Clarity (Lite)

6.0 vs 5.0

ENG

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

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Contents

To facilitate the orientation in the **6.0 vs 5.0** 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, there are text sections written in format other than normal text. These sections are formatted as follows:

Note: Notifies the reader of possibly interesting information.

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

Marks the problem statement or trouble question.

Description: Presents any closer 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 **6.0**. The most interesting features of version **6.0** include:

- Major design changes - changeable skin.
- Sequence table - new design of status column and possibility to open chromatograms directly from the sequence.
- Modified behavior of some operations in calibration and redesigned window for manual calibration/recalibration.
- Modified Instrument type selection.
- Various **Clarity** improvements and bug fixes.
- New and updated control modules.

2 Clarity

2.1 System configuration Full version

Instrument type selection was changed to dialog window which is more convenient and user can precisely see what options are available with current license.

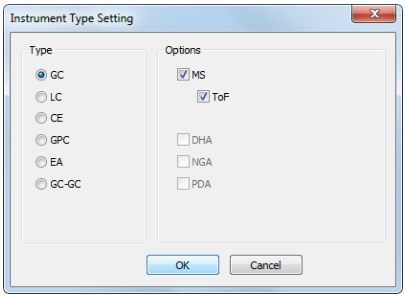

Fig 1: Instrument Type Setting *dialog*

Instrument type options which are not allowed by the license or which are not technically possible are grayed out.

2.2 Design

Clarity underwent a major design changes for toolbars, table headers and menu. All windows are now more user friendly and transparent.

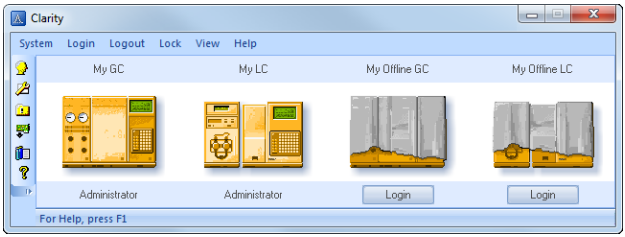

Fig 2: Clarity main window

- New sleek and modern design.
- Large number of customizable elements.
- No need to restart Clarity to apply changes. Right mouse click in any toolbar or menu and choose *Customize*, on the Application Look tab choose desired look and click on the *Change Look* button to apply changes.
- Each user can customize it according to his/her preferences.

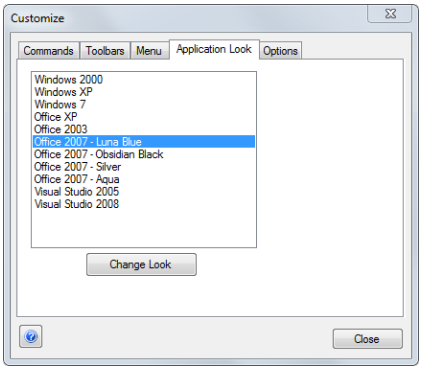

Fig 3: Default look

2.3 New data format

New chromatogram data format to enable processing of larger data ranges.

Note, due to the new chromatogram data format, the chromatogram files are not backward compatible with version 5.0.5 and earlier. Older chromatograms will be automatically converted. It is possible to save the new chromatograms to old format, however some rounding errors might be introduced.

- If a chromatogram was measured with old version of Clarity (prior to 6.0) it contains only old data format.
- If a chromatogram was measured with new version of Clarity (6.0) it contains only new data format.
- If a chromatogram was measured with old version of Clarity (prior to 6.0), opened and saved with the new version, it contains the old as well as the new data format. Old data and their respective calculations can be accessed via respective *Method* selection in the Open Chromatogram dialog. Choose desired calculation which is defined by integration algorithm (e.g. IA: 5.0 matches Clarity version 5.0 and so on), see **Fig 4** on pg **4**.

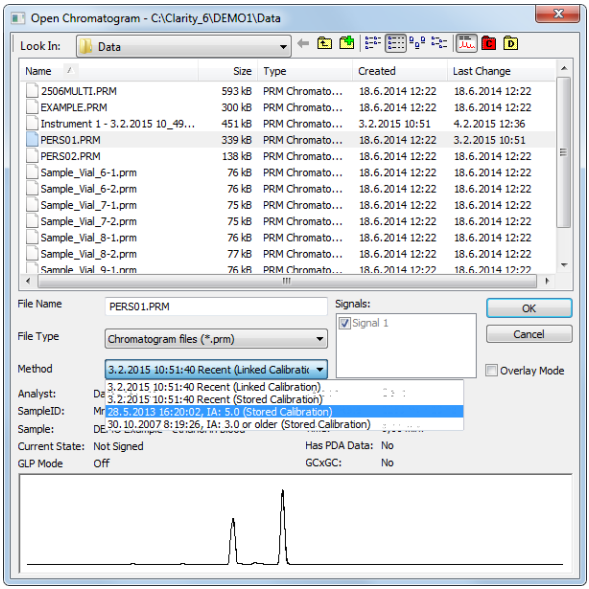

Fig 4: Open Chromatogam *with selected Method*

2.4 Bunching of data points

Bunching of data points is now separated from the *Peak Width* parameter. Bunching indicates the number of data points to be averaged. Default value for new methods is set to 1; valid range is between *1-250*.

When *Global Filter - Bunching* is set to *250*, it means that each *250* measured points will be averaged to a single point. Course of the signal will be inevitably changed.

Global Filter - Bunching is accessible either in the Method Setup dialog or Chromatogram window, *Integration* tab, in the Integration table.

Compatibility with previous versions of Clarity:
In methods or chromatograms stored in previous versions of Clarity, *Global Filter - Bunching* is automatically set to the value according to the *Global Peak Width* to provide 30 data points per the *Peak Width Interval*.

Note: To see the difference caused by the *Bunching*, right mouse click in the graph - *Properties* - *Graph* tab - check the *Show Data Points* option.

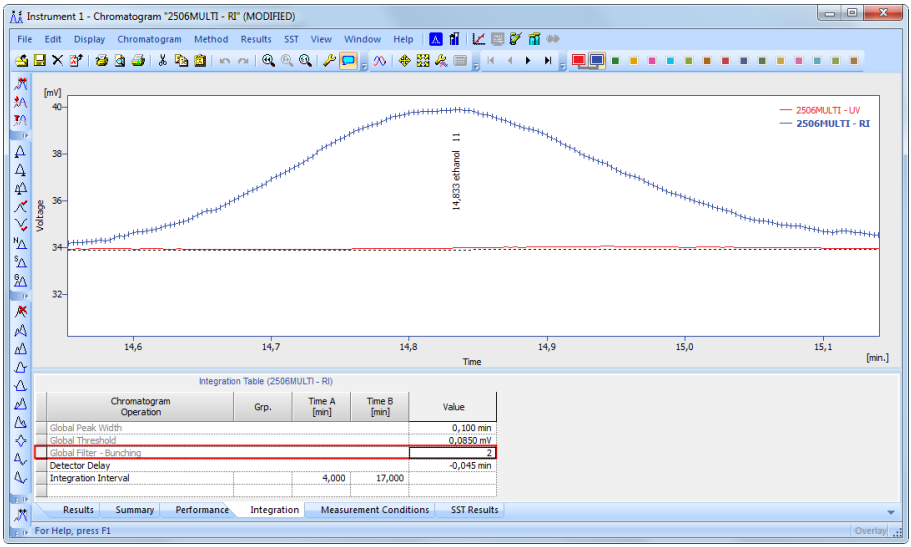

Fig 5: Chromatogam *-Global Filter - Bunching set to 2*

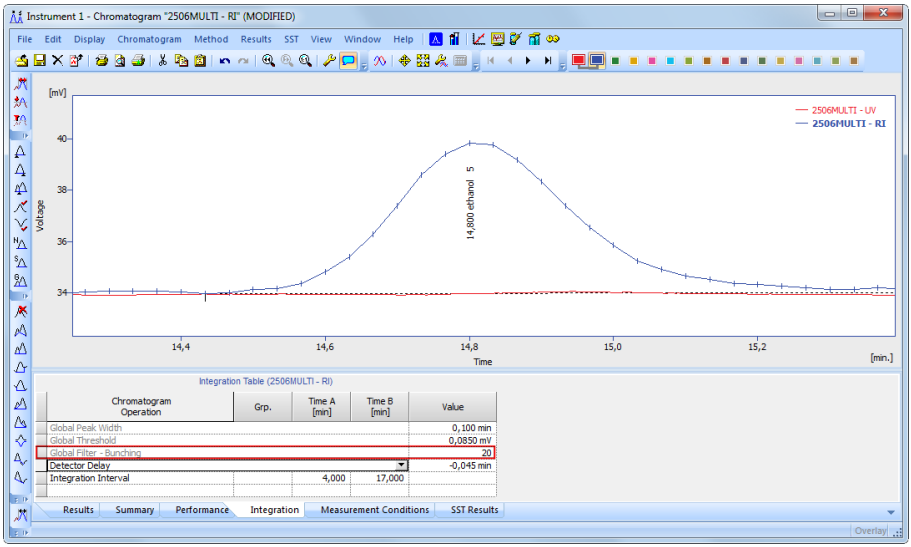

Fig 6: Chromatogam *-Global Filter - Bunching set to 20*

Fig 5 and **Fig 6** demonstrate the effect of *Bunching*.

2.5 Chromatogram

- Default signal colors were changed in the Data Acquisition and Chromatogram windows. Palette of default colors was chosen in order to suite people with visual impairments as well.

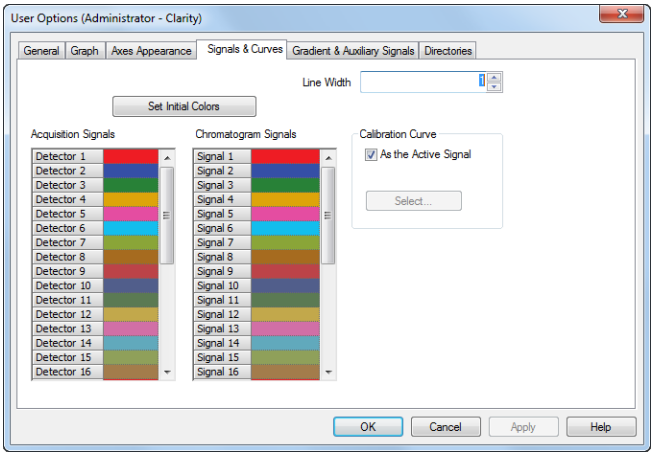

Fig 7: User Options *- Acquisitions Signals and Chromatogram Signals*

- Rearranged layout of the Graph Properties, specifically the Gradient and Auxiliary tabs have been united because one command on one tab conditioned the functionality of commands on the second tab.
- Graph Properties - Gradient & Auxiliary Signals tab now includes option to hide/show auxiliary signals individually.

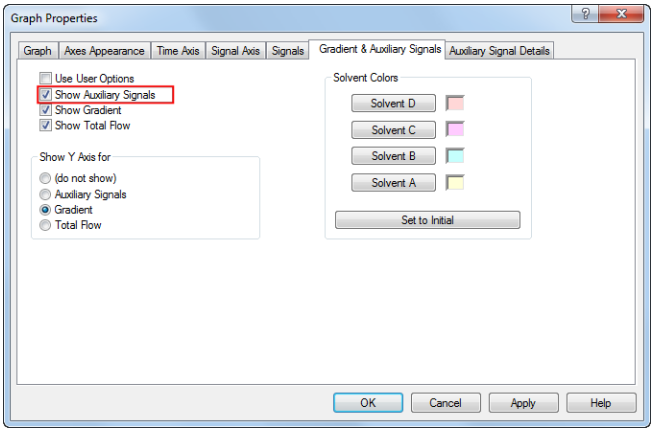

Fig 8: Graph Properties *- Show Auxiliary Signals*

- Result table - improved speed during user column calculations.

2.6 Calibration

- Changed behavior of the *Update Retention Time* option - now the selected action is performed unconditionally, meaning the automatic update of retention time is performed after each calibration or recalibration. Command *Update Retention Time* used to respond only to (re)calibrations by *Replace*, in other cases (recalibrations by *Average* or *Weight*) this option did not affect the retention times.
- ISTD calculation can be now used for unidentified peaks (quantified by response factor). Unidentified peaks are quantified according to *ISTD1*.
- Option to disable individual recalibrations on the same level in Calibration window - specific compound tab - right mouse click on specific row and command *Show Details* to invoke Show Details window (former Show History). Disabled point is omitted from calculation of the calibration curve.
- Option to disable warning about standard chromatogram reuse. User can now deselect the option to be warned when reusing a chromatogram. Nonetheless, it serves as a protection for (re)calibration of already used standard chromatogram.

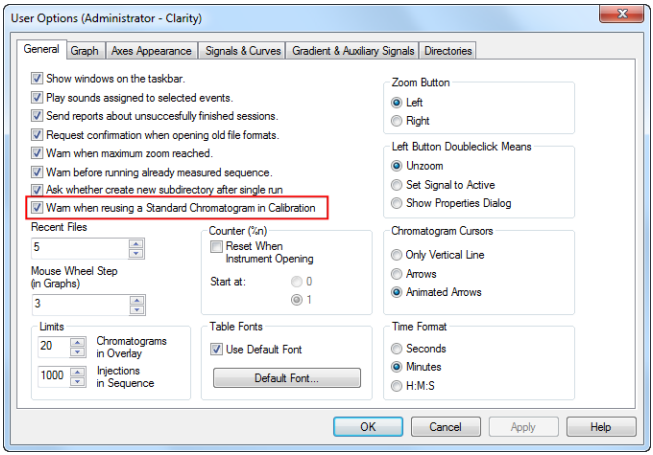

Fig 9: User Options - General *tab*

- Redesigned dialog for *manual* calibration/recalibration. New dialog provides faster and straight forward process for calibration and recalibration. The window is divided into 4 sections (Level, Compound, Identification and Quantification) for better orientation. Note that this dialog is the same for calibration and recalibration, hence if you change the level to a situation where recalibration can not be performed, information about calibration mode is displayed.

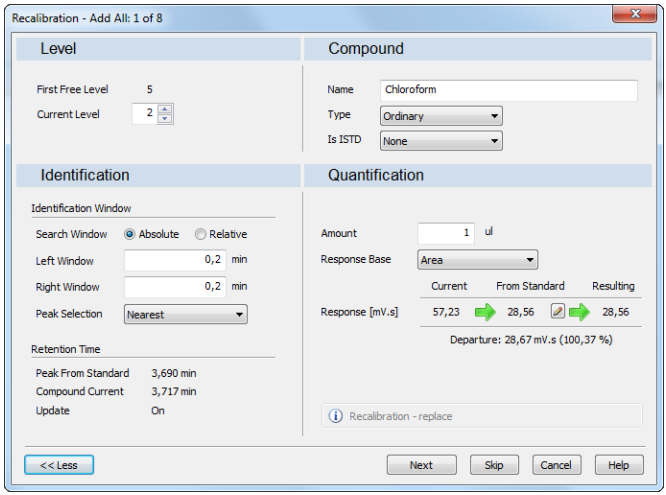

Fig 10: Recalibration *dialog*

- The *Calibrate* and *Add peak* option will now add all peaks from one standard chromatogram to the **first shared empty level**. Meaning that the level must be completely free for all compounds.
- The *Update Calibration Response* option in Calibration Options dialog used for response correction based on injection volume has been removed.

2.7 Sequence

Sequence underwent major design and functional improvements.

- Improved design of the sequence table for easier and quicker orientation.
- Added sleek and modern status icons with new functions and meaning. (For more details, please refer to the reference guide)

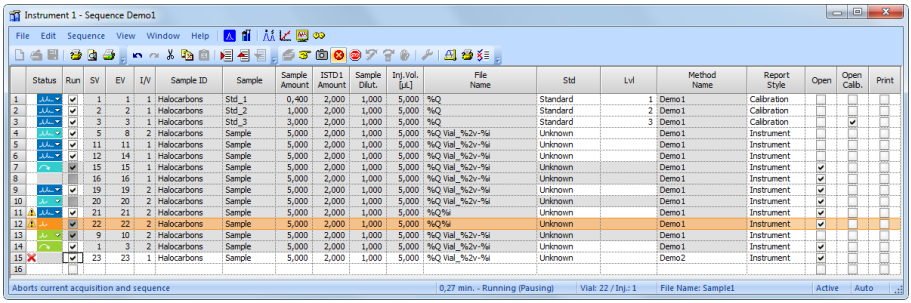

Fig 11: Sequence *window*

- Option to open chromatograms directly from the *Sequence table* from the *Status* column. Simply click on the small triangle in the status icon to open the chromatograms in overlay as presented by **Fig 12** on pg **9**.

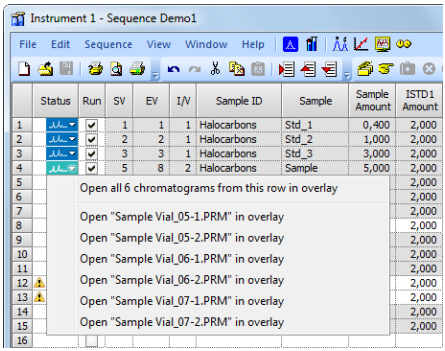

Fig 12: Sequence - open chromatograms in overlay

2.8 DEMO mode

Newly Clarity station will not enter forced (red warning stripe) DEMO mode due to wrong or missing user code or HW key problems. If Clarity detects wrong user code, it will be forced to shutdown - user will be notified about the wrong user code and has the option to enter correct one.

Also when Clarity loses communication with the protective **HW** key, user has 5 min to resolve the situation. Once the time elapses Clarity will automatically shutdown.

Functions of Clarity DEMO remain unchanged apart from the fact that it is now available as a standalone application. To upgrade from DEMO to full version of Clarity, it is required to download full version from www.dataapex.com in the download section or obtain it from your local distributor.

2.9 Enhancements in extensions

Extension GPC:

- Refinement of the calculation for Averaging in Slice Table. It does not affect the result table MW averages.
- In order to comply with specific norms, GPC Calibration - Slice table now contains new option Integral Percentages Increasing/Decreasing with M.

Extension SST:

- The column *Response* will be supported. This allows *Time Corrected Area* to be included in the **SST**.

2.10 Various changes in Clarity

- Installation now requires approval of the EULA document.
- TeamviewerQS remote support utility updated to version 10.
- The *Save As* to old DataApex software formats (CSW17, CSW32) is not supported for chromatograms, methods, sequences and calibrations anymore.
- 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 to Clarity.

3.1 Advion

Updated:

- Advion Expresion CMS - 6 tuning ions are now supported.

3.2 Agilent

New:

- Agilent 7100 CE is now in the Testing state.

Updated:

- Agilent ICF control libraries updated to version A.02.02.

Note:

- In order to configure Agilent instrument you need to select appropriate group (1100/1200/1260/1290 or 1120/1220). Only then it is possible to use *Autodetect*.

3.3 Dani

Updated:

- Dani Master TOF mass spectral detector control module is now in the Released state.
- Dani Master GC driver updated to version 1.15.11.0 and Master TOF driver updated to version 1.0.5.0.

3.4 HTA

New:

- HT2800T autosampler - control in liquid and headspace mode (not SPME mode).
- HT3000A and HT3200A - new "Close Tray after Injection" option in the Method Setup dialog.

3.5 Knauer

Updated:

- Knauer drivers updated to version 5.0.5.4110.

3.6 Kontron

Updated:

- Kontron 432 control UV/VIS detector control module is now in the Released state.

3.7 Netel

New:

- Netel GC Analyte2900/Chromlite3000 - control module available in Development state.

3.8 Rigol

Updated:

- Rigol L3000 Driver - updated to version 1.0.0.13.

3.9 Techlab

Updated:

- Techlab Minipump1 LC pump control module is now in the Released state.

3.10 Other control modules

New:

- ERC - Refractomax 520 series control module is available in Testing state.
- GCxGC - modulator control module is available is Testing state.

Updated:

- VICI Fraction collector by VICI valve - now supports all communication modes (formerly supported only Legacy Mode 2).
- GL Sciences LC 800 HPLC system - drivers updated to version 2.0.1.0.