Agilent 1100/1200 Series Firmware

Firmware Bulletin for

A.06.1x/6.2x

B.06.1x (G1315C/D, G1365C/D)

B.02.05/06/07 (G4208A)

Agilent Technologies

Notices

Manual Part Number

PDF ONLY

Edition

Edition 01/30/2009

Printed in Germany

Agilent Technologies
Hewlett-Packard-Strasse 8
76337 Waldbronn

Revision

This technical note is valid for the Agilent 1100/1200 Series Firmware A.06.1x/B.06.1x/B.02.0x where x refers to minor revisions of the software that do not affect the technical accuracy of this guide.

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

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

Document History

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

Table 1 Document History, ...3

Date	Description	Author
30-Jan-2009	Release of "Variable Wavelength Detector VWD (G1314D/E) - B.06.21" on page 28 Release of "DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.14" on page 30.	W. Albrecht
12-Dec-2008	Added initial B.06.20 for "Variable Wavelength Detector VWD (G1314D/E) - B.06.20" on page 28 Release of A.06.11 "Fluorescence Detector FLD (G1321A)" on page 31. Added initial A.06.10 "Thermostatted Column Compartment TCC SL+ (G1316C)" on page 34.	W. Albrecht
13-Oct-2008	Added information to A.06.1x for "High Performance Autosamplers (G1367D)" on page 25 - Backward Compatibility Release (acting as G1367C)	W. Albrecht
26-Aug-2008	Release A,06.11 for "Micro Pump (G1376A)" on page 22 and "Nano Pump (G2226A)" on page 22 and "Chip Cube (G4240A)" on page 37	W. Albrecht
31-Jul-2008	Release of "Instant Pilot (G4208A) B.02.07" on page 38	W. Albrecht
30-Jun-2008	Release of revision B.06.12 for "High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)" on page 26	W. Albrecht
28-Feb-2008	Release of "DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.13" on page 30	W. Albrecht
12-Nov-2007	Release of revision B.06.11 for "High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)" on page 26 and "DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.11" on page 31	W. Albrecht
17-Aug-2007	Release of "Instant Pilot (G4208A) B.02.06" on page 39	W. Albrecht
01-Aug-2007	Initial realease of A.06.10/B.06.10 for all 1100/1200 modules	W. Albrecht

Where To Get Latest Information

Visit the Agilent web

http://www.chem.agilent.com/scripts/cag_firmware.asp?nmod=LC

for

- older Firmware History documents
- download tools and
- instructions

Content

Document History, ...3

Change Information, ...7

Additional Information, ...43

- Can 1200 modules be mixed with 1100 series modules?, ...44
- What firmware revisions I have to use with my Local Controllers G1323A/B and G4208A Instant Pilot)?, ...47
- Which Firmware Revision of the 1100/1200 modules need to be used for which ChemStation Revision?, ...48
- 3rd Party Control Software, ...50
- Where do I get the firmware/tools/documentation?, ...51
- OQ/PV, ...52
- Special Notes On Patches, ...53

1 Change Information

Version Information 8
Revision Numbering 11
Actual Firmware Revisions 12
Compatibility Matrices 16
Firmware Changes 18
Resident Firmware 18
CORE Changes 19
Pumps 21
Autosamplers 24
Detectors 28
Other Modules 34
Local Controllers 38

Agilent Technologies

Version Information

Table 2 Version Information (B.06.20)

Released	August, 2008
Type	• Release B.06.20 for Agilent 1200 modules (G1314D VWD and G1314E VWD SL+)
Main firmware revision	YYYY_B620_x (where x is the build number), refer to the module
Resident firmware revision	• res_B06.20_x for above modules
Compatibility issues	**See also Table 5 on page 10.** • B.06.20 belong to the same firmware set.

Table 3 Version Information (A.06.12)

Released	June 30, 2008
Type	• Release A.06.12 for Agilent 1100/1200 modules (G1367A/B/C/D, G1377A, G2258A)
Main firmware revision	YYYY_A612_x (where x is the build number), refer to the module
Resident firmware revision	• res_A06.10_x for all modules
Compatibility issues	**See also Table 5 on page 10.** • A.06.12 belong to the same firmware set.

Table 4 Version Information (A.06.11/B.06.11)

Released	Nov 5, 2007 Aug 26, 2008
Type	• Release A.06.11 for Agilent 1100/1200 modules (G1367A/B/C, G1377A, G2258A) • Release B.06.11 for all Agilent 1100/1200 modules (G1315C/D and G1365C/D) • Release B.06.11 for all Agilent 1100/1200 modules (G1376A, G2226A and G4240A)
Main firmware revision	YYYY_A611_x (where x is the build number), refer to the module YYYY_B611_x for G1315C/D DAD and G1365C/D MWD
Resident firmware revision	• res_A06.10_x for all modules • res_B0610_x for G1315C/D and G1365C/D
Compatibility issues	**See also Table 5 on page 10.** • A.06.11 and B.06.11 belong to the same firmware set.

Table 5 Version Information (A.06.10/B.06.10)

Released	July 31, 2007
Type	• Release A.06.10 and B.06.10 for all Agilent 1100/1200 modules • Release B.06.10 for all Agilent 1100/1200 modules (G1315C/D and G1365C/D)
Main firmware revision	YYYY_A610_x (where x is the build number), refer to the module YYYY_B610_x for G1315C DAD SL and G1365C MWD SL 4208A_B205_x for G4208A Instant Pilot
Resident firmware revision	• res_A06.10_x for all modules • res_B0610_x for G1315C/D and G1365C/D • res_4208A_B205_x for G4208A Instant Pilot

Compatibility issues	**See also "Compatibility Matrices" on page 16.**
	• Firmware A.06.10 and B.06.10 is NOT compatible with ALL previous revisions (A.06.01/06, B.01.01/06, A.05.xx and below)!
	• NO mixed systems are allowed.
	• Firmware A.06.10 and B.06.10 is released and tested with the Agilent
	  • ChemStation B.03.01 SR1
	  • Instant Pilot B.02.05
	The following interface should also work with (except for new modules)
	  • ChemStation B.02.01 SR1/SR2
	  • ChemStation B.01.03 SR1
	  • Control Module G1323B (some newer modules only with basic features)
	• Firmware A.06.10 and B.06.10 runs also on Agilent ChemStations B.01.03 and A.10.02 (except for the new features).
	• Control Module G1323B with firmware B.03.22 is not compatible with A.06.xx.
	• Firmware A.05.xx is not compatible with A.06.xx.

When is an upgrade required	• if an existing system (with A.05.xx/A.06.0x) gets new 1200 modules integrated. • if a modules requires an upgrade to remove a malfunction or adds a specific feature (see module specific). • an existing 1100/1200 module should be added into a system that has already A.06.1x/B.06.1x.
Important Upgrade information	• Ugrade from A.05.xx of modules must be made prior to be connected to 1100/1200 modules with A.06.xx or B.01.xx/B.06.xx (G1315C/D and G1365C/D). • Use the new LAN/RS-232 Firmware Update Tool 2.4 or above for upgrades/downgrades. It takes care for the correct update sequence, especially when CAN slaves are used, and allows the "1100 emulation mode"). • Read the new update documentation that comes with the Firmware Update Tools. carefully before you update the firmware. • The Firmware Update Tools and the firmware can be downloaded from: http://www.chem.agilent.com/scripts/cag_firmware.asp?nmod=LC

Firmware Revisions

Revision Numbering

Following rules on firmware revision numbering will be implemented with firmware A.06.1x / B.06.1x and above:

- For significant firmware interface changes (all modules) the revision will change from A.06.xx to A.07.1x or B.06.xx to B.07.1x.
- For major releases (all modules) the revision will change from A.06.1x to A.06.2x or B.06.1x to B.06.2x (decade).
- For minor releases (just single modules) the revision will change from A.06.11 to A.06.12 or B.06.11 to B.06.12.

NOTE

The different hardware platforms (e.g. G1315A/B DAD versus G1315C/D DAD) is related to a major change in the electronic main board (hardware and processor) and resulted into the change to the "B" firmware revisions.

The move from B.01.xx to B.06.xx will move both platforms to the same revision numbering. Then A and B revisions are compatible within a decade.

This nomenclature expresses that all minor revisions within a decade (A.06.10 to A.06.19 or B.06.10 to B.06.19) are compatible among themselves and may be mixed within a LC stack.

Revisions of different decades (A.06.1x vs. A.06.2x or B.06.1x vs. B.06.2x) may not be tested together and must not be mixed. Only those revisions mentioned in this document are tested in this set.

This arrangement has been communicated to our 3rd-party software providers to implement their firmware checks accordingly (to check just decades).

The above arrangement will be more clear than the already used revision numbering scheme done within sets:

- A.05.01/A.05.03
- A.05.04/A.05.05
- A.05.06/A.05.07
- A.05.06/A.05.09/A.05.10 (some modules remained on A.05.06)
- A.05.11/A.05.12
- A.06.01 and B.01.01
- A.06.02/A.06.0x and B.01.02/B.01.0x
- A.06.10/A.06.1x and B.06.10/B.06.1x/B.06.2x

Actual Firmware Revisions

Table 6 Firmware Revisions

Type	Module	Product#	Revision	Build	Filename (.DLB)
Pumps	Isocratic Pump Standard Pumps (G1310A, G1311A, G1312A)	G1310A	A.06.10	005	1310A_A610_005
	Quaternary Pump	G1311A	A.06.10	005	1311A_A610_005
	Binary Pump	G1312A	A.06.10	005	1312A_A610_005
	Binary Pump SL (G1312B)	G1312B	A.06.10	005	1312B_A610_005
	Micro Pump (G1376A)	G1376A	A.06.11	005	1376A_A611_005
	Micro Pump (G1376A)	G1376A	A.06.10	005	1376A_A610_005
	Prep Pump (G1361A) (isocratic high flow)	G1361A	A.06.10	004	1361A_A610_004
	Nano Pump (G2226A)	G2226A	A.06.11	005	2226A_A611_005
	Nano Pump (G2226A)	G2226A	A.06.10	005	2226A_A610_005
Samplers	Autosampler (ALS) Autosamplers (G1313A, G1329A/B, G1389A, G2260A)	G1313A	A.06.10	006	1313A_A610_006
	Thermostatted ALS	G1329A	A.06.10	006	1329A_A610_006

Table 6 Firmware Revisions

Type	Module	Product#	Revision	Build	Filename (.DLB)
	Thermostatted ALS SL	G1329B	A.06.10	006	1329B_A610_006
	Thermostatted Micro ALS	G1389A	A.06.10	006	1389A_A610_006
	Thermostatted High Flow ALS	G2260A	A.06.10	006	2260A_A610_006
	Well Plate Autosampler (WALS) High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)	G1367A G1367B G1367C G1367D	A.06.12	003	1367A_A612_003 1367B_A612_003 1367C_A612_003 1367D_A612_003
	Well Plate Autosampler (WALS) High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)	G1367A G1367B G1367C	A.06.11	001	1367A_A611_001 1367B_A611_001 1367C_A611_001
	Well Plate Autosampler (WALS) High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)	G1367A G1367B G1367C	A.06.10	006	1367A_A610_006 1367B_A610_006 1367C_A610_006
	Well Plate Autosampler (WALS) Backward Compatibility Release (acting as G1367C)	G1367D	A.06.10	020	1367D_A610_020
	Micro Well Plate Autosampler	G1377A	A.06.12	003	1377A_A612_003
	Micro Well Plate Autosampler	G1377A	A.06.11	001	1377A_A611_001
	Micro Well Plate Autosampler	G1377A	A.06.10	006	1377A_A610_006
	Dual Loop Well Plate Autosampler	G2258A	A.06.12	003	2258A_A612_003
	Dual Loop Well Plate Autosampler	G2258A	A.06.11	001	2258A_A611_001
	Dual Loop Well Plate Autosampler	G2258A	A.06.10	006	2258A_A610_006
	Fraction Collector (G1364A/B/C/D)	G1364A/D	A.06.10	006	1364A-D_A610_006
Detectors	Variable Wavelength Detector VWD (G1314D/E) - B.06.21	G1314E G1314D	B.06.21	001	1314E_B621_001 1314D_B621_001
	Variable Wavelength Detector VWD (G1314D/E) - B.06.20	G1314E G1314D	B.06.20	003	1314E_B620_003 1314D_B620_003
	Variable Wavelength Detector VWD (G1314A/B/C)	G1314C	A.06.10	004	1314C_A610_004
	Variable Wavelength Detector VWD (G1314A/B)	G1314A/B	A.06.10	004	1314AB_A610_004

Table 6 Firmware Revisions

Type	Module	Product#	Revision	Build	Filename (.DLB)
	DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.14	G1315C G1315D G1365C G1365D	B.06.14	001	1315C_B614_001 1315D_B614_001 1365C_B614_001 1365D_B614_001
	DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.13	G1315C G1315D G1365C G1365D	B.06.13	002	1315C_B613_002 1315D_B613_002 1365C_B613_002 1365D_B613_002
	DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.11	G1315C G1315D G1365C G1365D	B.06.11	001	1315C_B611_001 1315D_B611_001 1365C_B611_001 1365D_B611_001
	DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.10	G1315C G1315D G1365C G1365D	B.06.10	003	1315C_B610_003 1315D_B610_003 1365C_B610_003 1365D_B610_003
	Diode Array Detector (DAD) DAD/MWD (G1315A/B, G1365A/B)	G1315A/B	A.06.10	004	1315AB_A610_004
	Multiple Wavelength Detector (MWD)	G1365A/B	A.06.10	004	1365AB_A610_004
	Fluorescence Detector FLD (G1321A)	G1321A	A.06.11	005	1321A_A611_005
	Fluorescence Detector FLD (G1321A)	G1321A	A.06.10	004	1321A_A610_004
	Refractive Index Detector RID (G1362A)	G1362A	A.06.10	004	1362A_A610_004
Others	Thermostatted Column Compartment TCC SL+ (G1316C)	G1316C	A.06.10	001	1316C_A610_001
	Thermostatted Column Compartment TCC / TCC SL (G1316A/G1316B)	G1316B	A.06.10	004	1316B_A610_004
	Column Compartment TCC (G1316A)	G1316A	A.06.10	004	1316A_A610_004
	Universal Interface Box (G1390A)	G1390A	A.06.10	001	1390A_A610_001
	Automation Interface (G2254A) (WPS, AFC)	G2254A	A.06.10	001	2254A_A610_001
	Valve (6 pos / 7 ports) Valves (G1156/57/58/59/60/62/63A/G1158B)	G1156A	A.06.10	001	1156A_A610_001

Table 6 Firmware Revisions

Type	Module	Product#	Revision	Build	Filename (.DLB)
	Valve (2 pos / 10 ports)	G1157A	A.06.10	001	1157A_A610_001
	Valve (2 pos / 6 ports) SL	G1158B	A.06.10	001	1158AB_A610_001
	Valve (2 pos / 6 ports)	G1158A	A.06.10	001	1158AB_A610_001
	Valve (6 pos, column selection valve)	G1159A	A.06.10	001	1159A_A610_001
	Valve (12 pos / 13 port, prep scale)	G1160A	A.06.10	001	1160A_A610_001
	Valve (2 pos / 6 ports, micro)	G1162A	A.06.10	001	1162A_A610_001
	Valve (2 pos / 10 ports, micro)	G1163A	A.06.10	001	1163A_A610_001
	Chip Cube (G4240A)	G4240A	A.06.11	004	4240A_A611_004
	Chip Cube (G4240A)	G4240A	A.06.10	004	4240A_A610_004
Controller	Instant Pilot (G4208A)	G4208A	B.02.07	001	4208A_B207_001
	Instant Pilot (G4208A)	G4208A	B.02.06	007	4208A_B206_007
	Instant Pilot (G4208A)	G4208A	B.02.05	002	4208A_B205_002
	Control Module (G1323B)	G1323B	B.04.02		LCB402EN.BIN
Resident	Resident Firmware (all 1100/1200 modules)	GxxxxA-R	A.06.10	004	Res_A610_004
	Resident Firmware (for G1315C DAD SL/G1365C MWD SL abd G1315D DAD/G1365D MWD)	GxxxxB-R	B.06.10	001	Res_B610_001
	Resident Firmware (for G1314D VWD and G1314E VWD SL+)	GxxxxB-R	B.06.20	001	Res_B620_001
	Resident Firmware (G4208A Instant Pilot)	GxxxxA-R	B.02.07	001	Res_4208A_B207_001
	Resident Firmware (G4208A Instant Pilot)	GxxxxA-R	B.02.06	007	Res_4208A_B206_007
	Resident Firmware (G4208A Instant Pilot)	GxxxxA-R	B.02.05	002	Res_4208A_B205_002

Compatibility Matrices

Compatibility Overview (Hardware vs. Firmware)

Table 7 Compatibility Overview (Hardware vs. Firmware)

Module	A.05.11	A.05.11	A.06.01	A.06.02/06 B.01.02/06	A.06.1x B.06.1x
G1323A Control Module (A.01.20)	Y	Y	N	N	N
G1323B Control Module (B.03.22 and below)	Y	Y	N	N	N
G1323B Control Module (B.04.02 and above), see note 1	Y	Y	Y	Y	Y
G4208A Instant Pilot (B.01.02 and above)	N	N	N	Y	Y
1100 modules (A.05.11 and below), see note 2	Y	Y	N	N	N
1100 modules (A.06.01), see note 3	N	N	Y	N	N
1100/1200 modules (A.06.02/06)	N	N	N	Y	N
G1315C DAD SL / G1365C MWD SL (B.01.01)	N	N	Y	N	N
G1315C DAD SL / G1365C MWD SL (B.01.02/06)	N	N	N	Y	N
G1315D DAD / G1365D MWD (B.01.04/06)	N	N	N	Y	N
G4240A Chip Cube (A.06.01)	N	N	Y	N	N
G4240A Chip Cube (A.06.02/06)	N	N	N	Y	N

Notes:

1 The G1323B does not know the new 1200 series modules (G1312B, G1314B/C, G1367B/C). Only the features/settings of the “A” modules are available.

2 Firmware A.05.11 is not compatible with A.05.10 and below. No mixed systems allowed.

3 Firmware A.06.xx is not compatible with A.05.11. No mixed systems allowed.

Compatibility Matrix vs. Previous Revisions

For details refer to the document “FW_Compatibility_A.06.10_B.06.10.xls” provided with the firmware.

It includes the following compatibility information:

- to 1100/1200 firmware revisions A.06.01 or older
- to Agilent ChemStation software revisions
- to Agilent Cerity software revisions
- to Picard (MS-TOF software) revisions
- to Instant Pilot G4208A
- to Control Module G1323A/B

Firmware Changes

NOTE Some information in the history is not very detailed and may refer just to specific commands. These are for 3rd party software writers only who need this information for their interfaces.

Resident Firmware

All Modules

Table 8 Resident Firmware

Resident firmware revision	Res_A610_004 for all standard 1100/1200 modules, Res_B610_001 for G1315C DAD SL, G1365C MWD SL, G1315D DAD and G1365D MWD Res_B620_001 for G1314D VWD, G1314E VWD SL+
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

CORE Changes

All Standard Modules (Core Changes)

Table 9 All Standard Modules (Core Changes) A.06.10

Bugfix	• PVCS #1591: The Licop command OPEN_SOCKETS has the problem that information longer than 128 bytes is cut. As a resolution, the new Licop command OPEN_SOCKETS_EX was implemented with a larger buffer. • PVCS #1615, #1621, #1622: CAP-module becomes very slow • PVCS #1628: Added new instruction CPTM (check post time) • PVCS #1560: TCC goes in Resident mode during FW-update of G4208A (Instant Pilot). • PVCS #1544: There's a new state machine START_NOT_READY indicating "ready for start" (ES 0129) resp. "not ready for start" (ES 0128). • PVCS #1568: Resolved problems in MO-CU. • PVCS #1574: Module hanging in "WAITY_CONTR" if command ABRT is closely sent to STRT. • Remote PeakDetector lost messages. • PVCS #1472: A run is now always stopped after an analysis. Before, an injector program with a longer duration than the run-time could have led to endless runs. • Cycle time improvement. • Now RESET-state prohibits a start.
New Features	• New Remote Services for ChipCube • Event Controller Boost by a factor of ~20

G1315C/D DAD /G1365C/D MWD (Core Changes)

Table 10 G1315C/D DAD /G1365C/D MWD (Core Changes) B.06.10

Bugfix	• If command STRS was rejected with more than one reason, a PANIC occurred with system going to resident. This bug is fixed now. • In very rare cases there was a possibility of a system crash if monitoring the actual status and asking for the status by a controller request was done at the same time. This bug is fixed now. • PVCS #1590: The Licop command OPEN_SOCKETS has the problem that information longer than 128 bytes is cut. As a resolution, the new Licop command OPEN_SOCKETS_EX was implemented with a larger buffer. • PVCS #1472: A run is now always stopped after an analysis. Before, an injector program with a longer duration than the run-time could have led to endless runs. • Due to changes in the resident system (for supporting future products) the memory mapping was changed. The execution code is loaded to a higher address now, allowing the resident system being loaded to a lower address. This change requires to use the new resident system B.06.10. Older resident systems are incompatible with this change.
New Features	• None

Pumps

Standard Pumps (G1310A, G1311A, G1312A)

Table 11 Standard Pumps (G1310A, G1311A, G1312A)

Main firmware revision	1310A_A610_005, 1311A_A610_005, 1312A_A610_005
Bugfix	None
New Features	• New RemoteServices for ChipLC: • new traps in main-cosy-list: "PreInit- and PostInit-Wait"
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Binary Pump SL (G1312B)

Table 12 Binary Pump SL (G1312B)

Main firmware revision	1312B_A610_005 (initial firmware)
Bugfix	• Event numbers for SealWash changed, was dublicated with 1361A purge event numbers.
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Prep Pump (G1361A)

Table 13 Prep Pump (G1361A)

Main firmware revision	1361A_A610_004
Bugfix	None - system release
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Micro Pump (G1376A)

Table 14 Micro Pump (G1376A)

Main firmware revision	1376A_A611_005
Bugfix	None
New Features	Improved cycle times (gradient delay reduction) together with CLC G4240A.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 15 Micro Pump (G1376A)

Main firmware revision	1376A_A610_005
Bugfix	None - system release
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Nano Pump (G2226A)

Table 16 Nano Pump (G2226A)

Main firmware revision	2226A_A611_005
Bugfix	None
New Features	Improved cycle times (gradient delay reduction) together with CLC G4240A.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 17 Nano Pump (G2226A)

Main firmware revision	2226A_A610_005
Bugfix	None - system release
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Autosamplers

Autosamplers (G1313A, G1329A/B, G1389A, G2260A)

Table 18 Autosamplers (G1313A, G1329A/B, G1389A, G2260A)

Main firmware revision	1313A_A610_006, 1329A_A610_006, 1329B_A610_006, 1389A_A610_006, 2260A_A610_006
Bugfix	• "PVCS #1643: new commands ACT:DRPO?, ACT:INPO? ("last draw/inject sample location"), ACT:DRVO?, ACT:INVO? ("last draw/inject volume"). • PVCS #1602: switching the light of the sample chamber failed.
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

High Performance Autosamplers (G1367D)

Table 19 High Performance Autosamplers (G1367D)

Main firmware revision	1367D_A610_020
Released	September 2008

Changes	• Because the G1367D High Performance Autosampler SL+ is using the same main board as the G1367C High Performance Autosampler SL it is possible to load the G1367C firmware versions older than A.06.12 on to it. As the G1367D has a different metering device as the G1367C, problems may occur with some softwares which always assumes the sampler has a 100µl metering device and thus inject 2,5x too little or even gives an error. In order to overcome this problem there are two G1367D specific firmwares available (A.06.10 and A.06.03).
	The procedure to downgrade to these FW's is decribed below. This procedure should always be followed in order to avoid problems.
	  • Load firmware A.06.12 to G1367D used as a G1367C (if already a G1367D ignore this step)
	  • Re-type the sampler to G1367D (if already a G1367D ignore this step)
	  • Load new G1367D specific firmware (A.06.10 or A.06.03)
	  • Re-type the sampler to G1367C.
	• Firmware downgrade for G1367D re-typed to a G1367C using other FW's
	If for any reason a different firmware revision is needed and an original G1367C FW isloaded there is a risk that the sampler will not inject the correct volume. Ensure correct operation upon completion of FW install. The G1367D will operate according to G1367C specifications if operated with a G1367C firmware.

Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)

Table 20 High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)

Main firmware revision	1367A_A612_003, 1367B_A612_003, 1367C_A612_003, 1367D_A612_003, 1377A_A612_003, 2258A_A612_003
Bugfix	• PVCS #1645: The actual draw/inject volume was too high for High-Flow-WPS if loop-overfilling-mode was selected. • PVCS #1655: Auto-power-on (APON) did not work if thermostat temperature was set to 'not controlled'. • PVCS #1673: "valve switching failed" error in case of 'overlapped injection after time', 'valve switching times = 0' and injector purge kit installed and enabled. • PVCS #1678: Fixed offset for flush seat. The offset was not reproducibly linked to a special z-position. Now offset=0 means "same z-position as if needle is in seat". • No PVCS: Some changes for improvement of speed performance, e.g. the "wait equilibration time" before draw was removed. • No PVCS: Fixed a sporadic crash at CNOF (end of needle change procedure).
New Features	• New module type added: G1367D Introduction of High Performance Autosampler SL+ G1367D
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 21 High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)

Main firmware revision	1367A_A611_001, 1367B_A611_001, 1367C_A611_001, 1377A_A611_001, 2258A_A611_001
Bugfix	• PVCS #1647: Injector valve cleaning was executed prior to begin of run instead of waiting for the respective times within the run. That caused too early valve switching. in case of LC-Chip/MS if a trap volume is given
New Features	• None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 22 High Performance Autosamplers (G1367A/B/C/D, G1377A, G2258A)

Main firmware revision	1367A_A610_006, 1367B_A610_006, 1367C_A610_006, 1377A_A610_006, 2258A_A610_006
Bugfix	• "PVCS #1643: new commands ACT:DRPO?, ACT:INPO? ("last draw/inject sample location"), ACT:DRVO?, ACT:INVO? ("last draw/inject volume"). • PVCS #1602: switching the light of the sample chamber failed. • PVCS #1557: DSPD, ESPD, IVOL is set to default when loop or seat capillary is changed by MPRM. • PVCS #1570: Two state machines (Metering-Device, Peristaltic Pump) weren't reported as startup events, though the changes were reported.
New Features	• New location (wash port) for commands EJCT, DRAW, PURG, PURS. • Implemented new injector purge functionality using the kit. (not G2258A).
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Detectors

Variable Wavelength Detector VWD (G1314D/E)

Table 23 Variable Wavelength Detector VWD (G1314D/E) - B.06.21

Main firmware revision	1314E_B621_001, 1314D_B621_001, requires resident firmware B.06.20
Bugfix	• PVCS #1697: Fixed the bug that setting the attenuation of the AnalogOutput to 4000 was not working. • PVCS #1716: Fixed that rejection of timetable sample scan did not send an event. Two new events are implemented: EV 7352 (EV_BLANK_NOT_AVAILABLE) if trying to take a sample scan without having a blank scan. EV 7353 (EV_BLANK_MISMATCH) if trying to take a sample scan without having the range covered by the available blank scan. • PVCS #1717: Fixed the bug that the detector delivered the temperature of the cell in the wrong scale. The temperature was wrong by a factor of 1/100 and caused problems if TCC's temperature was chosen as same "as detector cell".
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 24 Variable Wavelength Detector VWD (G1314D/E) - B.06.20

Main firmware revision	1314E_B620_003, 1314D_B620_003, requires resident firmware B.06.20
Bugfix	Initial release
New Features	New 1200 series VWD and VWD-SL Plus
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Variable Wavelength Detector VWD (G1314A/B/C)

Table 25 Variable Wavelength Detector VWD (G1314A/B/C)

Main firmware revision	1314AB_A610_004, 1314E_B621_001
Bugfix	None - system release
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

DAD/MWD (G1315A/B, G1365A/B)

Table 26 DAD/MWD (G1315A/B, G1365A/B)

Main firmware revision	1315AB_A610_004, 1365AB_A610_004 The firmware is the same for A and B versions.
Bugfix	• PVCS #1616: now it is possible to take a SCAN even another controller has locked CLASS_START. The command SCAN now belongs to CLASS_CONTROL
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

DAD / MWD (G1315C, G1365C, G1315D, G1365D)

Table 27 DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.14

Main firmware revision	1315C_B614_001, 1315D_B614_001, 1365C_B614_001, 1365D_B614_001
Resident firmware revision	Res_B610_001
Bugfix	• PVCS #1680: Fixed occasional crash with out-of-memory. Sometimes the I2C bus did not answer in the specified time (for board temperature readings). The endless waiting for the answer led to signal consumption in the processes signal queue and the module's firmware was crashing with out-of-memory. Fixed by using a time-out to keep the process running. • PVCS #1712: Fix to support the Kingston 1 GB compact flash card.
New Features	None.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 28 DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.13

Main firmware revision	1315C_B613_002, 1315D_B613_002, 1365C_B613_002, 1365D_B613_002
Resident firmware revision	Res_B610_001
Bugfix	• Fixed bug in slope-threshold based fraction collection. If the threshold condition became true without slope condition then it could have happened that the first peak of next run wasn't collected. • Peak based fraction collection: If a peak timeout occurs the end of peak time was too late to an amount of up to one data point, i.e. at default peak width the fraction ended up to 0.4s too late. This causes a change in fraction width by lower than 2%. This is not relevant to purification solutions, as peak timeout is used mainly for addressing wrong down-slope-parameterization and in this case the collected fraction contains far more volume than expected. • Fixed occasional crash after traffic bursts (e.g. ARP request attacks) in LAN interface. After the LAN burst the LAN interface took too much of CPU time and was leading to watchdog timeouts of other processes.
New Features	None.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 29 DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.11

Main firmware revision	1315C_B611_001, 1315D_B611_001, 1365C_B611_001, 1365D_B611_001
Resident firmware revision	Res_B610_001
Bugfix	• Occasionally there was a problem in running out of internal used buffers for raw-data, leading to a crash. Increased the number of buffers to a value sufficient for all cases.
New Features	None.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 30 DAD / MWD (G1315C, G1365C, G1315D, G1365D) - B.06.10

Main firmware revision	1315C_B610_003, 1315D_B610_003, 1365C_B610_003, 1365D_B610_003
Resident firmware revision	Res_B610_001
Bugfix	See CORE changes "G1315C/D DAD /G1365C/D MWD (Core Changes)" on page 20.
New Features	None.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Fluorescence Detector FLD (G1321A)

Table 31 Fluorescence Detector FLD (G1321A)

Main firmware revision	1321A_A611_005
Bugfix	• PVCS #1705: "ADC overflow" event was not sent for channel 2, 3, 4. The event is now sent for all channels. • CS PVCS #14806: Complementary wavelength in spectra header had wrong unit. Due to the wrong unit specification the complementary wavelength was wrongly scaled which lead to random numbers. Due to a bug in the Agilent ChemStation, this fix will not take effect in current ChemStation releases (B.04.01 and below). The displayed unit range will still be wrong. Future ChemStation releases (planned for B.04.01 Service Pack 1) will fix the bug and will then show the correct unit range. The fix works only with firmware A.06.11 plus B.04.01 Service Pack 1.

Table 31 Fluorescence Detector FLD (G1321A)

New Features	• PVCS #1704 Up to firmware A.06.10, an "ADC overflow" was not visible in the chromatogram under certain method conditions. Overflow could be concealed by smoothing of a filter and thus not visible for the user. In the Agilent ChemStation, the "ADC overflow" event was only shown in the logbook. This problem did only occur if the Peakwidth (Responsetime) parameter has been set similar or larger than the real width of the chromatographic peak.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Fluorescence Detector FLD (G1321A)

Table 32 Fluorescence Detector FLD (G1321A)

Main firmware revision	1321A_A610_004
Bugfix	• None - system release
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Refractive Index Detector RID (G1362A)

Table 33 Refractive Index Detector RID (G1362A)

Main firmware revision	1362A_A610_004
Bugfix	• PVCS #1593: WaitTime after Purge was waited twice.
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Other Modules

Thermostatted Column Compartment TCC SL+ (G1316C)

Table 34 Thermostatted Column Compartment TCC SL+ (G1316C)

Main firmware revision	1316C_A610_001,
Bugfix	• Initial release of G1316C.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Thermostatted Column Compartment TCC / TCC SL (G1316A/G1316B)

Table 35 Thermostatted Column Compartment TCC / TCC SL (G1316A/G1316B)

Main firmware revision	1316A_A610_004, 1316B_A610_004
Bugfix	• PVCS #1613: in case no CSV is installed both ColldTag should be incremented. • PVCS #1560: TCC goes in Resident mode during FW-update of G4208A (Instant Pilot).
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Fraction Collector (G1364A/B/C/D)

Table 36 Fraction Collector (G1364A/B/C/D)

Main firmware revision	1364A-D_A610_006
Bugfix	• "PVCS #1630: uS-FC stays permanently in ABORT-state when it is in state WAIT_FOR_RESET and receives command ABRT. • PVCS #1627: avoid crash "Software Watchdog" • PVCS #1609: AFC-cluster: after RSET not possible to open the front door. • PVCS #1610: missing event EV 4263 (TrayChangeFinished). • PVCS #1602: switching the light of the sample chamber failed. • PVCS #1553: don't use Reserved Locations for fractions. • send EV_SYS_CHANGED (EV 0201) in case any cluster configuration is changed or in case any delay is changed.

Table 36 Fraction Collector (G1364A/B/C/D)

New Features	• query next free position: ACT:NPOS?
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Universal Interface Box (G1390A)

Table 37 Universal Interface Box (G1390A)

Main firmware revision	1390A_A610_001
Bugfix	• If a CAN slave's host goes into resident the CAN slave didn't notice at all that the host is gone.
New Features	• Introduced Run-State-Events ES 0104, ES 0103.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Automation Interface (G2254A)

Table 38 Automation Interface (G2254A)

Main firmware revision	2254A_A610_001
Bugfix	• If a CAN slave's host goes into resident the CAN slave didn't notice at all that the host is gone.
New Features	• Introduced Run-State-Events ES 0104, ES 0103.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Valves (G1156/57/58/59/60/62/63A/G1158B)

Table 39 Valves (G1156/57/58/59/60/62/63A/G1158B)

Main firmware revision	1156A_A610_001, 1157A_A610_001, 1158AB_A610_001, 1159A_A610_001, 1160A_A610_001, 1162A_A610_001, 1163A_A610_001
Bugfix	• If a CAN slave's host goes into resident the CAN slave didn't notice at all that the host is gone.
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Chip Cube (G4240A)

Table 40 Chip Cube (G4240A)

Main firmware revision	4240A_A611_004
Bugfix	• Fixed the bug that toggling next position with Outer Rotor (VOP x; with -7 <= x <= -2) caused G4240A to fall to resident system.
New Features	• Improved cycle times (gradient delay reduction) together with Micro Pump G1376A or Nano Pump G2226A. • Implemented to support "valve next position" for prepare phase within an analysis.
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 41 Chip Cube (G4240A)

Main firmware revision	4240A_A610_004
Bugfix	• PVCS #1611: Support new chip layouts by adding a new chip related offset, that is chip specific and listed in the chip's description.
New Features	None
Known Problems	None Documented
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Local Controllers

Instant Pilot (G4208A)

Table 42 Instant Pilot (G4208A) B.02.07

Main firmware revision	4208A_B207_001 Res_4208A_B207_001
Date Introduced	July, 2008
Bugfix	• PVCS #1118: Extended FLD wave length range EX 200 - 1200 nm, EM 200 - 1200 nm • PVCS #1120: Added FLD - PMT Gain Test (was missing) • PVCS #1121: Added PMT - Gain Settings PMT gain settings in the method shows the value as 2^X. This is different to the ChemStation where we have just the value X. • PVCS #1119: Fixed ALS needle change procedure During the Change Needle procedure (Maintenance ALS) you are moving the needle down via button "needle down". When the needle reaches the needle seat the message "Needle already in lowest position" shows up and the buttons "Needle up", "Needle down" and "Continue" disappear. So, no chance to move the needle up again. "Abort" is the only way to leave this function. Change needle maintenance changed to a two-step procedure. Step 1 moves gripper and needle to change position, step 2 moves gripper and needle back to home position after needle changed. • PVCS #1122: Printing of DAD calibration result When printing the Calibration report with G1315C DAD-SL Internal Print Error #5 showed up. • PVCS #1139: Extend pressure range in column tag edit dialog to 0...2000 bar (was limited to 400 bar)
New Features	• Support for G1314D VWD and G1314E VWD SL+ • Support for G1367D High Performance Autosampler SL+ • Start/stop sequence at/from a selected sequence line
Known Problems	None
Pre-requisites	Requires A.06.02/B.01.02 or above on all 1100/1200 modules
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 43 Instant Pilot (G4208A) B.02.06

Main firmware revision	4208A_B207_001 Res_4208A_B206_007
Date Introduced	August, 2007
Bugfix	• New RAM layout • Add a warning dialog analysis is started with Hobbit and a collector is in the system. "Instant pilot is not able to fully control analysis of fractionation instruments [Continue] / [Abort]" • Problem with hanging EMPV Clean when pump is in test mode • SCR#0920: Status screen - the edit position in status setup screen is stored even if the screen is left • SCR#1005: EMF limits for TCC (Maintenance) for Peltier Power Left and Right is now available • SCR#1074: Leak test with isocratic pump did not abort automatically on error • SCR#1075: Keyword Error "AREV?;ABLD?!" with A.06.01 in Details screen • SCR#1078: Help text changed: for micro mode pressure test • SCR#1079: Help text changed: EMPV cleaning instead of Leak Test • SCR#1080: Help text changed: Leak Test for capillary/nano pump with EMPV • SCR#1084: RID-Not Ready Conditions optimized • SCR#1085: Hang-up during LAN modification (Configure) • SCR#1090: Problem with multi fraction collector instruments to allow operation with up to three collectors and one recovery collector (was already solved in A.05.12) • SCR#1091: AFC: Status view should show RINSE and WASTE status • SCR#1093: Print of Sequence table (table is empty) does not work • SCR#1095: Status - Thermostat - displayed value changed back • SCR#1097: TCC Col ID: no entries possible in column tag • SCR#1098: Injector program problem – WPS Mix Parameter • SCR#1099: Dual loop: change loop does not work • SCR#1100: Injector program editing hangs after the attempt to edit a not editable line e.g. "Draw default amount"
New Features	None
Known Problems	None
Pre-requisites	Requires A.06.02/B.01.02 or above on all 1100/1200 modules
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Table 44 Instant Pilot (G4208A) B.02.05

Main firmware revision	4208A_B205_002 Res_4208A_B205_002
Date Introduced	June, 2007
Bugfix	None
New Features	None

Known Problems	• See "Thermostatted Column Compartment TCC / TCC SL (G1316A/G1316B)" on page 34.
	• SCR#686: Status view: 4 bottles empty is not displayed complete .
	  • Press Control button and select System: Get Ready screen to see all not ready conditions.
	• SCR#785: Fast Composition Change is not executed when overlap is enabled for the WPS. No error message is displayed.
	• SCR#842: G4208A was connected to an 1100 LC consisting of isocratic pump. When putting the upper pressure limit as 'OFF' in the method view, the pump goes into an error state (pressure above upper limit).
	• SCR# 848: G4208A hangs (screen corrupted, no reaction on further input), do the following actions:
	  • Configure > Module (with LAN card installed)
	  • Select "LAN Settings"
	  • Press Help button "i"
	  • Exit Help screen
	  • Press Enter button
	  • Select YES
	• SCR# 856: When selecting "Injection Mode/Injector Program" on a sampler with no injector program a correct error "Missing Injector Program" occurs. When now pressing "Cancel", every parameter I try to change in the sampler brings a "Missing Injector Program" on "Done".
	  This could only be undone by changing to "Needle Wash" and then back to "Standard" or by using "Control/System:Set Defaults".
	All SCR's will be fixed with next releases.

Pre-requisites	Requires A.06.02/B.01.02 or above on all 1100/1200 modules
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

Control Module (G1323B)

Table 45 Control Module (G1323B)

Main firmware revision	LCB402EN.BIN (NO FURTHER FW RELEASE IN FUTURE, REPLACED INSTANT PILOT G4208A)
Date Introduced	July 19, 2005
Bugfix	• Pooling with AFraCo did not work if no sampler is within system. • DaVinci shows missleading error messages when setting up bottle fillings for a G1361 ISO HF pump (PVCS 1776). • Problem with large calibration intervals - "every x samples" - when using G1313A/G1329A/G1389A/G2260A with a 100 vial tray. The sequence goes into an infinite loop when: [sample range last position] + [calibration interval] > 99 (PVCS 1778). • G1389A injector program wash in vial display problem (PVCS 1779). • Error when executing EMPV cleaning on a G2226A Nano Pump (PVCS 1780).
New Features	• Support for G1315C, G1365C detectors • Support for new CAN protokoll - old can protokoll is still working • Support for Injector Purge Kit including G1156A valve • Enable overlap injection for Dual Loop Sampler G2258A
Known Problems	• Not compatible with G4240 Chip Cube. • No more analysis can be started after using "Wait for repeated start request" AND aborting the analysis while waiting for the start request coming over the remote line. Everything works fine when an analysis is aborted after start request was received (PVCS 1812).
Compatibility Issues	• The new relase has been tested with ChemStation B.01.03 and firmware A.06.01. • Using the new G1323B release (B.04.01/02) with firmware A.05.11 and below may • show incompatibilities. Therefore we recommend to install the B.04.01 only • on those G1323Bs that are connected to systems with A.06.01.
OQ/PV Recommendation	No repeat OQ/PV tests are recommended after update

2
Additional Information

Can 1200 modules be mixed with 1100 series modules? 44

What firmware revisions I have to use with my Local Controllers G1323A/B and G4208A Instant Pilot)? 47

Which Firmware Revision of the 1100/1200 modules need to be used for which ChemStation Revision? 48

3rd Party Control Software 50

Where do I get the firmware/tools/documentation? 51

OQ/PV 52

Special Notes On Patches 53

Agilent Technologies

Can 1200 modules be mixed with 1100 series modules?

YES, all 1100 modules can be upgraded to A.06.02/B.01.02 firmware to make them compatible with the 1200 modules (recommended - but may require a ChemStation upgrade for new functionality). Refer to FWUpdate.PDF for limitations on downgrade/upgrades. Mixed configurations with other 1100/1200 Series SL modules will not give the full performance of a 1200 Series Rapid Resolution LC system.

YES, all 1200 modules that already exists as 1100 module (typically as "A") can be downgraded to 1100 FW revisions (same limitations as known on the 1100 modules). The G1315C/G1365C cannot go below B.01.01. Refer to FWUpdate.PDF for limitations on downgrade/upgrades. The ALS illumination feature is not active.

YES, all new 1200 series modules mentioned above (typically as "B" or "C") can be downgraded to 1100 functionality into the so called "1100 emulation mode" to specific firmware revisions. The new module's type will be changed to "A" via the new LAN/RS-232 FW Update Tool 2.6 or above.

NO, when the firmware between 1100 and 1200 modules does not match.

See Table 46 for details and “Notes” on page 49 for additional information.

Table 46 Firmware Revisions for 1100/1200 Modules

1100 or 1200 Module with same product# e.g. G1310A)	**NEW 1200 Module** G1314B VWD, G1314C VWD SL, G1316B TCC SL, G1367B HiP ALS, G1367C HiP ALS SL G1367D HiP ALS SL+	**NEW 1200 Module** G1312B BIN Pump SL
Match always a firmware set (horizontal)		
A.06.12 (G1367A, G1377A, G2258A) A.06.11 (depends on module) B.06.11 (G1315C/D, G1365D) A.06.10 (depends on module) B.06.10 (G1315D/65D) B.06.10 (G1315C/65C) B.02.05/06/07 (G4208A) A.06.10 (G4240A)	A.06.12 (G1367B/C/D A.06.11 (depends on module) A.06.10 (depends on module	A.06.10
A.06.02/04/05 (depends on module) B.01.04/06 (G1315D/65D) B.01.02/06 (G1315C/65C) B.01.02/04/B.02.01/05/06/07 (G4208A) A.06.03/05 (G4240A)	A.06.02/04/05 (depends on module)	A.06.03/04/06
A.06.02 1200 series started with this revision	A.06.02	A.06.02
	Emulation Mode (**) via FW Update Tool 2.4 or above now G1314A, G1316A, G1367A with standard firmware modules will loose features	Emulation Mode (**) via FW Update Tool 2.4 or above now G1312A with specific firmware versions only! module will loose features
A.06.01 B.01.01 (G1315/65C)	same as left column	G1312BA601_02
A.05.11/12	same as left column	G1312BA512_02
A.05.06/10	same as left column	G1312BA510_02

Table 46 Firmware Revisions for 1100/1200 Modules

1100 or 1200 Module with same product# e.g. G1310A)	**NEW 1200 Module** G1314B VWD, G1314C VWD SL, G1316B TCC SL, G1367B HiP ALS, G1367C HiP ALS SL G1367D HiP ALS SL+	**NEW 1200 Module** G1312B BIN Pump SL
A.05.04/05 (*)	same as left column (*) G1316A505_01 (minimum)	no further downgrade possible
A.05.01/03 (*)	same as left column (*)	
A.04.1x/2x (*)	same as left column (*)	
A.04.0x (*)	same as left column (*)	
A.03.8x (*)	same as left column (*)	
A.03.6x (*)	same as left column (*)	
A.03.3x (*)	same as left column (*)	

(*) firmware downgrade might be limited by board revision, refer to FWUpdate.PDF, section DOWNGRADE for details.

(**) 1. Rename G1314, G1316 and G1367 to "A" (if none of these modules, skip this step).

2. Downgrade the firmware of G1312, G1314, G1316 and G1367.

3. Rename G1312B to G1312A.

What firmware revisions I have to use with my Local Controllers G1323A/B and G4208A Instant Pilot)?

Table 47 Compatibility Matrix G1323A/B and G4208A

Module	A.05.xx	A.06.01 B.01.01	A.06.02/03/04/05 B.01.02/03/04/05/06	A.06.1x B.06.1x
G1323A Control Module (A.02.10)	Y	N	N	N
G1323B Control Module (B.03.22 and below)	Y	N	N	N
G1323B Control Module (B.04.02 and above)	N	Y	Y	Y
G4208A Instant Pilot (B.01.02 and above)	N	N	Y	Y

G1323B does not support the new module's features (G1312B, G1314C, G1316B, G1367B/B).

Which Firmware Revision of the 1100/1200 modules need to be used for which ChemStation Revision?

Table 48 Software Revisions for 1100/1200 Modules

Software Revision	Module	Firmware
B.03.01 SR1	1100/1200 modules G1315C DAD SL / G1365C MWD SL G1315D DAD / G1365D MWD G4208A Instant Pilot G4240A Chip Cube	A.06.1x B.06.1x B.06.1x B.02.05/B.02.06/B.02.07 A.06.1x
B.03.01 B.02.01 SR2	1100/1200 modules G1315C DAD SL / G1365C MWD SL G1315D DAD / G1365D MWD G4208A Instant Pilot G4240A Chip Cube	A.06.02/03/04/05 B.01.02/03/04/05/06 B.01.04/05/06 B.01.02/03/B.02.01 A.06.02/03
B.02.01 SR1	1100/1200 modules G1315C DAD / G1365C MWD G4208A Instant Pilot G4240A Chip Cube	A.06.02/03/04/05 B.01.02/03/04/05/06 B.01.02/03/B.02.01 A.06.02/03
B.02.01	1100/1200 modules G1315C DAD / G1365C MWD G4208A Instant Pilot G4240A Chip Cube	A.06.02/03/04/05 B.01.02/03/04/05/06 B.01.02/03/B.02.01 A.06.02/03
B.01.03 SR1	1100/1200 modules G1315C DAD / G1365C MWD G4208A Instant Pilot G4240A Chip Cube	A.06.02/03/04/05 B.01.02/03/04/05/06 B.01.02/03/B.02.01 A.06.02/03
B.01.03	1100/1200 modules G1315C DAD / G1365C MWD G4240A Chip Cube	A.06.01 B.01.01 A.06.01
B.01.01/A.010.02	1100/1200 modules	A.05.11/12
A.10.02 and below	1100/1200 modules	A.05.05/10 and below

See also "Notes" on page 49 for additional information.

Notes

1 There is no communication between modules with firmware
A.06.02/B.01.02 with A.05.11/12 and below (all must be on A.06.02/B.01.02)
A.06.01/B.01.01 with A.05.11/12 and below (all must be on A.06.01/B.01.01)
A.05.11/12 with A.05.06/10 and below (all must be on A.05.11/12)

2 If new 1200 modules (G1312B, G1314B, G1314C, G1361B, G1367B, G1367C) have to be downgraded, the LAN/RS-232 FW Update Tool 2.4 or above must be used to change the type to G13XXA (so called 1100 emulation).

3 All modules of a system should have the revision of a revision set (main and resident).

4 All 1100 modules can be upgraded from revisions A.02.xx to any revision above.

5 Note that there might be reasons to use A.05.06 and higher depending on hardware features vs. ChemStation revision.

3rd Party Control Software

If 3rd Party Control Software is used, these 3rd party vendors need to update their software packages to include the new 1200 modules. Until they provide patches, the new 1200 modules can be downgraded to 1100 functionality into the so called "1100 emulation mode" to specific firmware revisions. The new module's type will be changed to "A" via the new LAN/RS-232 FW Update Tool 2.4 or above.

Specific cases are

- the G1329A ALS, that replaces the 1100 G1313A ALS. For systems that have a G1329A without a thermostat G1330B, 3rd party software may require/ask for a thermostat (temperature setting). For this case SN 1200-010 provides a workaround by changing the type of the G1329A to G1313A via the LC Diagnostic Software (can be changed back at a later time).
- The G1315C/G1365C cannot go below B.01.01 and will not work in 1100 emulation modes A.05.11/12 and below.
- The G4208A Instant Pilot can be made invisible for 3rd party software using a switch in its configuration setup. It works only with firmware A.06.02/B.01.02.

Where do I get the firmware/tools/documentation?

All tools, documents and firmware revisions can be obtained via the Agilent web http://www.chem.agilent.com/scripts/cag_firmware.asp?nmod=LC

- Agilent 1100/1200 Systems FW Update Tools
- Agilent 1100/1200 Systems Emulation Mode
- Agilent 1100/1200 Systems A.06.02/05/B.01.02/06 (current revision)

OQ/PV

NO Repeat OQ/PV tests recommended after update. Although an OQ/PV may not be necessary after FW upgrade, the IQ attachment form should be used to document the upgrade.

Special Notes On Patches

Q: Why is this firmware being released as a patch?

A: To remove a specific malfunction in one or more modules of the 1100/1200 system (but not the whole system).

Q: What is the difference between the testing done on this patch (if any) and the testing done on released firmware?

A: The patch is tested only on configurations that include the patched modules. Release firmware testing is performed on a wider set of hardware configurations.

Q: How can I be assured that this firmware will function correctly?

A: The patch has been tested under the control of the Software/Firmware QA, according the rules of SW/firmware development.

www.agilent.com

In This Book

This bulletin contains information about the firmware revision A.06.1x and B.06.1x (G1315C, G1365C, G1315D, G1365D) and B.02.05 (G4208A) of the 1100/1200 series modules.

Printed in Germany
Edition 01/30/2009

PDF ONLY

Agilent Technologies