Agilent 8860 GC

Firmware Bulletin

Revision 2.2.2.4
Internal and External use
About this Document

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

- 8860 GC (G2790A)
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# Document History

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24\textsuperscript{th} Feb, 2020</td>
<td>Rev 1.00</td>
<td>Initial release</td>
</tr>
<tr>
<td>10\textsuperscript{th} Jun, 2020</td>
<td>Rev 1.10</td>
<td>Added 2.1.0.626 details</td>
</tr>
<tr>
<td>25\textsuperscript{th}, Nov, 2020</td>
<td>Rev 1.20</td>
<td>Added 2.2.0.287 details and modified for external use</td>
</tr>
<tr>
<td>11\textsuperscript{th}, Dec, 2020</td>
<td>Rev 1.21</td>
<td>Remove “support Oven Cryo” statement and adjust some text formats</td>
</tr>
<tr>
<td>5\textsuperscript{th}, February, 2021</td>
<td>Rev 1.30</td>
<td>Added 2.2.2.4 details</td>
</tr>
</tbody>
</table>
Compatibility Information

- Agilent 8860 GC Firmware Support Information
- Notes for Agilent 8860 controlled by non-Agilent Chromatography Data Systems (CDS)
- OQ/PV - Validation Information
- Data Handling Compatibilities
Agilent 8860 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 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
- 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 8860 Firmware requirements to support current Agilent Open Lab CDS Chemstation (rev C.01.10), Open Lab CDS (rev 2.5) and Open Lab CDS EzChrom (rev A.04.09)

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Model</th>
<th>Supported Firmware Version (minimum)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8860</td>
<td>G2790A</td>
<td>1.0.61 or greater</td>
<td></td>
</tr>
</tbody>
</table>
Firmware History

- Current Version Changes
- Previous Firmware Changes
Current Version Changes

The current firmware for 8860 GC is 2.2.4

Released January 2021

http://download.chem.agilent.com/firmware/8860_FW_2.2.4.tgz.gpg

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

With 8860 firmware 2.2.4 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)

<table>
<thead>
<tr>
<th>Issue Id</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>040724</td>
<td>When Column Comp is selected method download causes a disconnect</td>
</tr>
<tr>
<td>038332</td>
<td>88xx loses connection on downloading detector compensated signal or running sample with this signal</td>
</tr>
</tbody>
</table>

Previous Firmware Changes

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

2.2.1.4 88860 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.

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

- **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)

<table>
<thead>
<tr>
<th>Issue Id</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>035046</td>
<td>User validation of Static IP information</td>
</tr>
<tr>
<td>035066</td>
<td>TCD detector can't be recalibrated after the cell or interface board in 8860</td>
</tr>
<tr>
<td>035646</td>
<td>Nexus analog out signal goes high when TCD filament is turned off</td>
</tr>
<tr>
<td>036034</td>
<td>Browser Interface missing User Configurable parameters for both Inlets and Thermal Zones</td>
</tr>
<tr>
<td>036468</td>
<td>Once re-scope the X and Y axis of real-time plot, only the plot from that time can be checked, missing previous chromatograph.</td>
</tr>
<tr>
<td>036747</td>
<td>[Truncation] The Home of Edge Browser Interface is truncation and can't display completely</td>
</tr>
<tr>
<td>036844</td>
<td>8860 Browse Interface: signal event table is always blank, even after downloading the method from Data System</td>
</tr>
<tr>
<td>037001</td>
<td>Channel Partner PCM inlet rate is possibly incorrect</td>
</tr>
<tr>
<td>037002</td>
<td>PCM inlet help is not available or incorrect across interfaces</td>
</tr>
<tr>
<td>037010</td>
<td>Nomenclature Differences between GC driver and LUI - ALS injection modes</td>
</tr>
<tr>
<td>037235</td>
<td>Suggest making it possible to add or insert sequence line during sequence running</td>
</tr>
<tr>
<td>037719</td>
<td>User Configurable heater parameters can't be saved in 8860 GC</td>
</tr>
<tr>
<td>038473</td>
<td>in Browser Interface, the column outlet pressure should be editable when column outlet is configured as others</td>
</tr>
<tr>
<td>038641</td>
<td>Total syringe volume used' is not displayed in Browser Interface</td>
</tr>
<tr>
<td>038738</td>
<td>Data not integrating in DA Express</td>
</tr>
<tr>
<td>038753</td>
<td>pressure setpoint, flow setpoint and pressure adc setpoint should be deleted in EPR FID diagnostic signal list</td>
</tr>
<tr>
<td>038862</td>
<td>in Browser Interface, Tray information is not displayed</td>
</tr>
<tr>
<td>038897</td>
<td>DA Express: Y Axis Label</td>
</tr>
<tr>
<td>038929</td>
<td>Make the blank evaluation tab on the on-board methods read &quot;Blank Evaluation&quot;</td>
</tr>
<tr>
<td>038960</td>
<td>Configuration of Composite column is not supported from Browser Interface</td>
</tr>
<tr>
<td>038995</td>
<td>Remaining Run Time is blank under Run Status when running a sequence via Browser Interface</td>
</tr>
<tr>
<td>039154</td>
<td>After Gasifier is removed from GC, related help file cannot be searched out.</td>
</tr>
</tbody>
</table>
8860 Browser Interface Help _DA Express issue untranslation screenshots and truncation issue screenshot

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

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

EMF thresholds for back injector are not being read or set from device when only a back injector is installed (88XX)

8860_Browser Interface_FID replace Jet screenshot need be 8860 instrument instead of 8890

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

ALS parameter can't send to 8890/60 if "Sample Depth" set to "-2".

Method can't be downloaded to 8860 when syringe sample depth with minus value

there are blank lines under sequence selection list

Change MS network setting behavior from the LUI

8890 2.1 firmware gives Error on Quick start for SCD

Modify GC Access PIN to allow for 4 to 8 digits

In Browser Interface, sequence line numbers greater than 99 are truncated

8860: The septum purge flow of the COC inlet cannot be reset to zero by calibration

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)

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>024416</td>
<td>Adding user defined EMF fields seems not to be working</td>
</tr>
<tr>
<td>032319</td>
<td>8890/60 should hold Not Ready state whenever Blank Run Analysis sequence is aborted</td>
</tr>
<tr>
<td>033096</td>
<td>Request to Check the Left Memory Size in Touchscreen or Browser Interface of 8860</td>
</tr>
<tr>
<td>034588</td>
<td>8860 Browser Interface: it's better if save method can be multiple -selection.</td>
</tr>
<tr>
<td>035195</td>
<td>Browser Interface: Advanced Tests in Diagnostics</td>
</tr>
<tr>
<td>035203</td>
<td>Diagnostics: Inlet Tests Fail with Headspace Connected</td>
</tr>
<tr>
<td>035605</td>
<td>5977B will not be configured properly if the 8890/60 is turned on the first time prior to the MS</td>
</tr>
<tr>
<td>035959</td>
<td>[DA Express] Print calibration curve in report</td>
</tr>
<tr>
<td>035987</td>
<td>Touchscreen: Flow path on Touchscreen is different with that on Browser Interface and Openlab when one inlet is connected with two columns</td>
</tr>
<tr>
<td>036052</td>
<td>[DA Express] A new icon is required for 'Compare'</td>
</tr>
<tr>
<td>036053</td>
<td>[DA Express] A new icon is required for 'Curve color config'</td>
</tr>
<tr>
<td>036393</td>
<td>8860 EPR: Is the He conservation module supported in 8860 SSL with EPR?</td>
</tr>
<tr>
<td>036398</td>
<td>Update to 8890/60 Maintenance guide (all languages) needed - new CSD part numbers</td>
</tr>
<tr>
<td>036426</td>
<td>8860 Browser Interface, the instrument screenshot shows 8890, it is better update to 8860</td>
</tr>
<tr>
<td>036577</td>
<td>[DA Express] Redesign the default report template to stay consistent with Browser Interface theme</td>
</tr>
<tr>
<td>036883</td>
<td>[DA Express] Improve the manual baseline operation</td>
</tr>
</tbody>
</table>
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 inconstistance
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
The EPR inlet is missing some images during the leak & restriction test.

HeConsControlled is still checked on UI even when module is removed

8860: column cannot be removed in the Browser Interface.

G3449A Aux Heater Type is not Accurate in 8860 Browser Interface Configuration Interface

8860 Browser Interface: there are two inlet carrier gas type displayed in Column tab

8860: In Browser Interface, Auto Schedule Calibration On cannot be saved.

8860: The detector position cannot be selected under TCD polarity events in Browser Interface.

8860: TCD polarity switching in Event Table is not functional.

Low disk space correction is confusing

8860: The diagnostic signal of Hydrogen sensor is always a straight line with a value of 0.

8860: Hydrogen Sensor Last calibrated time should be displayed Under Instrument Actuals.

[DA Express] It is incorrect to only set "Fixed Y-axis" in DA Express for Negative Peaks

The length of capillary column into FPD is inconsistent between training material and that in Browser Interface---Maintenance/Column

The function of "Autozero" of signal on Browser Interface does not work

TCD Filament can come on at 135 degrees but the help states 130 degrees.

8860: the EMF for septum injection counter is always Zero for COC inlet with Manual/External injection.

8860 packed column actual flow is not correct in Browser Interface

8860 Valve Box temperature setpoint maximum is 250 degree now

Warning for pressure and restriction tests when headspace/markes/external sampler is connected

Update Health Report to include Column Dimensions

Logging for Blank/Detector/Peak Evaluation Results

Retention Time Ratio in the Detector Evaluation of the FPD+ needs to be changed.

88xx H2 Sensor test Results in System Health Report should include Concentration % in Details column

Browser System Log has entry for Hydrogen shutdown during H2 Sensor Calib Check, but no entry for the clearing of the shutdown
Browser Instrument Actuals Table always shows H2 Sensor Concentration Actual as 0; no setpoint, no units, no percent accuracy

8860 PP inlet: Pressure can’t maintain during Verifying Basic Control and Test is Failed in leak and Restriction Test

GC driver: Instrument Status always seems to show Hydrogen Sensor Concentration as 0.000%, though Calib Check shows 1.916%

for COC inlet, inlet septum purge should be editable in the event table.

The Runtime Events of TCD cannot be downloaded to instrument successfully.

In Browser Interface, the type of TCD makeup gas is displayed incorrectly.

In Browser Interface, under TCD mode: Column + Makeup = Constant, 'combined' should be displayed.

The runtime events of EPR TCD's detector polarity cannot be downloaded to the instrument successfully.

ALS Exceptions are not being cleared at start of run

when the NPD is under Column + Makeup = Constant mode, 'Combined' flow should be displayed.

Browser Interface is frozen when changing column type from packed to capillary.

in the Actuals Table, the setpoint and actual values of Aux EPC are incorrect.

The actual pressure of PCI is always 0.

8860: OQPV Pressure Decay Test is needed for compliance service (OQ)

Lower H2 carrier flow and oven temperature when XCD is in insufficient oxidizer

"disk usage up" warning pop up with 88x0 GC

8860 shows 'Line Voltage Low, Power Supply Communication Fault

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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)

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>037691</td>
<td>Leak and restriction test and pressure decay test issue with FW 2.0.0.391 in 8860 GC</td>
</tr>
</tbody>
</table>
Intermittent ALS remain in busy state and sequence aborted with GCMS system

Removing MSD Transfer line should fix up column configuration

Data system displays the ALS fail state incorrectly

Instrument does not wait for external device not ready

7693 stops communicating with the ALS controller

System reported error 1000600a, system rebooted several times, and the error can’t be cleared

XCD H2 sensor calibration failed

8860 PP inlet: Pressure raise to 11psi and continue until fail in leak and Restriction Test

8860: The positive and negative values of TCD signal cannot be switched via Event table in data system.

GC not waiting for readiness prior to injection

Browser Interface does not wait for readiness to begin sample prep

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)

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>032242</td>
<td>[DAExpress] Dual channel signal curve colors are too similar to distinguish</td>
</tr>
<tr>
<td>032837</td>
<td>Browser Interface Sequence: Could not know the current injection when sequence is running</td>
</tr>
<tr>
<td>032871</td>
<td>Detector Evaluation may require separate test limits for EPR pressure control</td>
</tr>
<tr>
<td>032934</td>
<td>88x0 EMF Warning and Service Due thresholds for Column Length work incorrectly</td>
</tr>
<tr>
<td>032946</td>
<td>8860 Browser Interface: the first line rate of COC inlet ramp table should be gray.</td>
</tr>
<tr>
<td>032999</td>
<td>88x0 Touchscreen includes too many gas types for Aux EPC Configuration</td>
</tr>
</tbody>
</table>
8860 Browser Interface: slow fan is not supported in 8860.

8860 Browser Interface: Maximum oven temp range is 70 - 450 if override checked.

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

8860 Browser Interface: the Oven first line rate should be gray and rate 0 should disable that ramp.

Too Many Digits displayed in Actual Value of Detector Signal on Status of Browser Interface of 8860

8860 Browser Interface: Data Process Method should be displayed in DA Express

8860 Browser Interface: Demo data is required for function review and customer site familiarization

Active method setpoints applied before Touchscreen finishes booting

8860 Browser Interface: out of range value should highlight as invalid in oven table.

8860 Browser Interface: max oven temp is not highlighted after unchecking override column max

8860 Browser Interface: Event Type list should be consistent with GC configuration.

8860 Browser Interface: diagnostic signal list in online plot should be modified.

8860 Browser Interface: for TCD with EPR, it should be marked with manual.

8860 Browser Interface: [PCI] instrument actuals table should be modified.

8860 Browser Interface: in Valve configuration, remote start is only supported in position 7 & 8.

8860 Browser Interface: TCD makeup gas type should be displayed in Browser Interface.

8860 Browser Interface: no valve name in Valve configuration table.

8860 Browser Interface: [Maintenance] ECD insert liner injections is always 0, and the service warning and service due is not function.

System log has empty page in Portuguese version

8860 Browser Interface: [Valve] injection source should be no valve options unless a GSV is configured.

8860 Browser Interface: [Aux PCM] pressure rate, hold time range, run time limit are not correct.

8860 Browser Interface: [ALS] under Multiple injections mode, total volume= injection volume* multiple injections should be displayed.

8860 Touch Screen: no 'changed hardware' diagnostic condition pops up.
8860 Browser Interface: [Readiness] Aux PCM readiness cannot be downloaded.
8860 Browser Interface: column compensation is unavailable in Browser Interface.
8860 Browser Interface: [online plot] TCD real-time plot units is not correct.
8860 Browser Interface: no ALS model number and firmware version displayed in ALS configuration screen.
8860 Browser Interface: equation and R2 should be displayed in curve screen.
8860 Browser Interface: when a FPD is configured to a Packed column, there should be no options under the column flow correction.
8860 Browser Interface: default signal rate is 1000Hz instead of 50Hz.
8860 Browser Interface: FPD signal should be displayed with units: 150pA.
8860 Browser Interface: there is no COC temp setpoint in Track Oven mode.
8860 DA Express: There are too many decimal digits of rep factor and other parameters
88xx Browser Interface service mode - module LVDS configuration not grayed-out for configured modules
8860 Browser Interface: when the Aux EPC is part of the flow path, Air is not allowed.
8860 Browser Interface: Aux EPC initial pressure range is not correct when its mode is ramped pressure.
8860 Browser Interface: [Aux EPC] the Aux EPC rate range is not correct when the ramped pressure is selected.
8860 Browser Interface: [Aux EPC] the ramped run time should be limited by oven run time maximum.
8860 Browser Interface: there is a post run under ramped pressure table or ramped flow table, but it's not editable.
8860 Browser Interface: [Aux EPC]Too many decimal places in the calculated flow.
8860 Browser Interface: add the FID flame status in Instrument actual table.
8860 Detector Evaluation is always failure in EPR system
8860 Browser Interface: Remove unsupported MSD types from type list under configuration
Browser Interface loses its place when a change is made to valve config.
Browser: Service Mode Setup: Options should be filtered by availability and feasibility
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 Browser 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.
8860 Browser Interface: In the browser, the GC has 10 available valve positions while in CDS 2 it has 8.

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 Touchscreen and in Browser Interface, when a Packed column is configured PCM as inlet.

8860 Browser Interface: When Packed column is configured PCM as Inlet, the flow setpoint cannot be downloaded successfully under constant flow mode.

8860 Browser Interface: there is no 'show all flows/ only show columns' button at base of column selection table.

8860 Browser Interface: if I configure a column to PCM A, Aux PCM A disappears from the list of columns to control.

8860 SSL Inlet: sleep mode is not supported in 8860.

8860 FID: The fid's flame status is always OFF no matter it's igniting or On.

88xx online manual should not mention software keypad any more

[DA Express] Exclusive access to DA Express is now not working

[DA Express] Amount unit is not displayed in Report

8860 Browser Interface: FID H2 actual flow is not correct under column + fuel = constant mode.

[DA Express] Only the first channel's Integration parameter and calibration table get saved to report

8860/90 TCD: TCD Switching comes on with above 130 degrees without selecting filament on or flows on.

88x0 NPD Hydrogen flow can't change ON/OFF status in event table properly via Browser Interface

8860 DA: the summary Table in report is displayed incorrectly.

8860 Browser Interface: the color of status bar is not displayed correctly.

8860 Browser Interface: under maintenance mode, the FPD block actual temperature will rise to a high temp.

[DA Express] Save Method to an existing name does not give any notification

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.

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>037194</td>
<td>&quot;Oven heating too slowly&quot; observed at several customer sites</td>
</tr>
</tbody>
</table>
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.

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

1.0.61 8860 GC Firmware

Initial release February 2019.
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.

![GC Firmware Update Tool](image)

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.