Notices

© Agilent Technologies, Inc. 2014

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

Manual Part Number
M8550-90004

Edition
09/2014

Printed in Germany
Agilent Technologies
Hewlett-Packard-Strasse 8
76337 Waldbronn

This product may be used as a component of an in vitro diagnostic system if the system is registered with the appropriate authorities and complies with the relevant regulations. Otherwise, it is intended only for general laboratory use.

Warranty

The material contained in this document is provided “as is,” and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

Restricted Rights Legend

If software is for use in the performance of a U.S. Government prime contract or subcontract, Software is delivered and licensed as “Commercial computer software” as defined in DFAR 252.227-7014 (June 1995), or as a “commercial item” as defined in FAR 2.101(a) or as “Restricted computer software” as defined in FAR 52.227-19 (June 1987) or any equivalent agency regulation or contract clause. Use, duplication or disclosure of Software is subject to Agilent Technologies’ standard commercial license terms, and non-DOD Departments and Agencies of the U.S. Government will receive no greater than Restricted Rights as defined in FAR 52.227-19(c)(1-2) (June 1987). U.S. Government users will receive no greater than Limited Rights as defined in FAR 52.227-14 (June 1987) or DFAR 252.227-7015 (b)(2) (November 1995), as applicable in any technical data.

Safety Notices

CAUTION

A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Lab Advisor User Manual
In This Book

This manual describes the two versions of Lab Advisor B.02.05: Lab Advisor Basic and Lab Advisor Advanced.

1 Lab Advisor B.02.05 Overview

This chapter describes the two versions of Lab Advisor B.02.05: Lab Advisor Basic and Lab Advisor Advanced.

2 Installation

This chapter contains instructions for installing Lab Advisor B.02.05.

3 Using Lab Advisor

This chapter describes the Lab Advisor user interface and provides details about the available features.

4 Lab Advisor Data Sharing

This chapter describes the setup and use of the Lab Advisor Data Sharing App.
Contents

1 Lab Advisor B.02.05 Overview 5
   Lab Advisor Basic 6
   Lab Advisor Advanced 7

2 Installation 9
   Prerequisites 10
   Deployment Modes 12
   Hard drive installation 13
   Running Lab Advisor from the CD-ROM 19
   Installing Apps and Add-ons 20

3 Using Lab Advisor 23
   Navigation 25
   System Overview 29
   Configuration 39
   Apps 44
   Firmware Update 46
   Logs and Results 47
   Service and Diagnostics 50
   System Report 52
   Instrument Control (LC and CE) 55
   EMFs (LC and CE) 60

4 Lab Advisor Data Sharing 63
   Typical Uses of Data Sharing 65
   Data Sharing Setup 67
   Data Import from the Data Share Folder 69
   Data Sharing Review Client 70
This chapter describes the two versions of Lab Advisor B.02.05: Lab Advisor Basic and Lab Advisor Advanced.

With its advanced diagnostic and maintenance capabilities, Agilent Lab Advisor helps you to keep your Agilent analytical instruments in top condition and thereby achieve high quality chromatographic results. Agilent Lab Advisor is an application-independent tool: it can support Agilent analytical instrumentation regardless of whether you are using Agilent or non-Agilent software to control the instruments. With add-ons, additional functionality can be added, for example, diagnostics for Agilent mass spectrometers. The Agilent Lab Advisor is available in two flavors: Lab Advisor Basic and Lab Advisor Advanced.
Lab Advisor Basic

Lab Advisor Basic provides state-of-the-art tests, tools and calibrations to support you in the daily operation, maintenance and basic troubleshooting tasks. The Basic version comes with a full set of diagnostic capabilities and full access to the Early Maintenance Feedback counters, allowing you to perform troubleshooting and calibrations efficiently and with little effort.

The optional Maintenance Wizard Add-on adds fully guided, animation-enhanced maintenance procedures for all current analytical scale Agilent LC instruments.
Lab Advisor Advanced has been designed to support users who need the highest quality data and the utmost reliability from the Agilent LC and CE instrumentation. This is provided by additional functionality that includes tools and features that allow you to carry out sophisticated diagnostic, usage-based maintenance, and generate traceable results, including features such as user log-on with password, traceable result files, advanced EMF functionality and data sharing facilities. Of course, the optional Maintenance Wizard Add-on is also fully compatible with Lab Advisor Advanced.
1 Lab Advisor B.02.05 Overview
Lab Advisor Advanced
2 Installation

Prerequisites 10
Deployment Modes 12
Hard drive installation 13
Running Lab Advisor from the CD-ROM 19
Installing Apps and Add-ons 20

This chapter contains instructions for installing Lab Advisor B.02.05.
Prerequisites

Agilent Lab Advisor can run on any Microsoft Windows 7 or Windows 8 PC with the appropriate Microsoft .NET Framework installed (see Table 1 on page 10). The software has been extensively tested with the following software packages:

<table>
<thead>
<tr>
<th>Element</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>7 SP1</td>
</tr>
<tr>
<td></td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>8.1</td>
</tr>
<tr>
<td>Windows Server</td>
<td>2008 R2</td>
</tr>
<tr>
<td>Internet Explorer</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>11</td>
</tr>
<tr>
<td>.Net Framework</td>
<td>3.x (Windows 7)</td>
</tr>
<tr>
<td></td>
<td>4.x (Windows 8)</td>
</tr>
<tr>
<td>Symantec Antivirus</td>
<td>12.0</td>
</tr>
<tr>
<td>Adobe Acrobat</td>
<td>11.0</td>
</tr>
</tbody>
</table>

For optimum performance of your Agilent Lab Advisor software, the following minimum requirements should be fulfilled. The minimum supported configuration is based on the installation on a Netbook, but for larger installations, or for higher performance, the recommended configuration should be used.
<table>
<thead>
<tr>
<th></th>
<th>Minimum (Netbook) Configuration</th>
<th>Recommended Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Processor</strong></td>
<td>Intel Atom processor</td>
<td>Pentium D or higher, Intel Dual-Core 3.4GHz or higher</td>
</tr>
<tr>
<td><strong>RAM</strong></td>
<td>2.0 GB or more</td>
<td>≥ 2 GB (Windows 7 or Windows 8)</td>
</tr>
<tr>
<td><strong>Hard disc free space</strong></td>
<td>1 GB</td>
<td>2 GB or more</td>
</tr>
<tr>
<td><strong>Video</strong></td>
<td>1024 × 600 resolution</td>
<td>1280 × 1024 resolution</td>
</tr>
<tr>
<td><strong>Removable media</strong></td>
<td>(external) CD-Rom drive</td>
<td>DVD drive</td>
</tr>
<tr>
<td><strong>Mouse</strong></td>
<td>MS Windows compatible pointing device</td>
<td>MS Windows compatible pointing device</td>
</tr>
<tr>
<td><strong>LAN</strong></td>
<td>10/100baseT</td>
<td>10/100baseT</td>
</tr>
<tr>
<td><strong>Operating Systems</strong></td>
<td>Windows 7 Starter</td>
<td>Windows 7 SP1 Windows Server 2008 R2 for server installations</td>
</tr>
<tr>
<td><strong>Printer</strong></td>
<td>all printers supported by the operating system in use</td>
<td>all printers supported by the operating system in use</td>
</tr>
</tbody>
</table>
2 Installation
Deployment Modes

Deployment Modes

Lab Advisor can be deployed in four different modes:

Table 3  Lab Advisor Deployment Modes

<table>
<thead>
<tr>
<th>Mode</th>
<th>Installation</th>
<th>Start</th>
<th>Data location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Installed on the local hard drive using setup.exe, see “Hard drive installation” on page 13.</td>
<td>Run from desktop icon or Windows Start menu.</td>
<td>C:\ProgramData\Agilent Lab Advisor\AgilentLabAdvisorData...¹</td>
</tr>
<tr>
<td>Server</td>
<td>Installed on Windows Server 2008 using setup.exe and published as a shareable application, see the Agilent Advisor IT Administrator's Guide.</td>
<td>Run using RDP link at clients’ desktops.</td>
<td>C:\ProgramData\Agilent Lab Advisor\AgilentLabAdvisorData-[TerminalHostName]...¹</td>
</tr>
<tr>
<td>Instant</td>
<td>No installation required.</td>
<td>Run AgInstrDiag.exe from the installation CD, see “Running Lab Advisor from the CD-ROM” on page 19</td>
<td>Standard: C:\ProgramData\Agilent Lab Advisor\AgilentLabAdvisorData...¹</td>
</tr>
</tbody>
</table>

¹ The ProgramData folder is hidden by default
Hard drive installation

1 Double-click the Setup icon to start the installation.

The Lab advisor setup Wizard opens.

The Lab Advisor Setup Wizard selects the Lab Advisor language automatically depending on the language setting of your operating system. Available languages are English, Chinese and Japanese. English is used if no matching language is available.

2 Click Next to start the installation.

The License Agreement is displayed.
2 Installation

Hard drive installation

3 Select to accept the terms of the license and click **Next**. The destination folder screen opens.

4 If you want to change the default installation location, click **Change** to select a new location; otherwise, click **Next**. The last page of the installation wizard is displayed.
5 Click **Install** to begin the installation process.

Windows opens a User Account Control window asking for permission to install software.

![User Account Control](image)

**NOTE**

Agilent Lab Advisor B.02.01 up to revision B.02.04 at the same location is automatically upgraded. Existing data is migrated to Lab Advisor B.02.05.

---

**NOTE**

Any existing data of Lab Advisor revisions prior to B.02.01 are discarded during the installation of revision B.02.05.

---

6 Click **Yes** to continue the installation.

An installation status bar indicates the progress of the installation.
Installation

Hard drive installation

The successful end of the installation process is indicated by the following screen:

7 Click **Finish** to leave the Setup Wizard.

**Installation Qualification**

1 Launch the Agilent Installation Qualification Tool. Go to **Windows Start Menu > All Programs > Agilent Lab Advisor > Qualification Tool**
To start the Installation qualification, click **Qualify**.

The Installation Qualification Report opens in a browser window and can be printed. To access the report at a later time, go to `\Program Files\ Agilent Technologies\Lab Advisor\IQTool\IQProducts\Agilent Lab Advisor LC & CE\ Reports`.

![Installation Qualification Report](image)

**Figure 1** Installation Qualification Report
Add a License Key

Additional Lab Advisor functionality can be unlocked by entering the respective license keys.

1. Start the Lab Advisor software and navigate to **Configuration > Licenses**.

2. Type your license key into the **License Key** field and validate it by clicking **Add**.

   Repeat the process for multiple license keys.
Running Lab Advisor from the CD-ROM

When you run Lab Advisor from the CD-ROM, no program files are copied to the local hard drive. However, any data that you generate will be saved in a folder `C:\ProgramData\Agilent Lab Advisor\AgilentLabAdvisorData\` on the local hard drive.

1. Insert the Lab Advisor installation CD-ROM into the drive.
2. Double-click the **Instant Diagnostic** item in the root directory of the CD-ROM.
Installing Apps and Add-ons

Apps and Add-ons are installed from the Configuration screen, using a Lab Advisor Extension file with the extension .LAX.

**NOTE**
You need Administrator rights in order to install Apps and Add-ons.

1. In the Global Tasks section of the Navigation Panel, click **Configuration**. The Configuration screen is displayed.
2. Click **Apps & Add-ons** to navigate to the Configuration - Apps & Add-ons screen.

![Figure 3](apps_addons.png)

**Figure 3** Apps & Add-ons in Configuration

The Configuration - Apps & Add-ons screen shows the Apps and Add-ons that are already installed. The active Add-ons are shown with marked check boxes.
3. Click **Install App/Add-on**.
A file selection dialog box is displayed to allow you to select the App or Add-on to install.

4 Navigate to the folder containing the App/Add-on files, select the .LAX file and click Open to install the App/Add-on.

5 Click Yes when the request to shut down Lab Advisor appears.
Lab Advisor shuts down and the App/Add-on installation is started.

When the installation is finished, the newly installed App/Add-on is shown in the appropriate list in the Configuration - Apps & Add-ons screen.
Installing Apps and Add-ons
3

Using Lab Advisor

Navigation 25
System Overview 29
  System hierarchy 29
  Adding a new system 30
  Changing system properties 34
  Removing a system 35
  Adding a new system group 36
  Deleting a system group 36
  Moving systems between groups 36
  Copying Device Details to the Clipboard 37
  Fast Connect 37
Configuration 39
  Configuring the Software 39
  Licenses 40
  Traceability 42
Apps 44
  Diagnostic Catalog 44
  Data Sharing 45
  Lab Advisor Relay Service Dashboard 45
Firmware Update 46
Logs and Results 47
Service and Diagnostics 50
System Report 52
Instrument Control (LC and CE) 55
EMFs (LC and CE) 60
This chapter describes the Lab Advisor user interface and provides details about the available features.
Navigation

The Lab Advisor User Interface is divided into six main areas. The content of these areas changes depending on the screen selected in the Agilent Lab Advisor software.

- **Title Bar**: Shows which of the configured systems in the System Overview is currently selected. It also hosts the buttons for maximizing, minimizing, and closing the Agilent Lab Advisor application.

![Lab Advisor User Interface](image)

**Figure 4**  Lab Advisor User Interface

**Title Bar**

The Title Bar shows which of the configured systems in the System Overview is currently selected. It also hosts the buttons for maximizing, minimizing and closing the Agilent Lab Advisor application.
The primary navigation between the different screens of the Lab Advisor software is done in the Navigation Panel. The Navigation Panel consists of four areas:

- The Global Tasks lists system-independent screens that access information or configurations regardless of the configured systems and their current state.
- The System Tasks are System-specific and change with the selected system. The name of the selected system is displayed in the header of the System Tasks and in the Title Bar.
- The Instrument Tasks are Instrument-specific and change with the selected instrument. The name of the instrument is displayed in the header of the Instrument Tasks.
At the bottom of the Navigation Panel, the Help topics provide information about the software and about the individual screens. Context-sensitive help topics can also be accessed at any time by clicking F1.

The Navigation Panel can be minimized by clicking the minimize icon in the top Task bar.

**Information Panel**

The Information Panel contains information about the currently selected screen and the Agilent Lab Advisor software version. If the Traceability feature is in use, the Information Panel also includes information about the current logged-in user.

**Application Panel**

This is the primary area where the different screens selected in the Navigation Panel of the Agilent Lab Advisor software are displayed. Refer to the individual applications for more detailed information.

**Group Controls**

If system grouping has been activated in software configuration, these controls allow you to switch between system groups, and to add a new system group or delete an existing group.

**Action Panel**

Additional buttons or actions that are applicable to the selected screen may be displayed in the Action Panel. Such controls are applicable to the entire selected screen; buttons or actions that are applicable to individual items within the screen are displayed in the screen itself.
3 Using Lab Advisor

Navigation

**Status Bar**

The left side of the Status Bar contains information about the connection used; details about the Agilent Lab Advisor revision, license level and license usage are shown on the right side.
The System Overview screen gives a fast overview of the state of all configured and connected systems. The System Overview is also the main selection screen for the System Tasks.

**System hierarchy**

Lab Advisor recognizes three levels of hierarchy:
System

The System is the highest level. A system consists of one or more Instruments, each with its own communication address, for example, an LC system with ELSD detector or an LC/MS system. The System icon is always the same.

Instrument

An Instrument is characterized by having an individual connection address to Lab Advisor. Instruments may comprise multiple Devices (for example, a modular LC system), but the Devices all communicate with Lab Advisor through a single connection address. Each Instrument has its own icon.

Device

The Devices (sometimes referred to elsewhere as Modules) are the constituent parts of an Instrument, for example the pump, sampler, and detector in a modular LC system. Each Device type has its own icon.

Adding a new system

1. In the Action Panel of the System Overview, click Add System.
The **Add System** dialog box is displayed.

2. Enter a name in the **Instrument Name** field.

**NOTE**

If your system comprises just one instrument, the **Instrument Name** is copied to the **System Name** field.
3 Enter the connection details in the **Instrument Address** field.

![System Properties](image)

**NOTE** The **Instrument Address** can be an IP address, the host name or, if you are connecting using a serial cable, the COM port.

4 Click the **Instrument Type** down-arrow and select the type of instrument you are adding from the list. The default setting is **Agilent LC/CE**. Additional instrument types become available when the respective add-ons are installed.

![Add System](image)

**NOTE** By default, the **Instrument Type** drop-down list contains only the entry **Agilent LC/CE**. Additional instrument types can be added by installing the respective add-ons (see “Installing Apps and Add-ons” on page 20).

5 If your system comprises more than one instrument, click **Add Instrument** and complete the details as above.
6 Click **OK** to finish adding the system and close the **Add System** dialog box.

The system becomes visible in the **System Overview**, and Lab Advisor tries to connect to it.
Changing system properties

You can change the name or connection address of an existing system, add additional information or activate the automatic Reconnect feature for the system.

1. Click on the system in the System Overview screen to select it.
2. Click System Properties in the Action Panel.
   
   OR

   Right-click on the system and select Properties from the context menu.

   The System Properties dialog box is displayed.
Note that the **System Group** field is present only when the **Activate Grouping** check box in the **Configuration - Software** screen is marked.

3 Add or modify any of the parameters in the **System Properties** dialog box.

When you mark the Reconnect check box, Agilent Lab Advisor automatically tries to connect to the system whenever the application is launched. This feature can be activated for all systems configured in the **System Overview** simultaneously.

4 Click **Apply** to register the changes and close the **System Properties** dialog box.

### Removing a system

1 Click on the system in the **System Overview** screen to select it.

2 Click **Remove System** in the Action Panel.

   The system is removed from the **System Overview**.

**NOTE**

The data collected for the system will still be available in the **Logs and Results** application, but will be listed as unassigned systems.

Systems that have been removed from the **System Overview** are still counted toward the module limit of the installed license. To permanently delete a module, see “**Permanently deleting a hardware module**” on page 41.
36 Lab Advisor User Manual

3 Using Lab Advisor
System Overview

Adding a new system group

The system group controls are available only when the Activate Grouping check box in the Configuration - Software screen is marked.

1. Click at the right of the group controls.
   A new system group tab is added with a default name.
2. Right-click on the new tab, select Rename from the context menu and overwrite the default name with a new name.
   OR
   Double-click on the new tab and overwrite the default name with a new name.
3. Click Add System to display the Add System dialog box, which allows you add a system into the new system group.

Deleting a system group

You cannot delete a system group that contains systems. Before deleting a group, move the systems into another group (see “Moving systems between groups” on page 36).

1. Right-click on the tab of the system group that you want to delete.
2. Select Delete from the context menu.
   If the system group is empty, it is deleted; if the group contains systems, a message is displayed.

Moving systems between groups

1. In the System Overview, select the system that you want to move and click System Properties.
   OR
In the System Overview, right-click the system that you want to move and select **Properties** from the context menu.

The **System Properties** dialog box is displayed.

2 Click the **System Group** down-arrow and select the target group that you want to move the system to.

3 Click **Apply**.

The system is moved from the existing group to the new group and the **System Properties** dialog box is closed.

**Copying Device Details to the Clipboard**

Sometimes, it can be helpful to have the details presented in the **System Information** section of a device available for copying and pasting into other applications.

1 Click on the system in the **System Overview** screen to select it.

2 If the system modules are not listed, click to display them.

3 Right-click on the module whose details you want to copy and select **Copy details to Clipboard** from the context menu.

The device information is copied to the clipboard, and can be pasted into another application such as Notepad, Wordpad or a Microsoft Office application.

**Fast Connect**

If you are using mobile laptop computers for servicing systems, a fast connection can be established using a serial cable (RS232).

1 Connect the serial cable between the system and the PC (a USB-to-Serial adapter, p/n 8121-1013, might be necessary). The serial cable should be connected to the module that is providing the most data, usually the detector.

2 Click **Connect via Serial Cable** on the Action Panel.

Lab Advisor searches all available COM ports for installed systems and adds them automatically to the **System Overview** screen.
3 Using Lab Advisor
System Overview

NOTE This feature is especially helpful for connecting systems with no LAN access, because it provides easy access to data such as LAN card configuration, MAC address and IP address without having to reconfigure the Laptop internal IP address or set up a BootP server.
Configuration

Application-wide settings, information and tools are accessible from the Configuration screen.

Configuring the Software

The Software configuration specifies the Path to the data generated by the Lab Advisor software. This is a non-configurable path, and is dependent on the operating system used and the type of installation (USB stick or hard drive).

Import/Export Data

To distribute configured systems and their corresponding data, it is possible to export data from one Lab Advisor installation and import it into other installations. This feature can also be used as a backup solution, where the exported .ZIP file is stored in a safe location.

Tracing

If unexpected behavior is observed from the Lab Advisor software, a trace file can be generated to help the Agilent Technologies technicians locate the problem.

You can also switch on the continuous collection of all instrument communication data. This form of logging does not persist beyond the current Lab Advisor session.

Language

The Lab Advisor software supports English, Chinese and Japanese languages. The language is usually selected during installation of the software. However, there is a possibility to change the language later by selecting the appropriate language in the Software configuration screen. After the language has been changed, the software needs to be restarted for the new settings to take effect.
System Groups

Lab Advisor B.02.03 supports the grouping of systems, for example, by laboratory. Up to 25 systems can be assembled into a group; each system can contain up to 50 devices. An unlimited number of groups can be defined.

The grouping of systems is switched on by marking the Activate Grouping check box. When the check box is marked, the group controls (see “Group Controls” on page 27) are appended to the application panel in the System Overview and the Review Client.

Licenses

The licensing scheme of Lab Advisor B.02.xx has changed compared to previous versions. The unique combinations of Type and Serial number for each configured device are counted and tracked in the license module of the software. For each configured device, a license is deducted from the total number of eligible devices; the license status can be tracked in the Status Bar.

Lab Advisor licenses acquired for previous versions of Lab Advisor and Lab Monitor and Diagnostic software are still eligible for Lab Advisor B.02.xx and are transformed according to Table 4 on page 40.

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Description</th>
<th>HW Modules</th>
<th>Replaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8550A</td>
<td>Agilent Lab Advisor Advanced</td>
<td>10</td>
<td>G4800AA, G4809AA</td>
</tr>
<tr>
<td>M8551A</td>
<td>5 add-on HW modules*</td>
<td>5</td>
<td>G4801AA</td>
</tr>
<tr>
<td>M8552A</td>
<td>25 add-on HW modules*</td>
<td>25</td>
<td>G4802AA</td>
</tr>
<tr>
<td>M8553A</td>
<td>50 add-on HW modules*</td>
<td>50</td>
<td>G4803AA</td>
</tr>
</tbody>
</table>
**Permanently deleting a hardware module**

If a hardware module is retired or removed from a system, it can be permanently deleted from the license count in the Agilent Lab Advisor installation by clicking **Permanently delete HW module** in the **Licenses** tab in the **Configuration** screen. **Permanently delete HW module** is active only if all systems are disconnected in the **System Overview** screen. The **Remove HW Module** window that opens lists all modules contributing to the license limit; selecting the appropriate module and pressing **OK** permanently deletes the selected device.

---

**Table 4  Lab Advisor Licenses**

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Description</th>
<th>HW Modules</th>
<th>Replaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8554A</td>
<td>100 add-on HW modules*</td>
<td>100</td>
<td>New</td>
</tr>
<tr>
<td>M8555A</td>
<td>Agilent Lab Advisor Basic</td>
<td>10</td>
<td>Agilent Instrument Utilities LC/CE</td>
</tr>
<tr>
<td>M8556A</td>
<td>Agilent Lab Advisor Advanced 1 year license</td>
<td>Unlimited</td>
<td>New</td>
</tr>
</tbody>
</table>

* Requires M850A installed

Any combination of the listed Product Numbers is possible, and it is also possible to install a Product Number multiple times. Each unique license number adds to the number of modules supported.
3 Using Lab Advisor

Configuration

Traceability

The Traceability feature of the software logs the use of Lab Advisor and keeps track of which user did what procedure and when. This information is written into the Logs & Results and is included in the printed results. If the Data Sharing feature is used, the traceability data is also uploaded.

Traceability Level

Lab Advisor offers three levels of traceability. Change of traceability level requires administrator rights. For the initial setting, the user Admin is set up using the password Admin. After the first login, this password should be changed to prevent unauthorized access.

The default level is NoTraceability, which allows any user to access all parts of the Lab Advisor software, depending on Licenses. At this level, no user names are added to Logs & Results or printouts.

NOTE

When a device is permanently deleted, all data belonging to the device is also permanently deleted.
**Medium Traceability** requires that the user be selected from a drop-down list. No password is required, and users can register and enable themselves. The selected user name is added to the printouts and Logs & Results.

**Full Traceability** requires that the user logs in with a unique password. Users must be granted access by an Administrator before they can access the Lab Advisor software.

### Setting Up a New User

To enable the Lab Advisor to print the user names in the reports and Logs & Results, the users need to be set up. This is done in the Traceability tab of the Configuration screen.

1. Click Add at the bottom right of the Traceability screen.

   The Add Contact dialog box is displayed.

2. Enter the user name as it will be printed on reports, and optionally the user's email address and telephone number.

   This information will be included in the User section of the Status Report.

Alternatively, a new user can be added by clicking Register as new User in the Login box:

If **Full Traceability** is active, an Administrator must activate the user before the user can use Lab Advisor:
Apps

Apps are small applications designed to help you perform specific non-system-related tasks.

Diagnostic Catalog

The Diagnostic Catalog is a catalog of all tests, calibrations, tools, instrument controls and EMF counters for each module at each Lab.
Advisor product level. The list is filtered by **Device Class** (that is, instrument or module type), **Device Type** and **Product Level**. The diagnostic catalog for the selected module at the selected product level is displayed in the **Results** table three columns:

- **Tests, Calibrations** and **Tools** available in Lab Advisor at the selected product level
- **Controls** provided in the **Instrument Control** screen of Lab Advisor at the selected product level
- **EMF Counters** shown the **EMFs** screen of Lab Advisor at the selected product level

For the tests, calibrations and tools, a short description is provided in the **Details** panel below the **Results** table. You can retrieve more information on the test, calibration or tool by double-clicking its name, which displays the online help.

You can print the diagnostic catalog for the current selection by clicking **Print**.

**Data Sharing**

The **Data Sharing** feature of the Advanced version of Lab Advisor allows multiple Lab Advisor installations to upload and synchronize the collected instrument information and data to an upload folder.

For full details of the **Data Sharing** App, see “Lab Advisor Data Sharing” on page 63.

**Lab Advisor Relay Service Dashboard**

The Lab Advisor Relay Service is designed to enable connections to Agilent HPLC instrumentation using the LICOP protocol via TCP/IP across network boundaries.

For full details of the Lab Advisor Relay Service Dashboard app and the Lab Advisor Relay Service, see the *Lab Advisor IT Administrator’s Guide*. 
Firmware Update

Lab Advisor can be used to update the device-internal software (called firmware — FW).

The **Firmware Update** screen lists all systems configured in the **System Overview** screen. The devices of these systems can be updated individually, or the entire system can be updated at one time. It is also possible to update multiple systems at one time. To start the FW update procedure, select the **Firmware Update** tab in the global screens section of the Navigation Panel.

![Firmware Update in Lab Advisor](image_url)

**Figure 7** Firmware Update in Lab Advisor
Logs and Results

The Logs & Results screen presents data collected from the configured devices, and helps to review the status of the systems or devices.

The Logs & Results data includes:

• Test results
• Error information
• FW revision and updates
• EMF changes
• Maintenance log entries

Each line in the log shows the module identifier (type and serial number), type of information, description and a time stamp. If the Traceability feature is in use, user-generated data is logged with user name in the Message field.
3 Using Lab Advisor
Logs and Results

For easy overview, you can filter the data by Instruments, Devices, Source or Time. Multiple selections are supported for Devices and Source, and can be selected by keeping Ctrl pressed while clicking the data required in the filter.

The Logs & Results screen offers two modes of operation. The default mode is the Module View, which lists the devices by system, and presents the
information per device. In the alternative **Time View**, the data is presented and sorted by time stamp. This allows for a system-wide overview of the sequence of the data.

When you click **Add Log Entry**, you can add a log entry to the device, which is stored on the device main board. You can select a **Log Template** (which you can edit), or type your own text in the **Log** field. The information written to the device is limited to 50 characters; this is typically maintenance log data.

The data filtered by the built-in filter can be exported in ZIP format to enable it to be distributed. This is typically helpful if remote engineers need to assess data from the system. Clicking **Load external data** allows you to navigate to the storage location of the ZIP file and load the exported data.

**NOTE**
You can also use **Load external data** to load LRS files.
Service and Diagnostics

The **Service & Diagnostics** screen hosts the procedures (tests, calibrations and tools) of the Lab Advisor software. To select a procedure, select the device and then select the procedure from the list.

![Lab Advisor Service and Diagnostics](image)

*Figure 10  Lab Advisor Service and Diagnostics*

For a better overview, you can filter the type of procedure you want to use.
Tests

Tests are procedures that result in a Passed/Failed statement, so the results of the test are compared with predefined limits. The Pump Pressure Test is an example of a test.

Calibrations

If internal calculations in the devices need to be corrected, calibration procedures normally take care of this. An example of a calibration is the Detector Wavelength Calibration. If you are operating in a controlled environment, this type of procedure might need to be verified. This could typically be done using a System Suitability Test.

Tools

Tools are procedures that have a supporting function and that do not produce a Passed/Failed statement when finished.
System Report

The Lab Advisor *System Report* screen provides a system-wide overview of the devices in the system.

The information in the *System Report* includes:

- Lab Advisor software information
- Contact information
- PC information (optional)
- System configuration
- Logbook
- EMF counters
- Test Results
- Instrument actuals (optional)

The information included in the *System Report* can be used to document the system or to share diagnostic information with a remote engineer when troubleshooting the system.

The *System Report* screen displays the information in at least two tabs: a *General* tab that includes Contact Information, Company, Logs and results and PC information, and a tab for each instrument in the system. The instrument tabs allow you to select the instrument-specific information to include.
Contact and Company information can be helpful for easy and precise identification if the report is sent to a Remote engineer during troubleshooting.

The Logs & Result information stored by each individual device might be extensive, so to reduce the amount of data, you can filter the data based on time.

If you mark the **Include PC information** check box, a list of Agilent programs installed on the PC is generated for the report. This includes all programs starting with *Agilent*.

The instrument actuals are the setpoints currently loaded in the system at the time of generation of the report. If a method has been loaded in the CDS (and has not been changed), then Lab Advisor can report these
settings. Note, however, that the receiver of the **Status Report** will be able to see method information.

![Example System Report](image)

**Figure 13** Example System Report
Instrument Control (LC and CE)

The **Instrument Control** screen allows you to control a connected system without having to have a CDS running. This might be helpful in complex diagnostic situations, where the built-in diagnostic tests do not give a definitive answer.

**Instrument Control** in the Basic version provides only limited functionality, whereas the Advanced version provides a full set of controls and a freely configurable Signal Plot.

The Reply Panel of the **Instrument Control** screen displays any replies generated from the device, to verify that the control used was accepted; it shows only the last three replies. In order to get a complete history of
replies, click **Save Session Results** in the Action Panel. The reply history is saved and can be viewed in the **Logs & Results** screen.

**Actual Status Information**

Each device is displayed separately in the Control Panel, and provides information about actual values. If a device has several actual values to display, the **more** link gives access to these values.

**Controls**

When the **Controls** section is expanded, a complete set of buttons becomes available providing extensive control of the device. This includes setpoints, controls, special commands and module information. When the buttons are clicked, a reply for the action (reply accepted or reply error) is displayed in the Reply panel. Initially, the setpoints display the value already loaded in the device; the displayed value changes on changing the setpoint. When a setpoint is changed, the change must confirmed by clicking **Send**.
Signal Plot

The Signal Plot is used for monitoring specific function(s) of a system in real time. Combined with the Controls, it can provide very valuable troubleshooting information for experienced users. It can also be used to monitor the progress of certain tasks, and check when they are complete, saving time.

The Signals that you want to monitor are set up by clicking Signal Configuration in the Action Panel. The Signal Config dialog box that is displayed contains all available signals for the system. To select a signal, mark its check box and click OK.
3 Using Lab Advisor
Instrument Control (LC and CE)

The selected signals are visible in the Signal Plot starting in “lanes” mode, which divides the available area of the window between the number of configured signals. This gives each signal a limited size in the window, but all are easy to differentiate and each scale is shown on the left side of the plot.

Other scaling parameters can be selected by right-clicking the signal window and selecting the **Auto Scaling** from the context menu. The available scaling options are presented in the submenu.
Using the mouse pointer, it is also possible to scroll the scales directly. Click the scale you want to change and use the scroll wheel to change the scale. You can also change the placement of the scale by pressing the scroll wheel while moving the mouse forward and back.

Alternatively, you can specify a fixed scale window. Double-click the scale to open the **Scale** dialog box and enter the scale range and/or the lower starting value of the scale.
EMFs (LC and CE)

Agilent Technologies LC Instrumentation has supported the Early Maintenance Feedback (EMF) feature since the introduction of the 1100 system in 1995, and continues to support this feature. EMF helps to keep the usage of devices in focus, and facilitates usage-based maintenance, which minimizes maintenance costs.

The EMF counters can be read and reset with both the Basic and the Advanced versions of the software, but the Advanced version allows limits to be activated and set in addition. Lab Advisor provides Agilent-recommended EMF limits. These limits have been determined by measurements under standard laboratory conditions, and do not take into account any application-, user- or site-specific conditions; to maximize the lifetimes of system components, they might need to be adjusted based on experience.
The EMF screen can be used to view all possible counters or, for better overview, to filter only those counters that have an activated limit.
3 Using Lab Advisor
EMFs (LC and CE)
This chapter describes the setup and use of the Lab Advisor Data Sharing App.

The Agilent Lab Advisor Advanced software features Data Sharing, a function that allows Lab Advisor to upload and synchronize collected instrument information and data to an upload folder anywhere on a Windows network share.
4 Lab Advisor Data Sharing
EMFs (LC and CE)

Data Sharing

Data Share Folder
\produser\CentralDataRepository

Synchronize Folder
Data and information for the configured systems and devices will be uploaded to the above specified Data Share folder. If a Data and information was already uploaded for those systems and devices to the upload folder the uploaded Data will be merged with the existing Data. Additionally the delta between the two Data sets will be downloaded to the Lab Advisor installation to complement the data.

Synchronize automatically: New

Import from Data Share Folder
Entire groups can be imported and will include all configured systems, instruments and devices in that group. Imported groups will keep their names and show up as a new group tab.

Import from the Data Share
Import System to: Group
Import Group

Start Review Client
The uploaded Data in the Data share folder specified above can be reviewed with Review Client. The Review Client additionally supports the combination of any uploaded devices from any System to allow cross system comparison of Data. This might be helpful to find problematic systems or devices or systems not utilized efficiently.

Figure 16 The Data Sharing App
Typical Uses of Data Sharing

Centralized monitoring of instrument performance using the Review Client of Lab Advisor Advanced

In this case, all instrument controllers are equipped with Lab Advisor Advanced software. They upload their logs and results automatically to the Data Share folder. The lab manager can use the Review Client of Lab Advisor Advanced to review any diagnostic data from any of the instruments in the lab. This allows the Lab Manager to monitor system performance, schedule preventive maintenance and keep the systems in good working condition.

Figure 17  Data upload of multiple Lab Advisor Advanced installations to a central data sharing folder

Company-internal support group using Lab Advisor Advanced laptops

This case requires Lab Advisor Basic only on every instrument controller PC. The company-internal support group members, however, connect their Lab Advisor Advanced-enabled laptops to the lab instruments they are
Typical Uses of Data Sharing

servicing, run tests or calibrations, and synchronize the generated data with the data sharing folder on the network. When another support group member connects to this lab instrument using Lab Advisor Advanced, it automatically downloads all previously acquired data and test results for this instrument from the centralized Data Share folder, and uploads any new data and results.

Figure 18  Log and results synchronization of support laptops
Data Sharing Setup

Data Share folder

The Data Share folder can be located on any Windows network share. It can either be mapped as a drive letter or given as a network location.

![Data Share Folder dialog box](image)

**Figure 19**  Data Share Folder dialog box

**NOTE**

The Lab Advisor Advanced user needs WRITE access to the Data Share folder.

Data Synchronization

![Synchronize Folder](image)

Select the synchronization behavior from the drop-down list that best fits your requirements.
## Data Synchronization

<table>
<thead>
<tr>
<th>Setting</th>
<th>Behavior</th>
<th>Use case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>Data and information are never exchanged with the Data Share folder</td>
<td>Default setting</td>
</tr>
<tr>
<td>At startup</td>
<td>Upon startup, Lab Advisor Advanced downloads logs and results updates for all configured devices from the Data Share folder</td>
<td>Central review client</td>
</tr>
<tr>
<td>At shutdown</td>
<td>Upon shutdown, Lab Advisor Advanced uploads logs and results updates for all configured devices to the Data Share folder</td>
<td>Lab PC with Lab Advisor Advanced runs tests on a regular basis (for example, lamp intensity test)</td>
</tr>
<tr>
<td>At startup and shutdown</td>
<td>Lab Advisor Advanced synchronizes its logs and results with the Data Share folder in both directions</td>
<td>Customer support group computers stay up to date no matter who ran tests on which analytical device</td>
</tr>
</tbody>
</table>
Data Import from the Data Share Folder

![Import from Data Share Folder](image)

**Figure 20** Data import dialog box

**Logs & Results** from devices that are not configured in this instance of Lab Advisor can be imported from the Data Share folder. It is possible to either import systems (for example, an LC) or groups of systems.

If the “Adding a new system group” on page 36 has been activated, systems can be imported into existing groups.

**NOTE** When importing from the Data Share folder, Lab Advisor needs to have sufficient licenses for all configured and imported devices.
Data Sharing Review Client

The complete set of data uploaded to the data share folder can be accessed by the built-in Review Client, which is started from the Data Sharing app. The Review Client additionally supports the combination of any uploaded devices from any system to allow cross-system comparison of data. This might be helpful in finding problematic systems or devices, or systems not being used efficiently.

The Review Client requires the number of licenses corresponding to the number of modules hosted on the upload share. Deleting a system from the System Overview will not free usable licenses. The number of licenses entered in the normal Lab Advisor installation is reused in the Review Client, so that if you have a 10-module license installed, you will only be able to start the Review Client if there are less than 10 modules uploaded to the upload share.
There are several ways to use the Review Client:

- All portable Lab Advisor installations upload their data to the same folder. Each portable Lab Advisor is then up to date, and a Review Client has the opportunity to observe the entire data pool.

- Each portable Lab Advisor has its own folder, which is used for back-up. By changing the share folder in the Review Client, it is possible to look into each separate user’s data.

- Lab Advisor installations on local PCs connected to a single Instrument can use the synchronize function to upload data to a system-specific folder. This can be used as a backup solution, and by changing the share folder the Review Client can be used to look at each system separately.

In each case, the installation starting the Review Client needs enough licenses for all uploaded modules.

If system grouping has been activated in software configuration, you can set up groups of systems; the group controls allow you to switch between the groups. The groups you set up in the Review Client are independent of those set up in the System Overview.
Index

A
action panel 27
activate user 43
add contact 43
add log entry 49
add system 30
advanced version 7
application panel 27
applications 44
apps 44
automatic reconnect 34

B
backup 39
basic version 6

C
calibrations 51
catalog 44
COM port 32, 37
commands 56
configuration 39
connect via serial cable 37
connection details 32
contact information 52
controls 56
copy device details 37

D
delete hardware module 41
device details 37
device 30
diagnostic catalog 44
diagnostics 50

E
early maintenance feedback 60
EMF changes 47
EMF counters 52
EMF 60
error information 47
export data 49

F
fast connect 37
filter 48, 50, 61
firmware revision 47
firmware update 46
full traceability 43
full tracing 39

G
global tasks 26
group controls 27
groups 40, 71

H
hard drive installation 13
hardware requirements 10
help 27
host name 32

I
import/export data 39
information panel 27
installation qualification 16

L
LAN configuration 38
language 39
license agreement 13
license key 18
licenses 40
load external data 49
location 14
log entries 47
log entry 49
logbook 52
logs 47
LRS files 49

M
MAC address 38
maintenance log entries 47
maintenance wizard 6
medium traceability 43
minimize 27
module information 56
module view 48
module 30
Index

N
navigation panel 26
navigation 25
new system 30
new user 43
no traceability 42

O
online help 27

P
path 39
PC information 52

R
reconnect 34
remove hardware module 41
remove system 35
reply panel 55
report 52
requirements 10
results 47
review client 70
RS232 37

S
scaling 58
serial cable 37
service 50
setpoints 56
signal configuration 57
signal plot 57
signal scaling 58
signals 57
software configuration 39
software requirements 10
software revision 27
status bar 28
status information 56
system configuration 52
system groups 40
system name 31
system overview 29
system properties 34, 34
system report 52
system tasks 26, 26
system 30

T
tasks 26, 29
test results 47, 52
tests 51
time view 48
title bar 25
tools 51
trace file 39
traceability 42
tracing 39
type 32

U
user interface 25

V
version 5, 27, 55
In This Book

This manual describes the two versions of Lab Advisor B.02.05: Lab Advisor Basic and Lab Advisor Advanced.

The manual contains the following information:

- Lab Advisor B.02.05 Overview
- Installation
- Using Lab Advisor
- Lab Advisor Data Sharing