



***Installation Guide***

***Chromeleon 7***

***for Stand-alone Installation***

Thermo Scientific Dionex Chromeleon  
Software Version 7.1 SR1  
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# 1 About the Documentation

## 1.1 About this Document

This guide provides instructions for performing the following operations on **stand-alone** Chromeleon™ stations:

- installing / updating Chromeleon 7 and required 3<sup>rd</sup> party software components
- basic configuration of Chromeleon 7 including basic instructions for installing instruments
- configuring Windows to suit Chromeleon 7

It also describes:

- hardware and software requirements for installing Chromeleon 7
- software and data compatibility with previous Chromeleon versions

If you are installing multiple workstations that will be **networked** together, or adding a station to an existing networked installation, please contact the Thermo Fisher Scientific Service for Dionex Chromatography Software for support.

## 1.2 Document Conventions

The following formatting is used throughout the document to indicate text with special importance.



**Caution:** Indicates text that must be followed carefully to avoid potential problems

**Note:** Indicates information of special interest.

**Tip:** Indicates information that will help you to use the software more efficiently.

## 1.3 Other Documents

Other documents provided with Chromeleon will help you to learn more about the software. Their scope is described in the *Document Overview*, which is included with the Chromeleon installation media in printed form. The documents are also available in electronic form on the installation disk in the *Documents* folder.

**Tip:** The *Glossary* describes Chromeleon-specific terms and common abbreviations used throughout the documentation.

## 2 System Requirements / Compatibility

### 2.1 Licensing Requirements / Compatibility

In order to use Chromeleon you must have a valid license matching the software version you are about to install.

A Chromeleon 7 license has *two components*:

- a hardware component called a **USB License Key (dongle)**, and
- a **License File** that contains the license information.

To activate a valid license, the two components must have the *same serial number* and must be present at the same time.

You will be asked to insert the License Key and to provide a License File during the software installation process (section 5.2). If you do not have them at hand, you can also activate a license later as described in section 5.5.

#### 2.1.1 The License Key

The License Key is a USB device that (together with a matching License File) allows Chromeleon software to be used on the computer where the License Key is present.



**Caution:** The License Key represents your purchase of Chromeleon. Protect it as you would protect any other valuable object.

The License Key can be either a new (*light blue*) Chromeleon 7 USB device, or a prior-generation (*green*) Chromeleon 6 USB dongle.

At the time of delivery, new (light blue) License Keys normally contain the corresponding License File. The License File is automatically (without warning) *moved* to the computer the first

time the License Key is connected to a computer where Chromeleon 7 is present.



**Caution:** When a *light blue* License Key is new, do not connect it to a computer other than the one where it will be used. If the license file is moved to a wrong computer, the license file must be manually moved to the computer where it will be finally used.

### 2.1.2 The License File

The License File contains the license information, such as the software version and the purchased software options.

The name of the License File is **Chromeleon7\_xxxxxx.cmlic**, where xxxxxx is the serial number of the license.

**Tip:** The information below is for reference/troubleshooting only; the License File is automatically moved/copied to the appropriate location during the setup/license activation.

The license file is stored in the following location:

Windows XP:

C:\Documents and Settings\All Users\Application Data\  
Dionex\Chromeleon\

Windows Vista / Windows 7:

C:\ProgramData\Dionex\Chromeleon\

**Note:** The paths above contain folders that are hidden by default. If you need to see them, follow instructions in *Windows Help* on how to display hidden files and folders.

### 2.1.3 License Key (Dongle) Compatibility

Chromeleon 7 has a different licensing mechanism compared to Chromeleon 6.8 and older releases, including all PeakNet 6

releases. It still uses a USB License Key (dongle), but instead of using a key code, Chromeleon 7 requires installation of a matching License File.

The most recent generation of Chromeleon 6 License Keys (green USB dongles) can be used with Chromeleon 7, when a matching License File is available.

### **2.1.4 License File Compatibility**

Chromeleon 7 License Files are bound to main versions of Chromeleon. For example a License File that was provided with version 7.0 will support 7.0 SR1, but will not work with version 7.1. For the latter an upgrade must be purchased. The updated License File will be provided with the upgrade.

## **2.2 Supported Chromatography Instruments and Modules**

Chromeleon 7 provides full control of most of the current Dionex instruments. In addition, some third party instruments are also supported. For details, please refer to the *List of Supported Instruments* in the *Documents* folder of the installation disk.

### **2.2.1 Firmware Requirements**

The *List of Supported Instruments* (in the *Documents* folder of the installation disk) lists the firmware versions recommended for using various instruments with Chromeleon 7.1 SR1.

## **2.3 PC Hardware Requirements**

The table below shows the minimum and the recommended PC configuration for a **stand-alone** installation of Chromeleon 7.1 SR1.

PCs meeting **minimum** requirements may be sufficient for some low-demand applications, but will not provide satisfactory performance in many applications. PCs meeting **recommended** requirements should be suitable for general applications.

Processor	Minimum:	2.0 GHz Intel® Pentium® 4 class
	With 1 DAD-3000RS:	3 GHz Intel Core® 2 Duo
	With 2 DAD-3000RS:	3 GHz Intel Core i7*
	Recommended:	3 GHz Intel Core i7* or better
RAM	Minimum:	2 GB
	With 1 DAD-3000RS:	3 GB
	With 2 DAD-3000RS:	4 GB*
	Recommended:	4 GB or more*
Hard Disk	Minimum:	60 GB**
	Systems with 3D detector(s):	120 GB**
	DAD-3000RS with max (200 Hz) rate	15 MB / min
Optical Drive	DVD	
Display	Minimum:	1024 x 768 resolution 32-bit color
	Recommended:	1280 x 1024 or 1440 x 900 or higher resolution 32-bit color
USB Ports	For license device:	1 port
	For connecting Dionex modules:	1 or more additional port(s)
	MWD-3000(RS) and DAD-3000(RS)	Require USB 2.0 speed

\* For taking full advantage of this hardware a 64-bit Windows version is required.

\*\* These hard disk requirements are set to enable storage of a substantial amount of data. The software itself requires approximately 3 GB disk space on the C drive (twice as much during an update). In addition, a few GB disk space must always be available on the C drive for Sequences cached in the XVault (see section 7.4.1).



**Caution:** Please check with Thermo Fisher Scientific to determine any **additional requirements for the instruments** you want to connect, for example expansion slots for controlling third party instruments via RS-232 or GPIB.



**Caution:** For running Chromeleon on **64-bit Windows**, a computer with the “Recommended” specifications is required at minimum.

**Tip:** Please contact Thermo Fisher Scientific for details about requirements for installing Chromeleon in a **network**.

## 2.4 Supported Operating Systems

Chromeleon 7.1 SR1 has been validated for stand-alone use on the operating systems listed here.

**Tip:** Chromeleon 7 can also be installed on **server operating systems** (Windows Server versions). Please contact Thermo Fisher Scientific for details.

### 2.4.1 Microsoft Windows 7

Chromeleon 7.1 SR1 was tested with **32-bit** and **64-bit** versions of Microsoft® Windows® 7 Professional and Windows 7 Ultimate editions.

### 2.4.2 Microsoft Windows Vista

It is possible to install and use Chromeleon 7.1 SR1 on **32-bit** editions of Microsoft Windows Vista® Business and Windows Vista Ultimate; **SP2** is required at minimum. However, this combination *has NOT been formally validated, thus it is NOT recommended by Thermo Fisher Scientific.*

### 2.4.3 Microsoft Windows XP

Chromeleon 7.1 SR1 was tested on **SP3** of Microsoft Windows XP **Professional (32-bit)**. It will not install on previous versions of Windows XP.

### 2.4.4 Windows Service Packs

For security reasons, Thermo Fisher Scientific generally recommends installing the latest Windows service pack on your operating system. However, conflicts between Chromeleon releases and subsequent Windows service packs are possible.



**Caution:** Before installing Windows service packs different from those than recommended in this document, always consult with Thermo Fisher Scientific or check the Thermo Fisher Scientific web site for Dionex products ([www.thermoscientific.com/dionex](http://www.thermoscientific.com/dionex)).

Chromeleon is tested with the latest Windows service packs. Information and/or Chromeleon updates are provided as required.

### 2.4.5 Windows Security Updates

For optimum security, it is recommended that you **keep your systems up to date with the latest security updates**. The risk that a security update itself might interfere with Chromeleon is generally low. However, the update *process* may interfere with operation of Chromeleon. For example database transactions could be interrupted by updating SQL Server Express, and instrument control can be interrupted by updating related system components.



**Caution:** Thermo Fisher Scientific recommends to use the “**Download updates for me, but let me choose when to install them**” option for automatic Windows updates and choosing an installation time when Chromeleon is closed and no data acquisition is taking place in the background.

#### Notes:

- Thermo Fisher Scientific will *not* formally validate Windows security updates. Installation and testing of security updates is the user's own responsibility.
- If you find any compatibility issue when testing a Windows Security Update, please contact the Thermo Fisher Scientific Service for Dionex Chromatography Software for support. Although we will make reasonable efforts to solve such problems, we cannot guarantee compatibility with every security update.

Security updates should generally be installed as soon as practicable, in order to keep the “window of vulnerability” small. Security updates should be briefly tested in the context of the laboratory’s installation and operating procedures. Thermo Fisher Scientific recommends the following test procedure to ensure software integrity:

- Install the security update and Chromeleon on a test PC.
- Qualify the Chromeleon Station: Run a Chromeleon Installation Qualification (IQ) and a Chromeleon Operational Qualification (OQ). You can start the **Station Qualification** from the **Tools** menu of the **Console**. You can read more about Station Qualification in the *Chromeleon 7 Help: Administrating Chromeleon > Station Qualification*.
- Perform further PQ tests according to the routines in your lab.

## **2.5 Database Support**

### **2.5.1 Microsoft SQL Server Express Edition**

Chromeleon 7.1 SR1 uses Microsoft SQL Server *Express* Edition as the database engine for *Standard* (local) Data Vaults.

If SQL Server Express is not already present, SQL Server **2005 Express** Edition **SP3** is installed automatically during the Chromeleon setup, including the necessary server and client components and the corresponding Software Development Kit (SDK). This takes place before the actual Chromeleon 7 installation starts.

If an earlier version of SQL Server 2005 Express or if a SQL Server 2008 Express version is present, the SQL Server will NOT be updated automatically. The Chromeleon Installation Qualification (see section 5.3) reports the installed SQL Server version, and the IQReport will contain a Warning if a different version than SQL Server 2005 SP3 was found.

If desired, SP3 can be installed by starting the corresponding setup manually as described in section 5.6.3.3.

Chromeleon 7.1 SR1 has been validated to work with the following versions of Microsoft SQL Server components:

- **SQL Server 2005 Express Edition, SP3, Version 9.3.4035.00**
- **SQL Server Native Client, Version 9.00.4035.00**

**Note:** Chromeleon 7 has not yet been validated to work with **SQL Server 2008 Express**.

**Note:** Chromeleon 7.1 SR1 only supports creating **Standard Data Vaults locally** on the hard drive of the PC that runs Chromeleon 7. Standard Data Vaults can be shared over the network, but the connectivity, performance, and capacity are limited by SQL Server *Express*.

**Tip:** Chromeleon also supports other, **multi-user optimized databases**, namely **Oracle** and the multi-user (non-Express) edition of **MS SQL Server**. Please contact Thermo Fisher Scientific for details.

## 2.6 Required Third-Party Software

**Note:** The sections below are provided for reference only. If not already present, the required third-party software components are installed automatically during the setup. The Chromeleon Installation Qualification (IQ, section 5.4) reports the status of many of these components. Should you experience problems with any of the third party software components, refer to section 5.6 for troubleshooting hints.

### **2.6.1 Windows Installer**

Chromeleon 7.1 SR1 requires Windows Installer version **4.5** or higher for the setup.

### **2.6.2 Microsoft .NET Framework**

Chromeleon 7.1 SR1 requires Microsoft .NET Framework, version **3.5 SP1**.

### **2.6.3 Microsoft SQL Server Express**

Chromeleon 7.1 SR1 uses Microsoft SQL Server 2005 Express Edition (including the Software Development Kit (SDK)) as the database engine for working with 'Standard' (local) Data Vaults.

The validated versions of the components are:

#### **SP3:**

- **SQL Server 2005 Express Edition, Version 9.3.4035.00**
- **SQL Server Native Client, Version 9.00.4035.00**

### **2.6.4 Microsoft Visual C++ Redistributable**

Chromeleon 7.1 SR1 requires Microsoft Visual C++ Runtime Environment Version **2008 SP1**.

Some 3<sup>rd</sup> party instrument drivers require Microsoft Visual C++ Runtime Environment Version **2005 SP1**.

### **2.6.5 MSXML**

Chromeleon 7.1 SR1 requires MSXML Version **4 SP2**.

### **2.6.6 WibuKey Software**

Chromeleon 7.1 SR1 uses the WibuKey software version **6.00a** as part of the software licensing infrastructure.

### 2.6.7 Amyuni PDF Converter

Chromeleon 7.1 SR1 uses the Amyuni PDF Converter version 4.5.1 for exporting results in PDF format.

## 2.7 Software for Controlling Specific Third-Party Instruments

This section lists software components that are necessary for controlling certain third-party instruments.

These software components are not installed automatically; they have to be installed manually to enable support of the corresponding instruments.

### 2.7.1 Agilent Instrument Control Framework (ICF) and LC Driver Package

This software must be installed for controlling Agilent liquid chromatographs from Chromeleon (it is NOT required for controlling Agilent GCs).

The “*Drivers*” folder of the Chromeleon installation disk contains the ICF and LC Driver versions that were tested and were current at the time of releasing Chromeleon 7.1 SR1.

The “*Drivers*” folder also contains a “*ReadMe*” file with installation instructions. In addition, the “*Chromeleon and Agilent ICF - Quick Start Guide*” in the “*Documents*” folder provides further installation details, explains the basics on how to configure the systems and how to get started.

The Agilent LC driver replaces the Agilent 1100 and 1200 drivers which are obsolete and will no longer be maintained.

**Tip:** The Agilent web site provides information about which modules can be controlled via ICF:  
<http://www.chem.agilent.com/en-US/Products/Instruments/lc/Pages/specificationsicf.aspx> .

### 2.7.2 Rheodyne MXII Series Valves Driver

This software is necessary to communicate with Rheodyne MXII Series Valves over USB.

The “*Drivers*” folder of the Chromeleon installation disk contains the driver version that was tested and was current at the time of releasing Chromeleon 7.1 SR1.

The “*Drivers*” folder also contains a “*readme*” file with installation instructions.

### 2.7.3 Waters Acquity UPLC System Instrument Driver

This software must be installed for controlling Waters Acquity UPLC system modules.

The “*Drivers*” folder of the Chromeleon installation disk contains the driver version that was tested and was current at the time of releasing Chromeleon 7.1 SR1.

The *Chromeleon Instrument Configuration Manager Help* chapter “*Installing Third-Party Modules – Waters Acquity UPLC System*” contains installation instructions.

**Tip:** The “*List of Supported Instruments*” in the “*Documents*” folder of the Chromeleon installation disk provides details about which Waters modules can be controlled from Chromeleon and for which of them it is necessary to install the Acquity driver.

## 3 Configuring Windows for Chromeleon 7

This chapter describes how to prepare Windows for (optimal) operation of Chromeleon 7.

### 3.1 Firewall Settings

This section describes firewall settings used by Chromeleon.

**Tip:** The (built-in) Windows Firewall is automatically configured during the Chromeleon installation process. However this only can work, if the firewall is enabled during the setup. Therefore make sure that **the Windows Firewall is turned ON before you start installing Chromeleon.**

Chromeleon uses the **Net.Tcp Port Sharing Service** for communication between Chromeleon software components. The Chromeleon Setup therefore starts this service and changes the "Startup type" to "Automatic".

Most Chromeleon software components use **TCP Port 1325** (which is registered with IANA for use by Dionex, see <http://www.iana.org/assignments/port-numbers>). Port 1325 is added to the Exceptions list as "**Chromeleon 7 Services**".

On Windows Vista and Windows 7 the configuration enables:

- incoming localport 1325
- outbound remoteport 1325

each for both Public and Domain profiles ("Firewall with advanced settings"):

The following software components are also added to the Exceptions list:

Chromeleon components:

- Chromeleon 7 Real Time Kernel (CmDriver.exe)
- Chromeleon 7 Device Driver Host (CmDDKHost.exe)

SQL Server components:

- SQL Database Service (sqlservr.exe)
- SQL Browser (sqlbrowser.exe)

**Note:** Chromeleon Setup cannot configure third-party firewalls. These have to be configured manually as described above. Third-party firewalls may also cause problems during the installation process. Therefore make sure that **third-party firewalls are turned OFF before you start installing Chromeleon.**

## **3.2 Disabling Power Management**

This section describes settings that should be made on Chromeleon stations directly connected to instruments.

### **3.2.1 Disabling Windows Power Management**

If a computer goes into Standby or Hibernate mode while the Chromeleon 7.0 Instrument Controller is running, then the USB subsystem will become unavailable. As a result, USB-dependent devices (instruments and the license key) will stop functioning and operation is interrupted.

**Note:** The default Home/Office power settings scheme of Windows XP SP2 would not put the computer into Standby mode. However, in Windows XP SP3, Microsoft changed the default Home/Office power settings scheme. The computer enters Standby mode after 2 hours if no mouse or keyboard activity is detected.

**To disable Windows power management:**

1. From the **Control Panel** open the **Power Options**.
2. On the **Power Schemes** tab select **Always On**.
3. If not already done, change the **Standby** and **Hibernate** options to **Never**.

### **3.2.2 Disabling USB Power Management**

To avoid problems during instrument control, USB specific power saving options must be turned off as well.

**To disable USB power management:**

1. From the **Control Panel** open **System (Properties)**.
2. On the **Hardware** tab click **Device Manager**.
3. Expand the **Universal Serial Bus Controller** node.
4. Double-click (one of) the **USB Root Hub(s)**.
5. On the **Power Management** tab clear the **Allow the computer to turn off this device to save power** option.
6. Repeat the two steps above for all the Root Hubs.

## 4 Compatibility with Previous Chromeleon and PeakNet Versions

### 4.1.1 Software Compatibility – Chromeleon 7 and 6

Chromeleon 7 can co-exist with Chromeleon 6 (or PeakNet 6) on the same computer. Chromeleon 7 is installed in a different folder and does not affect the Chromeleon 6 installation. You can even use the Chromeleon 6 and 7 clients at the same time. However, you cannot run the Chromeleon 6 Server and the (corresponding) Chromeleon 7 Instrument Controller Service in parallel. In other words, you cannot control instruments using the two software versions at the same time.



**Caution:** When running Chromeleon 6 and 7 on the same computer, make sure you **do NOT start the Chromeleon 6 Server / Chromeleon 7 Instrument Controller services at the same time**. To avoid that this happens accidentally, do NOT enable the options to start these services *automatically*.

### 4.1.2 Software Compatibility – Chromeleon 7.1 SR1 and 7.1

When Chromeleon 7.1 SR1 is installed on a PC where Chromeleon 7 is present, it will replace the existing installation provided the AutoRun setup on the Chromeleon DVD is run. For details, also refer to section 5.2. Parallel installation of different Chromeleon 7 versions (or Service Releases) on the same PC is not supported.

### 4.1.3 Data Compatibility – Chromeleon 7 and 6

Chromeleon 7 provides access to Chromeleon 6 data and maintains backward compatibility as much as possible. However, Chromeleon 7 has been designed with focus on future development. In rare scenarios this may result in minor deviations when looking at legacy data in Chromeleon 7.

With Chromeleon 7, you can connect to **Datasources** created with previous Chromeleon 6 / PeakNet 6 versions. You can view the data and you can even do temporary modifications and see the effect on the results. However, you cannot save the changes inside a Chromeleon 6 Datasource. To permanently modify data originating from Chromeleon 6, you must first copy the data from the Chromeleon 6 Datasource to a Chromeleon 7 Data Vault.

You cannot connect to a Chromeleon 7 **Data Vault** from older Chromeleon / PeakNet versions.

Note that Chromeleon 7 provides a **new peak detection algorithm called 'Cobra™'**, in addition to the Chromeleon 6 peak detection algorithm. If you apply the Cobra algorithm to data that was previously integrated with the Chromeleon 6 algorithm, the results may become slightly different.

Chromeleon 7 cannot read 'Backup' (.cmb) files created with older Chromeleon / PeakNet versions, and it is not possible to **export** Chromeleon 7 data to any previous Chromeleon version.

It is not possible to import Chromeleon 6 **panels** to Chromeleon 7, nor the other way around.

### 4.1.4 Data Compatibility – Chromeleon 7.1 and 7.0

Chromeleon 7.1 introduces new features that require updating the database schema of 7.0 Data Vaults. For example, it adds support for the UltiMate 3000 Fluorescence Detector (FLD) and System Suitability Testing. Therefore, all *local* Data Vaults are automatically updated with the new database schema during the installation of 7.1 (remote Data Vaults can be updated by installing

7.1 on the remote computer). Chromeleon 7.1 creates new Data Vaults with the new schema.

#### **4.1.5 Data Compatibility – Chromeleon 7.1 SR1 and 7.1**

Chromeleon 7.1 SR1 introduces improvements to reduce the size and growth of data volumes.

Data improvements require that the database schema of 7.1 SR1 Data Vaults be updated.

This update prevents backward compatibility with previous versions. Therefore, Chromeleon 7.1 SR1 data cannot be transferred to Chromeleon 7.1 Data Vaults.

## 5 Installing the Software

### 5.1 Do you have Chromeleon 6?

- If you do *not* have Chromeleon 6, start installing Chromeleon 7. Follow the steps starting in section 5.2
- If you *have* Chromeleon 6, read section 2.7 about compatibility, and decide whether you want to install Chromeleon on the same PC where Chromeleon 6 is running, or on a different one.
  - If you decided to use Chromeleon 7 on the *same* PC where Chromeleon 6 is running, follow section 5.2.
  - If you decided to install Chromeleon 7 on a *different* PC, but want to access your Chromeleon 6 data, follow section 5.2, then read section 7.4.4 about mounting Chromeleon 6 Datasources.

### 5.2 Installing Chromeleon 7

Follow the steps below to install Chromeleon 7.1 SR1. The steps are basically the same for new installations and for updating existing Chromeleon 6 or Chromeleon 7 installations.



**Caution:** Make sure that the person performing the installation has **local administrator privileges** in Windows! Otherwise, the installation will fail.

If you are asked to do so, do **reboot** the computer. After the reboot, the **administrator** who started the setup must log in again so that the installation process can be completed correctly.



**Caution:** Make sure that **third party firewalls are turned OFF**.

**Note:** It is recommended to **leave the (built-in) Windows Firewall ON**.

**Note:** **Do not connect new instruments/modules** via USB to your PC until the Chromeleon software installation is finished and the Chromeleon Installation Qualification (IQ) is completed and passed!

**Note:** **Uninstalling** previous versions of Chromeleon / PeakNet 6 is **not** required before installing Chromeleon 7

**Note:** **Setup time** varies depending on the presence of third-party components. For example, installing .NET framework libraries may take considerable amount of time.

1. Check chapter 2 and 3 of this document and **verify that all requirements are met**.
2. It is best to **close all applications** before starting the setup to ensure that it can update relevant system files.

Note that certain IT tools and anti-virus software may lock system files and therefore require rebooting after the setup. In addition, installing some of the third-party components (such as Windows Installer and .NET Framework) usually require a reboot.

3. **Start the Installation:**

Insert the installation disk into your PC. The AutoRun window usually opens automatically.

If CD Autorun is not active, or if you install from other media:  
- Run **\\Autorun\\autorun.exe**. This opens the AutoRun window.

The AutoRun window offers links for reading this *Installation Guide*, exploring the installation disk, and launching the installation program.

Launch the installation program by clicking 'Install Chromeleon 7.1 SR1', Figure 1.



Figure 1: Chromeleon AutoRun window

Alternatively, you can run `\\CmSetup\\setup.exe`. This starts the installation program directly.

4. **The Setup Wizard guides you through the installation** procedure; follow the on-screen instructions as they appear.

The setup starts with installing the separate "Chromeleon 7 Shared Components" installation package which includes all third-party assemblies. When you install Chromeleon for the first time, a Windows UAC prompt asks you for consent to install the package.

After installation of the Shared Components package, the required third-party software components (→ section 2.6) are installed, if they are not already present.

Installation of SQL Server Express and .NET libraries can take 5-20 minutes; installation of Chromeleon files usually takes fewer than 5 minutes.

After that, Chromeleon 7 is installed in one of the following folders:

- **C:\Program Files\Dionex\Chromeleon** (32-bit systems)
- **C:\Program Files (x86)\Dionex\Chromeleon\bin** (64-bit systems).

The Chromeleon 7.1 SR1 setup does *not* support changing the installation path.

**Note:** Installation of some software components (such as the USB instrument drivers) may trigger a **Windows security warning**. Please continue the installation if this occurs.

5. When the License Setup window appears, do one of the following:

If a new blue License Key is available and the License File is still stored *on the Key*:

- Select the **Dongle** option, Figure 3A.
- Insert the License Key into a USB port of the computer
- Wait a moment until the setup confirms that it found both the Key and the File and transferred the File to the computer.
- Save a backup copy of the License File by following the **Save license file** link in the dialog.
- Click **Next**, Figure 3B.

If a License Key and a License File are both available, but the License File is stored *on other media*:

- Select the **Dongle** option, Figure 3A.
- Insert the License Key into a USB port of the computer
- Wait a moment until the setup confirms that it found the Key.
- **Install the license file** by following the corresponding link in the dialog.

- Save the original media with the key as a safety copy.
- Click **Next**, Figure 3B.

If either the License Key or the License File is missing, or if the previous procedures failed (for example, due to a mismatch between the key and the file):

- Click **Skip**, Figure 3C.
- You will have to provide a license after the setup has finished, as described in section 5.5.

**Tip:** The **Chromeleon Domain Controller** option is for networked installations. Contact Thermo Fisher Scientific to learn more about the advantages a networked Chromeleon installation may provide to your laboratory.

6. As the final step, an **Installation Qualification Report** will be created (see section 5.3).



Figure 2: Chromeleon Setup Wizard

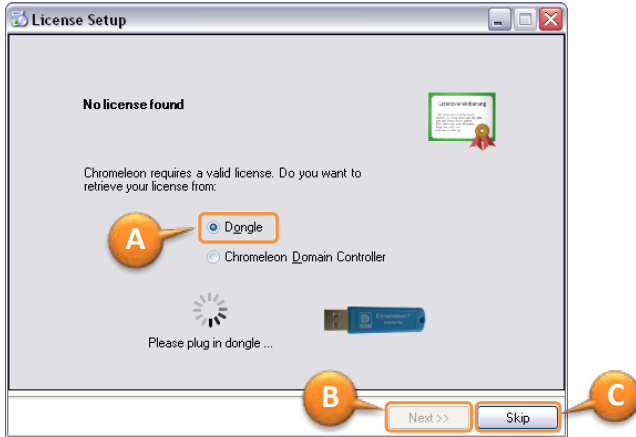


Figure 3: License Setup window

**You can also install Chromeleon using a command line for remote installation.** When installing via command line, be aware that the Chromeleon installation consists of two packages – the Chromeleon7SharedComponents.msi package and the actual Chromeleon package – which have to be installed separately.

**Note:** Make sure to install the *Chromeleon7 Shared Components.msi* package **before** starting the actual Chromeleon setup.

The Chromeleon7SharedComponents.msi can be started from the Chromeleon7SharedComponents folder which is located in the Chromeleon *CmSetup* directory.

Use the /i switch for installing the package: `msiexec / i Chromeleon7SharedComponents.msi`.

In addition, all standard command line switches allowed for a MSI package may be used.

**When updating to Chromeleon 7.1 SR1 via command line**, you have to uninstall the previous Chromeleon installation first.

To ensure that all Chromeleon program files are removed, it is recommended to use the *Chromeleon Uninstaller program* located in the following folder of the Chromeleon DVD: CmSetup\Chromeleon71Uninstaller\ChromeleonUninstaller.exe.



**Caution:** Do **NOT** run the Chromeleon 7.1 SR1 setup, if the Chromeleon program files are not removed completely!

### 5.3 Installing Software for Controlling Specific Third-Party Instruments

For controlling certain third-party instruments it is necessary to manually install additional software from the instrument vendor following the Chromeleon installation:

- Agilent Instrument Control Framework (ICF) and LC Driver Package

This software must be installed for controlling Agilent liquid chromatographs from Chromeleon (it is NOT required for controlling Agilent GCs).

- Rheodyne MXII Series Valves Driver

This software is necessary to communicate with Rheodyne MXII Series Valves over USB.

- Waters Acquity UPLC System Instrument Driver

This software must be installed for controlling Waters Acquity UPLC system modules.

The “*Drivers*” folder of the Chromeleon installation disk contains the driver versions that were tested and were current at the time of releasing Chromeleon 7.1 SR1. Please refer to section 2.7 for further details.

## 5.4 Installation Qualification

At the end of the installation process, Chromeleon automatically runs an Installation Qualification (IQ), and creates a report. You can view the report by selecting the **'Show the IQ report after closing the wizard'** check box (enabled by default) on the last page of the Setup wizard, Figure 4A.

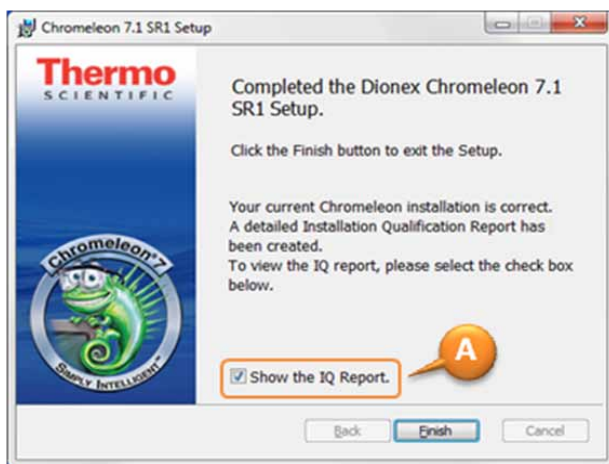


Figure 4: Last page of the Setup Wizard

**Tip:** To read the report later, click **Start > All Programs > Chromeleon 7 > Station IQ > Current IQ report**. The log file opens in your default web browser.

**Note:** Your browser may display a security warning about 'active content' (scripts / ActiveX controls) in the report. This is caused by scripts in the IQ that can allow you to expand and collapse the different sections of the report for your convenience and better overview. These scripts can be safely run, but are not mandatory; all content can be read without enabling the scripts.

The IQ compares current information about the installed files against a reference list supplied by Thermo Fisher Scientific. If there are any differences, a Warning, or an Error message appears to indicate the following:

**Warning:** A Warning can indicate an obvious problem that can be easily corrected; for example, by providing a valid license file, installing more RAM in the PC, or starting Windows services. A Warning can also indicate that a file does not have the expected time stamp or version. Usually, no action is required for minor file discrepancies. If a problem occurs nevertheless, try to repair the installation as described in section 5.6.1. If the problem persists, follow the other steps described in section 5.6 to troubleshoot the installation.

**Error:** A vital component is missing or corrupt. Try to repair the installation (see section 5.6.1). If this does not help, follow the other steps provided in section 5.6 for troubleshooting.

**Note:** After the initial installation of Chromeleon 7, the IQ report may contain a warning about a missing license, as it will if you clicked "Skip" in the License Setup dialog during the software installation (section 5.2, Figure 3C). Follow the steps in section 5.5 to provide a valid license.

**Tip:** You can run the IQ at any time to check if your installation is intact. To start the IQ, click **Start > All Programs > Chromeleon 7 > Station IQ > Station IQ**. For more information, press **F1** in the Chromeleon IQ window.

**Tip:** All IQ Reports (and also the installation log files) can be easily accessed by clicking **Start > All Programs > Chromeleon 7 > Station IQ > All IQ Reports**. The physical location of the files is a (normally hidden) directory whose location depends on the operating system:

Windows XP: C:\Documents and Settings\All Users\  
Application Data\Dionex\Chromeleon\IQ

Windows Vista / Windows 7:

C:\ProgramData\Dionex\Chromeleon\IQ

## 5.5 Activating / Updating a License

The license is normally activated already during the software installation process, as described in section 5.2. This chapter describes how to:

- *Activate* a license when the License Setup step was skipped during the software installation (Figure Figure 3C)
- *Update* the license for an existing installation (for example after purchasing new licensed features for an existing installation)

The processes are similar, but there is a difference depending on where the License File is located:

- if a new light blue License Key *containing* the License File is used, follow Section 5.5.1.
- if a License File is available on *separate* media, follow Section 5.5.2.

### 5.5.1 Using a New Chromeleon 7 License Key that Contains a License File

Follow the steps below to activate or update a Chromeleon 7 station using a *light blue* License Key that *has never been used* before and thus it still contains the corresponding License File.

1. Make sure that Chromeleon 7 is already installed.
2. Connect the License Key to a USB port of the PC where the license will be used.

The Windows 'Found New Hardware' wizard may start at this point and install the necessary drivers.

3. After a few seconds, the License File is automatically (without a warning) moved to the computer, in the appropriate location.
4. To check the installed licenses, start the Administration Console: **Start > All Programs > Chromeleon 7 > Administration Console.**

Select the **License Overview** node, Figure 5A. The **Total** column should display the appropriate number of licensed options, Figure 5B.

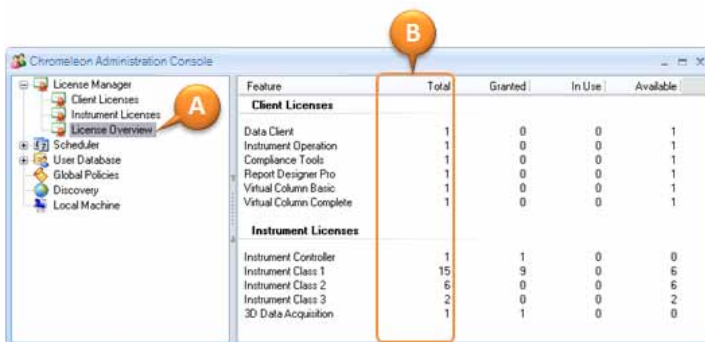


Figure 5: The “License Overview” node (A) of the Administration Console shows the available licenses in the “Total” column (B).

5. Back up your License File and store it in a safe location. You may need it in the future, for example if you want to move the license to another computer, or when restoring your Chromeleon station after a hard disk failure.

Section 2.1.2 describes the location where you can find the License File that was moved from the License Key to the computer.

## 5.5.2 Using an 'Empty' License Key and a Separate License File

Follow the steps below to:

- Activate a Chromeleon 7 station using a Chromeleon 6 (*green*) License Key, or
- Activate a Chromeleon 7 station using a Chromeleon 7 (*light blue*) License Key that *has been used* before, or
- *Modify* licensing for a Chromeleon 7 station, for example when a new License File has been received after an upgrade, or when moving a license to another computer.

**Note:** Make sure you have the License File that you want to use. The serial number of the License File must match the serial number of the License Key.

1. Connect the License Key to a USB port of the PC (Chromeleon 7 must be installed first).

The Windows 'Found New Hardware' wizard may start at this point and install the necessary drivers.

2. Open the Administration Console by clicking **Start > All Programs > Chromeleon 7 > Administration Console**, and select the **License Manager** node, Figure 6A.

3. Click the **Update License File** link (Figure 6B) and browse to the License File you want to use.

Select the file and click **Open**. The License File is copied to its desired location (see section 2.1.2).



Figure 6: License Details

4. To check the installed licenses, select the **License Overview** node, Figure 5A. The **Total** column should display the appropriate number of licensed options (Figure 5B).
5. Store your License File in a safe location. You may need it in the future, for example if you want to move the license to another computer, or when restoring your Chromeleon station after a hard disk failure.

## 5.6 Troubleshooting Software Installation

1. The setup process itself checks for various conditions and provides useful hints/warnings for *preventing* installation issues. Therefore **always observe the instructions during setup**. For example the setup checks whether:
  - the user who started the setup has local administrator privileges,
  - the computer has enough RAM and hard disk capacity,
  - the Operating System requirements are fulfilled.

Make sure that all requirements and Windows configuration steps described in chapters 2 and 3 are fulfilled / performed.

2. To *identify* installation issues, **check the IQ Report** (see section 5.3) for Errors and Warnings. **If you find Errors, try to repair the installation** as described in section 5.6.1. (Remember, that you can re-run the IQ at any time.)
3. **Problems with third-party software components can often be resolved by reinstalling the component manually** as described in section 5.6.3. Reading section 5.6.2 in advance will help you understand the details of the installation process.
4. If you still face installation problems, **send the installation log files to the Thermo Fisher Scientific Service for Dionex Chromatography Software** for support. All the installation log files are located in a single folder (together with the Station IQ Reports) that can be easily accessed via the Start menu: **Start > All Programs > Chromeleon 7 > Station IQ > All IQ Reports**. Some of the log files are large (~25 MB), but they can be compressed (zipped) efficiently.

## 5.6.1 Repairing an Installation

Follow the instructions below to repair a Chromeleon 7 installation:

**Note:** You will need access to the Chromeleon installation media to repair an installation.

1. Choose **Start > Control Panel > Add or Remove Programs** (Windows XP) or **Programs and Features** (Windows Vista / Windows 7).
2. Select **Dionex Chromeleon 7**, click **Change** (Windows XP) or right-click and select **Repair** (Windows Vista / Windows 7).



**Caution:** Be careful to click just once, because in Windows Vista and Windows 7, double-clicking an item will initiate removal (and not repair!) of the item.

3. Follow the Wizard to repair the installation.

## 5.6.2 Installation Process Details

Understanding the installation process makes it easier to troubleshoot installation issues.

The setup takes place in several stages:

From the splash screen (**Autorun\Autorun.exe**) the main setup (**CmSetup\setup.exe**) is called. If not already present, this installs the following third-party software components:

- **Windows Installer** (stand alone setup is available)
- **Microsoft .NET Framework** (stand alone setup is available)
- **Microsoft SQL Server Express** (stand alone setup is available)

**Note:** The installation process cannot be completed unless the above components are successfully installed.

After that, it calls **CmSetup\CM\CmSetup.msi**, which in turn installs the following components:

- **Microsoft Visual C++ Redistributable** (embedded into the Chromeleon 7 setup)
- **MSXML** (embedded into the Chromeleon 7 setup)
- **WibuKey Software** (stand alone setup is available)
- **Amyuni PDF Converter** (stand alone setup is available)
- **Chromeleon 7**

### **5.6.3 Manual Installation of Third-Party Software Components**

Chromeleon 7.1 SR1 uses certain third-party software components. If not already present, these are installed automatically during the installation process.

If you experience problems with any of the required third-party software components, you can try reinstalling them manually from the Chromeleon 7 installation disk as described in the sections below.

#### **5.6.3.1 Windows Installer**

Chromeleon 7.1 SR1 requires Windows Installer version 4.5 or higher for the setup.

The required Windows Installer version is nowadays present on nearly all PCs, as it is either part of the supported Windows version (for example Windows 7 contains Windows Installer 5.0) or has been rolled out as part of Windows Update (e.g. KB942288, KB958655).

If the required Windows Installer version is not present, it is installed before the actual Chromeleon 7 installation starts.

After installing Windows Installer, a reboot is required.

If you experience serious problems during the setup, you may try to reinstall Windows Installer from the Chromeleon 7 installation disk by running the appropriate installer from the \CmSetup\WindowsInstaller4\_5\ folder. The Readme.html file in the folder provides further information.

### 5.6.3.2 Microsoft .NET Framework

Chromeleon 7.1 SR1 requires Microsoft .NET Framework 3.5 SP1.

Various .NET versions are often installed on PCs nowadays. If the required .NET version is not already present, the necessary files are installed before the actual Chromeleon 7 installation starts.

After installing .NET, a reboot may be required.

The Chromeleon Installation Qualification (IQ) reports the installed .NET version(s).

If you suspect problems with the .NET installation, you can try to install/repair it by running \CmSetup\DotNetFX35SP1\dotNetFx35setup.exe from the Chromeleon 7 installation disk.

### 5.6.3.3 Microsoft SQL Server Express Edition

Chromeleon 7.1 SR1 uses Microsoft SQL Server *Express* Edition as the database engine for *Standard* (local) Data Vaults.

If SQL Server Express is not already present, SQL Server **2005 Express** Edition **SP3** is installed automatically during the Chromeleon setup, including the necessary server and client components and the corresponding Software Development Kit (SDK). This takes place before the actual Chromeleon 7 installation starts.

**Note:** If an English version of SQL Server 2005 or SQL Server 2008 is installed on a localized version of Windows XP with Service Pack 3 which is not English version, the following error message may appear:

"The Windows Installer service cannot update the system file C:\WINDOWS\system32\msxml6r.dll because the file is protected by Windows. You may need to update your operating system for this program to work correctly."

This is a known issue of the Windows SQL Server setup.

As a workaround, click **OK** in the above error message to resume the setup. Usually, the SQL and MSXML setup will finish successfully and you can ignore the error.

For details on this issue, refer to "Windows File Protection error for "msxml6r.dll" in setup of SQL on localized Windows XP SP3" at <http://support.microsoft.com/kb/958897>.

For information on the available security update MS08-069 that resolves the issue, refer to: <http://technet.microsoft.com/en-us/security/bulletin/ms08-069>.

If an earlier version of SQL Server 2005 Express or if a SQL Server 2008 Express version is present, the SQL Server will NOT be updated automatically. The Chromeleon Installation Qualification (see section 5.3) reports the installed SQL Server version and the IQReport will contain a Warning if a different version than SQL Server 2005 SP3 was found.

In the above scenario, or if the IQ reports some other problems with SQL Server Express, you may try to update/reinstall it from the Chromeleon 7 installation disk by running \CmSetup\SqlExpress2005SP3\sqlexpr32.exe. Refer to the Readme.html file in the same folder for further details. Note however that this may affect other software using SQL Server Express on the same computer!



**Caution:** Installing SQL Server 2005 Express SP3 may affect other software using SQL Server Express on the same computer!

The installation events are logged in the following location: C:\Program Files\Microsoft SQL Server\90\Setup Bootstrap\LOG\ . To understand the details in the log files, refer to the Microsoft article "How to: View SQL Server 2005 Setup Log Files" at [http://technet.microsoft.com/en-us/library/ms143702\(SQL\\_90\).aspx](http://technet.microsoft.com/en-us/library/ms143702(SQL_90).aspx)

#### **5.6.3.4 Microsoft Visual C++ Redistributable**

Chromeleon 7.1 SR1 requires the following versions of Microsoft Visual C++ Redistributable: Version 2008 SP1 and Version 2005 SP1.

These installations are embedded (as recommended by Microsoft) into the Chromeleon 7 setup. To re-install these components, re-run CmSetup\CM\CmSetup.msi (or the entire setup CmSetup\setup.exe). The installation events are logged (together with other installation and qualification log files) in the IQ folder (see section 5.3)

#### **5.6.3.5 Microsoft MSXML**

Chromeleon 7.1 SR1 requires Microsoft MSXML version 4 SP2.

This installation is embedded (as recommended by Microsoft) into the Chromeleon 7 setup. To re-install this component, re-run CmSetup\CM\CmSetup.msi or the entire setup CmSetup\setup.exe. The installation events are logged (together with other installation and qualification log files) in the IQ folder (see section 5.3).

#### **5.6.3.6 WibuKey Software**

Chromeleon 7.1 SR1 uses the WibuKey software version 6.00a as part of the software licensing infrastructure.

The necessary files are automatically installed during the installation process.

After the Chromeleon installation is complete, the CM IQ checks whether the WibuKey Software is properly installed. If it is not, an Error is issued.

If you experience problems with licensing, you may try to reinstall the WibuKey software from the Chromeleon 7 installation disk by running `\CmSetup\Wibu520b\Setup32.exe`.

There is no installation log available for the WibuKey software setup.

### **5.6.3.7 Amyuni PDF Converter**

Chromeleon 7.1 SR1 uses the Amyuni PDF Converter version 4.5.1 for exporting results in PDF format.

The necessary files are automatically installed during the installation process.

After the Chromeleon installation is complete, the CM IQ checks whether the Amyuni PDF Converter is properly installed. If, for some reason, the Amyuni PDF Converter could not be installed, an Error is issued.

In this case, the installation events are logged in a file called `PDFInstall.log`. The log file is stored (together with other installation and qualification log files) in the IQ folder (see section 5.3).

## 6 Installing Dionex Instruments

This section describes how to install chromatography instruments that are connected via USB to the PC.

Chromeleon can control chromatography instruments from other manufacturers. (The *List of Supported Instruments* in the *Documents* folder of the installation disk provides an overview). Setup and requirements differ for each module. The *Instrument Configuration Manager Help* provides information about which modules are supported and how to install them.



**Caution: Do not connect new instruments/modules** via USB to your PC until the Chromeleon software installation is finished and Chromeleon Installation Qualification (IQ) is completed and passed!

### To set up a system connected via USB:

1. Connect all modules to each other and to the PC according to the *Operating Instructions* of the modules and section 6.1.
2. Load the USB drivers for the module(s) according to section 6.2.
3. Add your chromatography instrument(s) to the system configuration using the Instrument Configuration Manager according to section 7.1.3.

### 6.1 Connecting Modules via USB

Most Dionex instruments are connected to the PC or to each other via USB. Some of them (such as detectors that acquire data at high rates) require USB 2.0 connections. Others can be connected to USB 1.1 connections as well.

Some Dionex instruments have a built-in USB hub. The hub may be USB 2.0 or 1.1; it may be powered or unpowered.

The following guidelines must be observed when connecting modules via USB:

- **Modules with USB 2.0 connection must** be connected directly to the PC (recommended for detectors) or to another module with a USB 2.0 hub.
- **Modules with USB 1.1 connection can** be connected to directly to the PC or to another module with any kind of USB hub.
- **A powered hub** continues to function when the module is switched off, maintaining communications for devices connected to the hub.
- **An unpowered hub** only maintains connections while the device is switched on.

The *List of Supported Instruments* (see *Documents* folder of the installation disk) specifies what kind of USB connection an instrument requires (and provides, if it has a hub).

## **6.2 Loading the USB Driver for a Module**

1. Turn on the computer first, but not the module.
2. Under the Windows operating system, log on using an account with **local administrator** privileges:
3. Turn on the module using the main power switch.
4. Windows Vista / Windows 7 will automatically detect the new module and perform the USB installation.

Windows XP will automatically detect the new module and launch the **Found New Hardware Wizard**, which guides you through the USB installation. Select the following options:

- a) If asked whether Windows may connect to Windows Update to search for software, select **No, not this time**.

- b) Accept the default option (**Install the software automatically**) and click **Next>**.
- c) Click **Finish** when the wizard reports that the software for the module has been installed.

### 6.3 Troubleshooting USB Issues

Problem	Remedial Action
<p><b>Windows Vista / Windows 7</b> fails to detect the module and launches a wizard instead</p>	<p>This indicates that you connected the module to the computer and turned on the power for the first time before you installed Chromeleon. To resolve the problem:</p> <ol style="list-style-type: none"> <li>1. Click <b>Cancel</b> to exit the wizard.</li> <li>2. Turn off the module and unplug the USB cable from the computer.</li> <li>3. Install Chromeleon.</li> <li>4. Reconnect the USB cable to the computer and turn on the power to the module. Windows Vista will now detect the module and install the USB software for the module automatically.</li> </ol>
<p><b>Windows XP</b> fails to detect the module and a message box asks for a USB configuration file (CmWdmUsb.inf)</p>	<p>This indicates that you connected the module to the computer and turned on the power for the first time before you installed Chromeleon. To resolve the problem:</p> <ol style="list-style-type: none"> <li>1. Click <b>Cancel</b> in the Windows message box.</li> <li>2. Turn off the module and unplug the USB cable from the computer.</li> <li>3. Install Chromeleon.</li> <li>4. Reconnect the USB cable to the computer and turn on the power to the module. Windows will now automatically detect the module and launch <b>the Found New Hardware Wizard</b>.</li> </ol>

Problem	Remedial Action
<p>Chromeleon Audit Trails include error messages that indicate interruption of USB communications, such as:</p> <p><i>"Error receiving status: Error reading from &lt;device name&gt; @ USB &lt;address&gt;. The I/O operation has been aborted because of either a thread exit or an application request. The license is invalid."</i></p> <p>Windows Application and System Event Logs may include error messages related to:</p> <ul style="list-style-type: none"><li>- Chromeleon</li><li>- The disk I/O system</li><li>- W32time</li><li>- And other functions</li></ul>	<p>This indicates that the Instrument Controller PC entered Standby or Hibernate mode while Chromeleon was operating instruments / collected data.</p> <p>Follow sections 3.2.1 and 3.2.2 to disable (USB) power management.</p>

## 7 Configuring Chromeleon 7

This chapter describes configuration steps that are likely to be performed for most stand-alone Chromeleon installations.

**Note:** You need **Windows (local) administrator privileges** and/or the appropriate **Chromeleon privileges** to perform most of the tasks described in this chapter.

**Note:** The paths mentioned in this chapter contain folders that are hidden by default. If you do not see them, follow instructions in *Windows Help* on how to display hidden files and folders.

### 7.1 Starting Points for Configuring Chromeleon 7

You can start all configuration work for Chromeleon 7.1 from two starting points:

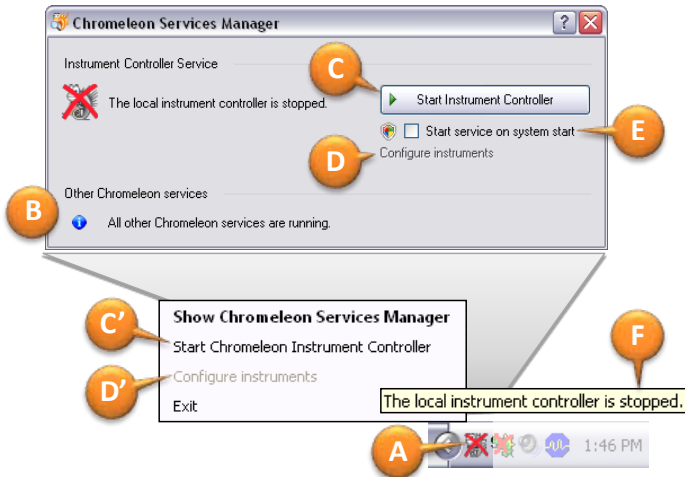
- from the Chromeleon **Services Manager**, which is a Chromeleon tool that appears minimized as the **Chromeleon Tray Icon** in the 'Notification Area' of the Windows Taskbar, and
- from the **Administration Console**, which is a Chromeleon tool that can be started via the Start menu.

#### 7.1.1 Chromeleon Services Manager

The Chromeleon Services Manager (the window in the top half of Figure 7):

- shows the overall status of Chromeleon's service components (Figure 7B), and
- provides a starting point for instrument control related configuration work (Figure 7C,D,E).

**Tip:** You can read more about the Chromeleon services in the *Glossary*.



*Figure 7: Chromeleon Services Manager and Tray Icon*

The Services Manager is usually started automatically, and it appears minimized as the **Chromeleon Tray Icon** (Figure 7A) next to the clock in the 'Notification Area' (also called 'System Tray') of the Windows Taskbar.

To open the Services Manager window, **click** (or **right click**) the **Chromeleon Tray Icon**, Figure 7A.

If the Chromeleon Tray Icon is not present, you can start the Services Manager by selecting **Start > All Programs > Chromeleon 7 > Services Manager**.

Closing the Services Manager window minimizes it again to the **Chromeleon Tray Icon**.

## 7.1.2 Chromeleon Tray Icon

The Chromeleon Tray Icon (Figure 7A) appears next to the clock in the 'Notification Area' (also called System Tray) of the Windows Taskbar. It is the minimized version of the Services Manager. It has the following functionality:

- It provides an easy way to open the Services Manager window (via a click or a right-click on the Tray Icon).
- The Tray Icon and its tool tip (Figure 7F) show the status of the Instrument Controller Service.
- Its context menu provides a shortcut for starting/stopping the Instrument Controller Service (Figure 7C') and launching the Instrument Configuration Manager (Figure 7D').

If the Chromeleon Tray Icon is not present in the Notification Area, start it by clicking **Start > All Programs > Chromeleon 7 > Services Manager**.

## 7.1.3 Chromeleon Administration Console

### *The Chromeleon Administration Console*



Figure 8) provides the starting point for most administrative tasks in Chromeleon, such as:

- managing licenses
- scheduling data transfer between Data Vaults, for example for archiving purposes
- managing Chromeleon Users, Groups and Privileges
- configuring “Global Policies”, for example enabling “User Mode”
- monitoring “Discovery” that is checking which resources (Instruments and Data Vaults) are available in a Chromeleon Domain
- managing Data Vaults installed on the Local Machine

**Tip:** Some of these features are only available in a networked installation and are therefore not covered in this document. Contact your local Thermo Fisher Scientific sales organization for Dionex Chromatography software to learn more about the advantages a networked Chromeleon installation may bring to your laboratory






*Figure 8: Chromeleon Administration Console with (A) various nodes in the navigation area on the left, and (B) work area on the right*

To open the Chromeleon Administration Console select **Start > All Programs > Chromeleon 7 > Administration Console**.

## 7.2 Configuring Instruments / Modules

After the USB software for the module has been installed (see section 6.1), install and configure the module in Chromeleon:

1. Start the Instrument Controller Service either by right-clicking the Chromeleon Tray Icon (Figure 7A) and choosing **Start Chromeleon Instrument Controller** (Figure 7C'), or from the Services Manager (Figure 7C).

The Chromeleon Tray Icon  changes to indicate that the Instrument Controller Service is starting . Wait until the Instrument Controller Service is running idle .

If the Chromeleon Tray Icon is not on the Taskbar, click **Start > All Programs > Chromeleon 7 > Services Manager** to open the Services Manager and click **Start Instrument Controller**.

2. Start the Chromeleon Instrument Configuration Manager:

Choose **Configure Instruments** either after right-clicking the Chromeleon Tray Icon (Figure 7D') or in the Services Manager (Figure 7D).

(If the Services Manager window is open, you can now close it. Note that closing the Services Manager does not stop the Instrument Controller Service.)

3. If necessary, click the plus sign next to the PC's name to display the items underneath (Figure 9A).
4. Select the Instrument to which the module will be assigned, or create a new Instrument.

To create a new instrument, on the **Edit** menu, click **Add Instrument...**, or click the corresponding icon in the Toolbar, Figure 9B.

5. Click **Add Module** on the **Edit** menu, or click the corresponding icon in the Toolbar, Figure 9C.

6. On the **Manufacturers** list (Figure 9D), click **Dionex** and on the **Modules** list (Figure 9E), click the module.
7. Chromeleon connects to the module, transfers the settings from the module to Chromeleon, and automatically sets the options on the configuration dialog pages (Figure 9F) accordingly. Confirm the related message with **OK**.

**Tip:** Most modules are connected via a USB interface. The USB address is then used by Chromeleon to detect a module. The USB address typically contains the serial number of the module, allowing you to distinguish between modules when two or more identical modules are present (such as two pumps of the same model). Click Browse and double-click on the USB number. Only the USB addresses of corresponding modules are shown; for example, when adding a UV detector only the address(es) of the UV detector(s) are shown.

8. On each configuration page, verify that the settings are correct and define additional settings if needed. For assistance, press **F1**.
9. On the **File** menu, click **Save Instrument Configuration**, or click the corresponding icon in the Toolbar, Figure 9G.  
Close the Instrument Configuration Manager.

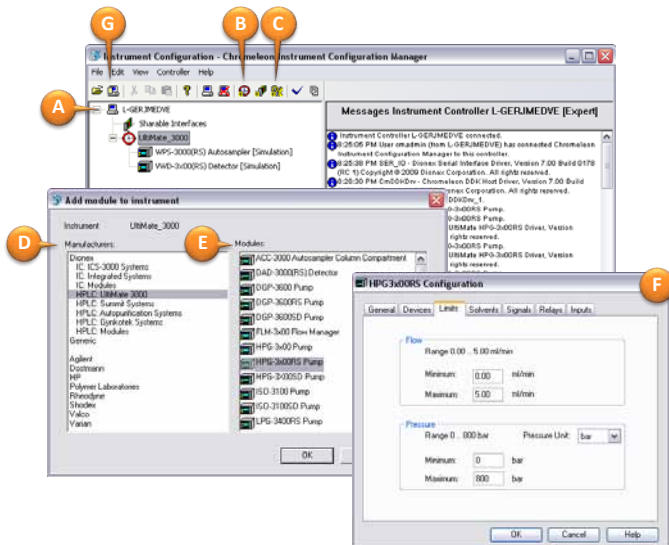


Figure 9: Using the Instrument Configuration Manager

## 7.3 Enabling Automatic Start of the Instrument Controller Service

On PCs that are physically connected to instruments (Chromeleon “Workstations” and “Instrument Controller Stations”), especially if they are controlled remotely from another PC with Chromeleon (a “Remote Client” station), Thermo Fisher Scientific recommends starting the Instrument Controller Service *every time* the computer is started.

**Tip:** If the PC is *not* connected physically to instruments (Chromeleon “Data Client” and “Remote Client” stations), you should *not* follow these steps, which would result in using additional PC resources unnecessarily.

### To enable automatic start of the Instrument Controller Service

1. Open the Services Manager by clicking the Chromeleon Tray Icon (in the Notification Area of the taskbar), or by clicking: **Start > All Programs > Chromeleon 7 > Services Manager**.
2. Select the **Start service at system start** check box, Figure 7E.
3. To start the service *this time*, click the **Start Instrument Controller** button in the Services Manager, Figure 7C.
4. Close the Services Manager.

## 7.4 Configuring Data Vaults

**Tip:** The Chromeleon Client Online Help contains a chapter about *Backing Up Chromeleon Data*, see *Chromeleon 7 Help > Administrating Chromeleon*.

### 7.4.1 Default Data Vault, XVault, and Default Location

During the software installation, a Standard Data Vault called '**ChromeleonLocal**' is automatically generated (in the corresponding sub-folder) in the default location (see below).

During the installation another local Data Vault (an **XVault™**) will be created. This is a special Data Vault that stores a cached copy of the running Sequence. The purpose of the XVault is to keep instruments running and data accessible for processing during network outages, but it is an essential part of stand-alone installations as well. The XVault is hidden.

**Tip:** The default Standard Data Vault and the XVault needs *no* configuration.

The **default location** for Standard Data Vaults is:

Windows XP

C:\Documents and Settings\All Users\Application Data\  
Dionex\Chromeleon\DataVaults\<data vault name>

Windows Vista / Windows 7

C:\ProgramData\Dionex\Chromeleon\DataVaults\<data vault  
name>

## 7.4.2 The Data Vault Manager

The Data Vault Manager is a Chromeleon tool that helps you with the following tasks:

- **Creating a new Data Vault** (see section 7.4.3)  
You may want to create a new Data Vault if, for example:
  - You want to have Data Vaults with and without Data Audit Trails / versioning,
  - You want to separate data at a high level (note that you can also separate data in various folders inside the same Data Vault, and you can specify different access rights/privileges for different folders),
  - You want to move (archive) some data from your “live” Data Vault to save space there.

**Note:** The database part of a Standard Data Vault has a 4 GB size limit. (The database holds sample information, the methods, and the Audit Trails, but *not* the raw data).

**Tip:** Do not create too many Data Vaults. Running Queries (searching for data) is more efficient if the data is *not* scattered across many different Data Vaults, because Queries can only work in one Data Vault at a time.

- **Mounting a Chromeleon 6 Datasource** (see section 7.4.4)  
You may want to mount Chromeleon 6 Datasources (read-only!) that exist locally or on the network.
- **Dismounting / Mounting a Chromeleon 7 Data Vault**  
The Discovery Service finds Chromeleon 7 Data Vaults in the network automatically. Manual dismounting / mounting is only necessary for advanced administrative tasks like moving or renaming a Data Vault. These are not covered in this document.

**To start the Data Vault Manager:**

Open the **Administration Console**, click the **'Local Machine'** node in the navigation area (Figure 10A) then click **Manage Data Vaults** in the work area (Figure 10B).

Alternatively, click **Start > All Programs > Chromeleon 7 > Data Vault Manager**.

The Data Vault Manager opens in a separate window (Figure 10C).

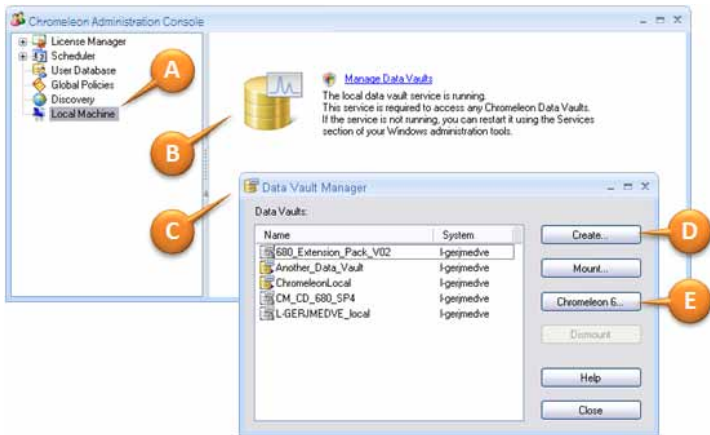


Figure 10: Starting the Data Vault Manager

### 7.4.3 Creating a Standard Data Vault

1. Start the **Data Vault Manager** as described above.
2. In the Data Vault Manager window, click **Create...**, Figure 10D
3. Choose the **Create standard data vault** option in the Wizard that opens, Figure 11A. Click **Next**.
4. Enter a **name** for the new Data Vault, Figure 11B. Click **Finish**.

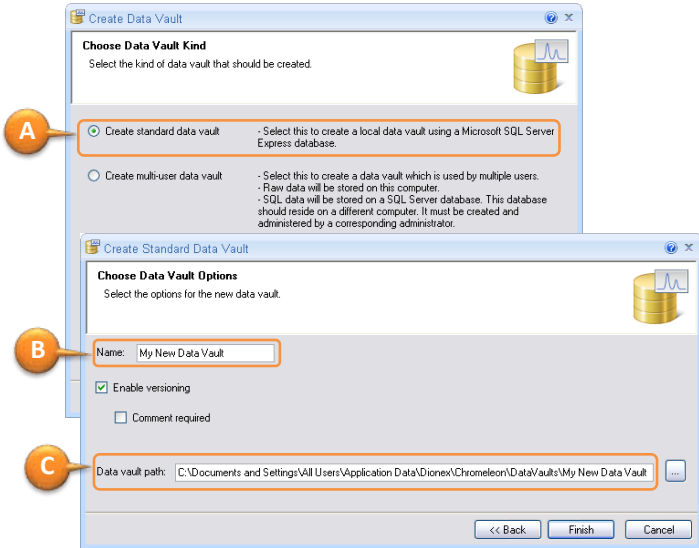


Figure 11: Creating a Standard Data Vault

**Note:** Thermo Fisher Scientific recommends keeping the default path (Figure 11C).

This has the following advantages:

- Ensures automatic protection of the Data Vault via standard Windows user rights.
- Allows easy backup of all your data from a single location (see *Chromeleon 7 Help > Administrating Chromeleon > Backing Up Data*).

If you create the Data Vault in another location, such as on another hard drive, you must take care of protecting the Data Vault by configuring Windows user rights like this:

- Deny access for ordinary users,
- Grant access for SQL Server and LocalSystem accounts.

#### 7.4.4 Mounting Chromeleon 6 Datasources

If you install Chromeleon 7 on a PC where CM 6 is already installed, your mounted Chromeleon 6 Datasources will automatically become available (read only) in Chromeleon 7. For connecting other Chromeleon 6 Datasources, follow the steps below.

##### To mount a Chromeleon 6 Datasource:

1. Start the **Data Vault Manager** as described in section 7.4.2
2. In the Data Vault Manager, click **Chromeleon 6...**, Figure 10E

**Note:** When you try to access a Chromeleon 6 Datasource where access control is enabled, you have to provide a valid Chromeleon 6 user ID and password.

3. Click **Browse...** (Figure 12A) or **Datasource manager...** (Figure 12B) in the dialog that opens
4. Follow familiar Chromeleon 6 steps

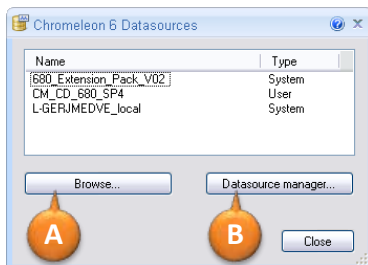


Figure 12: Initial steps for mounting Chromeleon 6 Datasources

**Note:** Chromeleon 7 actually utilizes the same Registry keys for storing Datasource connection data as Chromeleon 6 does.

- For Common Datasources: HKEY\_LOCAL\_MACHINE\Software\Dionex\Chromeleon\Datasources\...
- For not common Datasources: HKEY\_CURRENT\_USER\Software\Dionex\Chromeleon\Datasources\...

Consequently, when Chromeleon 6 is installed on the same PC, changes in Chromeleon 7 and Chromeleon 6 mutually affect each other.

## 7.5 Enabling and Configuring User Management

When User Mode is enabled, a logon is required to open Chromeleon. In addition, you can configure which resources (such as data and instruments) certain users are allowed to work with (Access Groups), and what they are allowed to do (Roles).

Two basic steps are necessary to start working with User Mode:

1. **User Mode must be enabled**

In the **Administration Console** (→ section 7.1.3) select the **Global Policies** node (Figure 13A). On the **Security** tab, select the **User mode enabled** option (Figure 13B). Click **Save Changes** (Figure 13C).

In the confirmation dialog, enter the credentials of a Chromeleon user that has the privilege to “Manage Global Policies” (Figure 13D). For the default credentials, see the Note below.

2. **User Mode must be configured**

In the **Administration Console** (→ section 7.1.3) expand the **User Database** node and use the sub-nodes to configure User Management (Figure 14A).



Figure 13: Enabling User Mode

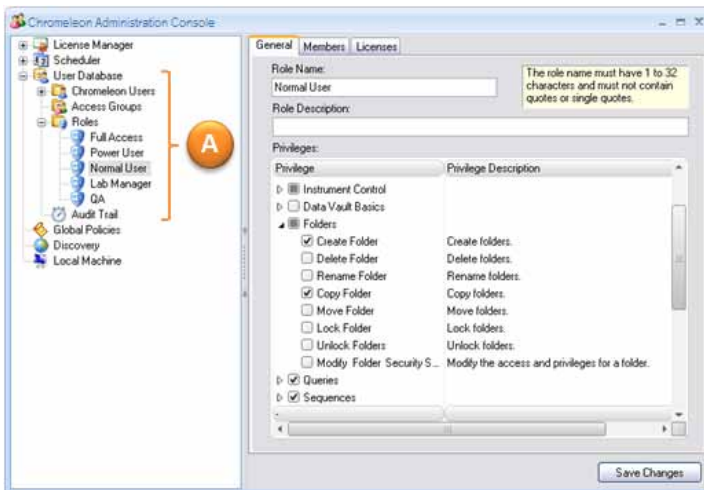


Figure 14: The Chromeleon Administration Console provides the nodes for configuring User Management

**Note:** The default User Name and Password are 'cmadmin' and 'admin', respectively. You should *not* delete the 'cmadmin' User and you should *keep* the 'Full Access' role assigned to it. You should change the password, write it down and store it at a safe location. You can then use this account for emergency situations, such as when ordinary administrators forget their passwords or lock themselves out from certain areas.

Figure 14 shows a typical window for configuring Roles.

**Tip:** To learn more about how to create **user accounts**, define **Access Groups** and **Roles**, please refer to the *Adminstrating Chromeleon > User Management* chapter in the *Chromeleon 7 Help*. You can also access context sensitive Help pages by pressing **F1** when working with the Administration Console.

**Tip:** There is an **example user database** on the installation disk: \Contributed Content\User Management Templates

The user database is an encrypted XML file (UserDb.EXML). It is stored in the following location (neither the location nor the file name can be changed):

Windows XP

C:\Documents and Settings\All Users\Application Data\Dionex\Chromeleon\

Windows Vista / Windows 7

C:\ProgramData\Dionex\Chromeleon\

## 7.6 Licensing

The license is normally activated already during the software installation process, as described in section 5.2.

Section 5.5 describes how to

- *Activate* a license when the License Setup step was skipped during the software installation
- *Update* the license for an existing installation (for example after purchasing new licensed features for an existing installation)

## 8 Removing Chromeleon 7 from a PC

Removing Chromeleon from your computer consists of the following stages:

- Uninstalling Chromeleon 7
- Uninstall Chromeleon7 Shared Components
- Uninstalling third-party software
- Removing Chromeleon 7 data

**Note:** You must log on with **local administrator** privileges to Windows to perform some of the steps in this chapter.

**Note:** The paths mentioned in this chapter contain folders that are hidden by default. If you do not see them, follow instructions in *Windows Help* on how to display hidden files and folders.

### 8.1 Uninstalling Chromeleon 7

You can remove the Chromeleon program files from your computer by following the instructions below.

**Tip:** These steps only remove the software components. All your data and settings will be preserved. This has the advantage that you can safely uninstall the software without affecting your data – for example, to fix a broken installation.

1. In the Windows Control Panel, click **Add or Remove Programs**. (Windows XP) or **Programs and Features** (Windows Vista / Windows 7).
2. Select **Chromeleon7 Shared Components** from the list of currently installed programs and click **Remove** (Windows XP) or right-click and select **Uninstall** (Windows Vista / Windows 7).

3. Select **Dionex Chromeleon 7.1 SR1** from the list of currently installed programs and click **Remove** (Windows XP) or right-click and select **Uninstall** (Windows Vista / Windows 7).
4. Follow the on-screen instructions to remove Chromeleon 7.
5. If the wizard asks so, reboot your computer.

## 8.2 Uninstalling Third-Party Software

Chromeleon relies on several third-party software components (see section 2.6), which are installed during the setup process (see section 5.6.2). However, to avoid problems with software installed after Chromeleon, most of them are *not* removed automatically when uninstalling Chromeleon 7. You can remove most of these software components manually following steps similar to removing Chromeleon 7 (see section 8.1).



**Caution:** The software components listed below may be used by various applications on your computer, not only Chromeleon 7. Removing them may corrupt those applications!

The following components will *not* be removed by the Chromeleon 7 uninstall process:

- Windows Installer
- Microsoft .NET Framework
- Microsoft SQL Server Express
- WibuKey Software
- Amyuni PDF Converter

The uninstall process will attempt to remove the following components:

- Microsoft Visual C++ Redistributable

- MSXML Redistributable

These will be removed if Windows determines that they were only used by Chromeleon 7.

## 8.3 Removing Chromeleon 7 Data



**Caution:** The following steps will delete all locally stored Chromeleon data (including chromatograms, custom ePanels, Instrument Configuration, User Database, etc) from the PC! If you want to save the data, follow the steps in section *Administrating Chromeleon > Backing Up Data* of the *Chromeleon 7 Help* before you continue.

Reboot the computer (or stop the SQL Server (SQLEXPRESS) service), then delete the following folder:

Windows XP

C:\Documents and Settings\All Users\Application Data\  
Dionex\Chromeleon\

Windows Vista / Windows 7

C:\ProgramData\Dionex\Chromeleon

**Note:** If you created local Data Vaults in locations other than the default path, you will have to delete these separately.

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