



Intuvo 9000 GC

Firmware Bulletin

Revision A.02.2.2.4

Internal and External use



Agilent Technologies

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About this Document

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

- G3950A; G3952A; G3953A; G3950AR

Where To Get Latest Information.

All Intuvo firmware versions can be obtained via Subscribe Net.

Document History

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

Date	Version	Description
15th June 2020	Rev 1.00	Initial release
14th September 2020	Rev 1.1	Added 2.1.1.7
10th December 2020	Rev 1.2	Added 2.2.0.286
6th January 6, 2021	Rev 1.3	Added 2.2.1.4
28th January 2021	Rev 1.4	Added 2.2.2.4



Compatibility Information

- **Agilent Intuvo 9000 GC Firmware Support Information.**
- **Notes for Agilent Intuvo 9000 controlled by non-Agilent Chromatography Data Systems (CDS).**
- **OQ/PV - Validation Information.**
- **Data Handling Compatibilities.**

Agilent Intuvo 9000 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 Intuvo 9000 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 Intuvo Firmware requirements to support Agilent Open Lab CDS Chemstation (rev C.01.07 and C.01.08). and Open Lab EZChrom (rev A.04.06 and A.04.07)

Instrument	Model	Supported Firmware Version (minimum)	Notes
Intuvo 9000	G3950A	A.01.02	



Firmware History

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

Current Version Changes.

The current shipping firmware for the Intuvo is 2.2.2.4

Released January 2021

http://download.chem.agilent.com/firmware/9000_FW_2.2.2.4.tgz.gpg

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

Updating to this firmware does not require instrument revalidation.

Service Note Number Intuvo Series GC 032

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

Issue ID	Title
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039547	Front NCD showing Baseline wave.
--------	----------------------------------

039735	Disconnects when Column Compensation is selected
--------	--

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038332 Disconnects on download of Column Compensated signal.

Previous Firmware Versions.

This section details previous versions of Intuvo GC firmware giving release notes.

Intuvo version 2.2.1.4

Released December 2020

http://download.chem.agilent.com/firmware/9000_FW_2.2.1.4.tgz.gpg

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

Updating to this firmware does not require instrument revalidation.

Service Note Number 9000 Intuvo GC 031A

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

Issue ID	Title
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040505	Need to add Intuvo Quiet Mode to the LUI, Browser, and Driver
--------	---

Several customers have requested that the emitted noise from Intuvo be reduced, particularly during cooling. To address this, a new selection is created under "Cycle Time Optimization" and is called Quiet Mode. When selected, the cooling fans, both column and guard chip, are run at a lower maximum duty cycle. In addition, the scupper fan is also run at a lower duty cycle and the maximum temperature for any zone in the instrument is 350C.

Intuvo Version 2.2.0.287

Released November 2020

https://download.chem.agilent.com/firmware/9000_fw_2.2.0.287.tgz.gpg

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

Updating to this firmware does not require instrument revalidation.

Service Note Number 9000 Intuvo GC 030

Enhancements.

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Peak Evaluation.

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

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 UI PIN At Touchscreen

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

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

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

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

- | | |
|--------|--|
| 035788 | Oven cryo timeout can only be cleared by power cycling the GC. |
| 035046 | User validation of Static IP information. |
| 037468 | Minor adjustment for button on IE browser. |
| 038094 | Sequence Name not displayed on LUI for CDS Headspace Sequences. |
| 038216 | Request addition of 'pause sequence' button in BUI. |
| 038335 | WebUI: column dimensions displayed incorrectly after being changed. |
| 038635 | Using Signal Events from Browser causes no data at all to be collected for that signal (Freeze and Resume). |
| 039243 | Excessive Safety Flow Shut off with all gasses needs to apply just to H2. |
| 039536 | Change MS network setting behavior from the LUI. |
| 039749 | Modify GC Access PIN to allow for 4 to 8 digits. |
| 039968 | Aborting sequence from LUI while a vial is in the heater will cause subsequent runs to fail with tray error. |
| 040168 | Browser UI- Unable to select Load Default Setpoints. |
| 040171 | Split Vent Restriction Test - wrong valve appears to be controlled. |
| 040212 | NO "Resume" button display after click "Pause". |
| 040410 | BUI Help_some linkage are wrong linked |

Intuvo 9000 GC FW 2.1.1.7

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

https://download.chem.agilent.com/firmware/9000_fw_2.1.1.7.tgz.gpg

Updating to this firmware does not require instrument revalidation.

Service Note Number Intuvo 9000 Series GC 027

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

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

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Previous Firmware Versions.

The current firmware for the Intuvo 9000 is A.02.1.0.626.

Released June 2020

Released using Service Note 25

Updating to this firmware does not require instrument revalidation.

Below is a list of Enhancements introduced or defects fixed that were present in previous firmware versions.

Team Track #	Description
036061	Oven cools when front door is opened (should be bus door instead)
036302	Touchscreen Plot requires 1,000,000 du to display full first peak of test plot
036435	Touchscreen Settings\Calibration\Oven should show Oven Actual
036599	LUI events table signal drop down
036643	Signal source table blank until uploaded from instrument
036647	Cannot add Signal events to the Signal Events Table
036786	Automated blank run analysis does not occur with power cycle
036834	WebUI vial location in status bar
036851	Carrier gas type consistency with Helium Conservation Module
036923	Abort sequence from LUI
036928	Injection Dispense Speed sometimes doesn't match between LUI & DSA
036930	Sets default setpoints for all configured modules when new hardware is installed
036935	BUI has incorrect bounds for sample overlap
037015	LUI Plot calls Detector 2 connector temperature 'Jumper Temperature'
037246	Touchscreen needs a context Help topic 'About this screen' for Oven Cycle Optimization

- 037247 Unable to run method with oven turned OFF due to readiness
- 037256 No need "Apply" button in Setting > System Setting > About screen
- 037275 LUI shows front/back for tray calibration
- 037289 No System Log message produced when system in Sleep state is woken by sending a method to the instrument from the BUI
- 037290 Won't upload certain thermal diagnostic signals from GC
- 037328 Power Fail test case. Automated blank run appears to be suppressed while connected to the data system
- 037362 Oven Standby - Guard Chip Temp and Standby Max Temp parameters require adjustment
- 037364 Oven Standby - Autoclean should be invoked upon exit from standby if it is specified in the method and the standby temp is over the autoclean temperature threshold
- 037401 Browser Method enables all setpoints for Tray Vial Heating and Vial Mixing when these options are disabled
- 037403 Browser Tray Vial Heating and Mixing setpoints accept out-of-range entries without complaint; declare them downloaded when they aren't
- 037422 Truncation in error message upon Inlet Pressure Zero calibration failure
- 037427 Touchscreen should show a Tray Parked condition as a pop-up, not just a Not Ready condition
- 037441 WebUI flowpath not correct with a 1:1 splitter D1:MS
- 037442 MSD connector temperature missing from LUI and WebUI
- 037448 Touchscreen Vial Heater temp requires re-entry after setting offset in order to reach readiness
- 037449 Touchscreen should change label for Chiller Readiness to 'Use Chiller Ready (or Readiness);

- 037450 Touchscreen GSV Loop and Inject Times allow 0 incorrectly
- 037454 Browser does not display configured MPV position on its Valve page
- 037455 Touchscreen events offers Valve event for now-invalid GSV
- 037500 Intuvo boots up with empty LUI screen.
- 037519 Cannot setup bus type
- 037527 PSD Purge Flow Reduced diagnostic condition should clear automatically
- 037531 Intuvo detector fault does not turn zone heater off
- 037563 Bounds for MMI cryo wrong
- 037594 Method resolution after updating firmware
- 037621 Intuvo 2.0 stuck in pre-run with "Inlet flow not ready" error, but flows and pressures appear to be correct
- 037650 Incorrect conversion value (psi vs kPa) in Gas Plumbing of 9000GC Web Help
- 037663 Intuvo thermal sensor erroneous 'open' reading
- 037694 Smart Key write error
- 037695 Inlets/Guard Chips not working with recent firmware
- 037696 9000 Instrument Smart Key Write Error
- 037706 Startup Behavior with Cryo Valve
- 037707 High CPU usage.
- 037749 9000 LUI Settings\Calibration ALS/Tray is devoid of spatial values
- 037823 Intuvo guard chip fan ON while heating, unable to reach temp, causes thermal fault
- 037869 9000 with 2 detectors Browser shows configuration diagram as railroad map, not icons

- 037870 9000 MPV Failure diagnostic condition cannot be exited from the browser; circles back to condition
- 037895 9000 System Fault message on touchscreen after starting sequence
- 037899 Headspace transferline accessory configuration doesn't stick
- 037945 Column flow actual not correct in constant flow mode
- 037991 Intuvo GC NCD: burner temperature fluctuated and could not get ready
- 038083 Running a sequence on Intuvo 9000, unit goes into 'Cooldown' and sets oven temperature to 0 (can't get there)
- 038229 Too Many Run Logs
- 038270 Inlet leak & restriction diagnostic test on 1:1 inlet splitter to 2 columns makes an incorrect calculation
- 038298 Method tab of Browser UI is blank on 9000 (displayed properly on 8890) and lines cannot be added to Sequence
- 038346 System fault on Intuvo and 8890 (fault code 0x00002000, error code 1000600a)
- 038415 Changing temperature setpoints in BUI method causes the flow setpoint to change
- 038428 LUI "Cancel" button to leave loading screen is not functional
- 038466 9000- Post Run flows are not being properly set.
- 038467 Internal Error During Instrument Configuration Removing PSD
- 038471 Intuvo Column connector heating too slowly
- 038737 "Select Method" drop-down boxes in Method and in Settings\Manage Reference Chromatograms often require a BUI refresh in order to open
- 038741 Intuvo Browser Oven Ramp Line Editor has no labels for Rate or Value
- 038743 Extending run from Intuvo touchscreen does not log extension in Run Log of any interface

- 038762 Intuvo oven standby parameters cannot be changed from BUI Method\Configuration\Miscellaneous (8890 is unaffected)
- 038766 9000 MS Mid-Column BF Perform Maintenance procedure includes Step 27 to 'turn on the Mass Spec' for Col 1, even though it wasn't off
- 038769 9000 Bakeout for MS Mid-Column Perform Maintenance begins before temp is reached.
- 038778 9000 MS Mid-Column BF Perform Maintenance procedure stalls at Step 14 of 30 with blank screen
- 038790 Intuvo MS Mid-Column Perform Maintenance procedure repeats message of Waiting for Zone Temps multiple times in touchscreen while waiting for ready during Bakeout
- 038811 Browser uploads Signal Event times incorrectly
- 038814 9000 Power User Mode ranges for Detector Tail Temp and Column Connector rate are inconsistent with test case
- 038855 9000 Browser does not include any valve configured as 'Other' in Run time Events position; Other does not upload to browser or DSA from touchscreen
- 038857 Intuvo touchscreen offer new MPV Maximum Position; If this option is valid, the range of 1-99 is incorrect, should be 1-32 as for any other valve
- 038858 Intuvo Browser offers new MPV Maximum Position; If this option is valid, the range of 1-99 is incorrect, should be 1-32 as for any other valve
- 038859 Intuvo Browser GSV method Valve Setpoints dialog should not include On checkbox
- 038867 Intuvo DSA does not upload or Save any MPV (or Other) Valve Runtime Events
- 038879 9000 Touch Screen and Browser UI- Not tracking the number of injections for the Bead and the ceramic insulator injections
- 038911 Function: Intuvo Browser UI: Incorrect error message when trying to save an empty sequence
- 038914 Browser UI -Navigation Pane is empty for the 9000 and the 8890

- 038915 Run time events are not working.
- 038932 No MS signal is collected if a vial is missing from the tray and the "Retry" function is used
- 039016 Intuvo Browser Event table shows incorrect position range for configured MPV: 0-30; should be 1-max position
- 039057 One inlet to two columns-incorrect total flow
- 039059 Tray is not display in BUI
- 039075 BUI Could not run reference chromatogram if 9000 configured with tray
- 039161 BUI display blank if enter IP in the Browser
- 039169 Manage Reference Chromatograms is still available in the Browser UI
- 039174 Touchscreen GC's hold ownership until rebooted
- 039192 XCD Quick start Oxidizer range
- 039277 Making a run when EMF values have exceeded warning or service thresholds causes those thresholds to be disabled

Previous Firmware Versions.

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

2.0.2.8 Intuvo GC Firmware

Released January 2020

Service Note - 24

Updating to this firmware does not require instrument revalidation.

Team Track #	Description
037889	Integrated SCD: Column (Actual) not matching the set point
037925	Intuvo XCD not using burner pressure for flow calculations

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037958 Intuvo updated to 2.0 firmware now unable to connect to OLCDS when splitter flow chip between D1 and MSD installed.

2.0.0.391 Intuvo GC Firmware

Released October 2019

Service Note - 23

Updating to this firmware does not require instrument revalidation.

Team Track #	Problem Description
32058	Stop Press from LUI does not stop Acquisition.
32396	Overlap injections uses only the injection volume from the first injection for subsequent injections.
33576	Method parameters are not locked when they should be.
34840	Retry doesn't work on non-overlapped runs.
35160	EZChrom: RETRY again not working.
34926	Oven Standby parameter included.
35323	Trap Heater PID update.
35366	Valve 1 defaults to a GSV but customer needs it to be used as a switching valve.
35444	Support for 3rd-party Intuvo columns.
35489	Column Connector Temperature errors after power cycle.
35490	Chromleon: ALS Recoverable error RETRY not working.
35913	Diagnostic signals for heated zones.
35740	Support for second FID Heater added.
35996	Intuvo Browser Interface Help not displaying.
36033	USB ports aren't enabled.
36085	Guard Chip/Bus Temp set to OFF prevents Instrument Ready.
36574	Cable G4580-60733 LSIB Signal Cable might have caused longer retention time and FW 2.0.187 could not detect its malfunctioning.
36913	SSL not reporting "heating too slowly" when TC shows no change in Temperature.
36922	Review response time in FID/SSL heating too slowly fault.
37073	Power Line Voltage Behavior modified.
37147	Post-column backflush flow limits on LUI.
37158	D2 Post-column backflush fails leak & restriction diagnostic test.
37225	Sequence volume injected are offset by one.

1.0.4.399 Intuvo GC Firmware

Released November 2018

Service Note - 17

Updating to this firmware does not require instrument revalidation.

Issue ID Title

Team Track # Title Description of failure

026894	Alignment failure on tray should be reported by Intuvo.	The tray internal alignment can be started by pressing a button on the tray. It would be useful to be able to report the results of the alignment on the LUI.
026979	Intuvo LUI Disk Space Settings options are unclear	From the LUI, select Settings\System Settings\Disk Space Settings. There are two options: - Min Available Disk Space (range 15-75%) - Max Data Age (1-infinity days) It is not intuitive what to do with this screen. User would expect to set a Maximum disk space, not a minimum, as in PC event log settings. the disk is full.
027166	Intuvo with configured and present MPV and GSV is always 'Not Ready'	Configure a MPV in position 7 and a GSV in position 1. The GC is always Not Ready, with these two valves noted in conditions as 'Not Ready'. Cannot start a run to this instrument because of these conditions which never resolve.
027296	Cosmetic: 9000GC- Lower part of Mode button is cut - off.	
027297	Cosmetic: 9000GC _Pneumatics mode setting are not aligned.	
027298	Cosmetic: 9000GC _Valve setting are not aligned.	
027299	Cosmetic: 9000GC _Valve setting of Configuration Misc. are not aligned.	
027300	Truncation: 9000GC - The unit is truncated.	
027301	Truncation: 9000GC - The unit is truncated. - Method_Active Method _ALS_ Speeds page.	
027302	Truncation: 9000GC - The unit is truncated. Method_Active Method_Columns _Column 1 page.	
027303	Truncation: 9000GC - The unit is truncated. Method_Active	

Method_Detectors_Flows
page.

027304	Enhancement: Unit are hidden. Move units to column header.	<ol style="list-style-type: none">1. Start up the 9000GC.2. Open the Method3. Click the Edit of Active Method.4. Click the Valve.5. The unit of Load time, injection time is truncated.
027305	Truncation: Front inlet page has truncation - Setting_Calibration_Inlets page.	
027339	Intuvo LUI Calibration\ALS date/time stamp text box is too narrow, truncating entry	
027390	Intuvo: Turning Det temp off from LUI shows Not Ready until Filament or Bead is also turned off	From the LUI, turn off the detector temp. The Status goes Not Ready incorrectly, Detector Temp Waiting, and will not go Ready until the Bead or Filament is also turn off.
027398	Intuvo Edit Method\ Collision Cell et al table headings do not line up with columns	Collision cell with BF. Select Method\Edit Active method\ Columns\Collision Cell. The headings for the ramp table do not align with the columns beneath them. True also for PSD Backflush Restrictor ramp tables.
027417	Intuvo Service Mode ALS Serial ID text fields are truncating contents	
027422	Intuvo Clock Table Time entry has no range displayed	
027452	Intuvo LUI Calibration Oven Offset offers and enforces no temp range	From the LUI, select Calibration\Oven\Offset. There is no range offered or enforced. 7890 under Options\Calibrate\Oven shows Correction with a range of -10 to 10oC, if this is the same thing. Info there says, 'Difference between sensor and measured temperatures'
027473	Intuvo with AIB shows no detector in flow path for LUI and web UI	Intuvo configured with AIB to NCD standalone, there is no detector of any kind displayed in the appropriate spot of the Flow path on the LUI Home screen or the web UI. The driver displays this correctly as D1 AIB in its flow path.

027491	Intuvo: Gas type changes require reboot to affect method ranges	From Config\Inlet, change the gas type and save. Setpoints that should change within Inlet, etc. do not change their ranges until the GC is rebooted. Ranges are now correct after a reboot.
027516	Intuvo LUI offers no way to view Column Comp Profile length, if data exists	From the LUI, select Settings\Tools. The 4 Column Compensation profiles have no way to view the Run length and the Recorded length of that profile. 7890 keypad offers this info by scrolling to the date/time of any given Col comp profile, then pressing Info.
027552	Intuvo LUI text boxes for all flows are too narrow, truncating the units 'mL/min'	LUI Method Edit text boxes for all flow setpoints and actuals, no matter what inlet or detector are too narrow, truncating the 'mL/min'.
027554	Intuvo LUI Method edit should display the Column Flow with the configured inlet gas type (read-only), as driver does; this value is the lower limit when Col+MU=Constant flow correction	LUI Method Edit Detectors should display the Column Flow with the configured inlet gas type (read-only), as a user help. This is also important because when the gas flow correction is set to Column + Makeup = Constant, the column flow becomes the lower limit of the Makeup flow.
027576	Intuvo does not support hot-swapping bus plates of different types	Currently, if a Smart Key is plugged in for a new bus plate type, a warning is raised to the user that they need to power cycle the instrument.
027588	MSD Tail temperature has truncation on the status screen	in status screen, check MSD status, on the top, the MSD Tail Temperature truncated. it should show "250 oC" but "C" is truncated and cannot be seen.
027603	Solvent wash icon truncation in system set up wizard ALS config screen	Go to settings > system settings> system setup wizard Go to step of ALS config, the solvent wash mode icon truncated on top/bottom
027635	Intuvo Sample path status does not show intermediate flame, et al states: waiting, igniting	While the status within the method for FID and probably other detectors show intermediate flame states such as Waiting, igniting, Slewing, etc., these do not display on the Home sample path view. Only Lit/ Not Lit indicators. The web UI still uses words 'Not Lit/Lit' while the LUI uses a colored flame or a slash across the flame, but I think the web UI does not show the intermediate states either.

027639	Intuvo MS LUI Reboot, Vent, Pump Down all display truncated messages when selected	
027698	Intuvo with PSD: LUI's text boxes truncate the values given for Pneumatics Average Velocity and Holdup Time	
027739	The Pre-run Flow test mode in LUI is inconsistent with the software interface	
027753	Intuvo LUI: Runtime events table time cell has no range	From LUI, select Method Edit\Events. Add a Detector polarity event. The time cell has no range.
027799	Intuvo: LUI Method Edit is activating Position options for non-MPV's; Load and Inject times for non-GSV's	Configure Valve 1 and 5 as GSV's, 6 as Switching, 7 as MPV, 8 as Remote Start, Save. Select method edit and the Position, Load, and Inject Time columns and box are active for all valve types with range of 1-32, times .01-999.99 min. Load and inject times are valid only for GSV's. Position is only valid for MPV.
027806	Function: In System Health Report, Diagnostic test results are not sorted by time	In System Health Report, Diagnostic test results are not sorted by time. This issue occurs both in WebUI and LUI. Either Ascending or descending is fine, but It is preferable that Instrument Alerts, Diagnostic Test Results and Installation History are sorted in the same direction.
027823	Intuvo Configuration HS labels should match 7697 LUI, On Time needs a unit	From LUI, select Settings\Configuration\Headspace. Connect to a 7697 that has been configured to communicate with the GC. Label 'Total Cycles' shows as 'Total Injections' on 7697 LUI. (Service mode\Diagnostics\Instrument Status.) 'Total Uptime' is shown as 'On Time' on LUI. This cell needs a unit: days.
027836	XCD column outlet pressure not correct	The Sulfur and Nitrogen Chemiluminescence Detectors (8255 & 8355) run under a vacuum and the flowpath outlet pressure on Intuvo must be able to be set accordingly.
027847	LUI: Keyboard shift is caps-lock	

027899	Intuvo: LUI does not change lower limit of MMI Solvent Vent's 'Purge Flow to Split Vent end time' to the Vent end time	From the LUI, select Method edit\Inlet. Select Solvent Vent mode. The lower limit of the Purge Flow to Split Vent end Time should be whatever is set as the Vent end time.
027900	Intuvo LUI does not automatically set Bus Temp to highest oven ramp temp with Use Default On	From the LUI, set Oven ramp to 210 oC, Intuvo Bus Temperature to On Use Default. This does not automatically set the Bus Temp to 210, as it should, even after applying. It does, however, upload to software and then downloads correctly from software.
028043	Intuvo LUI for BF Restrictor in Ramped modes does not limit the final time to oven run time; also, inlet ramps	Intuvo configured for post-column backflush. From the LUI method edit for column\Backflush restrictor, select Ramped pressure or Ramped Flow mode. Add three ramps that exceed the oven run time. The final time is not limited by the oven run time max (as it is in the driver.) Upload to the driver and it is limiting the time; download from driver does not overwrite the LUI's incorrect max time. True also for Inlet ramps.
028078	LUI Does Not Refresh the Page When Walking Through an Inlet Maintenance Item	
028298	Intuvo LUI: Should Oven Calibration be exposed to user?	From the LUI, select Settings\System Settings\Calibrations\Oven. Should this be exposed to the user? Apparently, it is complicated and may need to be done by Agilent personnel. If it should be exposed, there should be context Help accompanying it.
028528	Intuvo requires uncheck/Apply, then recheck/Apply of MS Enable Communications checkbox in order to re-establish comm after LUI reboot of MS	From the LUI, select Configuration\Detectors\Reboot the MS. When the blue indicator light on the MS signifies it has completed, the communications is not re-established. I must uncheck the 'Enable Communications' checkbox, Apply, then check the box and Apply in order to re-establish comm.
028533	Intuvo: setpoints that are Off should say 'Off' in LUI Actuals	Set any temp, pressure or flow to uncheck (off). Select to view in LUI Actuals. The setpoint does not show 'Off', but rather the value entered as if it was on.
028542	Intuvo and 7010 MS in MH are not recognized on	

selection of Parts Finder in DS

028551	Headspace aux heater temp can be set but the range is not correct	Headspace aux heater temperature range in the input pad shows as 0-450C, but actually we can only set temperature below 220C.
028735	LUI Plot does not Draw Vertical Red Line and Reset X value to 0 at start of a new run	LUI Plot does not Draw Vertical Red Line and Reset X value to 0 at start of a new run.
028790	Intuvo LUI Run Status is now green 'Run - Ready'	Start a run of any injection source (ALS, valve). Traditionally, run state has been blue. Now it is green with text 'Run-Ready' or yellow 'Run-Not Ready'.
028793	Intuvo DComm MSD type is not saving at LUI	From the LUI, select Settings\Configuration\Detector and select and Apply the MSD type. Select away and return. The MSD type is empty.
028886	LUI Actuals on Actuals and in method edit shows active FID signal as 0 pA	
028895	Check for a change in value before sending actuals is missing in the detector endpoints (except FID)	
028903	Intuvo LUI method edit shows no actual data rate; only 'Lit'	Run MDL sample using Detector signal, 50 Hz. The LUI Actuals shows data rate of about 8.6 pA. However, select LUI's Method edit\Detectors and the Detector shows only 'Lit', but no data rate
028904	Intuvo LUI Plot is not displaying any signals; Start Plot makes no changes to axes. Start Plot appears to be not working	Run MDL sample with detector signal selected. From the LUI, select Plot and select any signal, detector or diagnostic, set x and/or y axes, and start Plot. X and Y axes do not change. No signal is displayed. Start Plot appears to not work.
028920	Intuvo LUI allows reset of Instrument On Time, Disk Usage EMF's	From the LUI, select Maintenance\Instrument. All of these EMF's are resettable.

028925	Intuvo has no EMF's for Mass Spec	From the LUI with 5977A, select Maintenance\Mass Spectrometer. There are no EMF's listed. This causes Maintenance in DSA (MH) to never load any EMF's at all to software. Web UI for the 5977A also shows NO EMF's or listing for the MS. 5977B shows for all MSD 1 EMF's: 'Type undefined not supported yet'FW
028926	Intuvo Actuals for Intuvo in MS Shutdown do not update setpoints for oven and transfer line temps	Set oven and MS Transfer lines to 100oC, inlet pressure on. Un-cable the LAN from the MS to create an MS Shutdown after about 15 minutes. GC Vent method was loaded. After shutdown, LUI Actuals shows the setpoints for Oven and Transfer lines correctly as OFF. However, web UI does not.
028927	LUI Startup Hangs	In attempting to perform a full build of A.01.03.075, the build system hangs indefinitely waiting for the LUI startup script to finish. The LUI screen comes up, but with the "Feature Tour" screen empty. The LUI startup script never exits. System halted.
028929	Intuvo: LUI Method edit Detector Flow Actuals show as 0 mL/min	Turn on all NPD flows and temps. These reach readiness as displayed on the LUI Actuals and the Web UI. However, method edit Actuals do not update, showing Oxidizer, Fuel, and Makeup Flows as 0 uL/min.
028952	MMI Cryo valve type should not be a selectable field.	True also for FID, ECD, TCD... The MMI Cryo type field in configuration is currently a pull-down menu with selectable options. This field should just display the type that is currently installed since the user cannot change this from the front panel. It requires a physical change to the hardware. When the N2/Air version is introduced there can be a selection for which gas the user decides to use.
028960	Intuvo blank run after power fail loads default method	Start a 10 min run with all temp, pressure, and flow zones on. (MH B.07.06.2701 on CBC-MH). During the run, power off the GC at the switch on the back. At power on, a blank run begins immediately, but it is 999 min long with no temps, etc. on.
028961	Intuvo Status shows green 'Status: Run, Waiting for Prep Run' during a run	Start a 10 min run with all temp, pressure, and flow zones on. The LUI status is green and reads: 'Status Run - Waiting for prep run'. The time is

counting down and the run light is on. DSA also shows the time counting down.

028962	Intuvo LUI Actuals disappear after firmware update	
028966	Toggling column pressure via the LUI on-the-fly editor sometimes doesn't cause the changes to save	
028972	Intuvo web UI Actuals loses previous actuals after FW Update, leaves empty lines behind that must be deleted	
029091	Intuvo LUI does not show Estimated remaining time when in a run	Start a run or sequence from OLCS C.01.07. Estimated Remaining time shows until it reaches the Run (blue) state, at which point it disappears.
029100	Intuvo webUI Actuals does not show any setpoint or Actual for Detector 2 Temperature	Web UI Actuals Detector 2 Temperature shows nothing for Setpoint and Actual. Detector 1 temp is shown, Det 2 tail and Connector temps are shown.
029119	Web UI tabs stuck showing "Are You Sure You Want to Exit Diagnostic Test?"	Status says: Diagnostics Mode Try to select Diagnostics Tab and get pop up asking: Do you want to exist Diagnostic Test? Select Yes and still stuck.
029136	LUI real time plot causes Mass Hunter sequence to fail	GC has a split inlet to dual columns and flame detectors set up to run our MDL sample that lasts for approx 11 min. (7.75 min. program and another 3.25 min. for the oven and other zones to cool before starting the next injection). The sequence running was 400 lines long and would complete if the LUI real time plot is not being displayed. However when turning on the LUI real time plot when the following parameters were used: Detector 1 or 2 Signal, X-Axis 22 min., Y-Axis 0 pA, Y-Axis 50 pA the same sequence would fail on the 3rd 4th and/or 5th injection. Should there be a time length limit or is the data rate too high? Maybe the data rate for the LUI plot could be lower?

029138	GC will not reconnect after power failure	<ol style="list-style-type: none"> 1. Set up short sequence employing ALS on 9000 2. Sequence completed Line 1 3. During sample prep, turned off GC simulating power failure. 4. Instrument status confirms GC is Offline. 5. Turned GC on. 6. Once GC finished boot process, checked Instrument Status. 7. GC remained OFFLINE. 8. After reboot of computer, still could not reestablish connection to 9000 when using configured IP address, as reported in EZChrom activity log. 9. IP address confirmed on LUI. 10. Reconfiguring in EZChrom was unsuccessful. 11. Configuring same GC as new instrument in EZChrom also unsuccessful.
029153	Firmware update needs an immediate message on the Intuvo LUI	When updating the firmware from A.01.03.095 to A.01.03.111, the update tool took possession of the Intuvo, but no message showed up on the LUI for approximately 10-15 minutes. The home screen continued to show but was unresponsive. Given the time involved a message needs to be displayed on the LUI screen during this time before the update screen appears. This should happen first once the update tool takes possession of the instrument.
029154	GC9000 - FID - Changing Hydrogen setpoint on LUI causes 'Applying changes...' when selecting apply	Changing Hydrogen setpoint on LUI causes 'Applying changes...' when selecting apply There was no clean way to get out of this LUI hang - have to power cycle.
029155	LUI crash on MH sequence	
029170	Intuvo LUI Configuration for G4567 incorrectly offers all options for solvent wash	From the LUI, select Configuration\ALS. All Solvent wash modes are available for selection, though this turret should not allow anything but A, B.
029175	Report working setpoints and not actual values for detector flow working setpoint properties	The endpoints are calling the wrong access function for the working setpoints for the detector flows in the 5 detector endpoints.
029176	Diffusion Pump EMF should not display when Intuvo is configured to have a MS with a Turbo	Diffusion Pump EMF should not display when Intuvo is configured to have a MS with a Turbo.

029182	3rd run effect with HS-GC and low split ratio	Intuvo with split ratio of 5:1 or 2:1. Every third run shows shifted retention times and broadened peaks as if the flow rate had changed. This does not occur with a liquid injections in splitless mode. I have not been able to verify if this happens with all split ratios or just low split rates. I also have not verified whether this is only with the HS or any injection in split.
029186	Unable to clear run events table due to method activator rejection	
029200	Method Selection in WebUI: not all methods can be selected for loading	
029201	WebUI: cannot delete methods from the list of methods	
029208	Cannot set Inlet Pressure On in WebUI Method Editor	The on/off control does not respond and turn the inlet on. If you select the on/off control on the column flow it does respond but it does not turn on the inlet pressure.
029227	LUI not accepting events set in OLCDS software	<ol style="list-style-type: none"> 1. Set up events to control NPD fuel flow. 2. Event to turn OFF fuel at .2 minutes of 1.5 minutes runtime. 3. Event to turn ON fuel at .5 minutes. 4. Ran the method. No changes in fuel flow actual. 5. Checked LUI 6. Times and ON/OFF accurately listed, but event names listed as EMPTY. 7. Upload of events from LUI eliminated the events in software. 8. Events set as Detector 1 Hydrogen (Apply) at the LUI uploaded as AO Signal Range. <p>ADDENDUM: After deleting events in both software and LUI, made additional runs with diagnostic signal still set for NPD fuel flow. With no events in the current method, fuel flow shut off and turned on at the times previously set.</p>
029230	LUI: Incorrect range on pre-injection and post-injection dwell times	The current range on the LUI for the Pre and Post injection dwell times are 0, 100 minutes. This is incorrect. It should be 0, 1.

029231	LUI: No error when sandwich injection exceeds 75% of syringe capacity	At he LUI, with injector configured with 10uL syringe, set up for a 2 Layer injection mode, with 4 uL for each layer for a total syringe volume of 8.4 uL (includes the .2 air gaps.) This exceeds the 75% allowable, yet no error occurred even after pressing Apply. Uploaded the method to software which recognized the error by showing the syringe volume in red.
029232	Intuvo LUI shows Det2 signals in plot when Det2 does not exist	From the LUI Method edit\Analog Out1/2, then Signal. There are Det2, Det2 Column Comp x, and Det2 - Comp signals available when no Det2 exists.
029235	9000 Loses Communication with MH when resetting EMF's	In MH B.07.06 Released, I configured a 9000/5977A system. In the software I went to Instrument/Maintenance/Mass Spec, and selected one of the EMF's. I selected Reset EMF. I got a message that an error had occurred on status line, and the the GC status said Offline. The Instrument logbook said Lost Connection to Agilent 9000. This will also occur from the WEB UI when trying to reset the EMFs
029246	Intuvo web UI shows 'Undefined' as the Setpoint and Actual for all configured valves in IE; empty in Chrome	Configure all valves. From the web UI in IE or Edge (which defaults back to IE, select to view the Actuals for all valves. The Setpoint and Actuals for all valves is displayed as 'Undefined'. Chrome leaves these fields empty.
029248	Intuvo does not turn MPV in Runtime events	Cable a MPV to the Intuvo and configure a GSV and MPV in position 7. Set injection source to a value other than 1 and include RTE to turn the MPV during the run. Injection source turns the valve, but no MPV events. The valve does not turn to the selected position as entered within the runtime events table. This same MPV works fine on a 7890.
029250	Intuvo - GC9000 - WebUI - Diagnostic Test Results - Different test results overlap on WebUI	Launched the WebUI Ran Diagnostic Test from LUI. When I came back to WebUI, the different results have overlapped on the results screen.
029255	Intuvo DSA Method edit does not save any MPV runtime events	Configure all valves including a cabled MPV. Runtime Events for the MPV do not save in the method.

029272	Intuvo has had all Column and Intuvo Chip default EMF values set to 0 and all are enabled	Since this FW update, all shows their Maintenance screen with ~17 items flagged as exceeding their EMF setpoints. All of the EMF for Column(s), and Intuvo Chips (Inlet and Detector) have zero as their Warning and Service Due Thresholds and all are enabled for both settings. I do not recall setting all these to be enabled, and the value should not be 0. These also show this value in the DSA and web UI.
029287	EMF Uninitialized Variable	The emfs stored on smart keys (bus and column) are marked as read-only and cannot be changed or reset. There is an uninitialized variable in the emf daemon associated with an overRide flag on the set operation structure. The overRide flag is intended to be false in all cases, except during startup when it is used to update the emf database values from the smart keys. The risk is that since this variable is uninitialized, if someone attempts to write data or reset a smart key emf and the overRide value is set true it can potentially modify the emf data in the database and on the smart key. The change would be to make sure it is always initialized to false. The risk of any unintended side effects due to this change is low and the risk of leaving the defect in the code is to potentially modify read-only emf data.
029288	Split Flow should be removed from the method since it is defined by other settings and not supported by the Driver	
029293	Guard chip post-run temperature is ignored	If a post-run temperature is set for the guard chip, when the system enters post run, instead of controlling to the post-run value, it controls to the initial temperature. This may be true of other small zones, but at least the column works correctly.
029294	Intuvo with communicating 7697 is not updating 7697 EMF's; thus, not transmitted to DSA	

029301	LUI: Guard chip will not cool for instrument maintenance	<ol style="list-style-type: none"> 1. From Maintenance tab, selected Instrument 2. Selected to Perform Maintenance 3. Check ON Maintenance Mode and Start Maintenance 4. Screen appears showing heated zones WAITING TO COOL. 5. All zones below threshold except Guard Chip. 6. Guard Chip temp increases from maintenance start to approx 150 degrees. 7. Aborted maintenance, 8. Guard chip heater OFF in current method.
029310	Intuvo Oven Actuator Rev A 'Door Actuator Counts\Close and Open Transition Count for Past 20 Actuations' has values not within +/- 5000	
029316	ActuatorLocator can disrupt runs on instruments with Rev B Actuator if front door is opened during run	On instruments with Rev B actuator, ActuatorLocator function does not currently (as of A.01.03 dev builds) check run state before starting. If someone opens and closes the front door, they can trigger ActuatorLocator in the middle of a run, which will make that run's results unusable. Recommend implementing a check for run state such that ActuatorLocator is not triggered when door is opened/closed during run state.
029340	Intuvo WebUI plot loses chromatogram if stopped or started during a run; must change view and return but then y-axis is reset	Start a sequence of 2 runs using real MDL sample, 10 min run. Start the plot and you may see the red line and chromatogram line tracking. However, Stop and then restart the plot (most likely to change the y-axis) and the chromatogram is completely lost and you cannot find it again. The x-axis has reset to 0.00 min and if any peaks are displayed, the times are completely wrong. If I select away to another view within the web UI and return, I will see the chromatogram, but it is now autoscaled.
029343	Intuvo web UI plot is not growing fast enough to display entire chromatogram	Start a sequence of 2 runs using real MDL sample, 10 min run. Watching the RTP in data system compared to the webUI plot, by the end of the 10 min run, the web UI plot is still tracking at about 6.8 min and all is reset and lost once the next run starts.

029344	Intuvo LUI Run Log does not record anything regarding results of Pre-run Flow test	Create method that specifies Pre-Run Flow test, Set Action on Failure: Continue or Abort, Set 0 pumps and washes which will cause the Flow test to time out. Run sequence or method. The DSA logbook correctly logs 'Inlet 1 Flow Test Stopped Because Run Started'; however, the Intuvo Run Log does not log anything. This should read 'Flow test Stopped due to Run Start'. With enough ALS movement to allow the test to run, the LUI run log does not include anything about the results of the test. DSA is the only place the results and the Status are displayed
029348	Sample overlap time could not enter	GC9000 with 7693 tray. Check LUI, Method>>Active method>>ALS>>Other, check the Sample Overlap, but the overlap time could not change in LUI.
029356	Intuvo LUI invokes Pre-run Leak test condition on Leak test failure, continue on failure; text is wrong about the setting and effect	Create method that specifies Pre-Run Flow test, Set Action on Failure: Continue. This is downloaded to the instrument. ALS has 6 pumps and 2 washes to allow time for the leak test. Start 2 line sequence. As the ALS begins moving, insert a syringe into the inlet to create a leak. After the Inlet Leak condition pop-up, remove the syringe. View condition and the text reads incorrectly: 'Error Code 104, Failed Pre-Run Flow Check with Abort on Failure option selected. Effect: Sequence aborted. Option to run this diagnostic to troubleshoot the cause of the flow check failure. Dismiss/Diagnose.'
029357	When Guard Chip is set to Track Oven the temperature set point should be grayed out.	When Guard Chip is set to Track Oven the temperature set point should be grayed out.
029374	Guard chip not at setpoint when idle can cause confusion for the customer	The recent change to having the Guard Chip at a minimum of 150 degrees when the system at idle will cause the confusion if there is no indication of the state being normal. Customer will only see that the temperature isn't at setpoint when they look at the LUI and data system

029408	Intuvo LUI Actuals shows GSV and Switching Valve On state as '0'	MPV cabled. Configure 2 GSV's and a switching valve. Start a method from OLCS C.01.08.197 that specifies Runtime events that change the state of these two valves during the run. LUI Actuals shows OFF correctly, but when ON, it shows '0' (zero).
029409	Intuvo LUI Actuals does not show MPV position; always 'OFF'	Configure at least 1 GSV and a MPV in position 7. Start a valved run specifying a position available from the MPV with a runtime event that changes the position during the run. LUI Actuals for Valve 7 shows OFF continually. This should show the current position dynamically, as the DSA does.
029415	Maintenance section of Web Help does not work in English	
029422	Intuvo LUI Method Edit does not show a configured Switching valve	MPV cabled. Configure a Switching valve in position 5 or 6 (LUI). Apply. The switching valve for the position in the method edit is empty/read-only.
029439	Intuvo WebUI Help for Troubleshooting\To Measure NPD Leakage Current' file errs in that user must use Target Offset	<p>Select From the Help Home page, select Knowledgebase\Troubleshooting\To Measure NPD Leakage Current. User cannot set the NPD Adjust offset to OFF nor control the bead by adjusting the Bead voltage. Intuvo only allows the use of Target Offset.</p> <p>"To Measure NPD Leakage Current</p> <ol style="list-style-type: none"> 1 Load the analytical method. 2 Set the NPD Adjust Offset to Off and the Bead Voltage to 0.00 V. <ul style="list-style-type: none"> • Leave the NPD at operating temperature. • Leave flows on or off. 3 Verify that the output (leakage current) is stable and < 1.0 pA. 4 The output should slowly drop toward 0.0 pA, and should stabilize in the tenths of a picoamp. Current > 2.0pA indicates a problem."
029452	When the Cryo valve for MMI is disconnected at power up there should be a fault displayed in Diagnostics	

029753	Column Autoclean feature does not work when PSD is installed	<p>The column Autoclean feature does not run when a PSD is installed. This configuration is used when the customer has a Post Column backflush installed.</p> <p>The problem of the column stationary phase shift can be overcome using column compensation. However this customer uses a Mass Spec and the MS does not have this option.</p>
029799	After running a method with a timed event that turns H2 gas OFF, all subsequent runs turn OFF the H2 gas regardless of the method setting.	<p>System is configured as post column split between FID and NPD. Intuvo firmware A.01.03, will update entry once GC driver revision is confirmed.</p> <p>After running a method with a timed event that turns H2 gas OFF, all subsequent runs turn OFF the H2 gas regardless of the method setting. The Intuvo must be rebooted to stop this behaviour.</p>
029845	Columns with no max program temperature are not handled properly	<p>There are columns with no max program temperature. The fobs for these columns have "0" written as the max program temperature. Two defects then occur:</p> <ol style="list-style-type: none"> 1. RTOS tries to set 0C as the max program temperature, but that value violates the minimum of 100C, so whatever previous value was will stay in effect. 2. UI's show the max program temperature even though in this case it doesn't make sense and may need to be hidden. <p>I propose that RTOS change the 100C minimum to -10C and allow 0C as a valid max program temperature, then all UI's must check for "0" in this field and hide it from the user. Is this acceptable for the LUI, WebUI and driver?</p>
029861	TCD should show "Waiting" when filament is turned on but detector temp is <135C	<p>The TCD, like the FID, has a minimum temperature that allows operation. For the TCD, this temperature is now 135C for Intuvo and Nexus. When the user enters a temperature below 135C and turns the filament on, the LUI does not indicate that the system is waiting. A message at the LUI in the on-the-fly editor should say "Waiting, detector temperature <135C".</p>

029862	FID "Waiting" should indicate that it is waiting for the temperature to be >150C	When the FID detector temperature is below 150C, the flame will not light. The current text on the LUI says that it is waiting, which is correct. It would be helpful to remind the customer that the system is waiting for the FID temperature to be >150C.
029865	Turn Off Auto Sampler Light From LUI	
030045	Injector Statistics Stuck in error state and floods rtos log with debug print statements	
30084	Confusing "System Setting" screen for IP Addresses from the LUI	<p>This will be confusing for customers. When first powering on a 9000 GC the unit gets a valid DHCP generated IP Address. To verify this I:</p> <ol style="list-style-type: none"> 1). Go to "Settings" tab on the LUI 2). Select "System Settings" 3). The unit displays valid IP Address and Subnet mask 4). Close the screen (Setting screen is now shown) 5). Select the "About" button. 6). The About screen is shown 7). Close the About screen (return to Settings screen) 8). Select the "System Settings" screen for a second time (see step 2 above).The IP Address and Subnet mask display the MANUFACTURING SETTINGS [192.168.0.28] and NOT the actual DHCP settings actually assigned to the unit. <p>This will be confusing to our customers as they may believe that their network settings have changed. In reality they have not, but in order to view the true settings from the LUI, the user will have to power cycle/reboot the unit to discover the 'true' IP Address.</p>
030580	Valve (GSV or Switching) cannot be control via the Intuvo keypad	<p>The Intuvo 9000 can have a valve GSV or switching installed.</p> <p>When the valve has been configured as a switching or other valve, it is not possible to actuate the valve using the keypad.</p> <p>Highlighting the Valve ON or OFF option and pressing apply due not actuate the valve.</p> <p>All valve functions operate corrected during a sequence.</p>

030651	Intuvo will not reliably connect to Mass Hunter on startup of the software	On Start up of MassHunter software Intuvo, connected to MS, then disconnected from Intuvo and it is impossible to connect to the Intuvo. workaround, power on Intuvo with the tray and injector disconnected, connect to the MassHunter software which always works, then "hot" connect the injector and tray, which also works.
030871	Guard Chip Temp does not work in post column (backflush)	When the Intuvo is running post run (post column backflush) the guard chip temperature can be set. However this parameter is ignored and guard drops to its original set value. This only happens when the chip is in ramped temp mode. Oven track mode works OK. This means that the guard chip is cold during backflush therefore the heavy compounds are present during the next run.
031085	Column EMF values are overwritten on new columns	When a new column is installed for the first with the power on the GC the EMF values from the last column installed are copied onto the new column. These values stay permanent if the number of runs is incremented. If the GC is power cycled prior to incrementation then the values are reset to zeroes. Many customers change columns with the power on.
031311	Intuvo fails to recognize 16 vial ALS turret, defaults to 3 vial transfer turret	I was unable to use a 16 vial ALS turret. The ALS was aware of the correct turret but it was missing from variable configuration output.



Firmware Update Program.

Firmware Update Program.

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

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



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



The Intuvo 9000 GC is chosen from the Product menu.

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

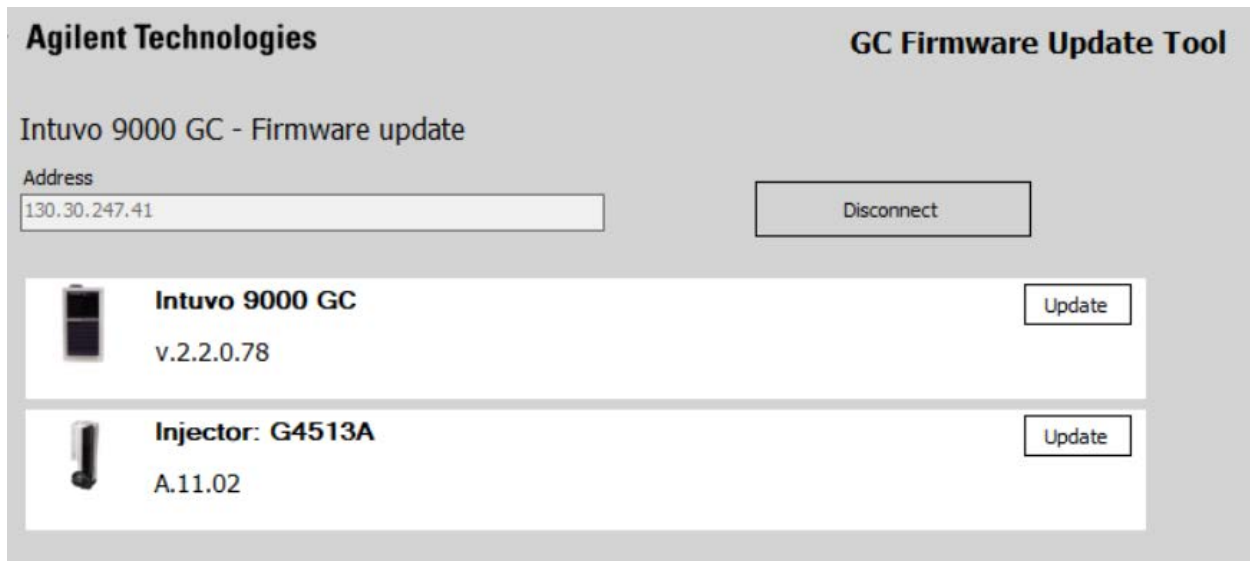
Firmware update is selected.



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



Information such as current installed firmware will then be displayed.

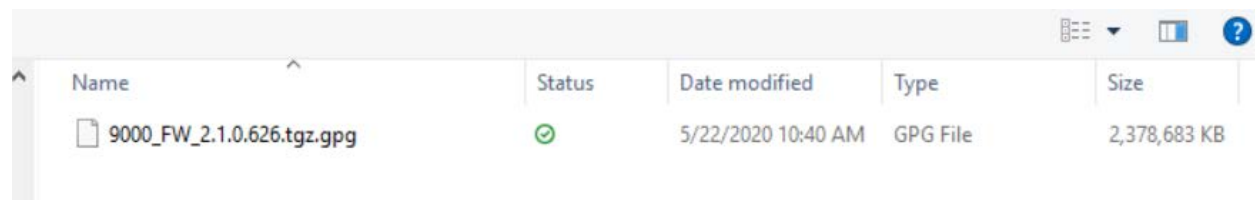


Press Update.

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

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

The firmware file has the structure 9000_FW_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