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Overview

This instruction sheet describes the Agilent GC firmware update utility version 3.4 and how to use it. The version number appears in the screen name. Please read the entire sheet before beginning. The utility updates the following models of gas chromatograph (GC) or automatic liquid sampler (ALS).

Model	Description	Firmware version
G1530N or G1540N	6890N GC system	N.04.10
G1530-62010 or G2630-66900	LAN assembly	04.7B2
G2630A serial# ≤ US00003200	6850 Series gas chromatograph system	A.03.01
G2630A serial# ≥ US10243001	6850 Series gas chromatograph system	A.04.01
G2613A	7683 Autoinjector module	A.10.05
G2614A serial# < USXXX14551	7683 Autosampler tray module	A.01.02
G2880A	6850 Automatic Liquid Sampler	A.10.05

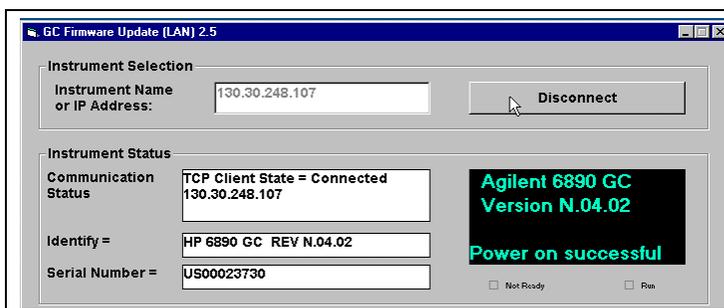
This utility cannot be used to update firmware in the 7673 ALS models, G1512A or G1513A, and the G2612A. The G2613A Autoinjector modules must be plugged into the front or back connector and configured to the same inlet for the ALS update to be successful. The procedure takes about 1 hour including the download of the files from Agilent Technologies, Inc.'s website.



Methods, sequences, and service counters stored on the GC are lost during a firmware update. **Do not interrupt** the firmware update during the process. **Do not disconnect** any cabling or power off the instruments during the process. There is a very short period, less than 1 second, when the GC main printed-circuit board could be damaged and lose its ability to restart.

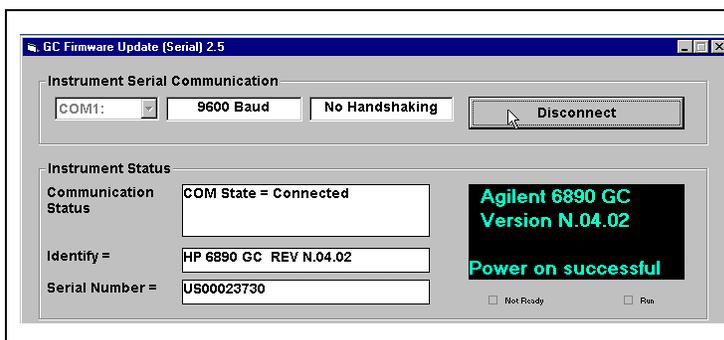
Record on page 6: If your GC controller or software uses an RS-232 connection, record the RS-232 settings. If it uses LAN, record the network settings. To read these settings from a 6890N, press Options and select Communications from the keyboard.

Operating system: Requires your computer to have one of the following Microsoft® Windows® operating systems: 95, 98, NT, or 2000.



LAN connections

In most cases, you can use the LAN connection that you already have. If you are connecting the computer directly to the GC, use part number 5183-4649, crossover ethernet cable. Updating with a LAN connection takes less time than an RS-232 connection.

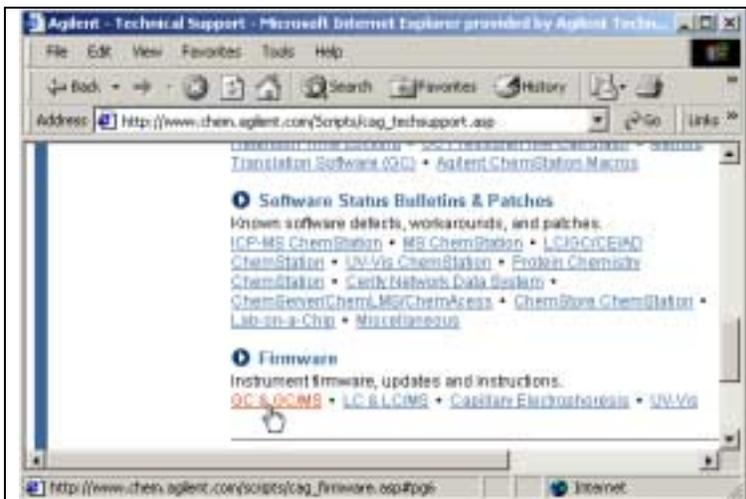


Serial port connections

If you are using RS-232 serial communications, the computer and GC port settings must be set to **9600** baud and Flow control or handshake to **None**. Use a null modem cable or cable part number G1530-60600 to connect the computer's serial port and the GC RS-232 port.

Downloading and installing the files

If you have internet access, the GC firmware update utility and the necessary firmware files are available on Agilent Technologies, Inc. website at http://www.chem.agilent.com/Scripts/cag_techsupport.asp.



The screenshot shows a web browser window with the address http://www.chem.agilent.com/Scripts/cag_techsupport.asp. The page content includes a navigation menu at the top, a section titled "Software Status Bulletins & Patches" with various links, and a section titled "Firmware" with a link for "GC & GC/MS" highlighted by a mouse cursor.

1. Navigate to the Technical Support page.
2. Click on the GC & GC/MS Firmware link.

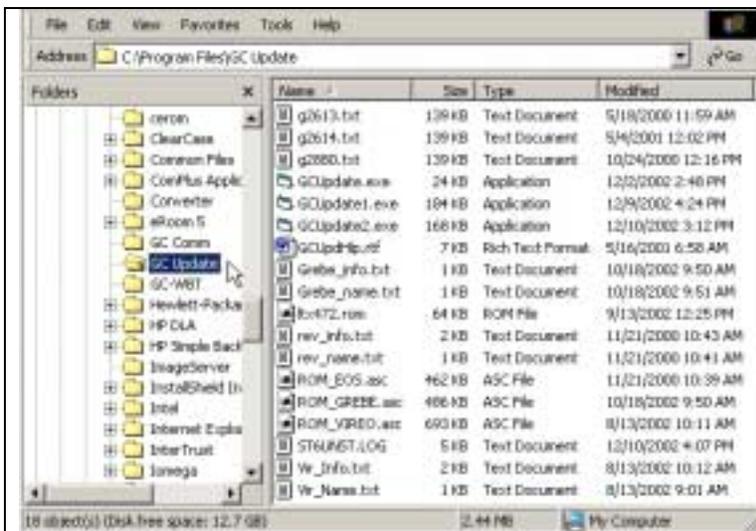
Download firmware for the Agilent 6890N and 6850 GC Systems.

**FOR AGILENT 6890N and 6850 GC SYSTEMS
THAT MAY INCLUDE ALS MODULE**

3. Scroll down to the section titled Download firmware for Agilent 6890 and 6850 GC systems.
4. Click on the link to download the file, GCfwxx.exe to your computer.

Name	Size	Type	Modified
GCfw33.pdf	404 KB	Adobe Ac...	12/10/2002 4:01 PM
GCUpda1.CAB	1,282 KB	Cabinet File	12/10/2002 3:13 PM
GCUpda2.CAB	1,424 KB	Cabinet File	12/10/2002 3:13 PM
GCUpda3.CAB	403 KB	Cabinet File	12/10/2002 3:13 PM
setup.exe	137 KB	Application	3/25/1999 11:00 PM
SETUP.LST	6 KB	LST File	12/10/2002 3:13 PM

5. Double-click on the GCfwxx.exe file.
 6. It will self-extract to a subdirectory called GCfwxx in the TEMP directory.
 7. To load the utility onto another computer, move all of the files onto the lab computer.
- NOTE: If you are using diskettes, place GCUpda2.CAB and GCUpda3.CAB on diskettes labeled Disk 2 and Disk 3. Place the other files on a diskette labeled Disk 1.



The screenshot shows a Windows file explorer window with the address <C:\Program Files\GC Update>. The file list includes various files such as g2613.txt, g2614.txt, g2680.txt, GCUpdate.exe, GCUpdate1.exe, GCUpdate2.exe, GCUpdate3.pdf, Grebe_info.txt, Grebe_name.txt, hwt72.ram, rev_info.txt, rev_name.txt, ROM_EOS.asc, ROM_GREBE.asc, ROM_VRED.asc, ST6UNST.LOG, Wv_Info.txt, and Wv_Name.txt.

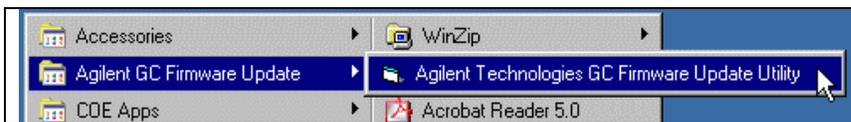
8. Double-click on the setup icon and follow the directions.
9. Follow the directions that appear on the screen.
10. This completes the download and setup procedure.

NOTE: If the files are on diskettes, place Disk 1 into the drive and double-click on setup.exe.

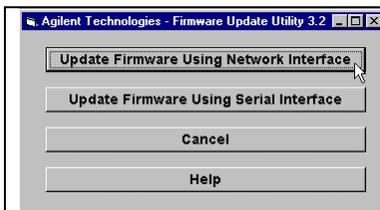
Updating firmware

The following example of using the utility is based on updating firmware for a G1530N and 7683 ALS using LAN communication. The RS-232 version is same except for the connection step.

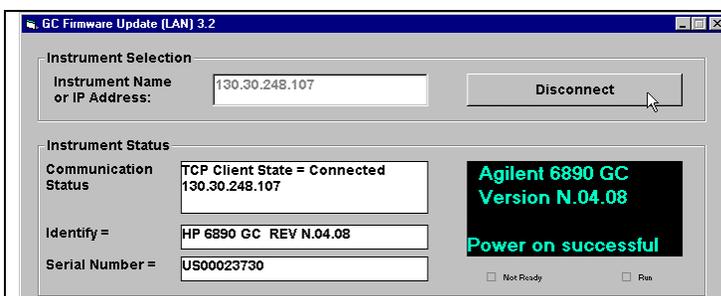
NOTE: Close the GC control software, before launching the update utility. For example, close the G2702AA ChemStation software.



1. From the Start button, select the program group and program.

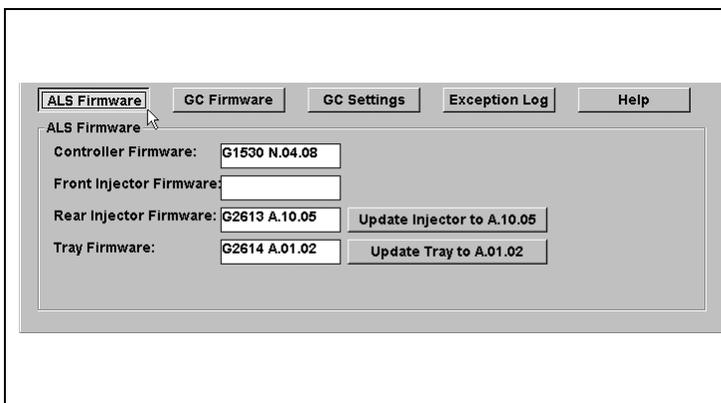


2. Select either LAN or RS-232 communications.



3. Enter the IP address of the GC and click on Connect.

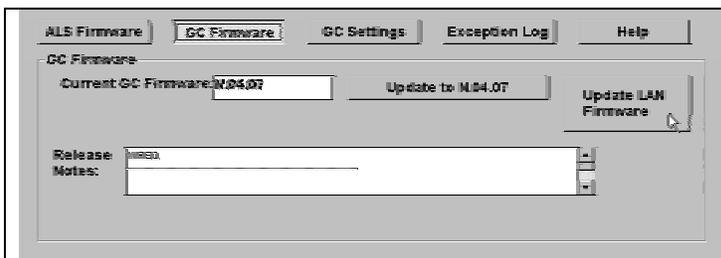
This screen shows the result of a successful connection. It reports the type of GC, serial number, and what appears on the display of the GC. Be sure this is the GC that you want to update.



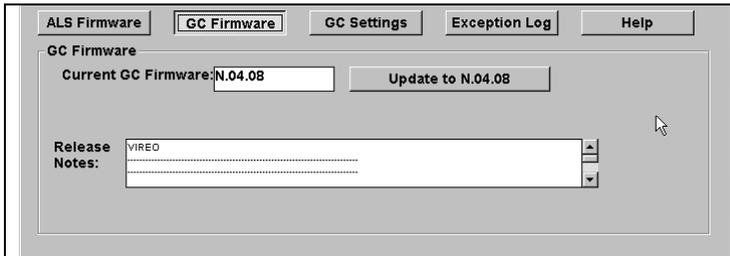
4. To update the firmware for the ALS modules, click on the ALS Firmware button. The screen shows the installed ALS modules on this GC and compares the firmware of each with the firmware you downloaded.

5. Click on the Update button if the version number on the button is greater than the number read from you GC.

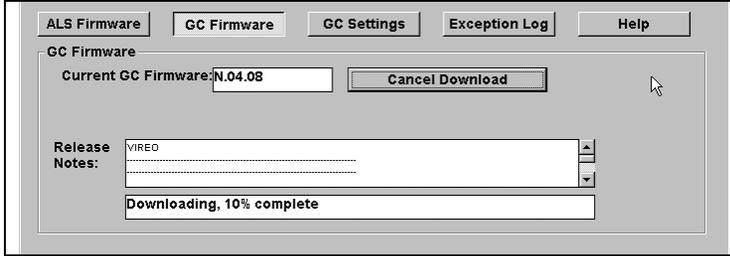
 Wait for the process to complete before continuing.



6. To update the firmware for the GC, click on GC Firmware. If the Update LAN button is visible, click on it to update the LAN assembly's firmware. This update should be done first and takes a few seconds.



7. Next, compare the version number on the Update button with the number read from your GC. If the number on the button is greater, click on the Update button.



8. The utility will download the firmware to the GC and automatically disconnect.

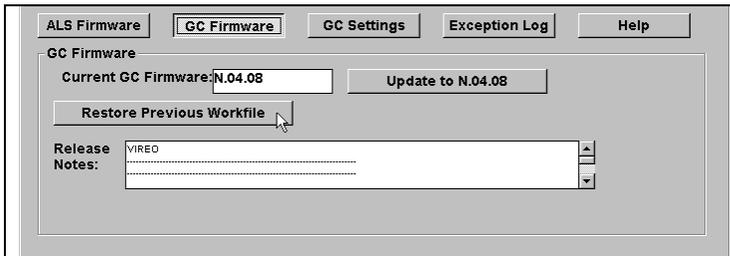
 Wait for the process to complete before continuing.



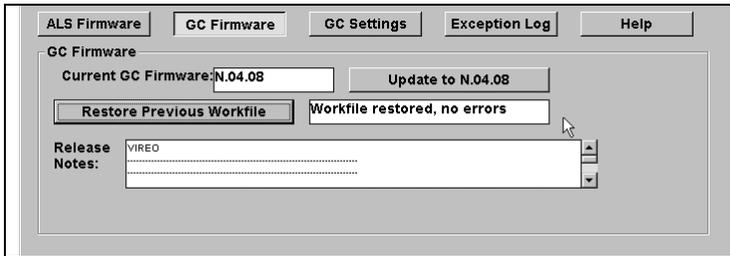
9. The GC will then install the firmware and restart automatically.



10. To clear the memory reset error, power cycle the GC.

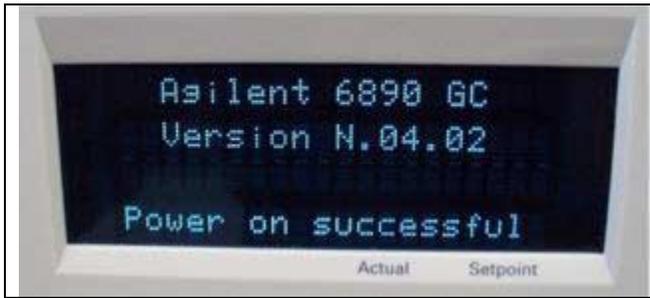


11. Click on the Connect button to reconnect the update utility.
 12. Click on the GC Firmware button.
 13. Click on Restore Previous Workfile to reload the active method, column configuration, and valve or AUX configuration information.



14. The update utility reports the success in a field below the Restore button.
 15. Click the Disconnect button and exit the update utility.

You have now completed the firmware update for your GC and ALS modules.



For the GC updates, you can verify the updates by checking the display on your gas chromatograph.

For the 6890N the status screen after power on should look like this. The firmware revision is on the 2nd line. The latest version is N.04.08.



For the 6890N LAN assembly update, press options, diagnostics, LAN status.

For the 6890N the status screen after power on should look like this. The firmware revision is on the 3rd line. The latest version is V04.5.

Additional notes

During the firmware update, the RS-232 settings are returned to the factory defaults. If your GC controller uses an RS-232 connection and the baud rate and the controller uses something other than the defaults, you will have to re-enter your settings.

Setting	Default	Your settings
Baud rate	9600	
Handshake	None	
Parity	None	
Data bits	8	
Stop bit	1	
End of command	LF	

Record network information for your GC, serial number: _____

IP: IP address	
GW: Gateway	
SM: Subnet mask	

Previous Workfile

<p>A screenshot of a file explorer window showing a list of files. The file 'US00024592.mth' is highlighted with a mouse cursor. Other files include ROM_EDS.asc, ROM_VIREO.asc, St6unst, Vir_Info, and Vir_Name.</p>	<p>When you update firmware on a 6890N or 6850, the utility saves information from the GC as a file into the GCupdate subdirectory on your computer. The file's name is the serial number of the GC with .mth extension. This file contains the active method, the column configuration, and the AUX and Valve configuration.</p>
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Viewing or printing the Exception Log

The exception log records error messages. The errors can sometimes help service representatives troubleshoot problems. The following example shows the firmware update and the memory reset error that occurred during the restart.

ALS Firmware
GC Firmware
GC Settings
Exception Log
Help

Read Exception Log
Save Log as file US00024592.txt
Print Log

```

11,"Back detector",050200,044158,3040603,13
8,"Front detector",050200,044750,3040956,13
11,"Back detector",130300,223937,6301535,16
146,"Memory reset, FW = N.04.07",290300,025130,6673400,16
                    
```

1. To view or print a list of exceptions associated with the GC, click on Exception Log.
2. Print or save the file. The file is saved to the subdirectory c:\Program Files\GC Update.

Loading GC settings

If you have to replace the main printed-circuit board of the GC, the GC Settings feature can help you re-enter basic information back into the firmware of the GC. If you re-enter the IP address either through LAN or RS-232, the network information will not take affect until you power cycle the GC.

ALS Firmware
GC Firmware
GC Settings
Exception Log
Help

Serial Number

US 00024592 Set

Oven Type

1 Set

LAN

IP 130 30 254 143

GW 130 30 254 1

SM 255 255 248 0

DHCP Set

Date of Manufacture

Year 01 Month 03 Day 07 Set

Uptime / Run Count

Days 77

Runs 16 Set

1. To correct the GC settings after the installation of a new main printed-circuit board, click on GC Settings.
2. Enter the setting that you want to change, for example the serial number. Then click, Set.

There are various oven type settings. On the 6890N models, the settings are associated with the speed of the oven. On the 6850 models, they are associated with the supply voltage. Check the power supply label on the back of the instrument to make sure of the correct setting.

6850: G2630A	6890N: G1530N and G1540N
0 – 100 volt, 1 – 120 volt, 2 – 220 volt, 3 – 240 volt	0 – fast, 1 – regular

If you updated the firmware prior to replacing the main printed-circuit board, you can also restore the previous workfile that includes set points plus column, valve, and AUX configuration.

Troubleshooting notes

1. You updated the LAN firmware, but the version number on the display did not change.

For the GC to display the version of the LAN firmware, it must go through a reboot or power cycle. In the instructions, we assume that you update the LAN firmware first, update the GC firmware next, and finish with a power cycle.

2. You loaded the utility on your PC. After step 2 when you select LAN or RS-232, you get a print error message.

You need to have a printer setup for your PC. Please add a printer using the Printers control panel and try again. You do not have to have printer hardware attached.