

Agilent 8860 GC Firmware

Release Notes - Revision 3.0.3.21

Notices

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Agilent Technologies, Inc.

5301 Stevens Creek Blvd. Santa Clara, CA 95051 USA

Firmware/Software Revision

This guide is valid for the 3.0.3.21 revision of *Agilent 8860 GC Firmware*

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It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

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1 Document History

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

Date	Version	Description
16 th October 2023	Rev A.01	Initial Release (added 2.8.0.219 Release Note) (added previous versions release)
8 th February 2024	Rev A.02	Added 2.8.1.6 Release Note
1 st June 2024	Rev A.03	Added 2.9.0.345 Release Note
20 th September 2024	Rev A.04	Added 3.0.0.181 Release Note
10 th February 2025	Rev A.05	Added 3.0.3.21 Release Note

2 Introduction

The purpose of this document is to provide users of the Agilent 8860 GC system (G2790A) guidance to relevant support documentation that contains further levels of information and detail

Table 1 Terms and abbreviations used in this document

Terms	Description
SSB	Software Status Bulletin
CDS	Chromatographic Data System
U	Update
SP	Service Pack
HF	Hotfix
SR	Service Release
[xx]	Final Build Numbers of a released product
DSA	Data System Adapter

For our Regulated Customers

When any change is made to Agilent software/firmware, the validation status of the software needs to be re-established by the user/customer.

Whenever software/firmware is changed, a validation analysis should be conducted to validate an individual change and determine the extent and impact of that change on the entire system.

3 Compatibility

Supported Agilent Data Systems

OpenLab CDS (2.8, 2.7, 2.6, 2.5, 2.4 or higher)
OpenLab CDS ChemStation Edition (C.01.10, C.01.09, LTS)
GC/MS MassHunter Acquisition (10.2, 10.1, 10.1SR1 or higher)
(MassHunter 10.0 required to configure 8890 and 8860 GCs)
OpenLab CDS EZChrom Edition (A.04.10, A.04.09)

Supported Agilent GC Driver

Agilent GC Driver (4.2.115, or higher)

4 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 8860 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

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.

5 Agilent 8860 GC System – What's new?

What's new in 8860 GC firmware 3.0.3.21?

- Added Aux Keypad support.
- Bug fixes as detailed below.

6 Resolved Issues in revision 3.0.3.21

The current shipping firmware for the 8860 is 3.0.3.21

Released on 10th February 2025

https://download.chem.agilent.com/firmware/8860_FW_3.0.3.21.tgz.gpg

To download this version, use GC Firmware Update Tool 3.0.1.0 or greater.

Updating to this firmware does not require instrument requalification.

Service Note Number: D0127242

Resolved Issues:

Table 2 Resolved Issues (Agilent 8860 GC System 3.0.3.21)

Issue ID	Current Behavior	Resolution
046327	LCOMM Communication Issues with 5977	Resolved
046366	GC system fault-Fault code, 0x00000200, Error code, 1000600a, sequence abort	Resolved
046421	GC with Modi connected showing MSD Diagnostic Tests	Resolved
046425	PP Inlet - post run defect in flow control mode	Resolved
046522	GC Fault 1000600a//0x00000200	Resolved
046544	$\ensuremath{H2}$ Sensor appears to be zeroing after each run. Adding time to the GC Cycle time	Resolved
046579	Waters: They report a need for 500 mL flow rate. Limits fixed to be 600 mL/min for all gas types.	Resolved
046586	Latest VICI actuator requires GC FW changes to pass EFT	Resolved
046606	Phone Browser UI Stuck on Loading Wheel Upon Startup	Resolved
046607	H2 Sensor (Salus) giving error messages reporting "Hydrogen Sensor: Not Functioning" and "Hydrogen Sensor: Invalid Environment"	Resolved
046633	Can't Download Diagnostic Data Collection csv	Resolved

7 Previous Versions

This section details previous versions of 8860 firmware giving release notes.

3.0.0.181 Firmware

Released on 20th September 2024

https://download.chem.agilent.com/firmware/8860_FW_3.0.0.181.tgz.gpg

To download this version, use GC Firmware Update Tool 3.0.1.0 or greater.

Updating to this firmware does not require instrument requalification.

Service Note Number: D0120560

Resolved Issues:

Table 3 Resolved Issues (Agilent 8860 GC System 3.0.0.181)

Issue ID	Current Behavior	Resolution
036444	When make the Total syringe volume used exceed 75% syringe size on Browser UI, it still allows downloading and saving the method	Resolved
041981	Detector Evaluation Enhancement - Detector Evaluation initial and final baseline should not fail because user selects Zero Signal	Resolved
043867	Option to enter maintenance mode and not cool the transfer line if there is an \ensuremath{MS}	Resolved
044562	Pulsed Pressure Help updates - available in English	Added
044756	Enhancement request-print the serial number of the main parts	Added
045091	UI: Inlet and Detector Name Rendering	Resolved
045387	8697: System reported "flow not ready" and "Pressure not ready" after every injection when purge time starts	Resolved
045541	Maintenance Mode Options- remain cool or return to previous operating conditions	Resolved
045899	8697: System report "Index was out of range and sequence cannot run if change GC and PC clock	Resolved
045915	Hydrogen sensor initializing issue under MPS FW Rev.3.1.0.2	Resolved
045925	8697: Appended line on a sequence doesn't start	Resolved

046020	Add message to turn off split flow for Thermal Desorber in inlet leak and restriction test	Resolved
046027	Change EPC Setpoint resolution to 0.001 psi throughout 0 - 150 psi range	Resolved
046083	8860-5977C: there's no 5977C option in MS configuration list	Resolved
046124	EMF issue causing GC/MS instrument to disconnect	Resolved
046139	Add Health Report section chooser for Serial Numbers	Added
046143	GC system fault code 0x01000000 MS communication lost	Resolved
046153	Helium Conservation Module declared as 'broken' if range for uninstalled pressure sensor is not in EEPROM	Resolved
046158	8860 Diagnostic Test >Inlet> Method Pressure Check makes system fault	Resolved
046288	Function: Run starts without the correct value during set Oven Standby	Resolved
046311	8697: Instrument is stuck in the Aborting state after a HS sequence is aborted	Resolved

2.9.0.345 Firmware

Released on 1st June 2024

http://download.chem.agilent.com/firmware/8860_FW_2.9.0.345.tgz.gpg

To download this version, use GC Firmware Update Tool 2.10.9.0 or greater.

Updating to this firmware does not require instrument requalification.

Service Note Number: D0115895

Resolved Issues:

Table 4 Resolved Issues (Agilent 8860 GC System 2.9.0.345)

Issue ID	Current Behavior	Resolution
037355	DA Express integration baselines need to connect better with the peak traces	Resolved
040912	Troubleshooting-revert troubleshooting changes	Resolved
042742	Troubleshooting wizard does not clear previous changes after restarting Troubleshooting	Resolved
043479	Review High Inlet Pressure Maintenance and Diagnostics	Resolved
043759	HydroInert: Allow configuration of HydroInert ion source on SQ and prevent runs if configured carrier gas is Helium	Modified
044218	Method Supply pressure check not found in 'help'	Resolved
044357	With Helium Conservation Module, the GC should be able to offer turning on He when doing different troubleshooting steps requiring inlet pressure	Resolved
044410	Investigate Helium Conservation Module Purge Time	Modified
044431	Troubleshooting - No Peaks - No Flame is OK	Modified
044628	GC firmware update sometimes fails to update ALS due to 'device not present'	Resolved
044838	Browser Interface Events Do not work through Reverse Proxy	Resolved
044850	Download button not working with gather log files- Browser Interface	Resolved

044867	G4567A ALS- Solvent Wash Mode: A-A2,B-B2 and A-A6,B-B6 are active in Browser Interface	Resolved
044900	Browser Interface _undefined appear on blank evaluation report	Resolved
044926	CDS Blank Eval Failure/Abort on Failure holds instrument Not Ready until cleared from Browser Interface or Touchscreen	Resolved
044933	8697 Maintenance install transfer line to GC- better phrasing	Modified
044936	Headspace PID Change during Diagnostic	Resolved
044944	Browser Interface: The Performance Evaluation Report does not include the vial position	Added
044959	8697- Replace sample Loop- 'replace the sample loop adapters' should Inform customer on what 'sample loop adapter' is	Modified
044988	System Health Report: Add Oven Configuration Details	Added
045053	Oven going into Standby mode after a run has been started	Resolved
045085	H2 Sensor: add ability to disable the use of an installed, configured module	Added
045101	Large Volume Syringe Carriage Air Gaps	Resolved
045105	Enhancement: Put "null" in for empty parameters to scripts	Added
045210	8860 PPIP safety concern: There's no error alert when PPIP has leak at flow control mode	Modified
045238	Extend Health Report with more detail on ALS	Added
045239	Incorrect max ramped column flow value	Resolved
045256	8697 & 8697 XL - The function of vial vent between extractions does not work in Multiple extraction mode	Resolved
045318	PSD Calibration Purge Title	Modified
045327	"Setpoint Changed During Run" in run log at the end of HS Sequence	Resolved
045361	Request to provide driver interface to "Park / Unpark" HeadSpace for 8697	Added

045381	88xx system setup wizard upexpectedly happens after new instruments installation	Resolved
045402	For 8860/8890 with Gas sample selector, the Equilibrium can't be displayed in Browser Interface and Touchscreen	Resolved
045403	8860 Browser Interface: valve number 5&6 should be disabled	Resolved
045408	Valve time in runtime event is longer than GC run time	Resolved
045444	Browser Interface displays incorrect column configuration	Resolved
045563	Browser Interface Run Time Events table is not holding the selected Event Type	Resolved
045607	Browser Interface wake method loads the wrong one when the Wake Up button is pressed	Resolved
045616	System Health Report provides the wrong syringe size in the report	Resolved
045764	allow customers calibrate the TCD when the cell is replaced	Added
045770	8697- The default id of Prosteel transfer line is 0.546mm which is wrong and cannot be edited	Resolved
045779	Convert inlet EPC module temperature units to degrees C in low level signal	Resolved
045810	SCD with Hydrogen carrier gas has trouble when oxidizer gas not present	Resolved
045886	TCD calibration routine leaves detector hot at 250C	Resolved
045898	The time remaining on the HS sequence run is wrong after changing GC clock	Resolved
045904	H2 Sensor - Uncalibrated Message	Resolved
1077824	DA Express-Double-click on the sequence results list leading failure on loading data	Resolved
1077827	DA Express-Pop-up "Please choose points in increasing run time" occasionally during manual integration	Resolved
1077830	The chromatography may get stuck in loading mask during manual integration or re-integration	Resolved
1077832	DA Express-After new data loaded, the integration tool is keeping pressed, but its function is zoom	Resolved

2.8.1.6 Firmware

Released on 8th February 2024

http://download.chem.agilent.com/software/8860_FW_2.8.1.6.tgz.gpg

To download this version, use GC Firmware Update Tool 2.9.9.0 or greater.

Updating to this firmware does not require instrument requalification.

Service Note Number: D0110353

Resolved Issues:

Table 5 Resolved Issues (Agilent 8860 GC System 2.8.1.6)

Issue ID	Current Behavior	Resolution
044977	Ignore Blank Start Requests While Already Running	Resolved
045246	8860 GC TCD Makeup/Reference flow control abnormal when Makeup/Reference configured as Ar	Resolved
045273	8697 Intermittently report "Headspace Sequence Stopper by User"	Resolved

2.8.0.219 Firmware

Released on 16th October 2023

https://download.chem.agilent.com/firmware/8860_FW_2.8.0.219.tgz.gpg

To download this version, use GC Firmware Update Tool 2.8.11.0 or greater.

Updating to this firmware does not require instrument revalidation.

Service Note Number: D0038219

Resolved Issues:

Table 6 Resolved Issues (Agilent 8860 GC System 2.8.0.219)

Table 0	Resolved Issues (Aglient 6000 GC System 2.8.0.219)		
Issue ID	Current Behavior	Resolution	
041095	Argon for Carrier gas and TCD make up gas	Added	
041561	Add Communication with 7697A in 8860 Browser Interface for synchronizing HS time with GC $$	Added	

043484	Firmware Update Utility-add error if the 'temp' file starts to fill up	Resolved
043554	Firmware update while instrument in maintenance mode not allowed. Display message.	Resolved
043856	BrowserUI Startup Time improved	Resolved
044122	Option to load method from GC or a method saved to the GC for Sleep or wake method in the scheduler	Added
044162	TCD Warning, detector Temperature < 130C message confusing	Modified
044227	Inlet leak and restriction test failing due to restriction being too large	Resolved
044236	8860 TouchScreen: "readiness reasons" should be replaced with "Alerts" to keep consistent with BrowserUI.	Modified
044363	HEC control over TCD configuration in user interfaces. TCD gas config should be greyed out if HEC enabled	Resolved
044384	Headspace: No detail info for headspace after abort running	Resolved
044412	Need to change GC parameters during a run. New feature in GC Feature Selection. Change is method dependent	Added
044416	EMF Alert: Unknown Device Component	Resolved
044427	Add a sleep and a wake button to BrowserUI much like DSA functionality	Added
044462	Browser System Fault after Editing Running Sequence, saving, Editing again and saving	Resolved
044692	8860 DA Express: DA method cannot be saved and the message prompt was the "method file already exist".	Resolved
044703	8860 BrowserUI - Pressure decay test fail for PPIP	Resolved
044710	TCD Filament calibration not working correctly	Resolved
044732	8697 - Reporting ""sample probe restriction" warning while leak and restriction test passed well	Resolved
044770	Manufacturing Data Location Creation for SP1 Analyser info	Added
044816	TCD Filament Calibration Procedure missing the calibration point of 250C	Resolved

Resolved

2.7.0.207 Firmware

Released on 26th May 2023

https://download.chem.agilent.com/firmware/8860_FW_2.7.0.207.tgz.gpg

To download this version, use GC Firmware Update Tool 2.8.10.0 or greater.

Updating to this firmware does not require instrument revalidation.

Service Note Number: D0033037

Resolved Issues:

Table 7 Resolved Issues (Agilent 8860 GC System 2.7.0.207)

Issue ID	Current Behavior	Resolution
043857	Ability to use/create a composite columns in browser UI	Resolved
041955	Plotted Signals not aligning on the Browser	Resolved
043124	www.agilent.com/chem/supplies for GC maintenance does not work as expected	Resolved
043628	Pulsed Split Injection with HS system does not have enough total flow to reach their pulse pressure when the system starts preparing	Resolved
043636	EMF counter is not correct	Resolved
043661	8697 HS: Tray FW not downgradable	Resolved
043902	Unable to print Sleep/Wake Methods	Resolved
044052	User Troubleshooting added to FID ignition failure	Modified
044053	Allow GC to monitor pressure during maintenance tasks	Modified
044061	8860 inlet leak and restriction test doesn't tell user to uncap septum purge	Modified
044121	APG Stop signal not sent at end of run	Resolved

044126	Scheduler information is not complete in browser interface help with FW 2.6.0.306	Resolved
044127	FW 2.6.0.306 allows the selection of 5977 and 5977B but not 5977C	Resolved
044131	Invalid IP address shown on the 8860 LUI does not match internal IP	Resolved
044154	Valve State added to Diagnostic Signal	Modified
044238	Add detailed sequence logbook messages for ALS actions	Modified
044324		

2.6.0.306 Firmware

Released on 5th January 2023

http://download.chem.agilent.com/firmware/8860_FW_2.6.0.306.tgz.gpg

To download this version, use GC Firmware Update Utility 2.7.1.0 or greater.

Updating to this firmware does not require instrument revalidation.

Service Note Number: D0028247

Table 8 Resolved Issues (Agilent 8860 GC System 2.6.0.306)

		- 3	
Issue ID	Summary	Current Behavior	Impact Area
032605	Browser Interface Status does not show the Sequence, Method, or Sample Name when run from GC driver	Browser Interface Status does not show the Sequence, Method, or Sample Name when run from GC driver	Browser Interface Status Tab
034076	Add diagnostics information to Service Mode in 8860 Browser Interface	There is no Diagnostics information Under Service Mode, actual a configuration interface	Setting/Service Mode on Browser Interface
038963	Set Column Length and Adjust Column Length don't work in Browser Interface.	Set Column Length and Adjust Column Length don't work in Browser Interface	Column Calibrate on Browser Interface
039003	Detector Evaluation does not support 8697 headspace OQPV	Detector Evaluation does not support 8697 headspace	Add 8697 HS Det Eval on

	checkout	OQPV checkout	Browser Interface
040269	8697: In the Browser Interface, there is no the selection of Reset Headspace to Restore Factory Defaults.	there is no the selection of Reset Headspace to Restore Factory Defaults on Browser Interface	Reset HS 8697 on Browser Interface
041144	Suggest to add Reset function on 8860 Touchscreen	NO Reset function on 8860 Touchscreen	Add Reset on 8860 Touchscreen
042302	Browser Interface: Gasifier disappear in method when loading an old method w/o Gasifier	Gasifier disappear in method when loading an old method w/o Gasifier	Gasifier on Browser Interface
042322	MSD Configuration: Provide option to correctly configure MS Transfer Line if it was missed during First Time Setup	If the FSE did not have the MS Transfer Line heater plugged in before starting First Time Setup, it is confusing to figure out what needs to be done to correct it	Guidance for MSD configuration on Browser Interface
042339	Put Inlet/Detector type in the diagnostic Tabs	No Inlet/Detector type displayed in the diagnostic Tabs	Dignostics on Browser Interface
042863	Browser Interface-saving a method hanging	saving a method hanging on Browser Interface	Method on Browser Interface
043016	SCD maintenance task improvement- replace inner ceramic in FW 2.5.0.258	ceramic tube maintenance: the EMF not reset after changing the ceramic tube	Maintenance on Browser Interface
043020	SCD Off Function says it turns off oxidizer flow but it does not turn off oxidizer flow	SCD Off Function says it turns off oxidizer flow but it does not turn off oxidizer flow	Method on Browser Interface
043032	XCD Ozone Pneumatic leak test on the Browser Interface requires a browser refresh during the test	XCD Ozone Pneumatic leak test on the Browser Interface requires a browser refresh during the test	Diagnostics on Browser Interface
043046	Add Trim Column to COC inlet maintenance	No trim Column to COC inlet maintenance	Maintenance on Browser Interface
043054	8860 and 8890 do not show the tray / Barcode reader firmware in the Health Report	8860 and 8890 do not show the tray / Barcode reader firmware in the Health Report	System Health Report on Browser Interface

043074	maintenance task - change column with SCD does not turn off H2 before cooling	maintenance task - change column with SCD does not turn off H2 before cooling	Maintenance o Browser Interface
043075	8697: Grey out System Calibration Option if Tray is not Calibrated	System Calibration Option is availble if Tray is not Calibrated	Setting/ Calibration on Browser Interface
043108	XCD Maintenance Step Not Valid	XCD Maintenance Step Not Valid	Maintenance o Browser Interface
043116	Whole DA express report untranslated	Whole DA express report untranslated	DA Express on Browser Interface
043151	Uncheck DHCP should clear IP address fields	Uncheck DHCP doesn't clear IP address fields	Setting on Touchscreen
043158	Browser Interface-text in buttons are grayed out	Browser Interface-Column "Calibrate", "Remove" text in buttons are grayed out	Method on Browser Interface
043160	GC auto configuration doesn't handle multiple simultaneous EPC changes	GC auto configuration doesn't handle multiple simultaneous EPC changes	Auto Configuration on Browser Interface
043162	SCD change inner ceramic maintenance procedure-SCD shutdown	the instrument starts to cool down the SCD zones at the start of the maintenance procedure to shut down the SCD	Maintenance of Browser Interface
043169	Browser Interface: Missing Inlet Transfer Line Interface Heater Configuration	Browser Interface: Missing Inlet Transfer Line Interface Heater Configuration	Method on Browser Interface
043226	Browse Interface Errors when uploading method from instrument after instrument config has been changed, leads to never ending progress spinner.	Browse Interface Errors when uploading method from instrument after instrument config has been changed, leads to never ending progress spinner.	Method on Browser Interface
043244	8860: Touchscreen Should show MAC Address	No MAC on Touchscreen	Setting on Touchscreen
043267	88xx GC Lockup issue when removing and reconnecting 8697 headspace sampler	88xx GC display freezes when removing and reconnecting 8697 headspace sampler	Configuration on Browser Interface

043289	8697: Request to update the default parameter settings	The default settings for 8697 is not properly	Method on Browser Interface
043297	Replace liner maintenance procedure-add wording to end of procedure	NO 'Re-mount the ALS tower if installed'	Maintenance on Browser Interface
043333	Manual configuration of New Hardware such as an EPC module is cleared if cancel is evoked.	If the Cancel option is selected the GC becomes "non functional" as no parameters are listed and the configuration is unknown.	Manual Manual Configuration on Browser Interface
043338	Perform Maintenance without selecting anything freezes the GC	Perform Maintenance without selecting anything freezes the GC	Maintenance on Browser Interface
043342	Maintenance:Instrument- Maintenance mode-with XCD	the user puts the instrument into 'Maintenance Mode' (under Instrument- >Maintenance Mode), the XCD is not shut down properly	Maintenance on Browser Interface
043398	Error in 8697 Headspace User documentation	vial pressurization instruction for the 8697 headspace	Help on Browser Interface
043418	XCD Does not auto configure or unconfigure	XCD Does not auto configure or unconfigure	Configuration on Browser Interface
043432	Improve Gas supply pressure check for magabore column	gas supply pressure check when run with a 530 column says: 'The restriction in the column is too small to perform the test at the desired column flow'	Diagnostics on Browser Interface
043433	Improve XCD reaction cell calibration	The preparation procedure is not well adressed.	Calibration on Browser Interface
043444	Support Diagnostic Data Collection for Users	No Diagnostic Data Collection Tab	Diagnostics on Browser Interface
043445	Values from the Leak and restriction Test different in the System Health Report.	Values from the Leak and restriction Test different in the System Health Report.	Diagnostics on Browser Interface
043453	SSL Inlet Pressure Decay test is failed with 8697 connected	SSL Inlet Pressure Decay test is failed with 8697	Diagnostics on Browser

		connected	Interface
043459	8697: No Sample Overlap for vial equilibration in User Vial Leak test	8697: No Sample Overlap for vial equilibration in User Vial Leak test	Diagnostics on Browser Interface
043480	add split vent part number in maintenance for split vent	NO split vent part number in maintenance for split vent	Maintenance on Browser Interface
043481	update gas clean filter instructions in instrument maintenance	Instruction use the "inlet pressure" instead of Supply Pressure	Maintenance on Browser Interface
043482	Error 1000600a occurred after the Leak and Restriction test with 8860 GC	Error 1000600a occurred after the Leak and Restriction test with 8860 GC	Diagnostics on Browser Interface
043496	Highlight blank evaluation criteria that failed	No Highlight the failed values	blank evaluation report on Browser Interface
043505	Detector evaluation help does not include instructions for headspace	Detector evaluation help does not include instructions for headspace	Help on Browser Interface
043506	Browser Interface methods and sequences are incorrectly alphabetized in drop down lists	Browser Interface methods and sequences are incorrectly alphabetized in drop down lists	Method on Browser Interface
043524	NPD maintenance is not correct- wrong screw driver mentioned in FW 2.5.0.258	T-10 screw driver is mentioned	Maintenance on Browser Interface
043526	Support HEADSPACE detector evaluation sample type	NO HEADSPACE detector evaluation sample type	Method on Browser Interface
043550	8697 Manual Operations- Can an Exit be added as a choice to the drop down?	NO Exit under 8697 Manual Operations	Diagnostics on Browser Interface
043553	Expose Method Pressure Check as a Diagnostic	NO Method Pressure Check under Diagnostics	Diagnostics on Browser Interface
043565	EMF reset on Browser Interface for SCD outer ceramic reset's Pump time in FW 2.5.0.258	EMF reset on Browser Interface for SCD outer ceramic reset's Pump time	Maintenance on Browser Interface
043582	Closing diagnostic tests leaves them running and the GC status in Diagnostic Mode.	Closing diagnostic tests leaves them running and the GC status in Diagnostic	Diagnostics on Browser Interface
		-	

		Mode.	
043597	XCD Reactor Pressure Calibration Updates	No "Reset" button for the reactor pressure calibration	Calibration on Browser Interface
043607	8697 Preform Maintenance - Install Transfer Line to GC - User Input NO- EMF is not updated.	8697 Preform Maintenance - Install Transfer Line to GC - User Input NO- EMF is not updated.	Maintenance on Browser Interface
043615	[8860 DA]: "preview report" icon and "analyze data" icon are blank.	[8860 DA]: "preview report" icon and "analyze data" icon are blank.	DA Express on Browser Interface
043621	After completing the Ozone Pneumatic Leak Check should the zones be turned back on	After completing the Ozone Pneumatic Leak Check, the XCD parameters is not reset	Diagnostics on Browser Interface
043622	8697 - Both the Sample Tray and X-Axis Cleaning turn off the inlet when it is not necessary.	8697 - Both the Sample Tray and X-Axis Cleaning turn off the inlet when it is not necessary.	Maintenance on Browser Interface
043644	8697 Perform Maintenance - Six Port Valve and Rotor -Per Cent Complete goes to 99% too quickly	8697 Perform Maintenance - Six Port Valve and Rotor -Per Cent Complete goes to 99% too quickly	Maintenance on Browser Interface
043662	Gas Bag Selector: Stream can't switch correctly in sequence	Gas Bag Selector: Stream can't switch correctly in sequence	Selector on Browser Interface
043663	Gas Bag Selector: Maintenance run but first stream can't switch	Gas Bag Selector: Maintenance run but first stream can't switch	Selector on Browser Interface
043703	Incorrect Units for Vial Fill Flow Rate	Fill Flow when in Flow To Pressure mode has a unit of "mL"	Method on Browser Interface
043776	Oven On Safety Delay Not Implemented	Oven On Safety Delay Not Implemented	Oven Behavior of flapper
043894	8860 Touchscreen: status not consistent between Touchscreen and Browser Interface when abort headspace run	8860 Touchscreen: status not consistent between Touchscreen and Browser Interface when abort headspace run	Status on Touchscreen and Browser Interface
043938	Events get lost when changing the injection source	specify injection source when starting the run and then we were losing the valve events.	Method on Browser Interface and GC driver

2.5.1.9 Firmware

Released 12th October 2022

http://download.chem.agilent.com/firmware/8860_FW_2.5.1.9.tgz.gpg

To download this version, use GC Firmware Update Utility 2.6.3.0 or greater.

Updating to this firmware does not require instrument revalidation.

Service Note Number: D0026278

Table 9 Resolved Issues (Agilent 8860 GC System 2.5.1.9)

Issue ID	Summary	Current Behavior	Impact Area
043399	ALS starts to prepare for run when oven is in standby mode	ALS starts when oven is still in standby mode	ALS

2.5.0.258 Firmware

Released 13th May 2022

http://download.chem.agilent.com/firmware/8860_FW_2.5.0.258.tgz.gpg

To download this version, use GC Firmware Update Utility 2.6.3.0 or greater.

Updating to this firmware does not require instrument revalidation.

Service Note Number: D0022170

Table 10 Resolved Issues (Agilent 8860 GC System 2.5.0.258)

Issue ID	Summary	Current Behavior	Impact Area
038450	8860 Browser Interface offers 8 signals, should be 4 to match GC driver	8 signals display on Method Interface	Method page on Browser Interface
038733	The pressure/ flow value of Aux EPC should be displayed in the flow path.	The pressure/ flow value of Aux EPC are not displayed in the flow path	Flow Path on Browser Interface
042054	Browser EMF Trend Plot shows only the most recent Reset Event; refresh required	Only the last Reset Event is displayed	Maintenance on Browser interface
042242	860 Perform Maintenance for replacing Inlet Liner with a Headspace installed includes too much information on the Headspace	The Maintenance procedure for replacing liner includes many Headspace maintenance steps	Inlet Maintenance on Browser Interface

042859	8860 Print Method does not print	Open Method and select a method. Select Print Method. The Print Method Screen does not appear.	Method Print on Browser Interface
042142	8697: Vial is not returned to tray from oven after aborting User Vial Test	Vial is left in Oven after aborting User Vial Test	Diagnostics on Browser Interface
042143	8697: Leak Test Vial is not returned to Leak Test Vial position after aborting Restriction and Pressure Decay Test	Vial is left in Oven after aborting Restriction and Pressure Decay Test	Diagnostics on Browser Interface
042270	Gateway address required to change IP address after initial system setup wizard	There is no invalid network configuration information is displayed if the gateway IP is not entered	IP setting on Touchscreen
042393	Unable to turn off PCM backpressure during the run	Unable to turn off PCM backpressure during the run	PCM backpressure control Time Event
042424	NPD maintenance does not match recommended maintenance	NPD maintenance procedure does not match as recommended	NPD maintenance on Browser interface
042507	Keyboard lock should disable Maintenance Routines and Diagnostic Tests	Keyboard lock from data system doesn't disable Maintenance and Diagnostics	Maintenance and Diagnostics on Browser Interface
041574	8697: Use "Restriction and Pressure Decay Test" instead of "Leak and Restriction Test" in 8697	"Leak and Restriction Test" is used now	Diagnostics on Browser Interface
042139	8697: remove 8697 Headspace Carrier Setpoint option from Plot Interface	Carrier Setpoint is existed in Plot Interface	Plot on Browser Interface
042144	8697: Loop types are wrong under Maintenance section (replace sample loop)	Loop types are wrong under Maintenance section	Maintenance on Browser Interface
042787	Excessively high flow coming out of the FID during inlet maintenance when using H2 as the carrier gas.	If the flame is still lit this could result in a H2 flame being emitted out of the FID.	Maintenance on Browser Interface

2.4.1.10 Firmware

Released January 2022

https://download.chem.agilent.com/firmware/8860_FW_2.4.1.10.tgz.gpg

To update this version using GC Firmware Update Tool 2.5.5.0 or greater.

With 8860 firmware 2.4.1.10 updated, GC Drivers version 3.6.181 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number 8860 Series GC-032

Changes/Fixes made since the last version. (2.4.0.307)

Issue Id Title

- O41950 Adding firmware support for GigaDevice QSPI
 O42318 GCMS: Allow Missing configuration condition to be dismissed if MS is not available over LVDS on GC start up
 O42319 GCMS LDVS: Provide a mechanism for the user to manually retrigger connection attempt to establish LVDS communication.
 O42320 GCMS: Enhancement request to periodically poll MS to establish LVDS communication
- O42321 GCMS: When the IP address of MS is changed over LVDS from 8860 warn the user to not power cycle until the network config change is complete.
- O42301 Column Outlet pressure value ignored, and ambient pressure used.
- **042340** 2.4.0.307 firmware incompatible with 3.3 SR1 Driver

042382	Add classifier database content to the Trend Analysis Database
	content when gather logs.
NA	Improve Gasifier/ Sample Selector II performance.
042309	Localisation Updates
042371	Firmware update fails if environment needs to be updated
042396	Inlet pressure is large negative value in 8860 Inlet OQPV
	Pressure Decay test

2.4.0. 307 8860 GC firmware

Released November 2021

https://download.chem.agilent.com/firmware/8860_FW_2.4.0.307.tgz.gpg

To update this version using GC Firmware Update Tool 2.5.5.0 or greater.

With 8860 firmware 2.4.0.307 updated, GC Drivers version 3.6.181 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number 8860 Series GC-030

Enhancements

 Remove support for use of Microsoft Internet Explorer (IE) client browser to access GC Browser Interface

Changes/Fixes made since the last version. (2.3.3.6) Issue Id Title		
037508	8697: Configure XLSI automatically	
037578	8860 Browser Interface: Request to add filter function in Sequence	
	selection drop list	
038658	Browser Interface: Post Run pressure setpoint not available for	
	Packed Column	
040983	Remote software needs to lock out the user from remotely	
	restarting an "offending zone" after a H2 shutdown	
041020	Browser Run Log does not include entry about Blank Evaluation	
	failure	
041041	Phone Interface: Sequence, Method, Sample Name not displayed	
041061	Phone Interface: No signal displayed	
041148	8697: The diagnostic test result of the six port rotor orientation	
	test cannot be recorded correctly in the system health report.	
041151	8697: Aux Pressure zero calibration is not performed correct	
041158	"Gather Logs" functionality fails if there is no run data but the user	
	selects to gather them	
041159	Browser Interface: Gather Logs says "Method Logs" it should say	
	"Active Method"	
041192	8697: Add HS Calibration and HS Tray Statistics to Log Files	
	Package	
041194	8697: Run configuration wizard when headspace hardware	
	changes	

041239 8860 DA Express: System Reboot error is triggered when load

Demo data for analysis

041299	8890/60 reports Line Voltage High
041349	8860 EPR: The flow of the PCI with EPR cannot be changed.
041350	8860: PCI Septum Purge flow is display in System Health Report
041356	No Vial status display if first run injector source is not Headspace
041406	Blank Evaluation Report should contain columns for min and max
	limits and time window
041418	8860: "auto flow zero" cannot be disabled in browser interface.
041423	8697: The Barcode Reader model number of 8697 HS should be
	G4527A.
041424	8697: The description of Headspace Barcode Reader in System
	Health Report is blank.
041494	PPIP Pressure Setpoint should be removed on touchscreen
041496	Enable the function of turning off FID High Voltage for DET
	maintenance
041615	8697: Touchscreen and Browser Interface Show Time Elapsed
	instead of Time Remaining for Certain Headspace Vial States
041779	8860: Untranslation happen when tray obstruction issue
041781	Total Syringe volume always display [Object Object]
041806	Selector: "Stop Run" doesn't work on 8860 Touchscreen
041809	Maintenance menu language change to Portugal
041826	8697: Simplify maintenance procedure for 'replace sample loop'
041868	"Get Method Logs" should be changed to "Get Active Method" in
	Browser Interface
041869	"Log File Name" should be changed to "Comment" in Browser
	Interface

041870	"Load" should be changed to "Copy" or "Download" in Browser
	Interface under Gather Logs in diagnostics.
041883	8860Touchscreen: Time remaining always display as 0.00 min in
	vial status when use 8697 Headspace
041884	Untraslation display happen on plot tab on Browser Interface
041902	7693 ALS: ALS light change back to ON status after power cycling.
041917	Localization - "Resume" button under Sequence in BUI not
	localized into Russian language
041930	8697: Headspace configuration item(s) reset after GC firmware
	update
041939	8890 and 8860, the FID hydrogen turns on immediately at the end
	of the self test
041941	Maintenance procedure of cleaning the 8697 oven does not
	indicate that the instrument should be powered off and unplugged
041983	8355 Does not Turn off Ozone Power when Insufficient Flow
	Detected
041984	For Markes Control, doesn't keep the High Flow value after any
	configuration
042006	8860-8697: No pop-up on the touchscreen offer Resume or Abort
	if set Vial Missing and Wrong Vial Size Sequence Options to
	PAUSE
042008	COC pressure decay test failed caused by initial high pressure
042012	Browser Interface: Skipped Untranslate happen on Run status
042029	8697: sequence cannot be resumed successfully when setting vial
	missing sequence option to Pause.
042171	8697: Inlet Leak and Restriction Test is failed with 8697 connected

042211 PP Inlet Ramp Flow setting doesn't work during sample run042215 Leak and Restriction test fails with standard SS PID values and 8697 connected.

2.3.3.6 8860 GC firmware

Released July 2021

https://download.chem.agilent.com/firmware/8860_FW_2.3.3.6.tgz.gpg

To update this version using GC Firmware Update Tool 2.4.3.0 or greater.

With 8860 firmware 2.3.3.6 updated, GC Drivers version 3.5.132 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number 8860 Series GC-028

Changes/Fixes made since the last version. (2.3.2.11)

Issue Id Title

- 041619 Multiple TCD filament broken cases are reported
- O41452 Selector: when selector is loading sample, after pressing Stop button on the 8890 Touchscreen, the warning message under the selector maintenance should be modified.
- 041693 UTC +9:30 Time zone unavailable for selection in GC 3.5 [110]
- 041836 System Setup froze on Headspace Configure Interface

2.3.2.11 8860 GC firmware

Released July 2021

https://download.chem.agilent.com/firmware/8860_FW_2.3.2.11.tgz.gpg

To update this version using GC Firmware Update Tool 2.4.3.0 or greater.

With 8860 firmware 2.3.2.11 updated, GC Drivers version 3.5.132 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number 8860 Series GC-027

Changes/Fixes made since the last version. (2.3.1.6)

Issue Id Title

041362

041118 8697: Failed firmware update doesn't clearly indicate that a new firmware update is required 041487 Data system connection failed caused by Invalid Leap Year Handling (March 1 2000) 8697: Infinite "Running" of a HSS 8697 Sequence after appending a run, 041430 while the last run of a sequence was running 041521 8860 septum purge shutdown error is reported 041153 Sequence Indicates wrong sample location with Headspace Sampler configured 041425 8697: after configuring the HS to an inlet, OQPV Load Qualification Method still cannot be applied 041296 8697: Headspace Maintenance should be disabled when the sequence is running. 041630 Column connection error caused 'high CPU usage' 041597 System fault -Error code 1000600a and System fault 0x00100000 with manual injection 041601 Manual Injection data remains on the instrument

8890/8860 "Electronics Fault" Error code 1000600b and System Fault

Error code 1000600a with 7697A configured

041376 XCD with Quick Start Wizard "Heater and Flow stabilization" timeout too short

037865 DA Express-loading calibration standard data issue

2.3.1.6 8860 GC firmware

Released April 2021

https://download.chem.agilent.com/firmware/8860_FW_2.3.1.6.tgz.gpg

To update this version using GC Firmware Update Tool 2.4.3.0 or greater.

With 8860 firmware 2.3.1.6 updated, GC Drivers version 3.5.110 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number 8860 Series GC-026

Changes/Fixes made since the last version. (2.3.0.203)

Issue Id Title

041086 multiple feedback received for Electronics Fault - Error code 1000600b

041233 APG remote on 8890 does not send stop signal when run is done

2.3.0.203 8860 GC firmware

Released March 2021

https://download.chem.agilent.com/firmware/8860_FW_2.3.0.203.tgz.gpg

To update this version using GC Firmware Update Tool 2.4.3.0 or greater.

With 8860 firmware 2.3.0.203 updated, GC Drivers version 3.5.110 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number 8860 Series GC-025

Enhancements

- Add support for the 8697 Headspace Sampler
- GC 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

034007	8860 Browser Interface: [ALS] Total volume should be read-only.
036390	8860 DA Express: Can't get one channel signal report
037354	Peak Markers and Key in DA Express Signals Comparison don't match
038465	Perform conditioning method before wake not working as expected
038485	[DA Express] Suggest to add the "Negative Peak" event, specifically for
	TCD detector
038964	Browser Interface: The actual value of column flow is displayed
	incorrectly.
039150	"GC Gasifier removed" is not displayed in maintenance log after gasifier
	is removed from GC.
039761	8860 EPR: There are no FID diagnostic tests on the 8860 with FID EPR.
040180	Browser Interface: sample overlap steps performed when next sequence
	line is non-overlap
040277	Touchscreen : Aux EPC Calibration Error message gives incorrect reason
040336	The "PrepRun" and "Start" button should be disabled in touchscreen when
	8890/60 is in Run Status

040339	8860: The setpoint for column flow cannot be downloaded from Data
	system to touchscreen correctly under Constant Pressure mode.
040524	Browser Interface: TCD Configuration Gas Type Wrong
040525	Touchscreen and Browser Interface: TCD Reference Gas Type not set to
	Makeup Gas Type
040546	Browser Interface: xCD calibration auto zero
040587	Gather log failed when all log options are selected
040705	8860: LTM-II should not be displayed under column configuration on
	Browse Interface
040709	The purge time should not be limited to the oven time in Browser
	Interface
040896	Browser Interface: Aux EPC Calibration Error message gives incorrect
	reason
040967	Capture complete logs for "Gather Logs" file
040985	8860: system fault cannot be resolved by rebooting or updating firmware
041051	All module missing after resetting to factory
041121	8860 system fault and stay in diagnostic mode

2.2.2.4 8860 GC firmware

Released January 2021

http://download.chem.agilent.com/firmware/8860_FW_2.2.2.4.tgz.gpg

To update this version using GC Firmware Update Tool 2.3.3.0 or greater.

With 8860 firmware 2.2.2.4 updated, GC Drivers version 3.4.191 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number 8860 Series GC 024

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

Issue Id Title

040724 When Column Comp is selected method download causes a disconnect

038332 88xx loses connection on downloading detector compensated signal or running sample with this signal

2.2.1.4 8860 Firmware

Released December 2020

http://download.chem.agilent.com/firmware/8860_FW_2.2.1.4.tgz.gpg

No Change/Fixes in this Version

No Service Note is released

2.2.0.287 88860 Firmware

Released in November 2020

http://download.chem.agilent.com/firmware/8860_FW_2.2.0.287.tgz.gpg To update this version using GC Firmware Update Tool 2.3.3.0 or greater.

With 8860 firmware 2.2.0.287 updated, GC Drivers version 3.4.191 or later should be used.

Updating to this firmware does not require instrument revalidation.

Service Note Number: 8860 Series GC-022

Enhancements

- Add support for Sample Selector II
- Add support for Method Printout from Browser Interface

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.

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
Max Inlet Split Ratio (SSL, MMI)	7,500:1	12,500:1	9,999.9:1	12,500:1
Max ECD Data Rate	50 Hz	500 Hz	500 Hz	300 Hz
Max FPD+ Data Rate	200 Hz	500 Hz	500 Hz	300 Hz

Added Security to Set Browser Interface PIN on 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. (2.1.0.626)

Issue Id Title

035046 User validation of Static IP information

035066	TCD detector can't be recalibrated after the cell or interface board in
	8860
035646	Nexus analog out signal goes high when TCD filament is turned off
036034	Browser Interface missing User Configurable parameters for both Inlets
	and Thermal Zones
036468	Once re-scope the X and Y axis of real-time plot, only the plot from that
	time can be checked, missing previous chromatograph.
036747	[Truncation]The Home of Edge Browser Interface is truncation and
	can't display completely
036844	8860 Browse Interface: signal event table is always blank, even after
	downloading the method from Data System
037001	Channel Partner PCM inlet rate is possibly incorrect
037002	PCM inlet help is not available or incorrect across interfaces
037010	Nomenclature Differences between GC driver and LUI - ALS injection
	modes
037235	Suggest making it possible to add or insert sequence line during
	sequence running
037719	User Configurable heater parameters can't be saved in 8860 GC
038473	in Browser Interface, the column outlet pressure should be editable
	when column outlet is configured as others
038641	Total syringe volume used' is not displayed in Browser Interface
038738	Data not integrating in DA Express
038753	pressure setpoint, flow setpoint and pressure adc setpoint should be
	deleted in EPR FID diagnostic signal list
038862	in Browser Interface, Tray information is not displayed
038897	DA Express: Y Axis Label

038929	Make the blank evaluation tab on the on-board methods read "Blank
	Evaluation"
038960	Configuration of Composite column is not supported from Browser
	Interface
038995	Remaining Run Time is blank under Run Status when running a
	sequence via Browser Interface
039154	After Gasifier is removed from GC, related help file cannot be searched
	out.
039158	8860 Browser Interface Help _DA Express issue untranslation
	screenshots and truncation issue screenshot
039231	8860 EPR Touchscreen: Front inlet pressure is unchecked after setting
	the front inlet pressure to 30 psi and downloading method to GC in
	Browser Interface
039243	Excessive Safety Flow Shut off with all gasses needs to apply just to H2
039309	EMF thresholds for back injector are not being read or set from device
	when only a back injector is installed (88XX)
039377	8860_Browser Interface_FID replace Jet screenshot need be 8860
	instrument instead of 8890
039386	Method save fails to display tab with errors when changing column
	flow
039463	ALS parameter can't send to 8890/60 if "Sample Depth" set to "-2".
039489	method can't be downloaded to 8860 when syringe sample depth with
	minus value
039533	there are blank lines under sequence selection list
039536	Change MS network setting behavior from the LUI
039543	8890 2.1 firmware gives Error on Quick start for SCD

039749	Modify GC Access PIN to allow for 4 to 8 digits
039825	In Browser Interface, sequence line numbers greater than 99 are
	truncated
039915	8860: The septum purge flow of the COC inlet cannot be reset to zero
	by calibration
040292	8890 "Host System Not Ready" should remain as long as the data
	system (MH) does not have a sequence running.

2.1.0.626 8860 GC Firmware

Released in May 2020

Service Note Number: 8860 Series GC-016

Enhancements

- Optimized "PrepRun", "Start", "Stop" behavior for manual injection on touchscreen
- Improved Browser Interface performance, introduced new features
- Added support for Gasifier II
- Update Help and Localization (Chinese, Russian, Japanese, Brazilian Portuguese)

Changes/Fixes made since the last version. (2.0.2.8)

Issue ID Title

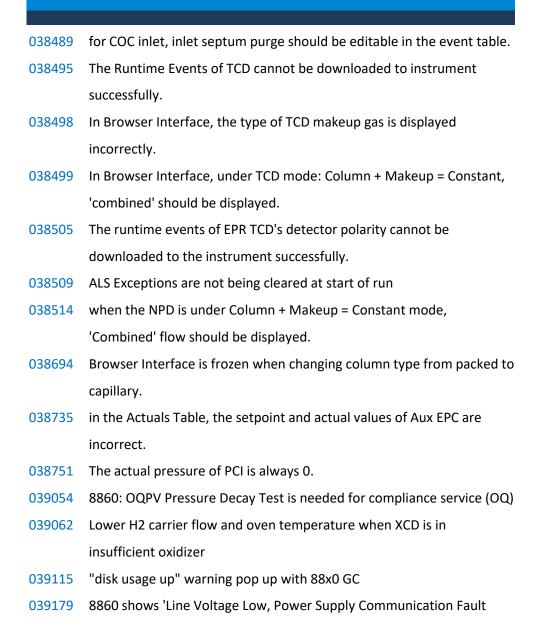
024416	Adding user defined EMF fields seems not to be working
032319	8890/60 should hold Not Ready state whenever Blank Run Analysis
	sequence is aborted

033096	Request to Check the Left Memory Size in Touchscreen or Browser
	Interface of 8860
034588	8860 Browser Interface: it's better if save method can be multiple -
	selection.
035195	Browser Interface: Advanced Tests in Diagnostics
035203	Diagnostics: Inlet Tests Fail with Headspace Connected
035605	5977B will not be configured properly if the 8890/60 is turned on the
	first time prior to the MS
035959	[DA Express] Print calibration curve in report
035987	Touchscreen: Flow path on Touchscreen is different with that on
	Browser Interface and Openlab when one inlet is connected with two
	columns
036052	[DA Express] A new icon is required for 'Compare'
036053	[DA Express] A new icon is required for 'Curve color config'
036393	8860 EPR: Is the He conservation module supported in 8860 SSL with
	EPR?
036398	Update to 8890/60 Maintenance guide (all languages) needed - new
	CSD part numbers
036426	8860 Browser Interface, the instrument screenshot shows 8890, it is
	better update to 8860
036577	[DA Express] Redesign the default report template to stay consistent
	with Browser Interface theme
036883	[DA Express] Improve the manual baseline operation
036983	Browser Interface: It is hard to visually distinguish between enabled or
	disabled checkboxes
036998	Septum purge flow should not exist for PCM inlet

037122	[DA Express] Layout design for multi-channel tabs need a better design
037123	Browser Interface-injection source with GSV not correct
037196	After DComm is recovered from lost communication with the MS, the
	GC should restore the previously loaded method
037220	8860 Browser Interface: G3520 transfer line should be replaced with
	HS transfer line.
037301	[Sequence] Suggest to hide the "Level" and "Amount" column in
	sequence table when DAX is activated
037320	[DA Express] Reintegrate is very slow when there are more than 40
	peaks in multip channels
037386	8890SCD0100 for 8860 SCD: 8860 Touchscreen signal plotting's label
	not consistent with the selection
037389	[DA Express] "Do not use Multiplier & Dilution Factor with ISTDs"
	should be removed from report
037391	[DA Express] Cannot delete level from the calibration table
037414	[DA Express] There is NO drop-down menu when "Save as" master
	method, suggest to add this function as "LOAD" data do
037417	DA Express-No unit for X-axis display in Chromatography
037517	8860 Browser Interface: no unit for SSL inlet septum purge flow.
037518	8860 Browser Interface: pre-run flow test should be disabled in 8860.
037538	[DA Express] If user leave "Sample Amount" as blank during sequence
	edition, the value will keep at 1 in Run Info, and especially in report,
	which will lead inconsistance
037554	PID parameters for Markes TD is needed in 8860 GC
037567	[DA Express] Suggest to make "the grid" of the chromatography as an
	option, user can select to show the grid or not

037576	Russian help does not include eFam links
037602	Running sequence from the BROWSER with a Post Run time stops after
	first run
037681	Headspace and Valve injections do not increment inlet EMF counters.
037685	Total flow displayed during leak and restriction test is abnormal while
	the real situation is correct
037692	The EPR inlet is missing some images during the leak $\&$ restriction test.
037755	HeConsControlled is still checked on UI even when module is removed
037767	8860: column cannot be removed in the Browser Interface.
037803	G3449A Aux Heater Type is not Accurate in 8860 Brower Interface
	Configuration Interface
037845	8860 Browser Interface: there are two inlet carrier gas type displayed
	in Column tab
037890	8860: In Browser Interface, Auto Schedule Calibration On cannot be
	saved.
037906	8860: The detector position cannot selected under TCD polarity events
	in Browser Interface.
037907	8860: TCD polarity switching in Event Table is not functional.
037909	Low disk space correction is confusing
037917	8860: The diagnostic signal of Hydrogen sensor is always a straight line
	with a value of 0.
037950	8860:Hydrogen Sensor Last calibrated time should be displayed Under
	Instrument Actuals.
038024	[DA Express] It is incorrect to only set "Fixed Y-axis" in DA Express for
	Negative Peaks

038075	The length of capillary column into FPD is inconsistent between
	training material and that in Browser interfaceMaintenance/Column
038113	The function of "Autozero" of signal on Browser Interface does not
	work
038153	TCD Filament can come on at 135 degrees but the help states 130
	degrees.
038155	8860: the EMF for septum injection counter is always Zero for COC
	inlet with Manual/ External injection.
038169	8860 packed column actual flow is not correct in Browser Interface
038256	8860 Valve Box temperature setpoint maximum is 250 degree now
038301	Warning for pressure and restriction tests when
	headspace/markes/external sampler is connected
038313	Update Health Report to include Column Dimensions
038320	Logging for Blank/Detector/Peak Evaluation Results
038336	Retention Time Ratio in the Detector Evaluation of the FPD+ needs to
	be changed.
038430	88xx H2 Sensor test Results in System Health Report should include
	Concentration % in Details column
038431	Browser System Log has entry for Hydrogen shutdown during H2
	Sensor Calib Check, but no entry for the clearing of the shutdown
038433	Browser Instrument Actuals Table always shows H2 Sensor
	Concentration Actual as 0; no setpoint, no units, no percent accuracy
038444	8860 PP inlet: Pressure can't maintain during Verifying Basic Control
	and Test is Failed in leak and Restriction Test
038453	GC driver: Instrument Status always seems to show Hydrogen Sensor
	Concentration as 0.000%, though Calib Check shows 1.916%



2.0.2.8 8860 GC Firmware

Released in January 2020

Service Note Number: 8860 Series GC-014

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

Issue ID Title 037691 Leak and restriction test and pressure decay test issue with FW 2.0.0.391 in 8860 GC 037804 Intermittent ALS remain in busy state and sequence aborted with GCMS system 037824 Removing MSD Transfer line should fix up column configuration 037853 Data system displays the ALS fail state incorrectly 037862 Instrument does not wait for external device not ready 037892 7693 stops communicating with the ALS controller 037898 system reported error 1000600a, system rebooted several times, and the error can't be cleared 037926 XCD H2 sensor calibration failed 037936 8860 PP inlet: Pressure raise to 11psi and continue until fail in leak and **Restriction Test** 037997 8860: The positive and negative values of TCD signal cannot be switched via Event table in data system. 038025 GC not waiting for readiness prior to injection 038027 Browser Interface does not wait for readiness to begin sample prep 038095 Variable function of plunger speed cannot be set and jump back to fast/slow automatically. (solved with GC driver 3.1.205, issue only existed with back injector)

2.0.0.391 8860 GC Firmware

Released October 2019.

Enhancements

- added support for the Integrated SCD
- added support for Hydrogen Sensor Module
- added support for Clock table programming
- added support for Sleep/Wake

Changes/Fixes made since the last version. (1.2.0.13)

Issue ID Title

032242	[DAExpress] Dual channel signal curve colors are too similar to
	distinguish
032837	Browser Interface Sequence: Could not know the current injection
	when sequence is running
032871	Detector Evaluation may require separate test limits for EPR pressure
	control
032934	88x0 EMF Warning and Service Due thresholds for Column Length work
	incorrectly
032946	8860 Browser Interface: the first line rate of COC inlet ramp table
	should be gray.
032999	88x0 Touchscreen includes too many gas types for Aux EPC
	Configuration
033013	8860 Browser Interface: slow fan is not supported in 8860.
033015	8860 Browser Interface: Maximum oven temp range is 70 - 450 if
	override checked.

033016 8860 Browser Interface: Total run time should be <=999.99min.

033018	8860 Browser Interface: the Oven first line rate should be gray and rate
	0 should disable that ramp.
033107	Too Many Digits displayed in Actual Value of Detector Signal on Status
	of Browser Interface of 8860
033181	8860 Browser Interface: Data Process Method should be displayed in
	DA Express
033185	8860 Browser Interface: Demo data is required for function review and
	customer site familiarization
033350	Active method setpoints applied before Touchscreen finishes booting
033380	8860 Browser Interface: out of range value should highlight as invalid
	in oven table.
033383	8860 Browser Interface: max oven temp is not highlighted after
	unchecking override column max
033488	8860 Browser Interface: Event Type list should be consistent with GC
	configuration.
033497	8860 Browser Interface: diagnostic signal list in online plot should be
	modified.
033504	8860 Browser Interface: for TCD with EPR, it should be marked with
	manual.
033518	8860 Browser Interface: [PCI] instrument actuals table should be
	modified.
033533	8860 Browser Interface: in Valve configuration, remote start is only
	supported in position 7 & 8.
033540	8860 Browser Interface: TCD makeup gas type should be displayed in
	Browser Interface.
033562	8860 Browser Interface: no valve name in Valve configuration table.

034016	8860 Browser Interface: [Maintenance] ECD insert liner injections is
	always 0, and the service warning and service due is not function.
034061	System log has empty page in Portuguese version
034077	8860 Browser Interface: [Valve] injection source should be no valve
	options unless a GSV is configured.
034086	8860 Browser Interface: [Aux PCM] pressure rate, hold time range, run
	time limit are not correct.
034090	8860 Browser Interface: [ALS] under Multiple injections mode, total
	volume= injection volume* multiple injections should be displayed.
034173	8860 Touch Screen: no 'changed hardware' diagnostic condition pops
	up.
034231	8860 Browser Interface: [Readiness] Aux PCM readiness cannot be
	downloaded.
034282	8860 Browser Interface: column compensation is unavailable in
	Browser Interface.
034498	8860 Browser Interface: [online plot] TCD real-time plot units is not
	correct.
034581	8860 Browser Interface: no ALS model number and firmware version
	displayed in ALS configuration screen.
034586	8860 Browser Interface: equation and R2 should be displayed in curve
	screen.
034595	8860 Browser Interface: when a FPD is configured to a Packed column,
	there should be no options under the column flow correction.
034597	8860 Browser Interface: default signal rate is 1000Hz instead of 50Hz.
034598	8860 Browser Interface: FPD signal should be displayed with units:
	150pA.

034601	8860 Browser Interface: there is no COC temp setpoint in Track Oven
	mode.
034654	8860 DA Express: There are too many decimal digits of rep factor and
	other parameters
034739	88xx Browser Interface service mode - module LVDS configuration not
	grayed-out for configured modules
034746	8860 Browser Interface: when the Aux EPC is part of the flow path, Air
	is not allowed.
034748	8860 Browser Interface: Aux EPC initial pressure range is not correct
	when its mode is ramped pressure.
034749	8860 Browser Interface:[Aux EPC] the Aux EPC rate range is not correct
	when the ramped pressure is selected.
034753	8860 Browser Interface: [Aux EPC] the ramped run time should be
	limited by oven run time maximum.
034754	8860 Browser Interface: there is a post run under ramped pressure
	table or ramped flow table, but it's not editable.
034756	8860 Browser Interface: [Aux EPC]Too many decimal places in the
	calculated flow.
034783	8860 Browser Interface: add the FID flame status in Instrument actual
	table.
034798	8860 Detector Evaluation is always failure in EPR system
035014	8860 Browser Interface: Remove unsupported MSD types from type
	list under configuration
035025	Browser Interface loses its place when a change is made to valve config.
035148	Browser: Service Mode Setup: Options should be filtered by availability
	and feasibility

035151	Diagnostics: Hardware Setup: Confusing button when hardware is not
	configured automatically
035363	Vent and Pump down button could not take effect again for MS control
	from touch screen after MS has been pumped down through touch
	screen for the first time
035377	Browser interface calibration: There is no prompt popped up when
	pressure and flow zero failed
035381	Browser interface calibration: "Actual" item under Flow Zero and
	Pressure Zero should be renamed as "Zero"
035383	Browser Interface: "G3520 Transfer line" should be changed to "G3449
	Transfer line" in Aux heater type
035415	Browser Interface: It should be only Constant Pressure mode for SSL
	EPR
035459	88x0 Local Data Storage link typo.
035502	8860: SSL inlet purge time max range should be 999.99.
035506	Browser Interface Locale settings change back to English after Brower
	Interface reopening
035533	8860: default column type should be Capillary in Browser Interface.
035546	Browser Interface: Solvent wash mode should be changed for G4567A
	in 8860
035571	Browser Interface: Data rate is always 50Hz and can't be removed
	when it is selected with "none" signal source
035581	8860 Browser Interface: the ECD signal value unit should be Hz instead
	of pA.
035604	Removing columns from the Browser Interface does not work.

035682 [Browser Interface]: the help info of pressure decay test in self guided diagnostics is not correct. 035687 Method name display in Touchscreen or Browser Interface not displayed. 035735 New PID parameters for splitless injection with G3449A 035797 8860 Touchscreen (from customer): we need to add a Stop button in Touchscreen. 035799 8860 Browser Interface: during column configuration, the interface will jump into another interface, normally ALS screen. 035816 8860/8890 Touchscreen: the status should be Not Ready when the SSL inlet is waiting for pre-run and purging under Splitless mode. 035818 8860 Browser Interface: in the real-time plot window, two same detector signal can be displayed at the same time. 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. 035827 8860 Browser Interface: When column was configured with a PCM as Inlet, the status of column connection cannot be displayed in Touchscreen. 8860 Browser Interface: packed column actual pressure is always 0 in 035829 Touchscreen and in Browser Interface, when a Packed column is configured PCM as inlet. 035831 8860 Browser Interface: When Packed column is configured PCM as Inlet, the flow setpoint cannot be downloaded successfully under constant flow mode.

035926	8860 Browser Interface: there is no 'show all flows/ only show
	columns' button at base of column selection table.
035927	8860 Browser Interface: if I configure a column to PCM A, Aux PCM A
	disappears from the list of columns to control.
035999	8860 SSL Inlet: sleep mode is not supported in 8860.
036029	8860 FID: The fid's flame status is always OFF no matter it's igniting or
	On.
036036	88xx online manual should not mention software keypad any more
036108	[DA Express] Exclusive access to DA Express is now not working
036158	[DA Express] Amount unit is not displayed in Report
036199	8860 Browser Interface: FID H2 actual flow is not correct under column
	+ fuel = constant mode.
036222	[DA Express] Only the first channel's Integration parameter and
	calibration table get saved to report
036313	8860/90 TCD: TCD Switching comes on with above 130 degrees
	without selecting filament on or flows on.
036361	88x0 NPD Hydrogen flow can't change ON/OFF status in event table
	properly via Browser Interface
036391	8860 DA: the summary Table in report is displayed incorrectly.
036392	8860 Browser Interface: the color of status bar is not displayed
	correctly.
036400	8860 Browser Interface: under maintenance mode, the FPD block
	actual temperature will rise to a high temp.
036482	[DA Express] Save Method to an existing name does not give any
	notification

036500	8860 Browser Interface: carrier gas is not displayed correctly when
	controlled by He conservation module.
036501	8860: PCM flow is not shown in touchscreen even in flow control mode
036502	8860: PCM flow setpoint should not be displayed on Touchscreen
	when PCM is under Constant Pressure
036503	8860 PCM Aux Channel calibration always failed
036662	8860 Touchscreen: some words in Chinese version are not the correct
	simplified Chinese.
036683	8860 valve: When a (dummy) gas sampling valve is configured as valve
	4,5,6,7, or 8 on 8860, valve 1 will automatically go to on at the start of
	any run.
036927	Abort current run from Browser interface and Touchscreen which is
	acquired from GC driver violate the audit requirement, suggest to set
	authorization and pop-up for indication
036946	[DA Express] If user select .D file and then click "OK" under "Load STD"
	function, a pop-up exist as attached, which will mis-lead the user.
037084	Pressing the Stop button does not go through PostRun
037194	Oven heating too slowly observed at several customer sites
037217	[DA Express] Curve Graph/Table not showing correct information when
	in ISTD mode
037388	[DA Express] ISTD Calibration curve is incorrect when we have multiple
	points for a compound
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

037433	[Online help] Online help for DA Express is still using English screenshot
	when language has been switched to Chinese
037453	8860 SSL EPR: Purge time cannot be uploaded from instrument
	correctly.
037623	"Host not ready " is not available on 8890/60 with Masshunter
037647	EPC modules not configured to a column will change the setpoint to 0
	in post run

1.2.1.10 8860 GC Firmware (Released as point patch only for certain customers - not released to manufacturing)

Released August 2019.

Changes/Fixes in this FW version.

Issue ID Title

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

1.2.0.13 8860 GC Firmware

Released April 2019.

Firmware version 1.2.0.13 fixes some issues in the initial release of the 8860 firmware (version 1.0.61) as listed in the following Team Tracks. No new functionality was added in this firmware version.

Issue ID	Title
035596	Column outlet pressure cannot be set and resets to 0 in the GC Driver
	when outlet set to other
035602	Browser Interface sequence and method entry fields need to be
	sanitized.
035603	Setting up packed columns from the bowser does not work.
035628	8890/60 auto-configuration issue
035650	Analog output signal on 8890 and 8860 GCs is very small compared to
	7890 GCs.
035651	Analog output signal Zero setting is +- 5000000 instead of +-500000
	like the 7890 GC.
035653	Changing the Zero value on the 8890 Analog Output does not change
	baseline output.
035695	8860 Browser Interface: Method name with a space at the end can't be
	loaded or deleted
035851	Invalid Setpoints - Nominal Power

1.0.61 8860 GC Firmware

Initial release February 2019.

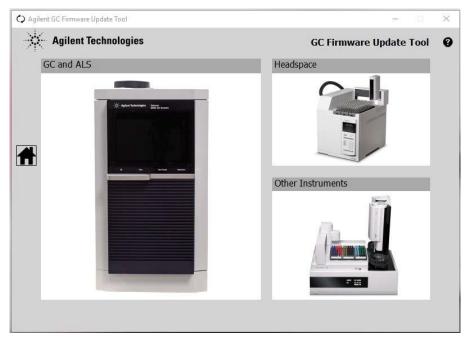
8 Firmware Update Program

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 8860 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 8860 GC that you wish to connect to and then press **Connect**.



Information such as current installed firmware will then be displayed.

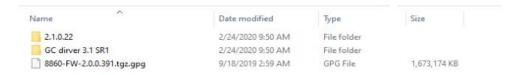


Press Update.

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 hard drive to find it.

The firmware file has the structure 8860-FW-X.X.X.X.tgz.gpg



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.

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