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Introduction

PLEASE READ THIS IMPORTANT NOTICE: This version of the Analyst Device Driver replaces version 1.0 of the Analyst Device driver and includes multiple high priority defect resolutions. Version 1.0 is no longer supported and customers are strongly encouraged to update to version 1.1. For more details about these specific defect resolutions, please read New Features and Changes from Version 1.0 to Version 1.1.

The Analyst® Device Driver is an HPLC device control application for the Analyst® software. It controls Agilent LC devices released in 2015 and later.

Note: While the Analyst Device Driver supports the aforementioned device series, it is intended for use with Agilent devices (1260, 1290, and future series). If the Agilent devices are currently controlled through the Hardware Configuration Editor, continue doing so unless newer Agilent devices are used in the same methods. Methods created previously without the Analyst Device Driver must be updated or recreated to add support for Analyst Device Driver-controlled devices.

This document provides information about and procedures for installing the Analyst Device Driver. This document also describes the known issues in the Analyst Device Driver.

To make sure that the software installation is successful, read the Install the Analyst® Device Driver section of this document. For information about installing the Analyst® 1.6.2 (or higher) software refer to the Analyst Software Installation Guide. For information about installing the Analyst® TF 1.7.1 (or higher) software with Components for NanoCell Technology, refer to the Analyst TF Software Installation Guide.

Note: The Analyst Device Driver is designed to interface the Analyst® software with the Agilent Instrument Control Framework, a new way to control newer LC devices. Most of the user interface shown within the Analyst Device Driver, as well as user workflows are provided by Agilent. These interfaces and workflows are detailed within the documentation that is provided with the Agilent devices. Please familiarize yourself with these documents before using the Analyst Device Driver to avoid confusion or configuration issues. The Agilent documentation refers to the use of Chemstation. Analyst Device Driver can be substituted for Chemstation within these instructions.
Contact Us

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• Outside the EU and North America, visit sciex.com/education for contact information.

Online Learning Center

• training.sciex.com

Technical Support

SCIEX and its representatives maintain a staff of fully-trained service and technical specialists located throughout the world. They can answer questions about the system or any technical issues that might arise. For more information, visit the Web site at sciex.com.

Recommendations

• The Analyst® Device Driver has been developed and tested for use along with the Agilent Instrument Control Framework version 02.04 (version 2.4.124 in Windows Programs and Features) and the Agilent Instrument Control Framework - LC Drivers A.02.14 SP1 (version 2.14.115 in Windows Programs and Features). To control Agilent devices that are released after the Analyst Device Driver is released, users are able to update the versions of ICF and the LC Drivers installed on the computer. While it is expected that these updates will not interfere with the functioning of the Analyst Device Driver, it is recommended that users validate their system for use after installing any updates to either the ICF or LC Driver packages.

• If the Analyst software loses communication with the LC devices, it is possible that the pumps might not stop or the column oven might not be turned off, potentially leading to pumps running dry or other effects. By default, the StopTime section of the LC method editor of the Analyst Device Driver is set to As Injector/No Limit, which will instruct the last submitted method to run indefinitely in the event of a communication loss. This is as designed in the Agilent Instrument Control Framework. The Analyst Device Driver cannot change this default behaviour. To avoid indefinitely running the LC system in the event of a communication loss, we recommend that you specify the time after which the pump should stop pumping in the StopTime section of the LC method editor.
Software Documentation

The Analyst® Device Driver software documentation is automatically installed with the software and can be found at the following locations:

- **Start menu**: All Programs > AB SCIEX > Analyst Device Driver
- **Application folder**: C:\Program Files\Analyst\Help (Windows 7, 32-bit operating systems)
- **Application folder**: C:\Program Files (x86)\Analyst\Help (Windows 7, 64-bit operating system)

The following documents are created for the first installation of the Analyst Device Driver:

- **Start > Programs > AB SCIEX > Analyst Device Driver**
  - Analyst Device Driver Release Notes
  - Analyst Device Driver Tutorial

**Note:** If upgrading the existing ADD software, previous versions of these two documents would exist in this location and would be replaced.

Prerequisites

- To install the Analyst® Device Driver, you must have Administrator privileges on the workstation.
- The Analyst® 1.6.2 (or higher) software or the Analyst® TF 1.7.1 (or higher) software with Components for NanoCell Technology must be installed on workstations where the Analyst® Device Driver is to be installed.
New Features and Changes from Version 1.0 to Version 1.1

• The sampler can be custom programmed for the automated addition of an internal standard (IS) to the vials before injection. The pumps stop running to allow addition of the IS. This feature is also known as the Custom Injector Program and is available in the ADD 1.1 Method Editor.

• Custom plate creation is supported. Refer to the ADD Tutorial.

• Generic plate selection is supported. Refer to the ADD Tutorial.

• The pressure gradient of the chromatographic run can be recorded. Refer to the ADD Tutorial

• Users are able to set the cooler temperature for cooled autosamplers. When configuring the hardware profile, after using the auto-configure option, double-click on the autosampler, select the option for “Cooler installed” and then change the Mode to “Variable temperature mode (method parameter).”

• Issue AN-768 has been fixed. In rare instances, samples could be injected in the wrong order.

• Issue ATF-568 has been fixed. The first run of a newly started batch was always isocratic, using the start gradient of the last sample. This has been corrected and now all samples use the gradient information from the method.

• Issue ATF-569 has been fixed. The pumps would start pumping immediately after activation of the hardware profile, using the last set flow rate.

• Issue ATF-575 has been fixed. In some instances, the pumps would not stop when an error was encountered during a batch run.

• Issue ATF-577 has been fixed. An acquisition error would occur if the LC method had a duration or stop-time that was longer than the MS portion of the method. Now, MS acquisition will follow the method duration set within the MS method and the LC devices will follow the duration set in the LC portion of the method. It is recommended however, that both methods be set to the same duration.

• Issue ATF-589 has been fixed. Previously depending on the resolution of the user’s monitor, the Analyst® Device Driver method editor may have been shown with scroll-bars, requiring manual scrolling to see all parts of the method. This has been corrected and the method editor will automatically resize.

• Issue ATF-601 has been fixed. Previously if a missing vial was encountered during a run, the batch would be aborted but the system would continue to run. Now, if set in the Analyst and Analyst Device Driver software, the sample acquisition will be executed without the LC gradient when a missing vial is encountered, and the system will proceed to the next sample at the end of that ‘acquisition.’

Note: In the Analyst Queue Options dialog box, select the "Fail whole batch in case of missing vial" check box if desired, click OK, and then start the batch run. The batch stops if the "Ignore Missing Vessel " option is selected in the ADD Control dialog of the autosampler.
Operating System Requirements

The Analyst® Device Driver requires one of the following operating systems:

- Microsoft Windows 7 SP1 (32-bit)
- Microsoft Windows 7 SP1 (64-bit)

Supported Computer Models

The Analyst® Device Driver is supported on the following computers:

- Dell Optiplex 9010
- Dell Optiplex 990
- Dell Optiplex XE2
- Dell Precision T3600
- Dell Precision T5810

Install the Analyst® Device Driver

1. Read these release notes.
2. Make sure that the steps in section Prerequisites are completed.
3. Make sure that the user installing the Analyst® Device Driver has the same Administrator privileges as the user who installed the Analyst® software.
4. If required, download the Analyst® Device Driver web download package (AnalystDeviceDriver1_1.zip) on your system from http://sciex.com/support/software-downloads.
5. If required, extract the files from the compressed package on the local hard drive.
   a. Right-click the downloaded file AnalystDeviceDriver1_1.zip, and then select the Extract All option.
   b. Select an accessible folder on the local computer for the network to extract the zipped files.

   Note: This will make sure that all of the files are properly extracted.

6. If required, navigate to the folder where the contents of the AnalystDeviceDriver1_1.zip file were extracted.
7. Double-click the setup.exe application in the folder that contains the files for the Analyst Device Driver.
   The Installer Wizard opens.
8. Follow the instructions provided in the wizard.

In the Programs and Features area of the Windows 7 Control Panel, users will see four entries: Agilent Instrument Control Framework, Agilent Instrument Control Framework - LC Drivers, Analyst® Device Driver, and either Analyst 1.6.2 Patch for ADD 1.1 or Analyst 1.6.3 Patch for ADD 1.1 if the Analyst Device Driver is installed on top of the Analyst software. If the Analyst Device Driver is installed on top of the Analyst TF software, the Analyst Patch for ADD is not installed.

software. If the Analyst Device Driver is installed on top of the Analyst TF software, the Analyst Patch for ADD is not installed.

Remove the Analyst® Device Driver

1. Deactivate the hardware profile containing the Analyst® Device Driver (ADD) software application in the Analyst software.

2. Using the Programs and Features utility in the Windows 7 Control Panel, click Remove for the Analyst Device Driver.

The uninstall wizard starts.

3. Follow the instructions on the screen.

The Analyst® Device Driver is removed.

Note: The following two items are not removed however will be updated if required by the wizard: Agilent Instrument Control Framework, Agilent Instrument Control Framework - LC Drivers.
Minimum Required Firmware Versions

In the previous documentation for the Analyst® software, guidance was given regarding supported firmware versions for Agilent devices. With the release of the Analyst Device Driver, this practice has been discontinued. When controlling devices through the Analyst Device Driver, communication with the devices themselves is handled through the Agilent Instrument Control Framework (ICF). As a result, the Analyst software no longer communicates directly with the device. Because of this, the required revision of the firmware is no longer governed through the Analyst software, but rather by the ICF itself. Each new release of ICF might change the required version of the firmware for a given device. This is beyond the control of Analyst® software. The ICF 02.04 release notes ICF_A0204 ReleaseNotes.pdf document is distributed with the Analyst Device Driver. This document details the minimum firmware revision required to use devices supported by ICF. Users should refer to this document before selecting the firmware revision to be used with the Analyst Device Driver on their device.

If the installed version of the Instrument Control Framework is changed or updated, the minimum firmware revision might also change. Users should refer to the documentation accompanying any future ICF updates for information on minimum firmware versions.

Known Issues and Limitations

An acquisition method created with ADD 1.0 might be incompatible with ADD 1.1.

In this scenario, opening the saved ADD 1.0 method in the Analyst Device Driver 1.1 method editor results in the LC portion of the method being set back to defaults, with the gradient information cleared. If this occurs, the LC portion of the method must be recreated and then saved with the MS method. (ATF-606)

Acquisition Method with Analyst® Device Driver LC components re-saved in the Manual Tuning mode shows Analyst® Device Driver as not being used in the method in the Acquisition Method editor

When an acquisition method created using the Analyst® Device Driver and re-saved in the Manual Tuning mode of the Analyst® software is opened in the Acquisition Method editor, Analyst® Device Driver is shown as not being used in the method. To fix this issue, right-click Analyst Device Driver and then select the Use option to start using the LC component of the method again. To avoid this issue, do not re-save the acquisition method with the Analyst® Device Driver LC components in the Manual Tuning mode. (AN-360)

Hardware profile does not store information about individual peripheral devices connected in an LC stack

When using the Analyst® software, the hardware profile indicates the devices contained within the profile. For example, mass spectrometer model, autosampler, pump, and so on. The Analyst® Device Driver operates as a Software Application, therefore, no information is recorded within the hardware profile about the individual devices that are configured within the application. As a result, the Analyst® software is unable to validate methods created using the Analyst® Device Driver to make sure that actively-configured LC devices match those stored within a previously created method. If there is a mismatch, then the acquisition fails. To avoid this issue, make sure that the active LC devices match those that were active in the hardware profile when the method was saved. (AN-363)
Acquisition stops and an error is generated when a hardware profile with an integrated autosampler and Analyst® Device Driver is used

If an acquisition is started when the active hardware profile contains both an integrated (from the Autosampler list in the Hardware Configuration Editor) as well as the Analyst Device Driver, acquisition might stop with the device statuses turning red. This scenario can occur if the integrated autosampler is added to the hardware profile (and shown) before the Analyst® Device Driver is added. To avoid this issue, when creating a hardware profile that contains both an integrated autosampler as well as the Analyst® Device Driver, make sure that the Analyst Device Driver is added before the autosampler and is listed above the autosampler in the profile.

Figure 1-1 Hardware profile with Analyst Device Driver and CTC PAL Autosampler

This also applies for situations where the Analyst® Device Driver (ADD) will coexist with another software application that is controlling the autosampler (such as with Eksigent®, MPX™ driver software, and other AAO-controlled systems). The Analyst Device Driver should always be added first, with the autosampler-containing system added after. In this setup, only one autosampler can be included in the profile (except when using the MPX driver software). A hardware profile that contains an integrated autosampler as well as an Analyst Device Driver-controlled autosampler cannot be used. (AN-368)

Cannot install the MPX™ driver software if the Analyst® Device Driver is already installed on the computer

If the MPX™ driver software is removed after the Analyst® Device Driver is installed, then the MPX™ driver software cannot be installed again. To avoid this issue, remove the Analyst® Device Driver, install the MPX™ driver software, and then install the Analyst® Device Driver. (AN-524)

Detailed Status is not shown for some new Agilent LC devices

The detailed status is not shown in the Analyst Detailed Status dialog for some of the newer Agilent LC devices, for example the G7167. The issue is currently being investigated by Agilent. (ATF-602)
The Analyst® Device Driver status might not switch to the Control mode after deactivating
the hardware profile

In the Analyst® Device Driver, the Control mode might not be enabled if the ADD Status option is selected after
deactivating the Analyst® software hardware profile. To fix this issue, restart the computer and then try to enable
the Control mode again. (ATF-604)
Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
<th>Date</th>
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<tbody>
<tr>
<td>A</td>
<td>First release of document.</td>
<td>April 2015</td>
</tr>
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</table>
| B        | Revisions for software version 1.1  
  - Added Important Notice to Introduction section regarding obsoleting version 1.0.  
  - Added the New Features and Changes from Version 1.0 to Version 1.1 section.  
  - Added the prerequisite Analyst® TF 1.7.1 or higher software with Components for NanoCell Technology in the Prerequisite section.  
  - Added a note to step 3 in the Remove the ADD software section.  
  - Removed the Missing vial detection does not generate an error message by the Agilent ICF framework from the Known Issues and Limitations section. (ATF-591)  
  - Added Missing Vial Workaround (ATF-591) to the New Features and Changes from Version 1.0 to Version 1.1 section.  
  - Removed the topic Contents of the Analyst Device Driver Web Download Package from the document. | May 2016 |