

Agilent HPLC System Firmware Bulletin

Firmware Set A/B/C.06.5x

1220 Infinity LC

1260 Infinity LC System

1260 Infinity SFC System

1290 Infinity LC System

1100/1200/1120 LC System

B.02.14

G4208A Instant Pilot



Agilent Technologies

Notices

© Agilent Technologies, Inc. 2012

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

PDF ONLY

Edition

Edition 09/06/2012

Printed in Germany

Agilent Technologies
Hewlett-Packard-Strasse 8
76337 Waldbronn

Revision

This technical note is valid for the Agilent HPLC System Firmware Bulletin Firmware.

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.

rights not conveyed under these terms, it must negotiate with Agilent to establish acceptable terms in a written agreement executed by all relevant parties.

Restricted Rights Legend

Software and technical data rights granted to federal government customers include only those rights customarily provided to end user Customers of Software. Agilent provides this customary commercial license in Software and technical data pursuant to FAR 12.211 (Technical Data) and FAR 12.212 (Computer Software) and, for Department of Defense purchases, DFARS 252.227-7015 (Technical Data - Commercial Items) and DFARS 227.7202-3 (Rights in Commercial Computer Software or Computer Software Documentation). If a federal government or other public sector Customer has a need for

About this Document

This document provides the firmware changes of the 1200 Infinity LC Systems

- 1220 Infinity LC LC
- 1260 Infinity LC Systems
- 1290 Infinity LC Systems

For firmware revisions below A.06.50/B.06.50 refer to the firmware history documentation from earlier firmware sets

- 1120 Compact LC
- 1200 Series LC
- 1290 Infinity LC

Where To Get Latest Information

Visit the Agilent web

http://www.chem.agilent.com/_layouts/agilent/downloadFirmware.aspx?whid=69761

for

- older Firmware History documents
- download tools and
- instructions

Document History

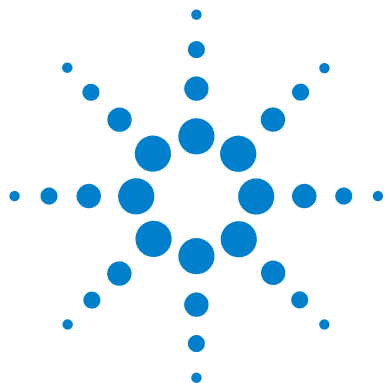
The table below lists all changes that have been made to this document.

NOTE

Do not mix firmware revisions from this set (A.06.50/B.06.50/C.06.50 and above) with earlier revisions. This firmware is not tested across set borders.

Table 1 Document History

Date	Description	Author
06-Sep-2012	Release of firmware B.06.52 for some modules “Core Changes B.06.52 (modules with on-board LAN)” , 21 for use with hosted modules G1170A, G4227A. “Pump Changes (G1312B)” , 25 “Pump Changes (G4204A)” , 27 “Pump Changes (G4220A/B)” , 28 “Flexible Cube Changes (G4227A)” , 31 “VW Detector Changes (G1314D/E/F)” , 33 “DAD/MWD Detector Changes (G1315C /D, G1365C/D)” , 35 “DAD Changes (G4212A/B)” , 36	W. Albrecht
19-July-2012	Release of firmware B.06.51 for some modules “Core Changes B.06.51 (modules with on-board LAN)” , 22 for use with hosted modules G1170A, G4227A. “Pump Changes (G4220A/B)” , 29 “VW Detector Changes (G1314D/E/F)” , 34 “DAD/MWD Detector Changes (G1315C /D, G1365C/D)” , 35 “DAD Changes (G4212A/B)” , 36	W. Albrecht
31-May-2012	Release of firmware “G4208A Instant Pilot B.02.14” , 43	W. Albrecht
31-May-2012	Release of firmware A.06.50/B.06.50/C.06.50 for ALL modules	W. Albrecht



1

Change Information

Firmware Revision Overview	6
Resident Firmware	6
1220 Infinity LC	7
1260/1290 Infinity LC Modules	10
1200 Infinity Compatibility and Emulation Mode	17
OQ/PV - Validation Information	20
Core Changes	21
Pumps	24
Samplers	30
Detectors	33
Others	39
G4240A Chip Cube	39
G1316/B/C TCC	39
G1369C LAN Interface Card	40
1120/1220 LC system	42
Controller	43
G4208A Instant Pilot	43

This chapter provides the details of the various firmware revisions for the Agilent 1200 Infinity System. The changes listed in this chapter are the changes based on the last revisions below A.06.50/B.06.50.



Firmware Revision Overview

For firmware revisions below A.06.50/B.06.50/C.06.50 refer to the firmware history documentation from earlier firmware sets, see [“Where To Get Latest Information”](#) on page 3.

NOTE Do not mix firmware revisions from this set (A.06.50/B.06.50/C.06.50 and above) with earlier revisions. This firmware is not tested across set borders.

Resident Firmware

The resident firmware depends on the target module.

Table 2 [Resident Firmware](#)

Module	Product#	Filename (.DLB)
with LAN on-board “B”	all	Res_B650_003
without LAN on-board “A”	all	Res_A650_003
LAN Interface Card	G1369C	Res_1369C_B650_003
that requires host module “C”	G4227A	Res_C650_001
Instant Pilot	G4208A	Res_4208A_B214_001

1220 Infinity LC

NOTE

Firmware updates can be done with the Agilent LabAdvisor software ONLY!

Table 3 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
Main			
	1220 Infinity LC	G4286A	4286B_B652_001
	1220 Infinity LC	G4286A	4286B_B650_003
	1220 Infinity LC	G4286B	4286B_B652_001
	1220 Infinity LC	G4286B	4286B_B650_003
	1220 Infinity LC	G4286C	4286C_B652_001
	1220 Infinity LC	G4286C	4286C_B650_003
	1120 Compact LC	G4287A	4287A_B652_001
	1120 Compact LC	G4287A	4287A_B650_003
	1220 Infinity LC	G4287B	4287B_B652_001
	1220 Infinity LC	G4287B	4287B_B650_003
	1120 Compact LC	G4288A	4288A_B652_001
	1120 Compact LC	G4288A	4288A_B650_003
	1220 Infinity LC	G4288B	4288B_B652_001
	1220 Infinity LC	G4288B	4288B_B650_003
	1220 Infinity LC VL	G4288C	4288C_B652_001
	1220 Infinity LC VL	G4288C	4288C_B650_003
	1120 Infinity Compact LC	G4289A	4289A_B652_001
	1120 Infinity Compact LC	G4289A	4289A_B650_003
	1220 Infinity LC	G4289B	4289B_B652_001

Table 3 1220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	1220 Infinity LC	G4289B	4289B_B650_003
	1220 Infinity LC VL	G4289C	4289C_B652_001
	1220 Infinity LC VL	G4289C	4289C_B650_003
	1120 Infinity Compact LC	G4290A	4290A_B652_001
	1120 Infinity Compact LC	G4290A	4290A_B650_003
	1220 Infinity LC	G4290B	4290B_B652_001
	1220 Infinity LC	G4290B	4290B_B650_003
	1220 Infinity LC VL	G4290C	4290C_B652_001
	1220 Infinity LC VL	G4290C	4290C_B650_003
	1120 Infinity Compact LC	G4291A	4291A_B652_001
	1120 Infinity Compact LC	G4291A	4291A_B650_003
	1220 Infinity LC	G4291B	4291B_B652_001
	1220 Infinity LC	G4291B	4291B_B650_003
	1220 Infinity LC VL	G4291C	4291C_B652_001
	1220 Infinity LC VL	G4291C	4291C_B650_003
	1120 Infinity Compact LC	G4292A	4292A_B652_001
	1120 Infinity Compact LC	G4292A	4292A_B650_003
	1220 Infinity LC	G4292B	4292B_B652_001
	1220 Infinity LC	G4292B	4292B_B650_003
	1220 Infinity LC VL	G4292C	4292C_B652_001
	1220 Infinity LC VL	G4292C	4292C_B650_003
	1120 Infinity Compact LC	G4293A	4293A_B652_001
	1120 Infinity Compact LC	G4293A	4293A_B650_003
	1220 Infinity LC	G4293B	4293B_B652_001
	1220 Infinity LC	G4293B	4293B_B650_003

Table 31220 Infinity LC

Type	Module	Product#	Filename (.DLB)
	1220 Infinity LC VL	G4293C	4293C_B652_001
	1220 Infinity LC VL	G4293C	4293C_B650_003
	1220 Infinity LC VL	G4294B	4294B_B652_001
	1220 Infinity LC VL	G4294B	4294B_B650_003

1260/1290 Infinity LC Modules

NOTE Firmware updates can be done with Agilent LabAdvisor software (B.02.02 or later) or the LAN/RS-232 Firmware Update Tool 2.10 or later. These tools provide also the conversion for the emulation mode.

New 1260/1290 Infinity modules that can be converted to emulate 1100/1200 modules show in the column “Emulation” the type it can be converted to.

Pumps

Table 4 1260/1290 Infinity LC Modules (Pumps)

Type	Module	Product#	Filename (.DLB)	Emulation
Main	Pumps			
	1100/1200 Isocratic Pump	G1310A	1310A_A650_003	
	1260 Isocratic Pump	G1310B	1310B_A650_003	A
	1100/1200 Quaternary Pump	G1311A	1311A_A650_003	
	1260 Quaternary Pump	G1311B	1311B_A650_003	A
	1260 Quaternary Pump VL	G1311C	1311C_A650_003	A
	1100/1200 Binary Pump	G1312A	1312A_A650_003	
	1260 Binary Pump	G1312B	1312B_A652_001	A
	1260 Binary Pump	G1312B	1312B_A650_003	A
	1260 Binary Pump VL	G1312C	1312C_A650_003	A
	1260 Preparative Pump	G1361A	1361A_A650_004	
	1260 Capillary Pump	G1376A	1376A_A650_003	
	1260 Nanoflow Pump	G2226A	2226A_A650_003	
	1290 Quaternary Pump	G4204A	4204A_B652_001	
	1290 Quaternary Pump	G4204A	4204A_B651_004	
	1290 Binary Pump	G4220A	4220A_B652_001	

Table 4 1260/1290 Infinity LC Modules (Pumps)

Type	Module	Product#	Filename (.DLB)	Emulation
	1290 Binary Pump	G4220A	4220A_B651_004	
	1290 Binary Pump	G4220A	4220A_B650_003	
	1290 Binary Pump VL	G4220B	4220B_B652_001	
	1290 Binary Pump VL	G4220B	4220B_B651_004	
	1290 Binary Pump VL	G4220B	4220B_B650_003	
	1260 SFC Binary Pump	G4302A	4302A_B650_003	
	1260 Bio-inert Quaternary Pump	G5611A	5611A_A650_003	

Samplers

Table 5 1260/1290 Infinity LC Modules (Samplers)

Type	Module	Product#	Filename (.DLB)	Emulation
Main	Samplers			
	1100 Autosampler	G1313A	1313A_A650_003	
	1100/1200 Standard Autosampler	G1329A	1329A_A650_003	
	1260 Standard Autosampler	G1329B	1329B_A650_003	A
	1200 Fraction Collector	G1364A	1364A_A650_003	
	1260 Fraction Collector (PS)	G1364B	1364B_A650_003	
	1260 Fraction Collector (AS)	G1364C	1364C_A650_003	
	1260 Fraction Collector (μS)	G1364D	1364D_A650_003	
	1200 High Performance Autosampler	G1367A	1367A_A650_003	
	1200 High Performance Autosampler	G1367B	1367B_A650_003	A
	1200 High Performance Autosampler SL	G1367C	1367C_A650_003	A
	1200 High Performance Autosampler SL+	G1367D	1367D_A650_003	C
	1260 High Performance Autosampler	G1367E	1367E_A650_003	A, B, C, D
	1260 High Performance Micro Autosampler	G1377A	1377A_A650_003	
	1200 Micro Autosampler	G1389A	1389A_A650_003	
	1260 Dual-Loop Autosampler	G2258A	2258A_A650_003	
	1260 Preparative Autosampler	G2260A	2260A_A650_003	
	1290 Autosampler	G4226A	4226A_A650_003	
	1290 Flexible Cube	G4227A	4227A_C652_001	
	1290 Flexible Cube	G4227A	4227A_C650_001	
	1260 SFC Autosampler	G4303A	4303A_A650_003	
	1260 Fraction Collector Bio	G5664A	5664A_A650_003	
	1260 High Performance Autosampler	G5667A	5667A_A650_003	C, E

Detectors

Table 6 1260/1290 Infinity LC Modules (Detectors)

Type	Module	Product#	Filename (.DLB)	Emulation
Main	Detectors			
	1100/1200 Variable Wavelength Detector VWD	G1314A	1314A_A650_004	
	1260 Variable Wavelength Detector VL	G1314B	1314B_A650_004	A
	1260 Variable Wavelength Detector VL+	G1314C	1314C_A650_004	A, B
	1200 Variable Wavelength Detector	G1314D	1314D_B652_001	
	1200 Variable Wavelength Detector	G1314D	1314D_B651_004	
	1200 Variable Wavelength Detector	G1314D	1314D_B650_003	
	1290 Variable Wavelength Detector	G1314E	1314E_B652_001	
	1290 Variable Wavelength Detector	G1314E	1314E_B651_004	
	1290 Variable Wavelength Detector	G1314E	1314E_B650_003	
	1260 Variable Wavelength Detector	G1314F	1314F_B652_001	D
	1260 Variable Wavelength Detector	G1314F	1314F_B651_004	D
	1260 Variable Wavelength Detector	G1314F	1314F_B650_003	D
	1100 Diode Array Detector	G1315A	1315A_A650_003	
	1100/1200 Diode Array Detector	G1315B	1315B_A650_003	
	1260 Diode Array Detector VL+	G1315C	1315C_B652_001	
	1260 Diode Array Detector VL+	G1315C	1315C_B651_004	
	1260 Diode Array Detector VL+	G1315C	1315C_B650_003	
	1260 Diode Array Detector VL	G1315D	1315D_B652_001	
	1260 Diode Array Detector VL	G1315D	1315D_B651_004	
	1260 Diode Array Detector VL	G1315D	1315D_B650_003	
	1100/1200 Fluorescence Detector	G1321A	1321A_A650_003	
	1260 Fluorescence Detector	G1321B	1321B_A650_003	A
	1260 Refractive Index Detector	G1362A	1362A_A650_004	

Table 6 1260/1290 Infinity LC Modules (Detectors)

Type	Module	Product#	Filename (.DLB)	Emulation
	1100 Multiple Wavelength Detector	G1365A	1365A_A650_003	
	1100/1200 Multiple Wavelength Detector	G1365B	1365B_A650_003	
	1260 Multiple Wavelength Detector	G1365C	1365C_B652_001	
	1260 Multiple Wavelength Detector	G1365C	1365C_B651_004	
	1260 Multiple Wavelength Detector	G1365C	1365C_B650_003	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B652_001	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B651_004	
	1260 Multiple Wavelength Detector VL	G1365D	1365D_B650_003	
	1290 Diode Array Detector	G4212A	4212A_B652_001	
	1290 Diode Array Detector	G4212A	4212A_B651_004	
	1290 Diode Array Detector	G4212A	4212A_B650_003	
	1290 Diode Array Detector	G4212A	4212A_B652_001	
	1260 Diode Array Detector	G4212B	4212B_B651_004	
	1260 Diode Array Detector	G4212B	4212B_B650_003	

Others

Table 7 1260/1290 Infinity LC Modules (Others)

Type	Module	Product#	Filename (.DLB)	Emulation
Main	Others			
	1260 Thermostatted Column Compartment	G1316A	1316A_A650_005	
	1200 Thermostatted Column Compartment	G1316B	1316B_A650_005	
	1290 Thermostatted Column Compartment	G1316C	1316C_A650_005	A, B
	1260 Automation Interface (WPS, AFC)	G2254A	2254A_A650_001	
	1290 Flexible Cube	G4227A	4227A_C652_001	*
	1290 Flexible Cube	G4227A	4227A_C650_001	
	1260 Chip Cube MS Interface	G4240A	4240A_A650_003	
	1260 6-Position/7-Ports Valve	G1156A	1156A_A650_001	
	1260 2-Position/10-Ports Valve	G1157A	1157A_A650_001	
	1200 2-Position/6-Ports Valve	G1158A	1158A_A650_001	
	1260 2-Position/6-Ports Valve	G1158B	1158B_A650_001	
	1260 6-Position Column Selector Valve	G1159A	1159A_A650_001	
	1260 12-Position Selector Valve	G1160A	1160A_A650_001	
	1260 Micro Valve 2-Position/6-Ports	G1162A	1162A_A650_001	
	1260 Micro Valve 2-Position/10-Ports	G1163A	1163A_A650_001	
	1290 Infinity Valve Drive	G1170A	1170A_C650_001	
	1260 Universal Interface Box (UIB)	G1390A	1390A_A650_001	
	LAN Interface Card G1369C	G1369C	1369C_B652_001	**
	LAN Interface Card G1369C	G1369C	1369C_B650_003	
	Controller			
	1100/1200/1260/1290 Instant Pilot	G4208A	4208A_B214_001	
	1200 Control Module	G1323B	LCB402EN.BIN	***

1 Change Information

Firmware Revision Overview

- * To operate the G4227A Flex Cube a host module with firmware from the same set (any pump or detector with B.06.30 or above) is required.
- ** If hosted modules are used in the system, the G1369C LAN Interface Card **MUST** have the same firmware revision (from the same set) as the hosted module. Otherwise the operation of hosted modules will show malfunctions.
- ***The G1323B Control Module supports only a limited number of modules (last firmware is from 09/2005).

1200 Infinity Compatibility and Emulation Mode

In July 2010, Agilent Technologies released the 1260 Infinity LC System platform. This platform replaces the 1200 Series LC.

The new 1260 Infinity LC System platform extends the capabilities even further with new LC modules, enhanced performance of standard modules, design changes, and new support capabilities.

To protect the 1200 Series LC investment, the 1260 Infinity LC modules are fully backwards-compatible. In the 1200 Emulation Mode individual 1260 modules can be added to 1200 Series LC systems or complete 1260 Infinity LC systems can be operated with existing Agilent and third-party control software.

[Figure 1](#) on page 18 shows the 1260 Infinity LC modules and its firmware and the Agilent ChemStation at introduction. All 1260 LC modules were shipped with A.06.32/B.06.32 firmware. Also [Table 7](#) on page 15 lists the modules that can be converted.

Based on the module there are the following options:

- Modules with same product numbers as in the 1200 series. These can be downgraded to lower firmware revisions based on the limits described in chapter "Minimum firmware revision vs. main board revision" of the FWUPDATE.PDF (provided with the Firmware Update Tools).
- Modules with new product numbers (e.g. G1310B) that can be converted to 1200 series product numbers (G1310A). These can be downgraded to lower emulation firmware revisions based on the limits described in chapter "Minimum firmware revision vs. main board revision". The conversion into 1200 series product numbers will result into the feature set of the 1200 series product.
- Modules with new product numbers (e.g. G4212B DAD) that cannot be converted or downgraded due to its new electronic platform and/or because it did not exist before.

1 Change Information

1200 Infinity Compatibility and Emulation Mode

	ChemStation Release	B.04.02 DSP3 B.04.02 [256]	emulated as 1200	Limits/Comments
	ChemStation Release Date	Jul-10		
G1156A	1260 Infinity 6-Position/7-Ports Valve	A.06.32		
G1157A	1260 Infinity 2-position/10-port valve	A.06.32		
G1158B	1260 Infinity 2-position/6-port valve SL	A.06.32		
G1159A	1260 Infinity 6-position selection valve	A.06.32		
G1160A	1260 Infinity 12-position/13-port valve	A.06.32		
G1162A	1260 Infinity 2-position/6-port micro valve	A.06.32		
G1163A	1260 Infinity 2-position/10-port micro valve	A.06.32		
G1310B	1260 Infinity isocratic pump	A.06.32	G1310A	400 bar, smaller damper
G1311B	1260 Infinity quaternary pump	A.06.32	G1311A	400 bar, no error messages of build-in degassing unit, smaller damper
G1311C	1260 Infinity quaternary pump VL	A.06.32	G1311A	400 bar, no error messages of build-in degassing unit
G1312B	1260 Infinity binary pump	A.06.32	G1312A	400 bar, smaller damper
G1312C	1260 Infinity binary pump VL	A.06.32	G1312A	
G1314B	1260 Infinity variable wavelength detector VL	A.06.32	G1314A	13.74 Hz data rate
G1314C	1260 Infinity variable wavelength detector VL+	A.06.32	G1314A/B	13.74 Hz data rate
G1314F	1260 Infinity variable wavelength detector	B.06.32	G1314D	20 Hz data rate
G1315C	1260 Infinity diode-array detector VL+	B.06.32		
G1315D	1260 Infinity diode-array detector VL	B.06.32		
G1316A	1260 Infinity thermostated column compartment	A.06.32		
G1321B	1260 Infinity fluorescence detector	A.06.32	G1321A	37 Hz data rate
G1329B	1260 Infinity standard autosampler	A.06.32	G1329A	
G1361A	1260 Infinity preparative pump	A.06.32		
G1362A	1260 Infinity refractive index detector	A.06.32		
G1364B	1260 Infinity fraction collector PS	A.06.32		
G1364C	1260 Infinity fraction collector AS	A.06.32		
G1364D	1260 Infinity fraction collector µS	A.06.32		
G1365C	1260 Infinity multi-wavelength detector VL	B.06.32		
G1365D	1260 Infinity multi-wavelength detector VL	B.06.32		
G1367E	1260 Infinity high performance autosampler	A.06.32	G1367A/B/C/D	
G1376A	1260 Infinity capillary pump	A.06.32		
G1377A	1260 Infinity high performance micro autosampler	A.06.32		
G1390A	1260 Infinity universal interface box	A.06.32		
G2226A	1260 Infinity nanoflow pump	A.06.32		
G2254A	1260 Infinity automation interface	A.06.32		
G2258A	1260 Infinity dual loop autosampler PS	A.06.32		
G2260A	1260 Infinity preparative autosampler	A.06.32		
G4212B	1260 Infinity diode-array detector	B.06.32	n/a	
G2240A	1260 Infinity chip cube MS interface	A.06.32		
G4208A	1200 Series instant pilot	B.02.11		
	Resident System (A-version)	A.06.32		
	Resident System (B-version)	B.06.32		
	Resident System (G4208A)	B.02.11		
full 1260 Series support (recommended)				
full 1200 series support with firmware < A/B.06.32				
Emulation Mode: module conversion and FW downgrade (limited feature set). Diagnostics may not work completely!				
Not supported (no further FW downgrade possible due to hardware)				

Figure 1 Initial 1200 Infinity firmware vs. Emulation Mode

NOTE In addition, there is the 1290 Infinity Temperature Controlled Column Compartment G1316C that allows conversion to G1316A or G1316B. Limitation is that valve heads will be handled as build-in valve options of the G1316B! There is no pressure check of the valve heads available.

General

The following information and instructions are valid for "emulated"

- 1200 Infinity LC modules (1260 and 1290)
- 1200 Series HPL modules

Emulation Firmware

The firmware of a module where the type can be changed to "emulate" a different type includes both, the original type and emulation type control. So, if changing from "B" to "A", it requires the "B" firmware and not the "A" firmware. Otherwise it will result into an error "**Updating Main System: SW does not support HW requirements**".

The initial A.06.32/B.06.32 firmware is the first "emulation" firmware. Other revisions will be made available on request after shipment start.

There are no plans to provide "emulation" firmware for A.05.xx and below.

Firmware Update Process

Please refer to the documentation provided with the Agilent HPLC Modules Firmware Update Tools & Procedures from the Agilent firmware download page, see "[Where To Get Latest Information](#)" on page 3.

OQ/PV - Validation Information

If a firmware upgrade has been performed, normally no revalidation of the module/system is required. This is stated in the module specific change information for each revision, see example below.

Table 8 Module XXX A.06.50

Date Introduced	
General	
Bugfix	•
New Features	•
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Core Changes

Modules without on-board LAN (“A” firmware)

Table 9 Core Changes A.06.50 (modules without on-board LAN)

Date Introduced	May 2012
General	For all modules with “A” firmware
Bugfix	TeamTrack #006383, #010628, #013784: Fixed some seldom occurring effects with analysis synchronization, e.g. hanging runs.
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Modules with on-board LAN (“B” firmware)

Table 10 Core Changes B.06.52 (modules with on-board LAN)

Date Introduced	September 2012
General	For all modules with “B” firmware
Bugfix	None
New Features	- TeamTrack #016377: Implemented additional commands PPMP:VOLB (pump volume with specific SSV selections) and PPMP:TIMB (pump for a time with specific SSV selections) for pumping from a specific bottle (only for hosted module G4227A Flex Cube). - TeamTrack #016378: Changed the behavior if the duration for pump volume (PPMP:VOL, PPMP:VOLB) or pump time (PPMP:TIME, PPMP:TIMB) takes longer than the stop time. If the stop time is over, the G4227A gets 'not ready' until the pump command has also finished (only for hosted module G4227A Flex Cube).
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 11 Core Changes B.06.51 (modules with on-board LAN)

Date Introduced	July 2012
General	For all modules with “B” firmware
Bugfix	- TeamTrack #16282: Modules with clustered valves occasionally did stay in 'not ready'-state with "Valve position member missing" (only for G1170A, G4227A). - TeamTrack #016321: A module with clustered valves did not accept a second "get ready to switch" command. If the valve was already "ready to switch" a second command "get ready to switch" from the switching master caused a panic, now it will be ignored (only for G1170A, G4227A).
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 12 Core Changes B.06.50 (modules with on-board LAN)

Date Introduced	May 2012
General	For all modules with “B” firmware
Bugfix	- No TeamTrack: Fixed some seldom occurring effects with analysis synchronization, e.g. hanging runs. - No TeamTrack: Improved the performance of COSY list execution. - No TeamTrack: Fixed that diag counters occasionally are counting wrong over power-cycle.
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Modules with on-board LAN (“C” firmware)

Table 13 Core Changes C.06.50 (modules with C-firmware)

Date Introduced	May 2012
General	These modules have the same changes as the “B” core.
Bugfix	• None
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Pumps

G1310A, G1311A, G1312A Iso-/ Quat-/ Bin-Pump

Table 14 Pump Changes (G1310A, G1311A, G1312A)

Revision	1310A_A650_003 , 1311A_A650_003 , 1312A_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	•
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1310B, G1311B, G1311C, G5611A Iso-/Quat Pump

Table 15 Pump Changes (G1310B, G1311B, G1311C, G5611A)

Revision	1310B_A650_003 , 1311B_A650_003 , 1311C_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	• TeamTrack #015081: Changed the high pressure limit to 200 bar if flow is higher than 5.0 ml/min.
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1312B Binary SL Pump / G4302A SFC Binary Pump

Table 16 Pump Changes (G1312B)

Revision	1312B_A652_001
Date Introduced	September 2012
General	
Bugfix	None
New Features	TeamTrack #016501: Add internal leak test from G1311B to binary pump
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 17 Pump Changes (G1312B, G4302A)

Revision	1312B_A650_003
Date Introduced	May 2012
General	See also " Core Changes A.06.50 (modules without on-board LAN) " on page 21
Bugfix	- TeamTrack #015483: Fixed that EMF counter CHVO and CUVO for liquimeters are counting in wrong increments when using compositions different from 100 % one channel (G1312A only). - TeamTrack #015567: Fixed that Keep Pressure Mode used wrong pressure when trying to keep the actual pressure. - No TeamTrack: Fixed that ACT:SSVA? sometimes show wrong value if pump was off. - No TeamTrack: Moved memory for diagnostic buffers "CMPR" and "THRM" from FLASH to RAM to prevent from exhaust of user-flash memory.
New Features	Allow max pressure of 600 bar for G4302A.
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1312C Binary VL Pump

Table 18 Pump Changes (G1312C)

Revision	1312C_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	- TeamTrack #015483: Fixed that EMF counter CHVO and CUVO for liquimeters are counting in wrong increments when using compositions different from 100 % one channel (G1312A only). - No TeamTrack: Fixed that ACT:SSVA? sometimes show wrong value if pump was off.
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1361A Prep Pump

Table 19 Pump Changes (G1361A)

Revision	1361A_A650_004
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	TeamTrack #15918: Allow the specified max number of 97 time table entries.
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1376A, G2226A Capillary Pump

Table 20 Pump Changes (G1376A, G2226A)

Revision	1376A_A650_003, 4226A_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	TeamTrack #015483: Fixed that EMF counter CHVO and CUVO for liquimeters are counting in wrong increments when using compositions different from 100 % one channel (G1312A only).
New Features	Support of degasser through RS232 interface
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G4204A Quaternary Pump

Table 21 Pump Changes (G4204A)

Revision	4204A_B652_001
Date Introduced	September 2012
General	See “ Core Changes B.06.52 (modules with on-board LAN) ” on page 21
Bugfix	- TeamTrack #016499: Pump on-time now only counts when pump is on. - TeamTrack #016500: Rework of filter back-flush algorithm also removed problems when back-flush is stopped by a leak.
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 22 Pump Changes (G4204A)

Revision	4204A_B651_004
Date Introduced	July 2012
General	Initial firmware for 1290 Infinity G4204A Quaternary Pump
Bugfix	• None
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G4220A/B Binary Pump

Table 23 Pump Changes (G4220A/B)

Revision	4220A_B652_001 , 4220B_B652_001
Date Introduced	September 2012
General	See also “ Core Changes B.06.52 (modules with on-board LAN) ” on page 21
Bugfix	• TeamTrack #016231: Fixed that 1st composition values of a shifted gradient (2DLC) was always 100% A • TeamTrack #016498: Fixed that manual stop of a purge was ignored, although purge state was not shown anymore. • TeamTrack #016499: Pump on-time now only counts when pump is on. • TeamTrack #016502: DRIVE:PARK now retracts pistons far enough.
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 24 Pump Changes (G4220A/B)

Revision	4220A_B651_004 , 4220B_B651_004
Date Introduced	July 2012
General	See also “ Core Changes B.06.51 (modules with on-board LAN) ” on page 22
Bugfix	• None
New Features	• Completed the implementation of support for 2D-LC.
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 25 Pump Changes (G4220A/B)

Revision	4220A_B650_003 , 4220B_B651_004
Date Introduced	May 2012
General	See also “ Core Changes B.06.50 (modules with on-board LAN) ” on page 22
Bugfix	• TeamTrack #016070: Implemented a more accurate primary piston leak test.
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Samplers

G1367A/E, G1377A, G2258A, G4226A, G5667A High Performance Autosampler

Table 26 High Performance Autosampler Changes (G1367A/E, G1377A, G2258A, G4226A, G5667A)

Revision	1367A_A650_003 , 1367B_A650_003 , 1367C_A650_003 , 1367D_A650_003 , 1367E_A650_003 , 1377A_A650_003 , 2258A_A650_003 , 4226A_A650_003 , 5667A_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	No TeamTrack: Move away from seat in case of error at measure seat to have access to the needle.
New Features	TeamTrack #015365: Added the low-dispersion-kit (1.15 ul seat cap) effectively for G1367C, G1367D and G1367E equipped with a 40 ul-analytical head and old 102 ul volume loop cap.
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1313A, G1329A/B, G1389A, G2260A, G4303A Standard Autosampler

Table 27 Standard Autosampler Changes (G1313A, G1329A, G1329B, G1389A, G2260A)

Revision	1313A_A650_003 , 1329A_A650_003 , 1329B_A650_003 , 1389A_A650_003 , 2260A_A650_003 , 4303A_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	Only Core Changes
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1364A/B/C/D, G5664A Fraction Collector**Table 28** Fraction Collector Changes (G1364A/B/C/D, G5664A)

Revision	1364A_A650_003 , 1364B_A650_003 , 1364C_A650_003 , 1364D_A650_003 , 5664A_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	• Only Core Changes
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G4227A Flexible Cube**Table 29** Flexible Cube Changes (G4227A)

Revision	4227A_C652_001 , Resident Res_C650_001
Date Introduced	September 2012
General	See “ Core Changes B.06.52 (modules with on-board LAN) ” on page 21
Bugfix	• None
New Features	• TeamTrack #016376: Implemented support for the Flex Cube hardware version with 1st valve optional.
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 30 Flexible Cube Changes (G4227A)

Revision	4227A_C650_001 , Resident Res_C650_001
Date Introduced	May 2012
General	Use firmware B.06.51 in the host module that fixes some issue on the hosted modules G1170A and G4227A). See “Core Changes B.06.51 (modules with on-board LAN)” on page 22 See “Core Changes C.06.50 (modules with C-firmware)” on page 23
Bugfix	• None
New Features	• Implemented enhancement for commands PPMP:VOL and PPMP:TIME to optionally specify the flow. • Implemented support for different FlexCube hardware versions (w/o pump, SSV, 2nd valve).
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Detectors

G1314A/B/C VWD

Table 31 VW Detector Changes (G1314A/B/C)

Revision	1314A_A650_004 , 1314B_A650_004 , 1314C_A650_004
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	Only Core Changes
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1314D/E/F VWD

Table 32 VW Detector Changes (G1314D/E/F)

Revision	1314D_B652_001 , 1314E_B652_001 , 1314F_B652_001
Date Introduced	September 2012
General	See “ Core Changes B.06.52 (modules with on-board LAN) ” on page 21
Bugfix	None
New Features	Only Core Changes
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 33 VW Detector Changes (G1314D/E/F)

Revision	1314D_B651_004 , 1314E_B651_004 , 1314F_B651_004
Date Introduced	July 2012
General	See “ Core Changes B.06.51 (modules with on-board LAN) ” on page 22
Bugfix	Only Core Changes
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 34 VW Detector Changes (G1314D/E/F)

Revision	1314D_B650_003 , 1314E_B650_003 , 1314F_B650_003
Date Introduced	May 2012
General	See also “ Core Changes B.06.50 (modules with on-board LAN) ” on page 22
Bugfix	Only Core Changes
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1315A/B DAD, G1365A/B MWD

Table 35 DAD/MWD Detector Changes (G1315A/B, G1365A/B)

Revision	1315A_A650_003 , 1315B_A650_003 , 1365A_A650_003 , 1365B_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	Only Core Changes
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1315C/D DAD, G1365C/D MWD**Table 36** DAD/MWD Detector Changes (G1315C /D, G1365C/D)

Revision	1315C_B652_001 , 1315D_B652_001 , 1365C_B652_001 , 1365D_B652_001
Date Introduced	September 2012
General	See “ Core Changes B.06.52 (modules with on-board LAN) ” on page 21
Bugfix	• None
New Features	• Only Core Changes
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 37 DAD/MWD Detector Changes (G1315C /D, G1365C/D)

Revision	1315C_B651_004 , 1315D_B651_004 , 1365C_B651_004 , 1365D_B651_004
Date Introduced	July 2012
General	See “ Core Changes B.06.51 (modules with on-board LAN) ” on page 22
Bugfix	• None
New Features	• Only Core Changes
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 38 DAD/MWD Detector Changes (G1315C /D, G1365C/D)

Revision	1315C_B650_003 , 1315D_B650_003 , 1365C_B650_003 , 1365D_B650_003
Date Introduced	May 2012
General	See also “ Core Changes B.06.50 (modules with on-board LAN) ” on page 22
Bugfix	• Only Core Changes
New Features	• Support of future new micro slit assembly. This new micro slit assembly will replace the current slit assembly (planned for July/August 2012).
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G4212A/B DAD

Table 39 DAD Changes (G4212A/B)

Revision	4212A_B652_001 , 4212A_B652_001
Date Introduced	September 2012
General	See “ Core Changes B.06.52 (modules with on-board LAN) ” on page 21
Bugfix	• None
New Features	• Only Core Changes
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 40 DAD Changes (G4212A/B)

Revision	4212A_B651_004 , 4212B_B651_004
Date Introduced	July 2012
General	See “ Core Changes B.06.51 (modules with on-board LAN) ” on page 22
Bugfix	• TeamTrack #016294: The (re)-calibration algorithm showed too large deviations (>1nm). The (re)-calibration algorithm worked correctly in FW revision B.06.44 but not in B.06.50.
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 41 DAD Changes (G4212A/B)

Revision	4212A_B652_001 , 4212B_B650_003
Date Introduced	May 2012
General	This firmware has a problem with the (re)calibration algorithm and should not be used. Use B.06.51 or later. See also “ Core Changes B.06.50 (modules with on-board LAN) ” on page 22
Bugfix	• Only Core Changes
New Features	• Support of future new micro slit assembly. This new micro slit assembly will replace the current slit assembly (planned for July/August 2012).
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1321A/B FLD

Table 42 FL Detecor Changes (G1321A/B)

Revision	1321A_A650_003 , 1321B_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	• Only Core Changes
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1362A RID

Table 43 RI detector Changes (G1362A)

Revision	1362A_A650_004
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	• TeamTrack #015985: Fixed the not-ready state-machine. If the heater was switched on automatically after power-on (auto-on) with heater temperature set to 'not controlled', the module now correctly shows state 'ready' instead 'not-ready' before.
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Others

G4240A Chip Cube

Table 44 Chip Cube Changes (G4240A)

Revision	4240A_A650_003
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	Only Core Changes
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1316/B/C TCC

Table 45 TCC Changes (G1316A/B/C)

Revision	1316A_A650_005 , 1316B_A650_005 , 1316C_A650_005
Date Introduced	May 2012
General	See also “ Core Changes A.06.50 (modules without on-board LAN) ” on page 21
Bugfix	- TeamTrack #010293, #010526: Allow the specified max number of 54 time table entries. - No TeamTrack: Implemented better compatibility for command VALV if G1316C is emulating G1316A or G1316B. - No TeamTrack: Improved error handling/detection of fan errors (less false fan errors).
New Features	None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1369C LAN Interface Card

NOTE If hosted modules are used in the system, the G1369C LAN Interface Card **MUST** have the same firmware revision (from the same set) as the hosted module. Otherwise the operation of hosted modules will show malfunctions.

Table 46 G1369C LAN Interface Card

Revision	1369C_B652_001, Resident Res_1369C_B650_003
Date Introduced	September 2012
General	See “ Core Changes B.06.50 (modules with on-board LAN) ” on page 22
Bugfix	• None
New Features	• Only Core Changes
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 47 G1369C LAN Interface Card

Revision	1369C_B650_003, Resident Res_1369C_B650_003
Date Introduced	May 2012
General	See also “ Core Changes B.06.50 (modules with on-board LAN) ” on page 22
Bugfix	• See Core Changes
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

G1170A Valve Drive

Table 48 G1170A Valve Drive

Revision	1170A_C650_001 , Resident Res_1369C_B650_003
Date Introduced	May 2012
General	Use firmware B.06.51 in the host module that fixes some issue on the hosted modules G1170A and G4227A). See “Core Changes B.06.51 (modules with on-board LAN)” on page 22 See “Core Changes B.06.50 (modules with on-board LAN)” on page 22
Bugfix	• See Core Changes
New Features	• None
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

1120/1220 LC system

The 1120 Compact LC and 1220 LC System include several modules under several product numbers, see “[1220 Infinity LC](#)” on page 7.

Below are the firmware changes listed.

Table 49 1120/1220 LC system

Revision	B.06.52_001, see “ 1220 Infinity LC ” on page 7 for details
Date Introduced	September 2012
General	See “ Core Changes B.06.52 (modules with on-board LAN) ” on page 21
Bugfix	• None
New Features	• Core Changes
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 50 1120/1220 LC system

Revision	B.06.50_003, see “ 1220 Infinity LC ” on page 7 for details
Date Introduced	May 2012
General	See also “ Core Changes B.06.50 (modules with on-board LAN) ” on page 22
Bugfix	• None
New Features	• Implemented park position for mobile Compact-LC • Support new module type G4294B. • Allow max temperature of 80°C for the column heater (instead 60°C)
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Controller

G4208A Instant Pilot

Table 51 G4208A Instant Pilot B.02.14

Revision	4208A_B214_001 (Main), Res_4208A_B214_001 (Resident)
Date Introduced	May 2012
Firmware Revision	B.02.14
Bugfix	• TT 014897: Date in Logbook report did not change in sequences
New Features	• Support of Universal Interface Box 2. • Support of 1290 Quaternary Pump G4204A. • Support of new supported solvents list for G4220x pumps. • Extend pressure limit range to 0...1200 bar for G4220B pump. • Purge screen changed for G1361A Prep Pump with firmware A.06.50 and above. • ISET indication (icon) added. • Possibility to show the sample name from another controller. • Supported Seat Capillary Volumes for G4226A with 80, 400, 1400 and 5000 ul. • Limits of G4212X Cartridge Cells are the same as in Lab Advisor now. • Watchdog handling / Post Mortem Dump in Resident (for diagnostic of intermittent problems, to USB stick)
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

1 **Change Information** **Controller**

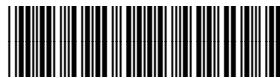
www.agilent.com

In This Book

This bulletin contains information about the firmware revision for the Agilent 1200 Infinity System.

© Agilent Technologies 2012

Printed in Germany
Edition 09/06/2012



PDF ONLY



Agilent Technologies