

8.2 VS 8.1

Clarity (Lite)

ENG

Code/Rev.: M233/80A
Date: 4/5/2019

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Sections of the manual connected only to the **Clarity Full** version are marked with the  icon.

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To facilitate the orientation in the **8.2 vs 8.1** manual and **Clarity** chromatography station, different fonts are used throughout the manual. Meanings of these fonts are:

Instrument (blue text) marks the name of the window to which the text refers.

Open File (italics) describes the commands and names of fields in **Clarity**, parameters that can be entered into them or a window or dialog name (when you already are in the topic describing the window).

WORK1 (capitals) indicates the name of the file and/or directory.

ACTIVE (capital italics) marks the state of the station or its part.

The bold text is sometimes also used for important parts of the text and the name of the **Clarity** station. Moreover, some sections are written in format other than normal text. These sections are formatted as follows:

Note: Notifies the reader of relevant information.

Caution: Warns the user of possibly dangerous or very important information.

Marks the problem statement or trouble question.

Description: Presents more detailed information on the problem, describes its causes, etc.

Solution: Marks the response to the question, presents a procedure how to remove it.

1 Preamble

This document will guide you through the news and improvements in the **Clarity** Chromatography Station version **8.2** compared to version **8.1**.

The most interesting features of version 8.2 include:

- Instrument status propagated into the main Clarity window
- GLP - improved management of acquired data
- Absolute path in Sequence
- Better notification of available update
- More strict attitude towards unauthorized control modules
- Improvements in MS Extension
- New and updated control modules

2 Clarity

2.1 Main Clarity window ✓ Full version

For a more convenient overview of Instrument status, the Status of each logged in Instrument is propagated into the Main Clarity window.

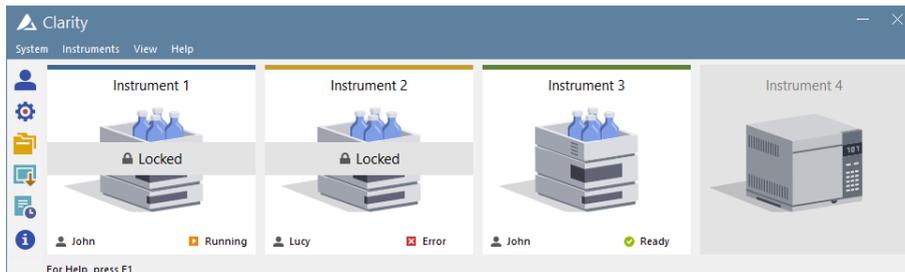


Fig 1: Main Clarity window

Previously, it was not possible to know the Status of a Locked Instrument, whether it was running, ready or there was an error. In the above example, Instrument 2 was locked by Lucy and there is an Error, so even though Lucy may not be present around, her colleagues may let her know, that her analysis went wrong.

2.2 GLP - Management of acquired data ✓ Full version

2.2.1 GLP Options

Clarity constantly strives to support users in regulated environment. In the **GLP Options** dialog, we have added the option to acquire chromatograms to the current project only. This option is recommended for laboratories operating in the GLP environment. When the options is selected, it ensures that any measured chromatogram will be saved in the selected directory and not elsewhere using a full path.

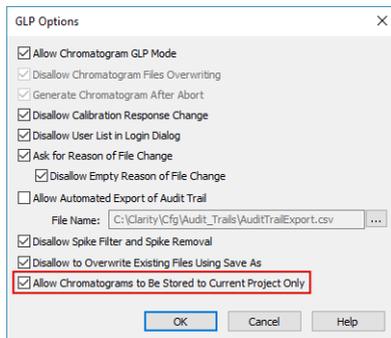


Fig 2: GLP Options

2.3 Absolute path in Sequence

Users can now use absolute path within **Sequence**. Resulting chromatograms will be saved according to the specified path. Previously it was not possible to save chromatograms outside the project directory.

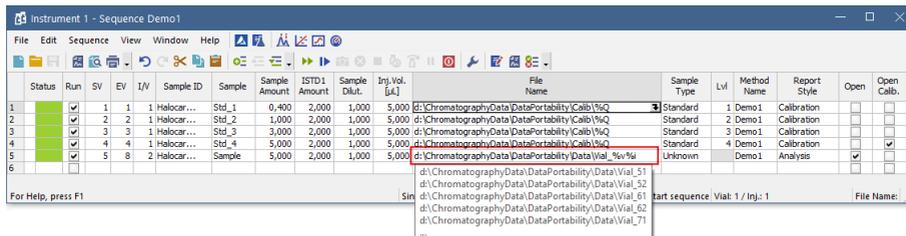


Fig 3: Sequence window

However, this approach is not recommended and users are advised to use standard Clarity projects.

2.4 Update Available

With each Clarity update we provide our users the opportunity to update to the latest version **free of charge**.

Information about available update was quite hidden (bottom right corner of the **Main** window) and many users overlooked it.

We have decided to display a dialog which pops up when a new version is available.

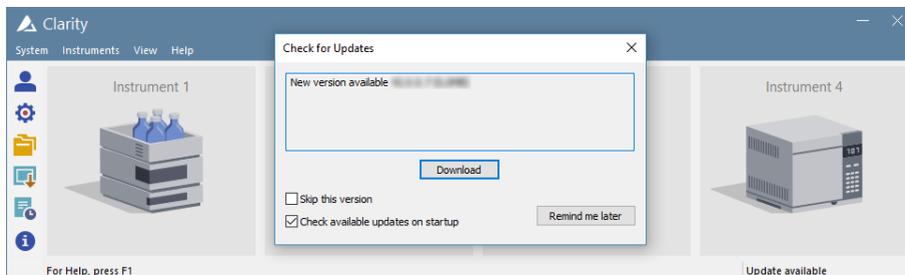


Fig 4: Check for Updates - station start

Don't worry, users can still control whether the check for a new version pops up upon every start of Clarity or whether users can skip current version.

2.5 Unauthorized control modules ✓ Full version

DataApex has decided to adopt a strict policy towards unauthorized control modules. Any unauthorized control module that has been already configured on Clarity Instrument, will be automatically removed from the configuration of the specific Instrument. Information about removal and the reason is logged into the [Audit Trail](#).

The reason for this strict policy are negative experiences when developers and distributors were distributing allegedly fixed control modules, which were however not tested nor approved by DataApex, to customers.

Each control module must be first tested and approved by DataApex and only then will be distributed via a standard Clarity installation.

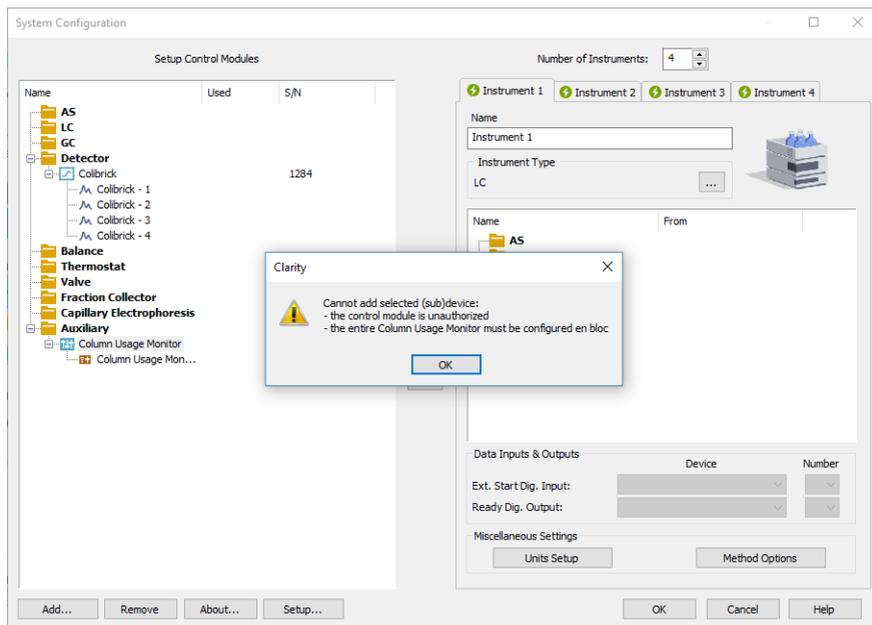


Fig 5: System Configuration

If you attempt to add an unauthorized control module, warning message pops up and the control module will not be added.

Please always use control modules that were provided via Clarity installation, any station containing unauthorized control modules automatically loses DataApex support.

2.6 MS Extension - enhancements ✓ Full version

2.6.1 Single Compound Search

On the *Single Compound Search* tab there is a new *Select From Graph* button for a more convenient input of *Retention Time*. Upon pressing the button, mouse cursor gets focused in the graph area where the user selects exact *Retention Time* or interval (CTRL + LEFT MOUSE CLICK). It is much easier than trying to remember what was the desired *Retention Time*. *Background 1* and *Background 2* values can be inserted in the similar way.

The screenshot displays the MS Search software interface. At the top, there are three tabs: "Single Compound Search", "Automatic Compound Search", and "Target Compound Search". The "Single Compound Search" tab is active. Below the tabs, there are input fields for "Search In Ret. Time [min]:" with "from" set to 4,685 and "to" set to 5,007. A "Select From Graph" button is highlighted with a red box. Below this, there are "Search Options" including "Min Match Factor" (0), "Max Hits" (3), "Restrict m/z Range" (From: 35, To: 259), and "Use Selected m/z" (Search Only Selected or Search All But Selected). To the right, there are "Background Subtraction" options for "Background 1 [min]" and "Background 2 [min]", each with a "Select From Graph" button highlighted in red. Below the search options, there are "Search" and "Preview Spectrum in Library" buttons. The "MS Library Search" table is shown below, with columns for Match, R. Match, Prob. [%], Compound Name, Library, ID, Formula, MW, and CAS No. The table lists three matches: Methylene Chloride, Hexanal, and 3-Pentanone. Below the table, there is an "Add Selected to Method" button. At the bottom, there is a mass spectrum plot showing "Rel. Intensity [%]" on the y-axis and "m/z" on the x-axis. The plot shows two peaks at m/z 86.0, one in blue (4,685 - 5,007 min (Spectral Data)) and one in red (Methylene Chloride). The plot is titled "4,685 - 5,007 min (Spectral Data)". At the bottom right, there are "Close" and "Help" buttons.

	Match	R. Match	Prob. [%]	Compound Name	Library	ID	Formula	MW	CAS No.
1	861	891	88,65	Methylene Chloride	Demo_ms	22	CH2Cl2	84	75-09-2
2	766	766	7,18	Hexanal	Demo_ms	10	C6H12O	100	66-25-1
3	738	738	2,07	3-Pentanone	Demo_ms	14	C5H10O	86	96-22-0

Fig 6: MS Search - Single Compound Search

2.6.2 Automatic Compound Search

The [Automatic Compound Search](#) tab was improved by specifying number of returned hits. This is very practical when you want to select other compound than the best hit which was returned by default.

MS Search

Single Compound Search | **Automatic Compound Search** | Target Compound Search

Use Signal: m/z:

Search In Ret. Time [min]: Whole Chromatogram from to

Search Options

Min Match Factor: (0 ... 1000) **Max Hits:**

Restrict m/z Range From: To:

Use Selected m/z m/z 1..4:

Search Only Selected
 Search All But Selected

Search in Libraries:

- Demo_ms
- MAIN.Lib

MS Library Search

	Expand	Chrom. RT	Selected	Match	R. Match	Prob. [%]	Compound Name	Library	ID	Formula	MW	CAS No.
1	<input checked="" type="checkbox"/>	1,060	<input type="checkbox"/>	861	861	79,04	Hexanal	Demo_ms	10	C6H12O	100	66-25-1
2	<input checked="" type="checkbox"/>	8,415	<input type="checkbox"/>	931	934	98,34	Trichloroethylene	Demo_ms	16	C2HCl3	130	79-01-6
			<input type="checkbox"/>	712	770	98,34	Trichloroethylene	MAINLIB	1568	C2HCl3	130	79-01-6
			<input checked="" type="checkbox"/>	561	616	0,98	Benzene, 1-chloro-2-fluoro-	MAINLIB	938	C6H4ClF	130	348-51-6
3	<input checked="" type="checkbox"/>	9,600	<input type="checkbox"/>	964	964	89,11	Toluene	Demo_ms	12	C7H8	92	108-88-3
4	<input checked="" type="checkbox"/>	10,995	<input type="checkbox"/>	959	959	91,02	Benzene, 1,3-dimethyl-	Demo_ms	9	C8H10	106	108-38-3
5	<input checked="" type="checkbox"/>	11,318	<input type="checkbox"/>	969	969	92,08	p-Xylene	Demo_ms	8	C8H10	106	106-42-3

Expand/Collapse All Results
 Select/Deselect All Best Matches

Rel. Intensity [%] vs m/z [m/z]

8,415 min (Spectral Data)
Benzene, 1-chloro-2-fluoro-

Fig 7: MS Search - Automatic Compound Search

In the [MS Search](#) dialog on the *Automatic Compound Search* tab, specify maximum number of hits ① which can be returned upon search.

To view another compounds which satisfy the search conditions but with a different match, press the chevron button ② in the *Expand* column.

Second row of the *MS Library Search* table shows two same compounds for *Trichlorethylene* but the desired compound is *Benzene, 1-chloro-2-fluoro-*, therefore the user needs to select corresponding radiobutton in the *Selected* ③ column.

2.6.3 Other MS changes

- Signal 1 (Signal 2, etc.) was hidden from the specific compound tab of the calibration. For many users it was confusing and there was no direct connection to quantification - it served only for display.
- Otherwise, a lot has been done in the stability, performance and bug fixes.

2.7 Other changes

- Image preview was added into the Header tab of [Report Setup](#).
- *Snapshot* command was added into the *Event Table* commands.
- Teamviewer QS (tool for online support) has been updated to version 14.1.
- Various known bugs have been fixed. See *What's new* in the [About](#) dialog of your Clarity.

3 New and updated control modules

This section contains new and updated control modules introduced in Clarity 8.2.

3.1 CTC

Updated:

- CTC-PAL3 control module updated to version 1.1.0.23.

3.2 ECOM

New:

- ECOM Toy18 and Baby18 control modules are now in the Testing state.

3.3 Elysia

Updated:

- GabiNova control module updated to version 1.0.7.0.
- GabiStar control module updated to version 1.0.9.0.
- RamonaStar control module updated to version 1.0.5.0.

3.4 Flom

New:

- Flom UI-22 control module is now in the Testing state.

3.5 GL Sciences

Removed:

- LC 800 control module has been removed from installation and thus it will not be used in future version.

3.6 HTA

Updated:

- HT1500L control module is now in the Released state.

3.7 JAI

New:

- JAI FC-7000 control module is now in the Testing state.

3.8 Microsaic Systems

New:

- Microsaic 4500 MiD control module is now in the Testing state.

3.9 Prince Technologies

New:

- CE control module is now in the Testing state.
- DAD control module is now in the Testing state.

3.10 Rheodyne

Updated:

- Rheodyne FC by MX II. control module is now in the Released state.

3.11 Unimicro Technologies

New:

- Unimicro ColumnOven control module is now in the Testing state.
- Unimicro HVPS control module is now in the Testing state.

3.12 VICI Valco Instruments

New:

- VICI Valco Fast Temperature Programmer control module is now in the Testing state.