



Release Note for Agilent LC & CE Drivers 3.0

Introduction

This release note summarizes important information for release 3.0 of the LC & CE Drivers.

For the LC & CE Drivers, find the summary of major changes below. For information about defect fixes, please see the additional documents Software Status Bulletin (SSB) and Software Release Bulletin (SRB).

Drivers and Documentation for Agilent ELSD can be found in the "More Drivers" folder.

Features and Changes

New Features

Increased Capabilities for analytical-scale Fraction Collector II Clusters

Up to three collectors can now be combined with dedicated rotary valves to collect fractions. For Recovery Collection, up to three additional modules can be attached using a G9322A Agilent 1260 Infinity II Clustering Valve.

Supported modules for analytical-scale cluster setups:

Fraction Collector	Clustering Valve, Fraction side	Recovery Collector	Clustering Valve, Recovery side
G1364F G5664B	G1170A Universal Valve Drive with one of the following valve pods: 5067-4107, 5067-4108, 5067-4121, 5067-4147, 5067-4159, 5067-4176, 5067-4239, 5067-4194	G7166A	G9322A



Increased Capabilities for preparative-scale Fraction Collector II Clusters

Up to three modules can now be combined with one G9322A to collect fractions. For recovery collection, up to three additional modules can be attached using a G9322A.

Supported modules for preparative-scale cluster setups:

Fraction Collector	Clustering Valve, Fraction side	Recovery Collector	Clustering Valve, Recovery side
G1364E G7159B G7166A ¹	G9322A	G7166A	G9322A

¹ If G7166A is used as fraction collector, recovery collection is not supported.

Continuous Improvement of the LC & CE Drivers

In addition to the new features, the following enhancements have been made to further improve existing features of the LC & CE Drivers.

Addition of a new Valve Pod for preparative-scale Flows

LC & CE Driver now support valve pod 5067-6711 (2-position/14-port valve, Preparative, 600 bar) for use in Agilent Valve Drives.

Affected Module Drivers: G1170A, G1316C, G7116A/B, Valve Thermostat Cluster Driver

Ability to control the Use of Recovery Collection

The LC & CE Drivers now support the flexible set up of Recovery Collection within Fraction Collector II clusters. Recovery Collection can now be turned on or off on a method-by-method basis.

Affected modules/drivers: Fraction Collector II Cluster

Support of additional Pressure Sensor in G7161B

The LC & CE drivers now allow the use of a second pressure sensor for G7161B Agilent 1290 Infinity II Preparative Binary Pump.

Affected module drivers: G7161B

Multisampler Injector Program now supports Draw from Seat

The LC & CE Drivers now support the use of the new parameter **Draw from Seat** in the Injector Program of Multisamplers. Please note that this new function is not available for Multisamplers that have a Multi-wash or Dual-Needle option installed.

Affected module drivers: G7167A, G7167B and G5668A.

Improved Visibility and Tracking of Sample Plate Orientations

With LC & CE Drivers 3.0, the use of non-standard sample plate orientations has been made more obvious by adding visual hints to the well plate assignment dialogs. Additionally, the logging of changes to sample plate rotation has been improved as well.

Affected module drivers: G1364A/B/C/D, G1367A/B/C/D/E, G1377A, G2258A, G4226A, G4767A, G5664A, G5667A, G5668A, G7167A/B, Fraction Collector Cluster (legacy)

Improved Usability to Well Plate Assignment in Fraction Collector II Modules

With LC & CE Drivers 3.0, well plate assignment in Fraction Collector II modules has been improved. You can now use the common **CTRL**-click feature to select multiple well plates or simply choose to **Select All** to modify the well plate types in the fraction collector.

Affected module drivers: G7159B, G1364 E/F, G5664B, Fraction Collector II Cluster

Ability to view ERI Port Classes of LC Modules

With LC & CE Drivers 3.0, LC modules now display the class of a LC module's ERI port in the **Module List** pop-up window of the Instrument Dashboard.

Affected module drivers: All modules that offer an ERI port.

Technical Changes of the LC & CE Drivers

In addition to the changes that lead to new features or functionality of the instruments controlled by the Agilent LC & CE Drivers, the following technical changes have been made in LC & CE Drivers 3.0:

Update of required Microsoft .Net Framework

With this release, the LC & CE Drivers have updated the required Microsoft .Net Framework version from 3.5 to 4.7.

Update of Versioning Scheme

With this release, the LC & CE Drivers adopt a new versioning scheme. The leading letter used in earlier versions of the drivers (e.g. A.02.19) is abandoned and a plain numeric scheme is used moving forward (e.g. 3.0).

Compatibility Matrix

The compatibility matrix provides information about installation and execution prerequisites with respect to hardware, firmware and the operating system.

Supported Operating Systems

The following operating systems are supported:

- Windows 7 SP1 (32-Bit/64-Bit)
- Windows Server 2008 R2 (64-Bit)
- Windows 8.1 (32-Bit/64-Bit)
- Windows Server 2012 R2 (64-Bit)
- Windows 10 (32-Bit/64-Bit)

The Agilent LC & CE Drivers have been optimized for the Windows default font size (100%). Larger font sizes may require increasing the window size or may cause truncations.

Driver Localization

The Agilent LC & CE Drivers are available in US English, Chinese, Japanese and Brazilian Portuguese language.

Supported Chromatographic Data Systems

This version of the Agilent LC & CE Drivers has been tested with:

OpenLAB CDS	2.4
OpenLAB CDS ChemStation Edition	C.01.10
OpenLAB CDS EZChrom Edition	None ¹

¹ For OpenLab CDS EZChrom Edition, please use LC & CE Drivers A.02.19 SR3 which is offered separately on this installation medium.

The LC & CE Drivers may also be offered with other media of the tested Chromatographic Data Systems (CDS) or other CDS such as MassHunter workstation and other third party CDS through the instrument control framework (ICF). Such CDS require dedicated installers not included to this standard driver media.

Agilent drivers can also be used with other CDS such as MassHunter workstation and third party CDS through the instrument control framework (ICF). Such CDS require dedicated installers not included to standard driver media.

NOTE

Some of the functionality offered by the LC & CE Drivers may not be supported by all CDS. Please refer to the corresponding CDS and ICF documentation for further details.

Recommended Firmware

With the release of this driver version it is recommended to use the following firmware revisions:

Device	Recommended Firmware
Agilent 1100 Series, 1200 Series and 1200 Infinity	A.07.01 or later
Agilent 1200 Series, 1200 Infinity and 1120 Compact LC	B.07.27 or later
Agilent 1200 Infinity Hosted Modules	C.07.20 or later
Agilent 1260/1290 Infinity II Modules	D.07.27 or later

NOTE

Please note that a firmware update within set A/B/C/D.07.01 is required for all modules in that stack, not only new modules, as for example the fraction collector uses new detector features.

Installation

Before starting a driver installation or update, it is recommended to update the firmware for the entire LC or CE system to the recommended firmware set described above.

Each module of the LC or CE system to use the current driver version must at least be updated to the minimum required firmware. For a list of minimum required firmware per LC & CE Module, see section [“Recommended Firmware”](#) on page 5.

If no Chromatography Data System (CDS) is yet installed, please install a compatible CDS first using the CDS documentation observing prerequisites like CPU, memory and hard drive space. Usually, a driver will be installed by the CDS, which however may not be the latest one and may require a driver update in the next step.

If the CDS has already been installed, please check, if it is compatible to this driver revision. Then update the driver, if needed.

To update the LC & CE Drivers in OpenLAB 2.x, double-click the "OpenLAB2_LC_Drivers.msi" and follow the instructions.

In OpenLAB CDS ChemStation and EZChrom Editions, please use the tool "OpenLAB Additional Software and Drivers" which you will find in your Windows Start Menu (All Programs - Agilent Technologies - OpenLAB) for installing or updating the driver.

Other Documents

The driver DVD includes more documents with further information:

Software Status Bulletin (SSB): The Software Status Bulletin lists known limitations, incompatibilities and information about available fixes or workarounds for this and previous versions.

Software Release Bulletin (SRB): The Software Release Bulletin is an excerpt from the SSB which lists issues which have been fixed with this revision.

SSB and SRB are included to the driver CD and can be found in the folder documentation.

The SSB is updated regularly. Please visit our Website for the latest version at http://www.agilent.com/cs/library/support/Patches/SSBs/LC_RC_Net.html.

Firmware and firmware documentation are available for download from <http://www.agilent.com/en-us/firmwareDownload?whid=69761>.

ELSD specific information is located in the folder "More Drivers\ELSD A.01.07".

For detailed information on new modules and features, please refer to the driver online help (press F1 button in the driver user interface, e.g. in the module dashboard) and corresponding module manuals, which are available at <http://www.agilent.com>.

Updates

Agilent continuously improves its drivers, firmware and software and recommends using latest updates. If applicable, any updates or bug fix releases for this driver package are available from Subscribenet at <https://agilent.subscribenet.com>.

Appendix A: Modules and Minimum required firmware

In the following sections this guide summarizes the instruments and modules for which drivers are available from Agilent and lists the minimum required firmware.

Agilent uses several different firmware architectures, which are based on different underlying electronic architectures and are indicated by a different letter A/B/C/D:

Revision A:	Electronic architecture of Agilent 1100 Series, 1200 Series and 1200 Infinity modules. This is the architecture used by recent and historic modules.
Revision B:	Electronic architecture of many Agilent 1200 Series and 1200 Infinity modules. This architecture is used by many modules with high computing performance or data acquisition rates like recent VWD, DAD and MWD detectors or 1290 Infinity pumps.
Revision C:	This architecture is used by hosted modules. Hosted modules have a mainboard with reduced complexity and require a hosting module with revision B or D firmware.
Revision D:	This architecture is used by 1290 Infinity II modules like G7114B and G7117A/B detectors and G7167A/B Multisamplers.

Agilent recommends using the most recent firmware revisions which include latest firmware features and improvements. Agilent LC & CE Drivers are forward-compatible with respect to firmware, i.e. the firmware can be updated without the need of updating the driver.

For recommended firmware, please refer to “[Recommended Firmware](#)” on page 5. Please note that all modules in a system need to use compatible firmware from one firmware set. Please refer to firmware documentation for details, see “[Other Documents](#)” on page 6.

The following table lists the minimum required firmware for all LC modules supported by the LC & CE Drivers. Please note that not all features might be available, if only the minimum required firmware is used.

Table 1

Driver / Module	Description	Minimum required FW
Column Compartment Cluster	Agilent Column Compartment Cluster Driver	Module-dependent
Fraction Collector Cluster	Agilent Fraction Collector Cluster Driver	Module-dependent
Fraction Collector Cluster II	Agilent Fraction Collector Cluster II Driver	Module-dependent
G1157A	Agilent 1200 2-Position/10-Port Valve	A.06.02
G1158A	Agilent 1200 2-Position/6-Port Valve	A.06.02
G1158B	Agilent 1200 2-Position/6-Port Valve 600 Bar	A.06.02

Appendix A: Modules and Minimum required firmware

Recommended Firmware

Table 1

Driver / Module	Description	Minimum required FW
G1159A	Agilent 1200 6-Position Switching Valve	A.06.02
G1160A	Agilent 1200 12-Position/13-Port Valve	A.06.02
G1162A	Agilent 1200 2-Position/6-Port Micro Valve	A.06.02
G1163A	Agilent 1200 2-Position/10-Port Micro Valve	A.06.02
G1170A	Agilent 1290 Infinity II Valve Drive	B.06.40
G1310A	Agilent 1200 Isocratic Pump	A.06.10
G1310B	Agilent 1260 Infinity Isocratic Pump	A.06.30
G1311A	Agilent 1200 Quaternary Pump	A.06.10
G1311B	Agilent 1260 Infinity Quaternary Pump	A.06.10
G1311C	Agilent 1260 Infinity Quaternary Pump VL	A.06.30
G1312A	Agilent 1200 Binary Pump	A.06.10
G1312B	Agilent 1260 Infinity Binary Pump	A.06.10
G1312C	Agilent 1260 Infinity Binary Pump VL	A.06.30
G1313A	Agilent 1100 Autosampler	A.06.10
G1314A	Agilent 1100/1200 Variable Wavelength Detector	A.06.10
G1314B	Agilent 1260 Infinity Variable Wavelength Detector VL	A.06.10
G1314C	Agilent 1260 Infinity Variable Wavelength Detector VL+	A.06.10
G1314D	Agilent 1260 Infinity Variable Wavelength Detector	B.06.30
G1314E	Agilent 1290 Infinity Variable Wavelength Detector	B.06.30
G1314F	Agilent 1260 Infinity Variable Wavelength Detector	B.06.30
G1315A	Agilent 1100/1200 Diode-Array Detector	A.06.10
G1315B	Agilent 1200 Diode-Array Detector	A.06.10
G1315C	Agilent 1260 Infinity Diode-Array Detector VL+	B.06.30
G1315D	Agilent 1260 Infinity Diode-Array Detector VL	B.06.30
G1316A	Agilent 1260 Infinity Thermostatted Column Compartment	A.06.10
G1316B	Agilent 1200 Thermostatted Column Compartment SL	A.06.10
G1316C	Agilent 1290 Infinity Thermostatted Column Compartment	A.06.14
G1321A	Agilent 1100/1200 Fluorescence Detector	A.06.10
G1321B	Agilent 1260 Infinity Fluorescence Detector	A.06.36
G1321C	Agilent 1260 Infinity Fluorescence Detector	A.06.54
G1329A	Agilent 1200 Series Standard Autosampler	A.06.10
G1329B	Agilent 1260 Standard Autosampler	A.06.10

Table 1

Driver / Module	Description	Minimum required FW
G1361A	Agilent 1260 Infinity Preparative Pump	A.06.50
G1362A	Agilent 1100/1200 Refractive Index Detector	A.06.10
G1364A	Agilent 1260 Infinity Preparative-Scale Fraction Collector	A.06.53
G1364B	Agilent 1100 Fraction Collector	A.06.53
G1364C	Agilent 1260 Infinity Analytical-Scale Fraction Collector	A.06.53
G1364D	Agilent 1260 Infinity Micro-Scale Fraction Collector/Spotter	A.06.53
G1364E	Agilent 1260 Infinity II Preparative-Scale Fraction Collector	D.07.27
G1364F	Agilent 1260 Infinity II Analytical-Scale Fraction Collector	D.07.27
G1365A	Agilent 1100 Multiple Wavelength Detector	A.06.10
G1365B	Agilent 1200 Multiple Wavelength Detector	A.06.10
G1365C	Agilent 1260 Infinity Multiple Wavelength Detector	B.06.30
G1365D	Agilent 1260 Infinity Multiple Wavelength Detector VL	B.06.30
G1367A	Agilent 1100 Well-Plate Autosampler	A.06.31
G1367B	Agilent 1200 High Performance Autosampler	A.06.31
G1367C	Agilent 1200 High Performance Autosampler SL	A.06.31
G1367D	Agilent 1200 High Performance Autosampler SL+	A.06.31
G1367E	Agilent 1260 Infinity High Performance Autosampler	A.06.31
G1376A	Agilent 1260 Infinity Capillary Pump	A.06.10
G1377A	Agilent 1260 High Performance Micro-Scale Autosampler	A.06.12
G1389A	Agilent 1100 Micro-Scale Autosampler	A.06.10
G1390B	Agilent InfinityLab Universal Interface Box	B.06.53
G2226A	Agilent 1260 Infinity Nanoflow Pump	A.06.10
G2258A	Agilent 1260 Infinity Dual-Loop Autosampler	A.06.50
G2260A	Agilent 1260 Infinity Preparative Autosampler	A.06.50
G4204A	Agilent 1290 Infinity Quaternary Pump	B.06.50
G4212A	Agilent 1290 Infinity Diode-Array Detector	B.06.30
G4212B	Agilent 1290 Infinity Diode-Array Detector	B.06.30
G4220A	Agilent 1290 Infinity Binary Pump	B.06.23
G4220B	Agilent 1290 Infinity Binary Pump VL	B.06.43
G4226A	Agilent 1290 Infinity Autosampler	A.06.30
G4227A	Agilent 1290 Infinity II Flexible Cube	B.06.52
G4240A	Agilent 1260 Infinity Chip Cube MS Interface	A.06.36

Appendix A: Modules and Minimum required firmware

Recommended Firmware

Table 1

Driver / Module	Description	Minimum required FW
G4280A	Isocratic Pump component of 1120 Compact LCs	B.06.21
G4280B	Isocratic Pump component of 1220 LC Systems	B.06.21
G4281A	Gradient Pump component of 1120 Compact LCs	B.06.21
G4281B	Gradient Pump component of 1220 LC Systems	B.06.21
G4282A	Autosampler component of 1120 Compact LCs	B.06.21
G4282B	Autosampler component of 1220 LC Systems	B.06.21
G4283A	Column Oven Component of 1120 Compact LCs and 1220 LC Systems	B.06.50
G4284A	VWD component of 1120 Compact LCs	B.06.21
G4284B	VWD component of 1220 LC Systems	B.06.21
G4285B	DAD component of 1220 LC Systems	B.06.30
G4286A	1120 Compact LC, Isocratic	B.06.21
G4286B	1220 Infinity LC System Isocratic, Man. Inj., VWD, 600 bar	B.06.21
G4287A	1120 Compact LC, Isocratic with Oven and ALS	B.06.50
G4287B	1220 Infinity LC System Isocratic, ALS, VWD and Oven 600 bar	B.06.50
G4288A	1120 Compact LC, Gradient	B.06.21
G4288B	1220 Infinity LC Gradient, Man. Inj., VWD, 600 bar	B.06.21
G4288C	1220 Infinity LC System VL, Gradient, Man. Inj. VWD, 400 bar	B.06.21
G4289A	1120 Compact LC, Gradient with Oven	B.06.50
G4289B	1220 Infinity LC Gradient, Man. Inj., VWD and Oven 600 bar	B.06.50
G4290A	1120 Compact LC, Gradient with Oven and ALS	B.06.50
G4290B	1220 Infinity LC Gradient, ALS, TCC, VWD, 600 bar	B.06.50
G4290C	1220 Infinity LC System VL, Gradient, ALS, TCC, VWD, 400 bar	B.06.50
G4291B	1220 Infinity LC System Isocratic, Man. Inj., VWD and Oven 600 bar	B.06.50
G4292B	1220 Infinity LC System Isocratic, ALS, VWD, 600 bar	B.06.21
G4293B	1220 Infinity LC Gradient, ALS, VWD, 600 bar	B.06.21
G4293C	1220 Infinity LC System VL, Gradient, ALS, VWD, 400 bar	B.06.21
G4294B	1220 Infinity LC Gradient, ALS, TCC, DAD, 600 bar	B.06.30
G4302A	Agilent 1260 Infinity SFC Binary Pump	A.06.10
G4303A	Agilent 1260 Infinity SFC Standard Autosampler	A.06.54
G4767A	Agilent 1260 Infinity II SFC Multisampler	D.07.13

Table 1

Driver / Module	Description	Minimum required FW
G4782A	Agilent 1260 Infinity II SFC Binary Pump	D.07.13
G5611A	Agilent 1260 Infinity Bio-Inert Quaternary Pump	A.06.10
G5654A	Agilent 1260 Infinity II Bio-Inert Pump	D.07.01
G5664A	Agilent 1260 Infinity Bio-Inert Fraction Collector	A.06.53
G5664B	Agilent 1260 II Infinity Bio-Inert Fraction Collector	D.07.27
G5667A	Agilent 1260 Bio-Inert High Performance Autosampler	A.06.31
G5668A	Agilent 1260 Infinity II Bio-Inert Multisampler	D.07.27
G7104A	Agilent 1290 Infinity II Flexible Pump	B.06.71
G7104C	Agilent 1260 Infinity II Flexible Pump	D.07.10
G7110B	Agilent 1260 Infinity II Isocratic Pump	D.07.01
G7111A	Agilent 1260 Infinity II Quaternary Pump VL	D.07.01
G7111B	Agilent 1260 Infinity II Quaternary Pump	D.07.01
G7112B	Agilent 1260 Infinity II Binary Pump	D.07.01
G7114A	Agilent 1260 Infinity II Variable Wavelength Detector	D.07.01
G7114B	Agilent 1290 Infinity II Variable Wavelength Detector	D.06.70
G7115A	Agilent 1260 Infinity II Diode Array Detector WR	D.07.01
G7116A	Agilent 1260 Infinity II Multicolumn Thermostat	D.07.01
G7116B	Agilent 1290 Infinity II Multicolumn Thermostat	D.06.75
G7117A	Agilent 1290 Infinity II Diode Array Detector FS	D.06.70
G7117B	Agilent 1290 Infinity II Diode Array Detector	D.06.70
G7117C	Agilent 1260 Infinity II Diode Array Detector HS	D.07.01
G7120A	Agilent 1290 Infinity II High-Speed Pump	B.06.71
G7121A	Agilent 1260 Infinity II Fluorescence Detector	D.07.01
G7121B	Agilent 1260 Infinity II Fluorescence Detector Spectra	D.07.01
G7129A	Agilent 1260 Infinity II Vialsampler	D.06.75
G7129B	Agilent 1290 Infinity II Vialsampler	D.06.75
G7129C	Agilent 1260 Infinity II Vialsampler	D.07.20
G7130A	Agilent Infinity Integrated Column Compartment	D.06.75
G7150A	Agilent 7100 Capillary Electrophoresis System	B.06.24
G7151A	Agilent 7100 Capillary Electrophoresis System (DAD)	B.06.24
G7157A	Agilent 1260 Infinity II Preparative Autosampler	D.07.01

Appendix A: Modules and Minimum required firmware

Recommended Firmware

Table 1

Driver / Module	Description	Minimum required FW
G7159B	Agilent 1290 Infinity II Preparative Open-Bed Fraction Collector	D.07.27
G7161A	Agilent 1260 Infinity II Preparative Binary Pump	D.07.20
G7161B	Agilent 1290 Infinity II Preparative Binary Pump	D.07.27
G7162A	Agilent 1260 Infinity II Refractive Index Detector	D.06.76
G7162B	Agilent 1290 Infinity II Refractive Index Detector	D.06.76
G7165A	Agilent 1260 Infinity II Multiple Wavelength Detector	D.07.01
G7166A	Agilent 1260 Infinity II Preparative Valve-Based Fraction Collector	B.07.27
G7167A	Agilent 1260 Infinity II Multisampler	D.07.27
G7167B	Agilent 1290 Infinity II Multisampler	D.07.27
G7170B	Agilent 1290 Infinity II MS Flow Modulator	B.06.20
HDR-DAD Cluster	Agilent 1200 Infinity Series High Dynamic Range DAD Solution	Module-dependent
Preparative Pump Cluster	Agilent Preparative Pump Cluster Driver	Module-dependent
Pump-Valve Cluster	Agilent Pump-Valve Cluster Driver	Module-dependent
Valve Thermostat Cluster	Agilent Valve-Thermostat Cluster Driver	Module-dependent