system root directory. You can enter the details about the circumstances (scenario) under which the application error occurred and save it with the dump file.

If General Protection Faults recur sporadically or even regularly, supply the dump file to your application vendor to discuss the source of the application error.

WinDebug in Windows XP

The Window debugging package comes in three versions: a 32-bit version for x86 binaries, a 64-bit version for Itanium binaries, and a 64-bit version for AMD64 binaries. For Agilent Bundle PCs, download and install the 32-bit version for x86 binaries.

Install WinDbg onto your system by running the setup. The install shield opens and the user has to accept the license agreement. After editing the user information, click **Next** and select **Typical** as installation type. If necessary, you may enter a installation location, click **Next** to start the installation. A new group, **Debugging Tools** for Windows, will be present within **Start > Programs**.

NOTE

Only a system administrator can alter the postmortem settings.

The path statements and key entries mentioned for the cmd prompt and the registry depend on your installation directory of WinDbg.

NOTE

The dump files intentionally contain the whole process memory and may have substantial size. Depending on the defined data values the dump file size will vary. Compress the dump file and save it to an external media or another partition in order to maintain enough space on your ChemStation system.

1 WinDbg needs to be the default postmortem debugger for your operating system. To define WinDbg as default debugger, open cmd prompt by **Start > Run** and type
`cmd` in the command line. Within the cmd prompt, execute the WinDbg program once with the parameter -I to create/change the appropriate registry entries:

e.g.: C:\Program Files\Debugging Tools for Windows\windbg.exe -I

This command will display a success or failure message after it is used. When WinDbg is the postmortem debugger, it will be activated whenever an application crashes.

2 One registry entry needs to be modified to define the kind of information placed into the dump file in case of a system crash. The modified arguments are necessary to automatically dump all the memory information of the failing program. The argument options can be obtained by entering the WinDbg help.

Open **Start > Run** and type
`regedit` into the command line; the registry opens. Open the registry path \\HKEY_LOCAL_MACHINE\Software\Microsoft\Windows NT\CurrentVersion\AeDebug.

The registry key DEBUGGER needs to be modified. By double-clicking on the data variable, you are allowed to edit the value data. Modify the value data from e.g. C:\Program Files\Debugging Tools for Windows\windbg.exe -p %ld -e %ld -g to C:\Program Files\Debugging Tools for Windows\windbg.exe -p %ld -e %ld -Q -c ".dump -ma -u c:\user.dmp;q".

The data variable values may differ for certain troubleshooting task. During the troubleshoot process, it might be necessary to modify the DEBUGGER registry entry again.

3 In the case of a failure, a dump file named user_<date>_<time>_<pdid>.p is placed in the files system root directory. Enter all instrument configuration details, a description of the circumstances and steps leading to the failure and save it with the dump file. Supply all information to your application vendor.

Gathering System Information with Windows XP

Gathering System Information with Windows XP

Windows XP Professional include a comprehensive information reporting and diagnostics program that collects and presents information on device driver information, network usage, and system resources such as IRQ, DMA and IO addresses. This utility is called “System Information” and can be found under the System Tools menu in the Windows Accessories menu.

Hardware conflicts will usually also be logged in the Windows Event Viewer, if for instance, Windows cannot start a service due to a misconfigured device.

For Windows XP Professional Error Reporting is implemented and enabled by default.

To access the settings for the reporting feature:

1 Click **Start.**

2 Right-click **My Computer**, then click **Properties.**

3 Click on the **Advanced** tab.

4 Click **Error Reporting.**

For more information, refer to Windows XP Professional help.

7
Upgrade History - Previous Revision A/B ChemStations

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This Chapter gives information on the Upgrade history of ChemStation revisions

Introduction

With ChemStation B.0x.0x release, the Agilent ChemStation made a progressive move towards new feature sets and structure changes. The revision number beginning with “B” indicates the major revision change. Within this chapter, a summary of the new functionality introduced for the revision cycle A.01.x to B.02.x is documented. For all implemented defect fixes, refer to the HISTORY directory on the Agilent ChemStation software family DVD.

Agilent ChemStation Revision Cycle A

Agilent ChemStation A.02.0x

Data Analysis is now part of the method settings and stored in a binary register file.

- A.01.0x includes an older version of the **Integrator** module. The values accepted for the threshold settings have been redefined. To make the integration threshold settings equivalent on both platforms, the threshold values need to be increased by 5.
- The conventions followed by G1304/5A (HPLC^{2D}ChemStation), revision A.01.0x, regarding the origin handling in calibration curve calculations are different from the conventions followed in the later revisions. Revision A.01.0x offers three different modes for origin handling (ignore, include, force origin). The definition of **Force Origin** has been changed (see below). A new origin handling method **Connect Origin** has been added, which does exactly what **Force Origin** did in A.01.0x.

Agilent ChemStation A.03.0x

Methods now include a **dilution factor**, in addition to the multiplier that was already part of revision A.02.xx methods.

Column information is restored when the new software is started for the first time. You have to select the currently installed column from the **column information** screen to make this information available on the reports. Column information is only restored for columns that have been used and identified for the current system. Column information from methods transferred from other systems is not restored.

Agilent ChemStation A.04.0x

The Agilent ChemStation supports the *enhanced integrator* since revision A.04.01. Using the enhanced integrator is optional. Methods imported from a previous version of the Agilent ChemStation can continue to use the original integration algorithm.

The *user interface* allows the conversion of a method imported from a previous version of the Agilent ChemStation. Once a method has been converted to use the new enhanced integration algorithm, it cannot be converted back. To evaluate the enhanced integration algorithm of the Agilent ChemStation, we recommend that you create a backup copy of your original method.

The *parameter sets* of the original Agilent ChemStation integrator and the enhanced integrator are different. For example, parameters such as the initial threshold are values to the power of 2 of a detector specific constant. The enhanced integrator uses the true physical dimensions for integration parameter settings like slope sensitivity (**Response**/**Time**) or height reject (**Response**).

The results calculated by the two integrators may vary on real chromatograms due to the differences in the determination of baselines, shoulders, and tangent skimmed peaks.

The *internal storage format of quantification data* changed. Revisions prior to A.04.01 used single precision floating point representation for the internal storage of quantification data; the internal precision of the quantification results used 7 digits.

In revision A.04.01, the *internal storage format* has been changed to double precision floating point representation, and the internal precision of quantification calculations and results is now 15 digits.

The following changes have been implemented in the **sequencing** user interface and internal structure of the Agilent ChemStation.

- The *sequence table* has been enhanced with an **Append Line** button.
- The hard-coded link between sample information and specific vials has been removed to allow for easier cut/copy/paste operations on sequence lines.
- The partial sequence screen has been equipped with a **print** button.

- Better integration of **Sequence Summary** into the sequence user interface. **Sequence Summary Setup** is now accessible through a new menu called **Sequence Output**.
- Sequence recalibration table has been eliminated from the method.
- A new sample type has been implemented to allow for quality control samples. Control samples can be used to verify the system's suitability to run a defined set of analyses prior to running the real samples. If the defined system suitability criteria are not met, the sequence can be programmed to stop before running the real samples.

Agilent ChemStation A.05.0x

The default integration algorithm used by revision A.05.01 and higher of the Agilent ChemStation is the *Enhanced Integrator*. In previous revisions, the default integration algorithm used was the *Standard Integrator*. Data analysis methods could be converted to the Enhanced Integrator.

The user interface of the **Peak Purity** function available in the Agilent ChemStations for LC and LC/MS has been simplified, but required modifications to the peak purity parameters stored in the data analysis method. If you convert to the **Enhanced Peak Purity** function, the previous spectra settings are saved in a text file called SPCOPS.OLD in the method directory. Once you have converted a method to use the **Enhanced Peak Purity** function, you cannot revert back to the original method. Make a backup copy of your original method before converting.

Agilent ChemStation A.06.0x

The methods used for operational qualification and performance verification enhanced OQ/PV of the Agilent 1100 system were enhanced. The standard methods can be used by selecting the Standard Tests from the Options menu in the **Verification** view of the Agilent ChemStation. Additional software verification tests were also added that are used by the Agilent ChemStation A.06 OQ/PV service.

The **advanced baseline** option was added to the enhanced integrator introduced in revision A.04.01. The tangent skim option was enhanced with respect to A.05.01. The default setting for both options did not change with respect to A.05.01.

Calibration points weights 1/Y and 1/Y2 were added to the calibration table. The report now also allows to generate **HTM files** for direct posting on a web server.

Agilent ChemStation A.07.0x

The **sequence filldown utility** allows the user to change sequence table column settings for specified vial ranges. Sequence table columns can be selected and values entered for method, sample type, updating response factors and time. Sample name and file name can be given a prefix and auto incremental number.

Agilent ChemStation A.08.0x

The ability to control the *new Capillary LC system* that is designed for increased sensitivity and for analyzing limited sample volumes was added.

The software now supports the *Agilent 1100 Series well-plate autosampler*, which is available in a standard and thermostatted version.

With revision A.08.0x, you can upgrade the Agilent Chemstation product to the *Agilent Chemstation Plus Security Pack* supporting the FDA requirements of CFR 21 Part 11.

Agilent ChemStation A.09.0x

The ability to control the new *Agilent 1100 Series Fraction Collector* and the *Preparative Scale 1100 Autosampler*, as well as the *Agilent 1100 Series Purification System* for HPLC and LC/MS.

The *35900D A/D* card is no longer supported (card based on the older ISA bus standard).

Agilent ChemStation A.10.0x

The ability to control the new *Agilent 1100 Series Fraction Collectors*:

G1364B	Preparative Scale
G1364C	Analytical Scale
G1364D	Micro Fraction Collector

The Agilent Chemstation supports the new *40 funnel tray* for high volume collection for high flow rates and the new *tray for Eppendorf tubes* (80.5 ml, 1.5 ml and 2.0 ml).

The A.10.0x ChemStation software supports the *Agilent 1100 Series Purification System* for HPLC and LC/MS, version A.02.01.

The new *XML based interface* has been implemented to link the Agilent Chemstation to LIMS and knowledge management systems.

Agilent ChemStation Revision Cycle B

Agilent ChemStation B.01.0x

Agilent ChemStation revision B.01.xx is supporting the use of *long file names*, a *higher resolution* for the screen and improvements and enhancements for the integrator. In addition following *new hardware* modules are supported:

- G4240A Agilent 1100 Chip Cube
- G1315C Agilent 1100 Diode Array Detector
- G1365C Agilent 1100 Multi Wavelength Array Detector (80 Hz, 8 Signals)

USB-GPIB interface support has been added for GPIB communication based LC and CE systems (HP 1090, HP 1046, HP1049, CE, CE/MS).

For CE ChemStation users enhancements have been added in B.01.03 ChemStation:

- More flexibility defining vial usage set points within the sequence setup
- Enhanced productivity for CE ChemStation customers due to instrument set points modification directly in the sequence table for each sequence line.

Agilent ChemStation B.02.0x

Agilent ChemStation revision B.02.xx is supported with the *M.01.01 GPIB drivers* and SICL libraries for the 82350A/B card as well for the 82357 USB-GPIB interface. The software introduces an improved user interface design along with a tree and table based navigation, providing fast and flexible data handling and the possibility to configure flexible storage locations for data, methods and sequences. A new packaging concept guarantees consistency for sequence and single sample data and makes use of the new data review and reprocessing capabilities in the **Data Analysis Navigation** Table.

Agilent ChemStation B.03.0x

Agilent ChemStation revision B.03.xx has the following new features:

- printing to file type PDF.
- IO Libraries Suite 15.0 is used for GPIB systems
- Support for the new Agilent OpenLAB Intelligence reporter G4635AA

For LC Systems the following new modules are supported:

- G4218A Agilent 1200 Evaporative Light Scattering Detector (ELSD)
- G1314D Agilent 1200 Variable Wavelength Detector
- G1314E Agilent 1200 Variable Wavelength Detector SL Plus
- G1367D Agilent 1200 High Performance Autosampler SL Plus

7 Upgrade History - Previous Revision A/B ChemStations

Agilent ChemStation Revision Cycle B

8
Additional Resources

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This chapter summarizes additional resources for ChemStation Users

Agilent ChemStation Revision Code Convention

Revision numbers are created according to the scheme outlined below:

P.RR.xxY

P- Denotes the identifier of the series of a product. This letter is identical to suffix character in the product number.

Example:

The B in the product number G2170BA defines that revision code starts with a series identifier B. It is current Agilent Technologies policy not to change the series identifier unless the software changes in purpose or function. The A in the product number stands for the American English version.

RR- Represents the major revision number. Changes in this code typically include significant software enhancements that may require complete revalidation of the system for customers operating in regulated environments. These revisions may also include defect fixes and documentation changes.

xx- Represents the minor revision number. These revisions correct software defects and are generally isolated in nature. They may contain minor enhancements or new features, but the functionality has not changed. A minor revision change usually does not require revalidation of the system for customers operating in regulated environments. These revisions only include defect fixes that do not affect the accuracy of the handbooks.

Y- Represents the localization code. This character states the localized version of Software. For example, the B.01.01C is representing the Chinese version of the Agilent ChemStation. Note, this additional code is only present for separately localized versions, for standard American English version no Y suffix will be present.

Agilent Technologies Customer Contact Center

Support services resolves problems and maximizes performance

The Agilent network of Customer Contact Centers provides access to support professionals who help you resolve operational difficulties, and offer assistance and advice on running Agilent analytical software. Traditionally, this support is given over the telephone but it may also be extended to remote support via modem when you authorize us to do so.

First year software support is available and may be extended by two years at very competitive rates. This support provides entitlement to telephone assistance, software revision upgrades when they are released, and regular delivery of Software Status Bulletins containing important information on known problems and available work-around solutions for your Agilent analytical software. For more information on how to register for these services, please contact your local Analytical Support Representative.

Your local Analytical Support Representative will also provide information on available consulting, customization, development, and training services on Agilent analytical software products.

Agilent support and update services are subject to your local country's prices, terms, and conditions ruling at the time you place your order.

Calling the Agilent Technologies LSCA Customer Contact Center

When you call the Agilent Technologies Customer Contact Center, please be at your computer and have the product documentation at hand.

We recommend that the following information be readily available:

- The registration packet label with the product number, revision code, and license registration number of your analytical software
- The exact wording of any error messages that the system produced

- A list of the instrument modules including firmware revisions that are connected to the PC. You may use the Serial number information from the Agilent ChemStation (in Full Menu view only) **Method/Run Control > Instrument > Serial numbers and Columns** to generate this list.
- A full printout from Windows System Information
- A description of the scenario that leads to the failure

Contents of the Agilent ChemStation DVD

Starting with the ChemStation Release B.04.01, the Agilent ChemStation comes along with one DVD. The DVD contains the following items

- All installables,
- Firmware and communication tools,
- ChemStation manuals,
- Support documentation,
- Software accessories e.g. user contributed library (UCL).

Agilent ChemStation Modules

The DVD contains the executable files for all modules that belong to the Agilent ChemStation product family. In order to install a module, you have to supply a license registration number valid for the module. Those numbers “unlock” the protected DVD. They are included with the original product and are your proof of license.

There is a shortcut to the main setup program setup.exe for initial installation of the Agilent ChemStation modules located in the root directory on the Agilent ChemStation DVD. Afterwards additional modules may be added by **Add Instrument** from the Agilent ChemStation program group.

Installation Verification Tool for Installation Qualification

The Agilent ChemStation comes with an utility that allows to qualify and document the completeness and integrity of a new installation. The *IQT Report* Tool is installed automatically with the Agilent ChemStation.

I/O Libraries for the Agilent 82350 A/B GPIB Interface and the 82357A USB-GPIB Interface

The Agilent ChemStation DVD contains the version of the I/O Libraries that has been successfully tested with B.04.xx of the Agilent ChemStation. The I/O Libraries must be installed separately to be used with the GPIB cards as well for the USB-GPIB device. The installation is described in the separate guide *Agilent IO Libraries Suite 15.0 or higher Installation and Configuration Instructions*.

BootP Service

The Agilent ChemStation DVD contains a BootP Service setup in the directory BOOTP that can be used to supply the analytical instruments that are connected to a LAN with an IP address and configuration settings. This BootP Service is easy to configure for the use of analytical instruments using a LAN connection. Refer to section "Agilent Bootp Service" on page 29 for more information about the BootP Service.

Agilent ChemStation Software Status Bulletin (SSB)

The *Software Status Bulletin* is a document reflecting the results of Agilent Technologies defect logging, tracking, and repair methodology by publishing the current status of Agilent ChemStation application software products (known defects, available fixes, additional information).

The SSB is located in the SUPPORT\SSB directory of the Agilent ChemStation DVD.

Agilent ChemStation Revision History

The revision history is targeted towards users who may have to consider revalidating their analytical data system after upgrading to a new revision of the application software. The history files are located in the SUPPORT\HISTORY directory of the Agilent ChemStation DVD.

Agilent ChemStation Product Documentation

The Agilent ChemStation product documentation consists of printed and online (PDF) handbooks with reference information and online documentation for task-orientated topics. PDF versions of all manuals are also located on the ChemStation DVD in the directory MANUALS, together with Adobe Acrobat reader (required to read PDF files).

For more details on the Agilent ChemStation product documentation please refer to "Learning Products" on page 168.

I Upgraded from a Previous Version - How Do I Know What Has Changed Since Then?

When starting the Agilent ChemStation for the first time, you can select to go to the What's new section of the help. Later on you can always go to the table of content of the help file and select new features to find out what features have been added to the Agilent ChemStation.

For upgrades from Agilent ChemStation Rev. A.xx.xx to Rev. B.04.0x a separate guide called *Upgrade Preparation Guide for Agilent ChemStation Rev. B.04.02* is available as printed manual and as PDF document within the manual section of the Agilent ChemStation DVD.

A list of all defect fixes since the last revision is located in the directory support\history.

Learning Products

A wide range of learning products are supplied with your Agilent ChemStation software, the PC, and the instrument(s). This includes printed and online manuals, online help and related setup and maintenance information. For first time users a “Tutorial” is available in the online help of the Agilent ChemStation. It documents in detail the first steps necessary to control and run an Agilent 1100/1200 LC System. In addition ChemStation comes with an extensive Diagnostic Software.

The Agilent ChemStation handbooks do not cover details on analytical hardware (other than those required for installation and configuration for operation with the Agilent ChemStation).

Documents

The Agilent ChemStation product documentation consists of printed and online (PDF) handbooks with reference information and online documentation for task-orientated topics. PDF versions of all manuals are located on the ChemStation DVD in the directory MANUALS, together with Adobe Acrobat reader (required to read PDF files).

- This and the *Agilent ChemStation for GC Systems, Data Analysis, and 35900E A/D Converter* installing handbook describe how to prepare your Agilent ChemStation for operation by installing the necessary hardware and software.
- All reference information, i.e. explanation of general concepts, algorithms, and formulae is contained in the “Understanding” handbooks. The *Understanding Your ChemStation* handbooks generally do not provide task-orientated information (e.g. “How to set up a sequence”).
- The XML interface is fully documented in the *Agilent ChemStation XML Connectivity Guide*, available as a PDF document in the manuals folder on your Agilent ChemStation DVD.
- For the ECM Integration with ChemStation, please refer to the *ECM Interface Guide* available on the Agilent ChemStation DVD as well.

- Information regarding the LC used standard LAN communication card (G1369A LAN card) is available in the PDF document *Agilent G1369A LAN Interface Manual*.
- The *Macro Programming Guide* is available electronically through the Agilent ChemStation help system.

Where Can I Find the Description of Agilent ChemStation Commands and Data Structures?

An online **Macro Programming Guide** and **Commands Reference** are available for advanced users and Agilent ChemStation application developers. The Commands reference information can be accessed from the Agilent ChemStation help menu: **Help > Commands**, and is structured into command categories and the command descriptions with syntax, parameters, and return values along with a discussion and frequent examples.

What Is Task-Oriented Information and Where Is It?

Task-oriented information describes how to perform a certain task and is therefore very context-specific. The context-specific "How-To" information is contained in the Agilent ChemStation help system. The help system always can be evoked by pressing the F1 function key, the Agilent ChemStation **Help** menu, or the **Help** button available in Agilent ChemStation dialog boxes.

Access the **Help > Help Topics** menu and click the **LC Tasks** or **GC Tasks** index. Select the analytical task that you need instructions for.

For more details on the online-help see section "Agilent ChemStation Help System" on page 169.

Agilent ChemStation Help System

The Agilent ChemStation help system provides an extensive material database of information under the following menu items:

- *ChemStation Tutorial* contains a tour of the software and walkthroughs of common tasks to help you learn the fundamentals of the system.

- *How to work with your ChemStation* contains a set of instructions for your Agilent ChemStation. You can learn how to perform tasks for the method and run control, data analysis, report layout, verification (OQ/PV), and diagnosis view features.
- *User Interface Reference* contains a detailed description of all items in the menus, toolbars, and dialog boxes of the Agilent ChemStation software. The descriptions are sorted by the different Agilent ChemStation views.
- *Concepts of ChemStation* contains information on selected concepts of the Agilent ChemStation software, including integration, calibration, calibrated report types, spectra processing, and peak parameters.
- *Error Messages* lists all instrument error messages that may occur, with possible causes and corrective actions.
- *Troubleshooting* provides information that can help solve common problems with your Agilent ChemStation.
- *Commands* contains an extensive list of commands and the name, group, syntax, parameters, discussion, return value, and examples (where possible) of different tasks in the Agilent ChemStation software.
- *Macros* contains the *Macro Programming Guide*, which explains the purpose and basic structure of a macro and how macros are written using command strings. Macros allow you to customize the Agilent ChemStation software to best fit your needs.

More information

For more information, visit the Agilent web site at http://www.agilent.com/chem.

Agilent Lab Advisor

Agilent Lab Advisor is an application independent software that helps you manage your lab for high quality chromatographic results. The innovative solution can monitor a single Agilent GC or LC or all the Agilent GCs and LCs in your lab — in real time. It automatically tracks usage of supplies, monitors chromatographic quality and notifies you of maintenance needs

before a problem occurs. By keeping track of injections, hours of operation and other user-specified parameters, the software “knows” when it is time to replace consumables or perform basic upkeep tasks.

Agilent Lab Advisor software provides full diagnostic capabilities with an extended list of tests and calibrations procedures and automates basic diagnostic routines that help verify proper instrument performance.

Following functions are available in Agilent Lab Advisor software:

- **Lab at a Glance** – Displays operational status of monitored instruments and associated advisories, errors, warnings, and messages
- **Lab Monitor Management** – Provides options to manage users and instruments
- **Instrument Documentation** – Provides instant access to all user and service documentation for the selected instrument
- **System Information** – Displays additional information about the monitored instruments
- **Tests** – Provides full diagnostic procedures for all connected instruments
- **Calibrations** – Provides necessary calibration procedures for connected instruments
- **Early Maintenance Feedback** - Displays instant visual indication of preventive maintenance needs, so you can be sure you are getting the maximum performance from all your instruments
- **Status Report** – Generates a report that includes instrument configuration information error history, EMF resources monitored and diagnostic test results
- **Calendar** - Plan tasks and organize instrument service for the monitored instruments
- **Log and results** – Provides the test and calibration results done on the connected
- **Tools** – Provides additional maintenance features

Related setup and maintenance information

- A README file contains information on items such as added new features, known work-arounds, and corrections that could not be included in this manual at the time of printing. To access the readme.txt file, select **Start > Programs > Agilent ChemStation > readme.txt**.
- An automatically updated Logbook contains any error condition discovered during operation and corrective actions (if required). To access, choose Logbook from the View menu, then double-click the entries. The most recent entries are at the top of the list.

User-contributed library

The contents of this library are intended to help users develop and customize the installations for their specific needs to get the most out of their investment.

The content of the library is derived from both Agilent internal and user-contributed sources. Each contribution is checked for functionality but does not necessarily go through the same level of formal testing procedures as the actual product. Therefore, Agilent Technologies does not guarantee the correctness of the contributions.

The *User-Contributed Library* is located on ChemStation DVD in the directory UCL. It comprises utilities and macros. Each contribution is delivered with a specific README.TXT file that can be viewed using any text editor.

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In This Book

Use this handbook when you install the Agilent ChemStation for the first time or when you make changes to an installed system. This handbook describes how to install the initial software, how to add further instrument modules, how to configure your analytical system, and how to verify that the installation and configuration are complete and operational.

This handbook lists the PC hardware and software requirements that need to be met in order to install and operate the Agilent ChemStation successfully and explains PC configuration details that you will find useful when upgrading your computer, optimizing your system, or when trying to solve a problem related to installation. You may skip these chapters if your Agilent ChemStation was fully installed by Agilent Technologies.

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