

**Agilent 8890GC**

**Firmware Bulletin**

**Revision 2.3.0.203**

**Internal and External use**



## About this Document

This document provides the firmware changes used for the following GC Systems

- 8890A (G3540A, G3542A, G3543A, G3545A)

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## Document History

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

Date	Version	Description
6th Feb 2020	Rev 1.00	Initial release.
29th May, 2020	Rev 1.1	Added 2.1.0 details.
14th August, 2020	Rev 1.2	Added 2.1.1.7 details.
28th Sep, 2020	Rev 1.2.1	Modified for external use.
23rd Nov, 2020	Rev 1.3	Added 2.2.0.287 details.
6th January, 2021	Rev 1.4	Added 2.2.1.4 details.
28th January 2021	Rev 1.5	Added 2.2.2.4 details
17th March 2021	Rev 1.6	Added 2.3.0.203



## Compatibility Information

- **Agilent 8890 GC Firmware Support Information.**
- **Notes for Agilent 8890 controlled by non-Agilent Chromatography Data Systems (CDS).**
- **OQ/PV - Validation Information.**
- **Data Handling Compatibilities.**

## **Agilent 8890 GC Firmware Support Information**

- Agilent recommends using always the latest firmware revision of a firmware in order to avoid interoperability issues.
- Generally, Agilent recommends keeping the GC instrument firmware always current.

## Notes for Agilent 8890 controlled by non-Agilent Chromatography Data Systems (CDS)

- The 3rd-party CDS software vendor is responsible for compatibility testing with the respective CDS revision.
- The 3rd-party CDS software vendor defines the minimum firmware revision required for CDS compatibility.
- The 3rd-party CDS release notes issued by the respective CDS vendor may use different terminology for the firmware requirements such as "tested firmware", "supported firmware", "firmware requirements", "minimum tested firmware", etc.

### Waters

Waters have recently released their latest Agilent driver, instrument Control Framework (ICF) Version 2.6 Update 2 in Empower 3

For GC Control: This release adds support for Agilent GC and the 7697A Headspace sampler. The supported GCs are:

- New: 8860 GC
- New: 8890 GC
- Intuvo 9000 GC
- 6850 GC
- 6890N GC (Note that 6890A and 6890+ must have had LAN cards added)
- 7820 GC
- 7890A & 7890B GCs
- 7697A Headspace Sampler
- G1888 Headspace Sampler

NOTE - Be careful to not confuse the Agilent driver, Instrument Control Firmware, (ICF) with the Waters Native driver, ICS, Instrument Control Software.

Both are allowed by Waters and both can be installed on the same system at the same time.

### Thermo Fisher

Thermo Fisher have recently released their latest Agilent driver, instrument control software Chromeleon 7.2

This release adds support for Agilent GC and the 7697A Headspace sampler. The supported GCs are:



- Intuvo 9000 GC
- 6850 GC
- 6890N GC (Note that 6890A and 6890+ must have had LAN cards added)
- 7820 GC
- 7890A & 7890B GCs
- 8860 GC
- 8890 GC
- 7697A Headspace Sampler

## 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 released Service Note applicable to the release.
- In addition, this information is stated further on in this document.

## Data Handling Compatibilities.

Below is a list of minimum 8890 Firmware requirements to support current Agilent Open Lab CDS Chemstation (rev C.01.10), Open Lab CDS (rev 2.4) and Open Lab EZChrom (rev A.04.06 and A.04.07)

<b>Instrument</b>	<b>Model</b>	<b>Supported Firmware Version (minimum)</b>	<b>Notes</b>
8890A	G3540A; G3542A; G3543A; G3545A	1.0.6.1 or greater.	



## Firmware History

- **Current Version Changes.**
- **Previous Firmware Changes.**

## Current Version Changes.

**The current shipping firmware for the 8890A is 2.3.0.203**

*Released March 2021*

[http://download.chem.agilent.com/firmware/8890\\_FW\\_2.3.0.203.tgz.gpg](http://download.chem.agilent.com/firmware/8890_FW_2.3.0.203.tgz.gpg)

To download this version use GC Firmware Update Utility 2.4.3.0 or greater.

*Updating to this firmware does not require instrument revalidation.*

**Service Note Number 8890 Series GC**

### Enhancements.

Support for the 8697 Headspace Sampler

Instrument Intelligence: Troubleshooting

Support 32 oven ramps and 33 plateaus. Negative ramps will continue to be allowed.

Changes/Fixes made since the last version. (2.2.2.4)

Issue ID	Title
36059	AO events always seem to Signal Zero at time of first AO event
38233	Request addition of BUI method to individual results folders for documentation purposes
38332	Lost connection on downloading detector compensated signal or running sample with this signal
38383	Blank and Detector Evaluation Reports from Browser do not factor in time zone of the browser
39228	Is Hydrogen Sensor Auto schedule calibration feature support
39547	Customer reported that front NCD showing wave baseline periodically about 3~4 weeks
39620	Web Browser: Gas Sampling valve set up in Position 4 does not show up in the injection list
39624	Web Browser UI: Valved injections are not working correctly
39735	8890 disconnects from system when column compensation (FID) is selected.
40062	The screen display freeze happened sometimes on multiple GCs when the online signal on touch screen is selected
40178	WebUI: next line in sequence should be locked during sample overlap runs
40213	LUI maintenance cannot finish normally
40242	Method\Performance\Peak Evaluation, reference chromatogram timestamp are not consistent with original one
40284	Nexus touchscreen should not accept IP's with leading zeroes
40344	8890 Oven Fan doesn't slow down after timeout
40396	Record multiple fan failure logs
40498	ONLY Valve 1 (GSV) and Valve 2 (GSV) can be displayed as Injection Source under sequence table.
40552	8890 can't set "sample depth" with a decimal point
40746	ALS Tray X-Bind Test is not available on 8890

- 40765 GatherLogs Status not always returning proper value
- 40651 Firmware 2.2.1.4, cant "ADD" a LTM (AUX4) if there is an existing LTM (AUX3)
- 40789 8890A FID makeup gas flow can't reach setpoint using PPIP
- 40858 Browser not upload Sleep/Wake changed methods to the browser after changes are made in Sleep/Wake method in driver
- 40899 Browser Run Status Injections column shows multiple ALS injections oddly: first is 1 of 1; second is 0 of 1
- 41077 OLCDS Sequence table ignores Sample type 'Sample' if injection source is Blank; runs Blank Evaluation invalidly

## **Previous Firmware Versions.**

This section details previous versions of 8890A firmware giving release notes.

### **2.2.2.4 8890A Firmware**

*Released January 2021*

[http://download.chem.agilent.com/firmware/8890\\_FW\\_2.2.2.4.tgz.gpg](http://download.chem.agilent.com/firmware/8890_FW_2.2.2.4.tgz.gpg)

To download this version use GC Firmware Update Utility 2.3.3.0 or greater.

*Updating to this firmware does not require instrument revalidation.*

Service Note Number 8890 Series GC 028

Changes/Fixes made since the last version. (2.2.1.4)

<b>Issue ID</b>	<b>Title</b>
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039547	Front NCD showing Baseline wave.
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039735	8890 Disconnects when Column Compensation is selected
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038332	8890 Disconnects on download of Column Compensated signal.
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### **2.2.1.4 8890A Firmware**

*Released December 2020*

[http://download.chem.agilent.com/firmware/8890\\_FW\\_2.2.1.4.tgz.gpg](http://download.chem.agilent.com/firmware/8890_FW_2.2.1.4.tgz.gpg)

To download this version use GC Firmware Update Utility 2.3.3.0 or greater.

*Updating to this firmware does not require instrument revalidation.*

Service Note Number 8890 Series GC 027

Changes/Fixes made since the last version. (2.2.0.287)

Issue ID	Title
040402	LTM cannot be connected using Aux 4
040502	OS Crash when installing Collision Cell module.

## 2.2.0.287 8890A Firmware

*Released November 2020*

[http://download.chem.agilent.com/firmware/8890\\_FW\\_2.2.0.287.tgz.gpg](http://download.chem.agilent.com/firmware/8890_FW_2.2.0.287.tgz.gpg)

To download this version use GC Firmware Update Utility 2.3.3.0 or greater.

*Updating to this firmware does not require instrument revalidation.*

Service Note Number 8890 Series GC 025

## Enhancements.

### Peak Evaluation.

The self-aware and GC intelligence features of the Agilent Intuvo 9000 and 8890 GC systems continue to be expanded. With firmware 2.2, an initial version of Peak Evaluation that expands the GC Performance section of the methods to allow users to enter chromatographic attributes for monitoring on up to 10 peaks in sample chromatograms is released.

### Easy SamplePrep and Menu-Driven SamplePrep

#### Easy Sample Prep

- **Automates** basic sample preparation techniques
- **Simplifies** building and execution of sample prep program with easy drag and drop programming
- Available for 8890 (7890, 6890 too) with OpenLAB CDS and OpenLAB ChemStation

#### Menu-Driven Sample Prep

- **Standard sample preparation control, displayed in list form**
- **Available for 8890 (7890, 6890 too) with MassHunter and OpenLAB EZChrom**

### GC Browser Phone Interface

A browser interface optimized for mobile viewing on either iOS or Android phones now provides status information including remaining run time and a static plot of the last 20 minutes of detector data.

### Phone Interface Home Screen

## New Updated GC Specifications

The following GC specifications for Intuvo 9000, 8890 and 8860 have been updated to help make you more competitive in bids/tenders. Note: MMI is for Intuvo 9000 and 8890 only.

	OLD Agilent GC Spec	NEW Agilent GC Spec	Shimadzu 2030	Thermo 1310
<b>Max Inlet Split Ratio (SSL, MMI)</b>	7,500:1	12,500:1	9,999.9:1	12,500:1
<b>Max ECD Data Rate</b>	50 Hz	500 Hz	500 Hz	300 Hz
<b>Max FPD+ Data Rate</b>	200 Hz	500 Hz	500 Hz	300 Hz

## Added Security to Set Browser UI PIN At Touchscreen

A PIN must be used at the Browser to enable it to connect to a GC. The PIN is set at the GC touchscreen.

- The previous GC firmware allowed up to 4 numerical digits to be entered for a PIN
- The new firmware (rev. 2.2) allows up to 4-8 numerical digits to be entered for a PIN if additional security is desired

## Changes/Fixes made since the last version. (2.1.1.7)

### Issue ID Title

- [035788](#) Oven cryo timeout can only be cleared by power cycling the GC.
- [034968](#) 8890 BUI does not upload signal events from the instrument.
- [035046](#) User validation of Static IP information.
- [035646](#) Nexus analog out signal goes high when TCD filament is turned off.
- [035882](#) 8890 BUI: Unable to configure settings for user config thermal aux.
- [036034](#) BUI missing User Configurable parameters for both Inlets and Thermal Zones.
- [036069](#) Add copy/paste functionality to BUI sequence editor.
- [037001](#) 8890 Channel Partner PCM inlet rate is possibly incorrect.
- [037171](#) 8890 touchscreen and Browser Actuals for Column 1 and 2 Flow shows setpoint 0.000 mL/min for Scheduler methods.
- [037235](#) Add or insert sequence line during sequence running BUI



037468 Minor adjustment for button on IE browser.

037775 8890 Browser is not checking for max volume of 75% syringe size when using sandwich modes.

037988 8890 touchscreen inconsistent in display of H2 Sensor's H2 Concentration: ppm in Actuals and Plot, % in Service Mode.

038094 Sequence Name not displayed on LUI for CDS Headspace Sequences.

038216 Request addition of 'pause sequence' button in BUI.

038335 WebUI: column dimensions displayed incorrectly after being changed.

038635 Using Signal Events from Browser causes no data at all to be collected for that signal (Freeze and Resume).

038653 LTM-Override column max not working.

038738 Data not integrating in DA Express.

038959 Customers complain "Prerun", "Start" and "Stop" key are too small and not sensitive on 8890 touchscreen.

039097 8890 Browser UI - Real time Event to change the Thermal Aux Temperature is not available..

039100 BrowserUI and LUI do not show Readiness setting for LTM.

039134 Could not connect 8890 by DSA happen again.

039243 Excessive Safety Flow Shut off with all gasses needs to apply just to H2.

039280 LUI live plot of detector signal eventually causes high CPU usage.

039286 8890 Oven Fan Failures not Reported.

039327 8890 - customer requests t be able to turn the warning beep off, like the 7890.

039386 Method save fails to display tab with errors when changing column flow.

039462 The "Tools" menu is missing in firmware revision 2.1.0.626.

039504 Browser does not support configuration of 2 FPD and 2 ECD detectors.

039534 ENHANCEMENT REQUEST - 8890 - Customer wants to set the Blos bead current to 50 pA.

039536 Change MS network setting behavior from the LUI.

039543 8890 2.1 firmware gives Error on Quick start for SCD.

039610 8890 is locked in a loop with Diagnostics, Automated Blank Run.

039615 SCD Diagnostic Signal - Reactor, Pressure Setpoint does not plot.

039617 There is zero information in the Help system for the 8890 "Disc Storage full" message or how to recover.

039675 8890 Touchscreen - Service Mode Valve Box is not correctly showing the Actual Value or Duty Cycle values.

039678 8890 Touchscreen: Service Mode : Detector : FID : Thermal shows Castle Temperature for the FID on the 8890.

039711 8890 Frozen LUI when adding/removing PCM.

039749 Modify GC Access PIN to allow for 4 to 8 digits.

039878 Customer Complaint that the Start button on the LUI of the 8890 is small and difficult to push during a manual injection.

039968 Aborting sequence from LUI while a vial is in the heater will cause subsequent runs to fail with tray error.

039992 8890 drives APG Stop line at normal end of run.

040052 8890 MMI: Inlet bleeding pressure at end of run even if Purge time is set to 999.99.

- 040168 Browser UI- Unable to select Load Default Setpoints.
- 040171 Split Vent Restriction Test - wrong valve appears to be controlled.
- 040212 NO "Resume" button display after click "Pause".
- 040292 8890 "Host System Not Ready" should remain as long as the data system (MH) does not have a sequence running.
- 040383 8890 - Ambient Pressure Diagnostic Signal is test plot not Ambient Pressure.
- 040410 BUI Help\_some linkage are wrong linked

### **2.1.1.7 8890A GC Firmware**

*Released August 2020 (not released to manufacturing - Service Fix only)*

[https://download.chem.agilent.com/firmware/8890\\_FW\\_2.1.1.7.tgz.gpg](https://download.chem.agilent.com/firmware/8890_FW_2.1.1.7.tgz.gpg)

To download this version use GC Firmware Update Utility 2.2.23.0 or greater.

*Updating to this firmware does not require instrument revalidation.*

Service Note Number 8890 Series GC 020

Changes/Fixes made since the last version. (2.1.0.626)

<b>Issue ID</b>	<b>Title</b>
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- |        |   |
|--------|---|
| 039345 | Inlet bleeding pressure at end of run even if Purge time is set to 999.99. In version 2.1.0.626, if the purge time was set to 999.99, the inlet would bleed pressure at the end of the run. This was causing issues with the Markes Thermal Desorber. Inlet now does not bleed at end of run. |
| 039367 | User is unable to enter the Inlet Maintenance from the LUI. Selecting the Inlet tab will revert you back to the previously entered field and not the inlet field.   |
| 039370 | Browser: User Configurable Heater Parameters under Service Mode   |
| 039401 | 8890A Inlets Maintenance screen is wrong  |
| 039427 | Unable to download inlet PID from the LUI.  |
| 039458 | Help does not find any hits when searching  |

### **2.1.0.626 8890A GC Firmware**

*Released May 2020*

*Updating to this firmware does not require instrument revalidation.*

Service Note Number 8890 Series GC 012

Changes/Fixes made since the last version. (2.0.0.391)

To download this version use GC Firmware Update Utility 2.2.23.0 or greater.

Enhancements

Added chromatographic attributes for the DSA and Browser.  
Improved phone UI features.  
Added support for the Gasifier II  
Updated Help and Localisation (Chinese, Russian, Japanese, Brazilian Portuguese)

Changes/Fixes made since the last version. (2.1.0.626)

Issue ID	Title
<a href="#">032864</a>	8890 Browser Diagnostics\ Available Tests lists Back Inlet before Front Inlet
<a href="#">033244</a>	Icon for GC Power On and Communication is misleading
<a href="#">033908</a>	8890 PTV no options for choosing inlet liner in browser UI
<a href="#">034293</a>	8890 LUI and browser are not showing the correct Status when a Manual run is started from browser sequence: should be Prerun (purple)
<a href="#">034716</a>	8890 SSL no provisions for installing a liner in BUI
<a href="#">034827</a>	8890 Browser fails to update Real Time Plot, unless the cache is cleared
<a href="#">034895</a>	8890 Browser Sequence table allows Valve injection Source when no GSV's are configured;
<a href="#">035024</a>	FW does not appear to be rejecting out of spec thermal aux zones
<a href="#">035114</a>	8890 does not completely release ownership to DSA if DSA connects during a run; Monitor mode persists even after closing session
<a href="#">035367</a>	Improve image quality in user documentation
<a href="#">035513</a>	Pre-run flow test should report observed leak rate.
<a href="#">035713</a>	Not ready message pointing to the wrong zone.
<a href="#">035736</a>	NCD- add a message to remind user to turn on pump in order to set detector gases like hydrogen/oxygen
<a href="#">035914</a>	8890 Browser has no way to Lock Columns
<a href="#">035915</a>	8890 Browser has no way to Calibrate a column
<a href="#">036100</a>	GC Status is showing column flow rates for packed columns configured to a PCM
<a href="#">036228</a>	BI/F and LUI signal descriptions on status listing are different
<a href="#">036269</a>	8890 touchscreen offers Back ALS Calibration when none exists
<a href="#">036286</a>	The green circle hint won't disappear even when you have reviewed all of the logs entries under Logs on 8890 LUI
<a href="#">036543</a>	The Date/Time should be displayed entirely under Instrument Service Mode on 8890 LUI
<a href="#">036572</a>	8890 DSA does not show 'No BCD' when no MPV BCD cable is present
<a href="#">036619</a>	8890 Clock table should offer the user-entered Valve Name instead of a number
<a href="#">036688</a>	The sample name on 8890LUI and BUI only show the front sample name when running dual injection sequence by driver on Chemstation C0110

- 036978 LUI: ECD method missing read only column flow
- 036982 LUI: Events table Position column truncated when used for signal selection
- 037041 [8890][LUI] Actuals plot doesn't respond correctly to pressure units change
- 037042 [8890][LUI][English] Signal list shows cropped signal name
- 037048 LUI: Cannot change MSD Setpoint
- 037055 8890 PSD: Invalid range on LUI
- 037068 LUI converts pressure ramp rate to supposedly invalid value
- 037076 8890 PSD Browser: No Ramped Pressure, includes invalid Constant Flow
- 037124 8890 BUI: Thermal Aux listed incorrectly in method/config/misc
- 037131 8890SCD0400- FID-SCD: Pump purging for 100 counts not implemented
- 037160 GC0260 -NCD: Browser actual did not have right 'Hydrogen Flow'
- 037193 Gas configuration with channel partner detectors
- 037265 DSA Signal "None" converted to "Test Plot" on GC
- 037282 The Confirmation info dialog of Reset All is missing with FPD detector under Maintenance on 8890
- 037283 8890 Browser Plot Signal list for PSD Diagnostics includes invalid Purge Pressure options, extra Flow Duty Cycle; inconsistent with DSA
- 037285 8890 Browser Method Edit Signals list of PSD Diagnostics lists all PSD Pressure and PSD Purge options twice
- 037291 8890 SCD0400 (FID-SCD): Title of SCD should be read as [Aux SCD on front or back FID], missing the word front or back (LUI and Browser)
- 037294 8890 SCD0400-FID-SCD: System health report for the SCD lacks hydrogen (Upper) flow (LUI, Browser & Chemstation) [8890 & 8860]
- 037303 When reset the EMF value of "Photomultiplier tube injection", only one log entry "Back detector, photomultiplier tube on Maintenance" occur on 8890BUI and data system.
- 037304 When the EMF value of "Photomultiplier tube on" is 0, reset the value again, no Maintenance log will show on 8890.
- 037310 8890 touchscreen Valve screen shows no setpoint for MPV: should be position or 'No BCD' if not cabled
- 037351 8890: Browser UI signal source table can't retrieve some diagnostics settings from DSA signal source table
- 037360 8890 CO2 MMI Cryo can't reach -70°C
- 037372 8890 AO Signal events do not seem to execute from browser
- 037381 Method Name not cleared on LUI at the end of a sequence
- 037443 Response not consistent between Browser Ui and DSA for Performance: Enable Blank Evaluation enable is inactive

- 037542 Auto Prep Run not available on the LUI
- 037559 Intermittently reports system error " 0x0000400"
- 037580 Overlap issue will happen if expand the table of contents too long
- 037604 8890 - Cannot reconfigure a 120 volt 8890 to have a 220 volt oven
- 037620 Set/Clear Syringe missing on 8890 Method Editor OLCDS 2.4
- 037631 8890 there is no "Apply" on the screen when you update modules.
- 037639 Vial location display in Sample Queue are not correct for actual
- 037645 9000 or 88xx Browser method activates Blank Evaluation Enable boxes for all detectors, though only a single detector signal is selected
- 037659 Instrument Thermal Fault, Current on Circuit Too High an Inlet Fan Fault on 8890
- 037661 Additional 8890 browser sessions not working after Mass Hunter sequence started
- 037683 WebUI: Oven Ramp Editor missing labels after changing Hold Time
- 037713 8890 split/splitless abbreviation
- 037715 8890 Hydrogen sensor : Hydrogen sensor calibration record is not updated in diagnostic test result under system health report.
- 037716 8890 Hydrogen sensor: after the hydrogen sensor is calibrated, there are no records under maintenance log/ system log.
- 037717 8890 Hydrogen sensor: the 'ON' is not functional in Browser Interface.
- 037760 The "Age" term is untranslated on the GC 8890 LUI < Maintenance < Back Injector –PP < Details.
- 037764 The "Select Method" box dialogue is not localized on the GC 8890 LUI < DA Express
- 037772 Leaving Manual injection from Browser unstarted gives no indicator; blocks any connection from data system or data system configuration; requires GC restart
- 037795 8890 Browser method download does not honor a previously locked column
- 037801 8890 Browser Column Configuration incorrectly includes 6 different LTM column types
- 037849 WebUI: Unable to edit columns from Method Editor
- 037854 8890 Browser will not configure Columns; attempts inactivate Calibrate button
- 037858 There are always unread logs displayed on Run Log Tab
- 037910 Config screen on 8890 unresponsive during hardware upgrade
- 037919 LUI service mode values aren't always updating
- 037923 Locking column removes calibration and changes column type
- 037924 8890 DSA does not save any column calibration results, though they have been downloaded
- 037929 8890, GC driver 3.0.652 does not accept syringe sizes of 0.5 uL

- 037931 OLCDS ALS sequences display Sequence names on LUI or Browser Status bar really long with appended date, untruncated
- 037934 8890 Touchscreen Maintenance Log displays communicating HS injection count Servicing with 6 zeroes after decimal point; should be integer
- 037940 8890 Touchscreen and DSA Maintenance Logs do not log any service of 7697 EMF resets unless reset from the touchscreen
- 037941 FW update is resetting all 8890 syringe sizes to 1 uL
- 037944 Frozen 8890 LUI
- 037954 8890 System Health Report Past Instrument Alerts always seems to log state of Hydrogen Shutdowns as 'Cancelled' when they were resolved
- 037955 8890 System Health Report Diagnostic Test Results shows no details for a H2 Sensor Calibration Check
- 037959 H2 Sensor Calibration initiated from Browser completes, but does not update time stamp on System Health Report
- 037960 Initiating H2 Sensor calibration from Browser clears Bottle Log number and Expiration Date from touchscreen
- 037976 8890 touchscreen Calibration\H2 Sensor has 'Auto Schedule' checkbox that should have been removed
- 037977 8890 Browser Calibration\H2 Sensor has 'Auto Schedule' checkbox that should have been removed
- 037978 8890 Browser has no Actuals for H2 Sensor: ADC, Resistance, H2 Concentration
- 037998 8890 Status shows no change for any Calibration; should change to Not Ready: Calibration Running/ Recovering/ etc. (as 7890 does)
- 038001 8890 H2 Sensor Bottle Expiration date has no format entry pattern, though touchscreen requires YYYY-MM-DD
- 038034 8890 BUI: Not ready alerts not clearing when instrument becomes ready
- 038037 For purged splitter with PCM on 8890, column #2 flow mode is not reflected on screen and web interface of the 8890 GC, though actual behavior of the system is as if is controlling column #2 in constant flow mode
- 038074 8890 - SCD: Constant flow mode with pressure set point not matching actual value
- 038085 ALS Calibration Error 346 does not have useful message
- 038087 8890 Touchscreen: column outlet cannot be downloaded to the GC Local UI.
- 038109 Plot on 8890 LUI allows decimal point to be entered, but then no following digits are allowed
- 038129 For VI, split/spitless mode cannot be set properly
- 038141 Terminology difference: Browser Settings is 'Aux Heater'; touchscreen Settings is 'Thermal Zones'
- 038149 XCD in 'standby' causes GC fault

- 038152 Excessive Swap Usage causes signal buffer full and data system disconnection
- 038160 Communicating and Following 7697 does not sync clock to GC Clock time
- 038165 8890 Septum failure during sample overlap displays ALS 453 error in Mass Hunter
- 038202 8890 ALS error messages not logged in touchscreen run log
- 038205 MSD-D Comm not connecting properly
- 038231 8890 DSA Hydrogen Sensor Print Calibration Report info differs and is in error from info on touchscreen
- 038232 Browser IF needs to display the Pre-Run Flow Test for COC Inlet
- 038234 System broke BUI method file, currently unusable, looks empty
- 038236 Loading corrupted BUI method does not warn user, no error message
- 038237 Running a BUI sequence with corrupted method does not abort, runs default conditions
- 038265 Unable to turn blank evaluation on for Aux Det 2
- 038267 Column outlet pressure cannot be set from 8890 Touchscreen, while it works from GC Driver
- 038275 Request modification or clarification of the 'stop run / stop sequence' behaviors on LUI
- 038305 Unable to run sequences from Web Browser
- 038327 8890: GC Drive will be offline for a while (~5s) and then back to idle when loading detector compensation signal. Injection aborted.
- 038328 Removing both ALS towers on 8890 causes Instrument: Command Failed
- 038330 High CPU Usage; System Fault - Please reboot
- 038333 8890 Browser Blank Evaluation Load Default Setpoints does not load any default values
- 038335 WebUI: column dimensions displayed incorrectly after being changed
- 038340 Blank Evaluation analysis encountered an error. Missing detector signal information
- 038351 Pressing stop on LUI crashed sequence
- 038352 Stopping sequence from DSA did not stop sequence properly
- 038355 GC's dropping connection and unable to communicate
- 038358 Blank Evaluation Failure Action not set correctly
- 038373 Touchscreen Sequence Log advises of Blank run analysis when Detector Evaluation is run from Browser
- 038375 Detector Position is incorrectly reported in the Blank Evaluation Report.
- 038376 Blank Evaluation values are not in display units.
- 038380 Blank Evaluation Failed: Report column Failed Criteria is 'null' for each item from touchscreen and browser



- 038382 Blank Evaluation Action on Failure: Abort does not abort sequence on Failure
- 038391 Blank Evaluation Setpoints Error: Default Setpoints are not available from the GC
- 038393 Browser Sequence Options includes incorrect 'Skip sample' for Blank evaluation failure Recoverable Errors; should be 'Continue sequence'
- 038394 Blank evaluation Pass or Fail is not logged to touchscreen or browser Run Logs
- 038395 Detector Evaluation Report returned by FW is empty
- 038397 Browser Method does not disable Blank Evaluation or warn when non-detector signal is selected
- 038399 Browser allows enabling of Blank Evaluation for detectors that do not have a related signal selected on Signals page
- 038403 DSA does not upload Blank Evaluation state or Time window End time
- 038405 Browser saved method inconsistent with DSA-saved method for Blank Evaluation Failure Action
- 038427 8890 LUI not updating flow paths with config change
- 038457 Touchscreen offers no way to escape Shutdowns; Detector evaluation condition was present and undismissed
- 038483 When using a capillary column with a purged packed inlet the inlet control mode is incorrectly linked to the column mode.
- 038502 Touchscreen shows 'System Fault - Please Reboot'
- 038507 Browser Detector Evaluation screen is showing 2 drop-down boxes for Checkout Sample; Can select 2 signals; Cannot select Checkout for Signal #2 alone
- 038622 8890 GC going offline when downloading method with OpenLab 2.4
- 038624 Browser Blank Evaluation screen will not activate Load Default Setpoint button when enabled
- 038627 Changing filter option from 'Gas Clean Carrier Gas Filter Saturated' condition proceeds only to step 2; Dismiss leaves GC in inescapable Diagnostic Mode
- 038629 8890 touchscreen does not acknowledge presence of newly cabled Gas Clean Filter USB
- 038631 DSA shows 8890 as Offline if connecting to GC in Diagnostic Mode
- 038632 8890 slows down with High CPU when ALS is poorly seated
- 038634 Browser Signal Event Table Time range is -infinity to +infinity; should be 0-999.99 min
- 038635 Using Signal Events from Browser causes no data at all to be collected for that signal (Freeze and Resume?)
- 038655 8890 Blank Eval Analysis encountered/reported an error when told to do Blank Eval, Pass or Fail
- 038665 Browser offers competing 'Actions on Failure for Blank Evaluation': options are present in both method and Sequence Options



- 038667 Inconsistent ranges for Blank Evaluation Baseline Analysis between browser and DSA: browser is restricted, DSA is not
- 038676 BUI\_Blank line display on the signal event drop down lists
- 038707 Function Readiness for Front Inlet-S/SL not correctly upload from DSA to Touchscreen
- 038722 Test case No Perform Maintenance button on the BUI for Valve and MS
- 038768 Request to get Peak Evaluation Report returns Detector Evaluation Report
- 038785 Measured Temperature not apply correctly in oven calibration in Touchscreen
- 038794 MPV: Missing Message when MPV has never been configured on the 8890
- 038809 Could not run sequence and could not connect to GC after Connected to GC while browser sequence is running
- 038815 VAR partner JAS observes 8890 syringe speed is same w/PTV or Septumless PTV
- 038854 Prep run not function as expected
- 038878 Pressure is incorrect when perform 8890A Inlet diagnostics test using "kPa"
- 038887 [Functional] The Service due age value of ALS Syringe age on LUI is inconsistent with on data system
- 038913 Cannot edit method using the Browser on 8890 or 9000 units
- 038920 System will not switch to MSD Vent method automatically and though cannot lower down the GC temperature zone, eg, MSD transfer line, inlet temp
- 038937 BUI\_No error if download method within Air gas type for PCM or Aux PCM though they are configured in the flow
- 038938 BUI\_Forward or Backward Pressure for Aux PCM Control Mode is not translated
- 038942 No Diagnostics signals display for PCM and Aux PCM
- 038971 unsuccessful connection to GC when Gasifier is installed in 8890.
- 038985 Vial range on Reference Chromatogram Run Parameters dialog should adjust to match actual configured injectors
- 038986 Printing Preview report name not consistent with actual Peak Evaluation Report
- 039002 could not download method from BUI and DSA
- 039018 FPD+ does not seem to recognize/control to 'Lit Offset'
- 039033 Browser Sequence Log does not log anything about Sequence aborted because of DSA control during sequence
- 039040 BUI\_Setpoint for Multi-position Valve is incorrect in Event
- 039041 BUI\_Valve parameters not correct display in the status
- 039044 8890 goes offline and then to monitor mode-no data is stored.
- 039045 GC Shutdown response when configured Sample pathway's Inlet gas type to He
- 039047 GC Shutdown response when configured Sample pathway's Inlet gas type to H2
- 039056 There are no diagnostic signals for Hydrogen sensor in DSA.

- 039060 LUI\_8890\_9000\_Always freezing after change the language
- 039070 Can't connect to 8890 system
- 039071 Browser Events table offers unaccepted Setpoint option for AO Signal Zero Event type
- 039076 8890 Extend run does not correctly close data acquisition when run is complete
- 039091 LUI\_No Diagnostics Condition display when Inlet Cryo Timeout
- 039093 WebUI: Unable to Save Method because of Peak Evaluation
- 039104 The entry for Peak Evaluation if Set Action on Failure to Continue is not completely.
- 039115 Disc Storage Full Up Warning pop up with 88x0 GC

## 2.0.2.8 8890A GC Firmware

*Released January 2020*

*Updating to this firmware does not require instrument revalidation.*

Service Note Number 8890 Series GC 012

Changes/Fixes made since the last version. (2.0.0.391)

Issue ID	Title
----------	-------

- |        |  |
|--------|--|
| 037664 | Sequence aborted by rear injection timeout.  |
| 037804 | Intermittent ALS remain in busy state and sequence aborted with GCMS system.   |
| 037892 | Not Able to communicate with the Injector  |
| 037922 | 8890-7000: Collision Cell Aux channel cannot work properly during post-column backflush. During the backflush process, the pressure of inlet cannot hold at about 2psi, leading to a pre-shutdown alert. Meanwhile, the pressure of Collision cell aux channel cannot reach to the setpoint as well. eg, 40psi |
| 038025 | GC not waiting for readiness prior to injection. Using an 'external device' to hold the system not ready, the instrument will not wait for readiness (i.e. wait for GC to become ready) before injecting a sample.   |
| 038027 | BUI does not wait for readiness to begin sample prep. (related to 038028)  |
| 038028 | Cannot start run from BUI.   |
| 038095 | Variable function of plunger speed cannot be set and jump back to fast/slow automatically.   |

## 2.0.0.391 8890A GC Firmware

*Released October 2019. Changes/Fixes made since the last version. (1.2.0.13)*

Enhancements

added support for the Integrated xCD  
added support for the Integrated SCD  
added support for the Integrated NCD  
added support for the Integrated FID-SCD  
added support for the Integrated FID-NCD  
added support for Clock table programming  
added support for Sleep/Wake  
added support for the LTM II (firmware supports this but also need hardware to support this)

**Issue ID Title**

[034635](#) Detector Evaluation needs a way to cross reference .ch file to the corresponding filter type for dual FPDs

[034801](#) Inlet flow setpoints on LUI are not correct when no column is configured to SSL inlet.

[034996](#) On the touchscreen, tuning the thermal zone is inconvenient on the PID screen because it always returns to the top.

[035025](#) Browser UI loses its place when a change is made to valve config.

[035057](#) Overlap sequence with barcodes reads mismatched vial three times (Inactive)

[035063](#) Browser UI Sequence has "DA method, amount, Level" column even if DA express is not available.

[035149](#) LUI: Service Mode Setup: Heater 0 showing up as available

[035189](#) Browser UI Shows Heater for No Heater PTV

[035190](#) LUI shows temperature setpoints for PTV without heater.

[035234](#) Browser Interface show Remote Start for all valve positions, GC Driver for 7 through 10, and the Touch Screen 7 and 8.

[035247](#) Browser UI - Must press minus sign twice before combo box will accept negative sign.

[035278](#) Cannot manually zero septum purge from LUI. on the 8890 GC.

[035287](#) Touch Screen shows zero values for linear velocity and holdup time when the column is a composite column.

[035295](#) LUI "owner" not cleared after disconnect.

[035322](#) Run Log is not showing the time and date stamp when accessed from the Touchscreen.

[035332](#) On the Touch Screen Mode is blank initially on the VI when the split line is plumbed.

[035459](#) 88x0 Local Data Storage link typo.

[035506](#) Browser Interface Locale settings change back to English after Brower Interface reopening.

[035509](#) Column randomly un-configures itself when using column smart key.

[035519](#) 8890 Pre-run flow test running after injection.

[035520](#) Pre-run flow test is aborting current run instead of aborting the next line in the sequence.

[035524](#) 8890 GC gets stuck in conditioning method.

035526 Browser UI: Register Column should happen before column conditioning when column is changed.

035542 Detector Gas Flow Runtime Events are missing.

035548 Parts Finder Loaded Incorrect MSD.

035604 Removing columns from the Browser UI does not work correctly.

035687 Method name display in LUI or Browser UI not displayed.

035712 Ignore ready for Aux PCM channel does not work.

035735 New PID parameters for Splitless injection with G3449A needed.

035759 PPIP Pressure Setpoint should be removed in Flow control mode in touchscreen.

035779 Need to add Chinese Input Method for Remote Advisor Input in 8890 Touchscreen.

035800 Browser UI not uploading Fast Cooldown state from GC.

035802 Entering PID values resets all settings in user configurable parameters.

035806 Diagnostic Procedure to Tune User Configurable Zone needs to be fixed.

035816 8860/8890 LUI: the status should be Not Ready when the SSL inlet is waiting for pre-run and purging under Splitless mode.

035825 8860/8890: when running an inlet Pressure Decay Test, the actual inlet pressure is different between in Browser Interface and in Touchscreen.

035826 8860 Browser Interface: In the browser, the GC has 10 available valve positions while in CDS 2 it has 8.

035836 Maintenance servicing of HS items do not log to Maintenance Logs (GC Driver, LUI, Browser)

035859 Oxygen is available to configure as gas type when a column is configured with an Aux EPC.

035877 It is not possible to set up a negative flow using Aux EPCs.

035878 TCD Switching comes on with above 130 degrees without selecting filament on or flows on.

035885 Gas type is not display for Aux EPC channels only on the Browser UI.

035888 8890 Browser UI: Unable to add a third ramp to the Aux EPC Channel when a column is not configured.-

035891 Browser UI: Ramp table values are not updated when the pressure units are switched from bar to kPa.

035923 Blank evaluation test for ECD cannot pass on parameter of "Total peak area".

035990 8890 GC Driver Instrument Actuals shows non-existent 'Tray Chiller/Heater: -327 degrees C'.

036015 The setpoint of column 1 will not change under constant flow mode no matter what the column outlet is, MSD or other detectors.

036046 Liner database access is missing when connecting to a 8890 (appears with both OpenLab CDS and OpenLab CDS ChemStation).

036079 8890 SSL liner change does not appear in maintenance log or change EMFs .

036095 Detector Pressure diagnostics signals are not working properly.

036103 8890 in ICF: HS in Follow GC/Comm mode does not turn heated zones on after selecting Turn Instrument On; does not load Wake method no matter the GC setting.

036232 APG Remote Ready line does not pull GC not ready.

036397 Ability to set inlet pressure to 100 psi from the GC Driver with MMI.

036653 High CPU Usage and slow LUI response in Diagnostics and Maintenance modes.

036914 Column outlet pressure cannot be set and resets to 0 in the GC Driver when the column outlet set to "other".

036925 When a column is configured front inlet to PSD and the pressure is turned off at the inlet, the pressure also turns off at the PSD.

036927 Abort current run from Browser interface and Touchscreen which is acquired from GC driver violate the audit requirement.

037267 Unable to add Run Table Event for NPD Detector Hydrogen in the Browser UI.

037415 When using GC Driver to acquire data, the method parameters are "editable" on Browser interface and show "Method download successful" though actually does not work.

037623 "Host not ready " is not available on 8890/60 with MassHunter software.

#### **1.2.1.10 8890A GC Firmware (Released as point patch only for certain customers - not released to manufacturing**

*Released August 2019.*

##### **Issue ID Title**

036672: Oven Cryo will not become ready

037086: QQQ Aux channel backflush goes into shutdown

037194: "Oven heating too slowly" observed at several customer sites

#### **1.2.0.13 8890A GC Firmware**

*Released April 2019.*

Firmware version 1.2.0.13 fixes some issues in the initial release of the 8890 firmware (version 1.0.61) as listed in the following TeamTracks. No new functionality was added in this firmware version.

##### **Issue ID Title**

35226 Test Case: 88xx Channel Partner Inlet System - Cryo options not present for PCM Inlet with cryo valve configured

35262 Manufacturing Utility Can't Configure Valvebox

35417 The H2 sensor cannot be autoconfigured

35432 Excess Flow Shutdown in Released 8890 FW can be invoked during normal use of the

## Markes Unit-xr Thermal Desorber

- 35596 Column outlet pressure cannot be set and resets to 0 in the GC Driver when outlet set to other
- 35599 8890 display freezes when set the packed column flow
- 35602 Browser UI sequence and method entry fields need to be sanitized.
- 35603 Setting up packed columns from the browser does not work.
- 35606 Autoconfigure with AIB board (option 206) in B-Det position doesn't work
- 35611 8890 doesn't support oven cryo autoconfiguration
- 35616 8890 doesn't support DFPD autoconfiguration
- 35628 8890 auto-configuration issue
- 35641 Analog out on LUI does not show actual output signal value
- 35650 Analog output signal on 8890 and 8860 GCs is very small compared to 7890 GCs.
- 35651 Analog output signal Zero setting is +- 5000000 instead of +-500000 like the 7890 GC.
- 35652 Compressed air cryo not configurable option for inlet cryo
- 35653 Changing the Zero value on the 8890 Analog Output does not change baseline output.
- 35670 Aux Detector 2 heater autoconfiguration issue
- 35685 User config thermal aux heating too slowly
- 35695 8860 Browser Interface: Method name with a space at the end can't be loaded or deleted
- 35708 There needs to be a way to clear the GC back to original state as received.
- 35719 Oven type mismatch
- 35720 Can't clear cryo fault on Thermal Aux
- 35722 Air cryo behavior incorrect
- 35734 When packed column is configured, the user can not set the length, diameter and thickness.
- 35748 Oven cryo does not control properly: oven actual temperature oscillates +/- 1.5C
- 35749 8890: Air cryo not turning on for PCM inlet
- 35782 8890 System fault 1.2.0.9 FW
- 35783 User config thermal aux missing screens in setup
- 35786 Issues with new PCM Inlet heater config screens
- 35801 Cannot set "D" term < 1 for user config thermal aux PID's
- 35804 PCM Inlet configurations settings not saving
- 35807 User config thermal aux heating too slowly (2)
- 35851 Invalid Setpoints - Nominal Power

### **1.0.6.1 8890A GC Firmware**

*Initial release February 2019.*



## Firmware Update Program.

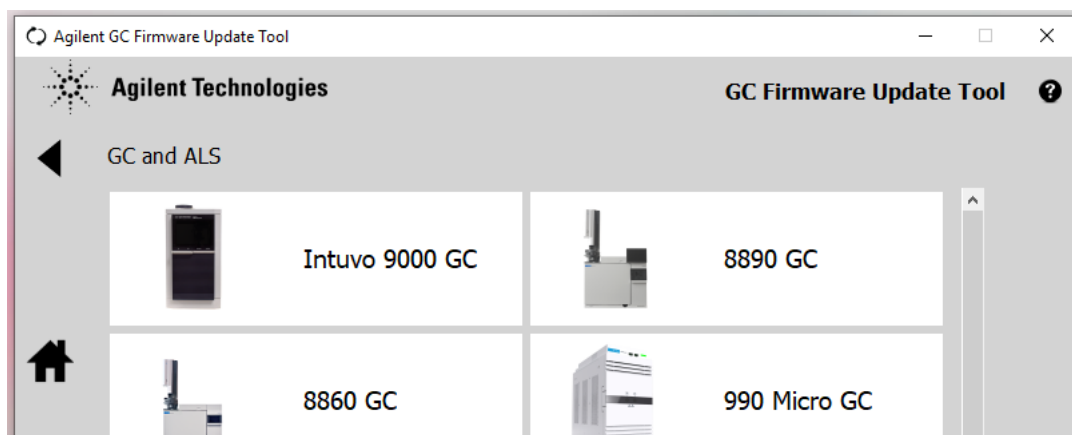
## Firmware Update Program.

It is not possible to downgrade firmware from revision 2.X to revision 1.X  
The GC firmware update program is supplied as part of the Firmware Update Package.  
Always use the latest version of the update tool.

After the program has been loaded and executed the following screen appears.



This enables the user to select which instrument type needs to have its firmware downloaded.  
In this case we select the GC and ALS.

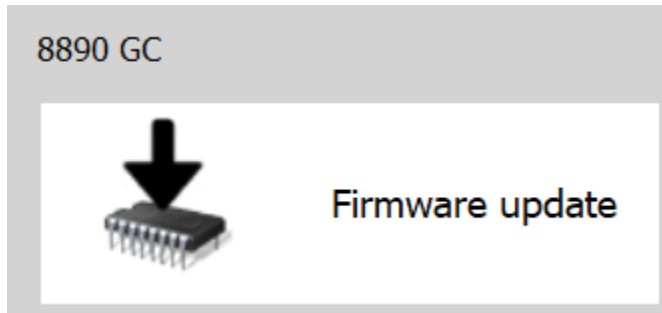




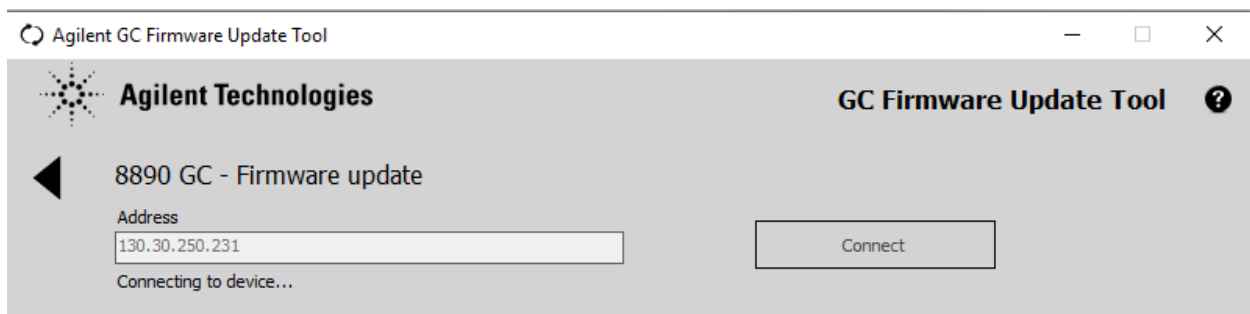
The 8890 GC is chosen from the Product menu.

The next screen allows us to either modify firmware or PID values for the EPC modules.

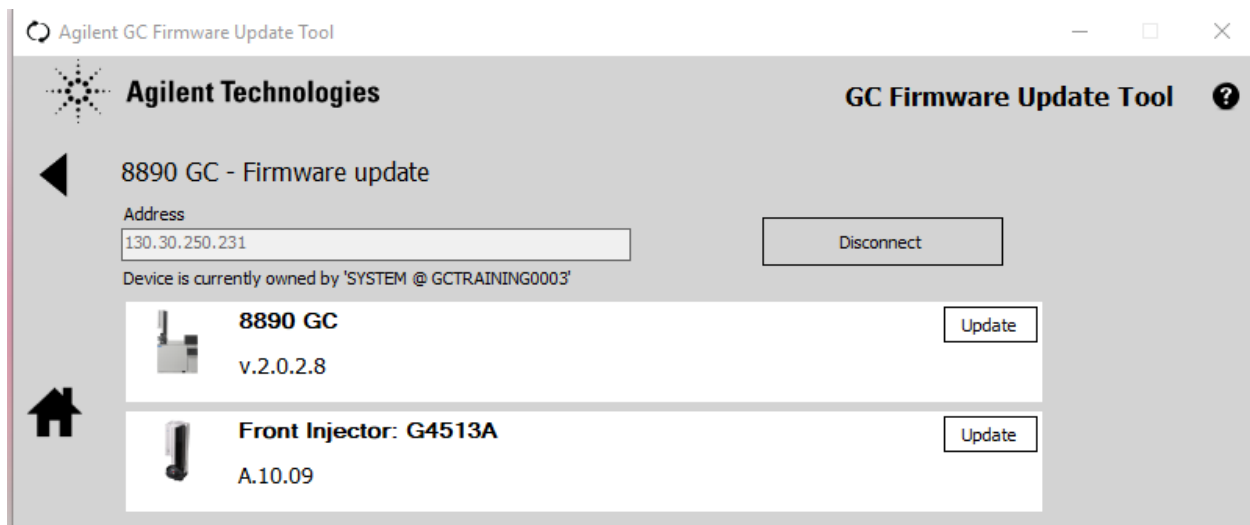
Firmware update is selected.



After choosing to update firmware, you must then enter the IP address of the 8890 that you wish to connect to and then press Connect.



Information such as current installed firmware will then be displayed.















Press Update.

A Windows Explorer directory will then appear and you must select the firmware revision that needs to be downloaded.

If the required firmware version is not displayed then you can "browse" your harddrive to find it.

The firmware file has the structure 8890\_FW\_X.X.X.tgz.gpg

Name	Status	Date modified	Type	Size
 GC Driver 3.0.503	 	6/13/2019 9:19 AM	File folder	
 8890_FW_1.2.0.13.tgz.gpg	 	5/2/2019 3:26 PM	GPG File	1,585,266 KB
 8890_FW_2.0.2.8.tgz.gpg	 	12/3/2019 1:27 PM	GPG File	1,968,109 KB
 Firmware_Update_Program_setup.exe	 	12/21/2018 3:29 PM	Application	36,474 KB

After you have selected the correct file the firmware will automatically be downloaded.

After the download is finished the GC will reboot and the firmware update is complete.