



## Release Notes

### Chromeleon 7 Chromatography Data System

Software Version 7.2.7 • November 2017

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## 1 Introduction

The Thermo Scientific™ Chromeleon™ 7 Chromatography Data System (CDS) is a new-generation chromatography data system that provides the fastest path from samples to results. Building upon market-leading innovations of prior Chromeleon software releases – such as dynamic interactive data displays, an integrated database for rapid data retrieval, and spreadsheet-based reporting – Chromeleon 7 features a modern user interface, comprehensive new tools for peak detection, and an innovative workflow management framework, all of which speed up learning, simplify operation, and deliver results with greater efficiency than any other chromatography data system.

This new version, Chromeleon 7.2.7 CDS, provides updated and new instrument control for instruments from Thermo Fisher Scientific. Improvements and enhancements have been made in a number of areas related to ease of use, data processing and visualization. In addition, this release introduces support for the Thermo Scientific Dionex ICS-6000, a new flagship instrument. . Please see below for more details on these and other enhancements present in this release.

The software is developed using modern software development tools and technologies that improve performance, sustainability and extendibility.

Backward compatibility with Chromeleon 6 is maintained to the greatest practicable extent, to provide an easy migration path.

## 2 Other Documentation

Chromeleon is provided with many other documents that will help you to learn more about the software. These documents can also be found in electronic form on the installation disk in the Documents folder.

Please refer to the Installation Guide for information regarding:

- System Requirements
- Supported Operating Systems and Databases
- Required Third-Party Software
- Compatibility with Previous Versions
- Installing and configuring the Chromeleon software

Also available are the Enterprise Documents that were released for Chromeleon 7.2 SR5, which describe the process for installation of enterprise systems based on Chromeleon 7.2 SR5. These documents are also applicable for Chromeleon 7.2.7.

## 3 What's New in Chromeleon 7.2.7

Chromeleon 7.2.7 implements a number of new features, including support for the new ICS-6000 system, the new flagship offering, which includes significant new features, including tracking of consumables and control via a tablet interface. Also included are several updated drivers and core Chromeleon enhancements. This document will only give a short overview of all features without going into much detail. For more details, refer to the Online Help.

### 3.1 New and Updated Thermo Scientific Instrument Drivers

This chapter lists new and updated Thermo Scientific™ drivers added to Chromeleon 7.2.7. For details on supported options, required licenses, installation, and control, refer to the Online Help or the List of Supported Instruments document found on the Chromeleon 7.2.7 DVD.

#### 3.1.1 New ICS-6000 DC Driver [SWFR-2273]

This release includes support for the new Thermo Scientific ICS-6000 Detector Compartment (DC) module and, along with the driver for the Consumables Device Monitor (see 3.1.2), enables the Consumables Tracking feature.

#### 3.1.2 New ICS-6000 DC Consumables Device Monitor Driver [SWFR-2338]

This release includes support for the new Thermo Scientific DC Consumables Device (CDM) module, which enables tracking of various consumables used by the ICS-6000.

#### 3.1.3 New ICS-6000 EG Driver [SWFR-2190]

This release includes support for the new Thermo Scientific ICS-6000 Eluent Generator (EG) module and enables the Dual EGC feature.

#### 3.1.4 New ICS-6000 DP Driver [SWFR-2645]

This release includes support for the new Thermo Scientific ICS-6000 Dual Pump and Single Pump (DP/SP) modules.

#### 3.1.5 Updated AS-AP Driver [SWFR-2448, SWFR-2737]

The AS-AP driver has been enhanced to support full sample overlap and utilization of this feature when using Autodilution.

#### 3.1.6 Updated Integrion Driver [SWFR-2444]

The Integrion IC driver now supports six additional suppressor models, including the SC-CERS 500 (2 & 4 mm), AERS 500e (2 & 4 mm) and CERS (2 & 4 mm).

#### 3.1.7 Updated WPS-FC [SWFR-1572]

The WPS-FC driver now includes "Fraction Height" and "Needle Extension" parameters.

### 3.1.8 Updated MSQ Plus Driver [SWFR-1815]

This release includes an updated driver for the MSQ Plus, which has been validated for use with Windows 7 64 bit.

**Note:** This updated driver is not automatically installed when installing or upgrading to Chromeleon 7.2.7. It may be manually installed by running the setup program found in the \Drivers\Thermo MSQ Plus\ folder on the Chromeleon DVD. When upgrading from a previous version of the driver, please first uninstall the old driver from Programs and Features page of the Windows Control Panel.

## 3.2 ICS-6000 Features

### 3.2.1 Consumable Groups [SWFR-2421]

With the introduction of the ICS-6000, tracking detailed consumables information is now possible in order to help with troubleshooting and application optimization. The flexibility of the ICS-6000 makes it possible to configure one or more flow paths along which samples can flow. Because of this, it is necessary to assign all consumables to their appropriate flow paths, or Consumable Groups, to ensure that accurate information is written to each consumable tag.

Chromeleon now includes a user interface where one or more Consumable Groups can be created according to various devices along the flow path, e.g., valve positions, and where each consumable installed on and detected by the instrument can be assigned to a given Consumable Group.

### 3.2.2 Temperature Compartment Assignment [SWFR-2446]

A complementary feature to Consumable Groups ensures that temperature data is written to consumables when they are in a given temperature compartment, even if they are not in an active Consumable Group.

### 3.2.3 Voltage Optimization for the DRS 600 suppressor [SWFR-2316, SWFR-2570]

The new DRS 600 suppressor will be shipped with a factory recommended voltage setting that will automatically be accessed by Chromeleon to allow for optimum initial running conditions.

In addition, Chromeleon now has a feature that can help optimize this voltage setting for any application and ensure that best performance as the suppressor ages.

### 3.2.4 Consumable Installation Guides and IC Troubleshooting Knowledgebase [SWFR-2130, SWFR-2131]

The IC Troubleshooting Knowledgebase and Consumables Installation Guides are now available for use with the ICS-6000 system.

### 3.2.5 QAR and Consumables Tracking Report Templates [SWFR-2721]

This release includes two new report templates designed for the ICS-6000, one that can be used to ensure system performance matches that of the column QARs and the other to help track consumable data. These report templates can be found in the \Contributed Content\ folder of the Chromeleon DVD.



### **3.2.6 Retention Time Standard (RTS) eWorkflow Template [SWFR-2722]**

This release includes a new eWorkflow that provides the sequence and processing method framework for analyses that utilize the Thermo Scientific Dionex Retention Time Standards. This eWorkflow can be found in the \Contributed Content\ folder of the Chromeleon DVD.

## **3.3 ICS-6000 App**

### **3.3.1 ICS-6000 App [SWFR-2355, SWFR-2506, SWFR-2520, SWFR-2888]**

This release introduces support for a Windows 10 Pro based app which is downloadable from the Windows Store. Designed specifically for the ICS-6000 system, this app displays active system status and gives the user direct control of the ICS-6000 instrument. The App and tablet both support wired, local wireless and corporate-wide wireless control of the instrument, allowing faster access from just about anywhere (depending on setup).

Also, as a part of the Chromeleon installation, an additional app is installed on the instrument PC to allow for easy pairing with any ICS-6000 instrument.

### **3.3.2 ICS-6000 App Access to Consumables Installation Guides and IC Troubleshooting Knowledgebase Guides [SWFR-2356]**

To make installation of consumables and troubleshooting of ion chromatography issues faster and easier, the ICS-6000 App provides direct access to all content contained in the Consumables Installation Guides and to the IC Troubleshooting Knowledgebase, including step-by-step instructions, easy access to controls and associated images and videos.

## **3.4 Chromeleon Client Enhancements**

### **3.4.1 Nested AutoRepeat [SWFR-2592]**

Autorepeat functionality for reports has been enhanced to support two levels of nested repeating, allowing, for example, a report object to be repeated for both components and injections or for both channels and peaks.

### **3.4.2 MS Component Reference Injection [SWFR-2882]**

It is now possible to specify a reference injection for the MS Components pane and the MS Components report object. When used with SmartLink or Autorepeat, this reference injection can optionally be overlaid on all XIC plots. The reference injection can also optionally be placed in the first position of a repeat group of plots.

### **3.4.3 Direct Import of Empower Data [SWFR-248]**

This release includes the ability to import data from a Waters Empower database directly into a Chromeleon data vault. Supported data items include:

- 2D data
- 3D data
- Instrument methods
- Processing methods

### **3.4.4 UV Spectrum Search Across Multiple Libraries [SWFR-948]**

This release includes the option to specify a UV spectrum search using all libraries in a specified folder.

### **3.4.5 Instrument Method Report Variable [SWFR-1328]**

Chromeleon can now report the instrument method that was used when a sample is injected.

### **3.4.6 Cobra Wizard – Defining General Parameters by Time [SWFR-1431]**

In the Cobra Wizard, the integration parameters ‘Smoothing Width’, ‘Baseline Noise Range’ and ‘Consider Void Volume’ parameter can now be defined by time.

**Note:** This functionality is only available for processing methods created using Chromeleon 7.2.7 or later. Processing methods created using older version of the software only support setting these parameters as initial conditions.

### **3.4.7 Enhancement of the MS Quantitation Channel Visualization [SWFR-1664]**

With this release, new options are available to customize the MS Quantitation channel plot. These enhancements include customization of peak labels and multiple plotting options.

### **3.4.8 Manual Integration of Chromatograms in Queries [SWFR-1903]**

It is now possible to manually integrate chromatograms that are retrieved via queries. All changes are controlled according to the user privileges in the original the sequence and audited within the audit trail of the original objects.

### **3.4.9 Troubleshooting Guides for the VH-P10-A-02 [SWFR-2726]**

Troubleshooting Guides have been added for the Vanquish Horizon Binary Pump (VH-P10-A-02).

### **3.4.10 Troubleshooting Guides for the UltiMate ECD-3000RS [SWFR-2900]**

Troubleshooting Guides have been added for the UltiMate ECD-3000RS.

### **3.4.11 SSR: Mass Spectrometer Logs [SWFR-2931]**

Mass spectrometer logs have been added to the System Status Report (SSR) to help with instrument troubleshooting.

## 4 Resolved Issues

This chapter describes the issues that have been resolved with the release of Chromeleon 7.2.7.

Many trivial and minor issues have been resolved, but are not mentioned here. If you require information about the status of an issue observed in a Chromeleon 7 release, but which is not listed here, please contact your local Thermo Fisher Scientific representative for more information.

The numbers in the first column of the table below refer to the Thermo Fisher Scientific tracking IDs.

ID	Description
<b>CM7-14448</b>	Data Audit Trail: Attempting to Report a large Data Audit Trail, and including Comparison Details, could result in a System.OutOfMemoryException error to be displayed
<b>CM7-14804</b>	Operational & Performance Qualification: On systems where the Global Policy "Offer option for existing processing methods to update to the latest detection algorithm version" has been selected, the Studio Notification bar would unnecessarily display a message to update to the latest version for Sequences created during Instrument OQ.
<b>CM7-15544</b>	URL to Chromeleon sequence location: Attempting to open an inaccessible sequence via a URL now presents the user with an error in the Console.
<b>CM7-16079</b>	Spectral Plot: When the spectral plot has overlay of library hits enabled and no hit is found in a spectral library search Chromeleon now indicates this in the UI.
<b>CM7-16362</b>	Custom Variables Manager: Custom Variables containing spaces cannot be used in the Sequence. However, if a Custom Variable was created which contained a space, Chromeleon gave no warning or indication that this could result in an issue if it was subsequently used in the Sequence.
<b>CM7-16518</b>	Sequence: In some circumstances pressing F9 to 'Fill Down' a status of Idle in the Status column of an acquired Sequence would result in an error red exclamation mark being displayed in the Status or Thumbnail cell of the first Sample.
<b>CM7-17071</b>	User Management: Attempting to Import a CMBX file, on a Multi-User system, while in Network Failure Protection mode, would result in a "The requested 'Data Client' license has not been granted" error message being displayed.
<b>CM7-17361</b>	Help & Manuals: The correct content-specific Help pages were not opened for the Peak Properties Pane.
<b>CM7-17675</b>	Mass Spectrum Plot: When the normalization style for the Mass Spectrum plot was changed from 'Absolute maximum' to 'None', the setting was not added to the View Settings, meaning it was not remembered when the sequence was reopened.
<b>CM7-17783</b>	WPS-3000 Fraction Collectors: The needle was not automatically flushed prior to collecting the first fraction.
<b>CM7-17784</b>	WPS-3000 Fraction Collectors: When starting fraction collection, the needle did not move to the first fraction collection position
<b>CM7-19135</b>	Console - Data Vaults: In some cases, even with global policy "Show local Data Vaults of remote systems" deactivated, remote local data vaults would still be visible in the Console.
<b>CM7-19193</b>	Custom Variables Manager: It was not possible to Add, Remove, or Edit Custom Sequence Variables while a Sequence was acquiring.
<b>CM7-19364</b>	Sequence: If a sequence download fails, the Sequence Status bar would incorrectly have a Red background color instead of the correct Yellow coloring.
<b>CM7-19531</b>	TRACE 1300 GC: The Vapor Volume and Column Flow Calculators in the method editor always used 'kPa' as the pressure units, regardless of what units had been set in configuration.

ID	Description
<b>CM7-19550</b>	Cobra Wizard: The 'Consider Void Peak' parameter no longer incorrectly requires a peak component assignment in order for a chromatogram to be properly processed in the Cobra Wizard.
<b>CM7-19708</b>	Data: Chromeleon would only report that Invalid character(s) had been used in the name of a Data tree item when <enter> was pressed, and would cause all characters, both valid and invalid, to be deleted. A message is now raised as soon as an invalid character has been typed, and valid characters are not deleted.
<b>CM7-19750</b>	Console: When saving a new Instrument Method, the Save dialog box did not automatically provide a default name, and would report an "Empty names are not allowed" error if you attempted to navigate to a different folder without first entering some text in the Name edit box.
<b>CM7-19776</b>	Sequences: After processing, Chromeleon would sometimes incorrectly make very small (in the >9th decimal place) updates to the Injection Volume due to internal rounding errors.
<b>CM7-19818</b>	Data: Attempting to create a folder with the same name as an existing folder would result in a "System.InvalidOperationException" error instead of a more user-friendly "Cannot create {name}. A folder with the name specified already exists" message.
<b>CM7-19938</b>	Chart Properties Title Page: When editing the title page of general charts in a report template an unhandled exception was thrown. A corresponding error message showed up and the title couldn't be modified any more.
<b>CM7-20268</b>	Instruments: If an attempt to detach an ePanel was made twice, an unexpected error was shown.
<b>CM7-20380</b>	Agilent 7890 GC: When aborting a running sequence with the 'immediately' option, the sequence took longer than expected to actually abort. The GC would then disconnect from the software and running method would not terminate on the GC.
<b>CM7-20427</b>	ICS-4000: Renaming some sub-devices no longer disables associated ePanel controls.
<b>CM7-20495</b>	Component Table: Entering a compound name that included an Apostrophe Followed by a Close Parenthesis resulted in a "Cannot parse" error message.
<b>CM7-20617</b>	eWorkflow: Custom Variables in an eWorkflow could not be edited if the eWorkflow had been Closed or Saved and then re-opened before attempting to make the edit.
<b>CM7-20669</b>	Composite Scoring: When setting the tolerance parameter for 2D data composite scoring, the change would only take effect if the Confirmation Channel was re-selected right after entering the tolerance value.
<b>CM7-20732</b>	Data: When creating a Custom Formula, Chromeleon would not accept the Windows List Separator (configured in Windows Control Panel > Region and Language > Formats > Additional Settings > Numbers) and would incorrectly convert the list separator to a comma.
<b>CM7-21341</b>	Precision of Calibration Levels: The precision of calibration levels can be configured in the processing method. After changing the precision of calibration levels already stored values remain different. Yet such values have been regarded also as different for the calibration although they appear as identical values in the amount table of the processing method. Now the currently configured precision of the calibration levels is taken into account when comparing calibration level values. If such values are not identical with their full precision but appear identical in the amount table, e.g., due to a reduced number of decimal points, the calibration regards such values as identical.
<b>CM7-21382</b>	Custom Variables Manager: The Custom Variable list, displayed when clicking the Parameters button in the Custom Formula Editor dialog, would not display a list of the available custom variables if opened at the Data Vault level.
<b>CM7-21473</b>	Data: The Locks grid in the Instrument Method > Properties dialog was too small and was incorrectly positioned in the center of the window.
<b>CM7-21975</b>	MS Plot pane: The Zero Mass offset feature would use the exact mass of the selected point, resulting in an inaccurate mass offset. It now computes the offset using the highest peak within 2 m/z of selected point.
<b>CM7-22196</b>	Virtual Column: Several anions could not be properly translated into local languages.

ID	Description
<b>CM7-22431</b>	Shimadzu 2014 GC: It was not possible to configure 2 DTCDs because not all heater ports were available to the DTCD.
<b>CM7-22455</b>	Custom variables: In the Console, changes to the definition of custom numeric sequence variables and custom numeric injection variables were not saved.
<b>CM7-22765</b>	Processing Method: When using older versions of the Cobra processing algorithm (pre-3.2), Minimum Relative Area does not always remove a peak from the integration even if the peak's area is below the threshold. When using post-3.2 versions of Cobra, such peaks are correctly ignored from the integration.
<b>CM7-22802</b>	TriPlus RSH: Attempting to run a method built using a previous version of the firmware resulted in a Ready Check error stating "Object assigned to parameter preWashStation is not available". The error message has been improved and now directs the user to a troubleshooting page in the online help.
<b>CM7-22938</b>	Studio: Extracting an MS Channel from an injection with corrupted MS data would cause an unhandled exception error.
<b>CM7-23059</b>	Reporting: The 'peak.sn' report variable would return "n.a." for MS data if <recent blank run> was chosen in the noise calculation.
<b>CM7-23084</b>	Agilent 7890 GC: The inlet ePanel now includes the controls for the septum purge.
<b>CM7-23212</b>	Studio: Displaying the MS autofilters pane for an injection with corrupted MS data would cause an unhandled exception error.
<b>CM7-23251</b>	Chromatogram View: If the MS Quantitation channel was elected, the chromatogram plot displayed 'Channel Not Available' when a Fixed Calibration injection was selected.
<b>CM7-23264</b>	Spectrum Plot: Using the Time Spectra Tool to overlay UV or MS spectra from different overlaid chromatograms resulted in a "Spectral plot could not be created" error if you tried to create new components when the component/peak table was not empty.
<b>CM7-23285</b>	Chromeleon Services: Occasionally, the Chromeleon Data Vault Service would not start. The Application Event Log would contain an entry (Source: ChromeleonDataVaultServer, Event ID: 0) with the message: Service cannot be started. System.Runtime.CallbackException: A user callback threw an exception. Check the exception stack and inner exception to determine the callback that failed. ---> System.NullReferenceException: Object reference not set to an instance of an object.
<b>CM7-23368</b>	Autorepeating Components in Injection Query Reports: Having an autorepeat area repeating components for a summary report table in a report template for an injection query the report of such a summary report showed only the results of the currently selected injection. This happened for all repeated components. The summary report for the first component did show all injections correctly. Now for the repeated components the summary report will list all injections from the injection query as well.
<b>CM7-23415</b>	Sequence Data Audit Trail: Under certain circumstances the version numbers in a Sequence's Data Audit Trail were non-consecutive, for example 1, 2, 3, 4, 7, 8, 9..., with version 5 and 6 missing.
<b>CM7-23441</b>	MS Components Plot: Although it was possible to specify font setting for the plot titles, these settings were not applied to the Legend text.
<b>CM7-23458</b>	TRACE 1300 GC: If, in instrument configuration, a sampler is added to an instrument before the TRACE 1300 GC is added, then it could happen that the instrument method editor would not have any pages for inlets or detectors.
<b>CM7-23460</b>	Data Vaults: Improved handling of connection errors during database commits - Connection errors could cause misleading errors like "the item has already been changed by a different user", and/or failure to commit the change
<b>CM7-23477</b>	Studio: Loading a sequence with corrupted MS data would sometimes take a long time to load, rendering the Studio unresponsive.

ID	Description
<b>CM7-23479</b>	Data: In very rare cases where the injection status becomes 'Idle', although the injection run has been finished normally, the corresponding raw data records and files were deleted if this injection record is modified (e.g., the comment field) in this inconsistent state (i.e., injection status is 'Idle' but has raw data). This also happened if the logged on user didn't have the related privileges (i.e., Modify Status of Already Finished Or Interrupted).
<b>CM7-23485</b>	eWorkflows: When an eWorkflow that linked the resulting sequence to a report template was executed twice to append the same injection, the link to the Report Template link was deleted.
<b>CM7-23628</b>	TRACE GC Ultra: When configured for manual injections, The GC would not start if the injection type was set to 'Blank' with the injection=skip option.
<b>CM7-23712</b>	NCS-3500: The viscosity measurement would not work if the pressure unit was set to psi.
<b>CM7-23717</b>	Processing Method - If peaks were removed by a peak filter, this could result in shrinking the baseline so that the tangent points of peaks above the baseline were no longer within the delimiters of the baseline. This could lead to invalid chromatograms with rider peaks exceeding their main peaks.
<b>CM7-23726</b>	Non-Targeted MS Processing: Isotopic plots now show full isotopic mass ranges instead of just the low mass.
<b>CM7-23853</b>	Electronic Report: Creation of Electronic Report during printout was not working for multiple sequences printout when multiple reports were created.
<b>CM7-23872</b>	Processing Method: In some circumstances, using the CM6 Algorithm, with default Minimum Area value = 0.001, could cause an "Invalid time range" error to be displayed due to a peak baseline not being drawn under the whole peak.
<b>CM7-23889</b>	TriPlus RSH: When a block of injections using the same method included both samples and blanks (with Blank = Skip) the sequence would abort with a timeout error.
<b>CM7-23938</b>	Varian 3800 GC: Attempting to run a sequence containing an instrument method using the GC in constant flow mode resulted in the following error message: "Method rejected by GC. Please check all setup and method parameters for consistency."
<b>CM7-23967</b>	TriPlus Classic: When submitting a sequence, it was possible to encounter an "Error in Preflight Handler" message during the Ready Check of the sequence. This was caused by uninitialized instrument method parameters.
<b>CM7-24044</b>	Processing Method: In some circumstances, comments for the Associated Items of an imported .cmbx sequence were not displayed, and attempting to edit the comment field would cause an "Unexpected error" to be displayed.
<b>CM7-24061</b>	Vanquish: The default Maximum Flow limit for an NCS Pump was incorrectly set to 2.5 µl/min rather than 2500 µl/min.
<b>CM7-24145</b>	Data Audit Trail: If the user entered a value in a previously empty column, the data audit trail would show an incorrect change in the column added to, and also in the subsequent column.
<b>CM7-24190</b>	Fraction Collection: When using Fraction Collection with two subsequent injections, one with "Collect outside peaks" feature activated and the next with it deactivated, a fraction vial would be skipped between the two injections, leaving no fraction in the vial, and causing the last fraction vial to be used for the next injection.
<b>CM7-24249</b>	User Management: When a user account is locked and the Password Attempts and both "send email notification" feature were enabled, the administrator would receive two emails instead of one.
<b>CM7-24287</b>	Thermo Scientific A2D: If an A2D's analog channels were being shared across multiple instruments, Chromeleon would require that the Synchronization option was set to 'None'.
<b>CM7-24288</b>	UltiMate NCS-3500RS/NCP-3200RS: When running the viscosity test, this would fail with a meaningless error message.
<b>CM7-24295</b>	Instrument Qualification (IQ): In rare cases, the IQ would fail during upgrade from SR5 to SR5 MUa or from SR5 MUa to SR5 MUb, but would report the IQ as having passed.

ID	Description
<b>CM7-24308</b>	TriPlus RSH and TriPlus 100LS: When an instrument included a TriPlus RSH or TriPlus 100LS, editing the instrument method or modifying the sequence while it was running would cause the sequence to abort with an error message stating "There is a problem with accessing the instrument."
<b>CM7-24311</b>	After modifying the access control of a data vault or a single folder by adding or removing items as single users or access groups the audit trail of such a modification didn't show these details correctly. This is fixed now. Every new item is marked with the +-sign, every removed item with the x-sign.
<b>CM7-24349</b>	Administration Console: A user without dedicated privileges could remove data vault services, data vaults, instrument controllers and instruments from the corresponding lists in the Domain Resources view in the Administration Console.
<b>CM7-24434</b>	Print/Export: In an enterprise environment, reports that were to be printed/exported at the end of the sequence or after the last injection sometimes failed to do so.
<b>CM7-24448</b>	Query Results: When the results of a database query were saved as a sequence, if any custom injection variables were defined for the injections, they were not saved with the sequence.
<b>CM7-24452</b>	Data Audit Trail: Some operations performed on a "read-only" sequence were not recorded (e.g., printing was recorded, but not exporting) in the data audit trail. Now all operations are recorded.
<b>CM7-24467</b>	Export/Print: When running many export/print requests in a single Chromeleon client session (e.g., to export/print single injections during a sequence run after each finished injection) it could happen that after a certain number of injections the export / print requests could no longer be executed. The Chromeleon client either crashed or showed UI errors.
<b>CM7-24477</b>	Reporting: It was not possible to report the full path location (including Data Vault, folder and name) of spectral libraries.
<b>CM7-24486</b>	Reference Mass Spectrum: When selecting the reference MS spectrum, the name search control did not return a proper list of matches.
<b>CM7-24489</b>	TriPlus RSH: Occasionally, when running a sequence with long injection times (e.g. 30 minutes) using the SPME Arrow tool, the sequence aborted with an error stating "Cannot execute operation because Arrow Inj 1 is still active." This was caused by an error in the default SPME script, which has now been updated.
<b>CM7-24490</b>	Help & Manuals, Setup & IQ: As the Glossary document duplicates information already contained in the online help, the Glossary has been removed from the Chromeleon distribution.
<b>CM7-24496</b>	Reporting: .pdf export could be slow when being performed simultaneously on multiple Citrix client sessions.
<b>CM7-24536</b>	GCMS Environmental Extension Pack: In the Breakdown Report, the formula for DDT breakdown incorrectly used the response for DDT, instead of DDE. In addition, the LCS Report used the limits for the Matrix Report instead of the LCS limits.
<b>CM7-24544</b>	TriPlus RSH and TriPlus 100LS: A sequence would eventually abort with an instrument disconnection error if the ePanel button was used to disconnect/reconnect the sampler while the instrument was idle.
<b>CM7-24563</b>	Reference Mass Spectrum: When selecting the reference MS spectrum, if a large MS library was selected, the software would become unresponsive for a long period of time.
<b>CM7-24564</b>	Chromeleon XPS: When clicking the "Submit" button to add samples to an existing Chromeleon sequence the following error message appeared: "An error occurred creating the sequence. Index was out of range. Must be non-negative and less than the size of the collection". While appending to an existing sequence is not yet supported, the error message has been replaced to make this clear.
<b>CM7-24576</b>	Processing Method: MS Component ion ratios were calculated incorrectly when either of the "Use average" options were selected
<b>CM7-24585</b>	Chromeleon XPS: It was not possible to print or export reports unless the Chromeleon Console was open.



ID	Description
<b>CM7-24612</b>	Instrument Qualification: HPLC Instruments IQ V.5.1: The IQ templates for the Vanquish ISQ EC did not set some basic settings correctly.
<b>CM7-24621</b>	Custom injection filter: when defining a custom injection filter (e.g. in a summary report) and choosing the injection lock status as a custom condition the corresponding injection list remained empty although locked injections were present in the sequence and the custom conditions explicitly filtered for these locked injections. Such filters work now correctly.
<b>CM7-24651</b>	Report Variable: When the Peak Apex Alignment composite scoring variable was used, Chromeleon ignored missing component peaks to calculate a result. The report variable has been updated to return an error when a peak is missing.
<b>CM7-24681</b>	Report Variable: When using the Pinpoint workbook import, Chromeleon returned composite scores for summed peptide components. As the composite score results were only for a single mass in specific mass lists, this led to ambiguous or confusing results. Chromeleon has been updated to report "n.a." for summed peptides. Charge state peptides were not affected by this issue.
<b>CM7-24697</b>	TRACE1300 GC: When the GC was connected to Chromeleon and keypad is enabled, if the keyboard was used to define an oven ramp and start the GC, then the software would continuously log the changing oven setpoint to the audit trail.
<b>CM7-24719</b>	AS-AP: The Chromeleon Help file used to state that in order to mix samples while doing a dilution, the autosampler would use the shake option for small vials and use the draw-and-dispense option for the large vials. The opposite is true and the file has been updated accordingly.
<b>CM7-24722</b>	Print/Export: With the "Export report" option enabled for the Queue, export for each injection sometimes failed.
<b>CM7-24728</b>	Instrument Qualification: The automated instrument IQ for the Vanquish ISQ EC would often fail. This was due to an inappropriate peak area limit.
<b>CM7-24749</b>	Integrion: When replacing RFID consumables sometimes a new consumable would not appear in the Consumables Inventory. When this occurred, one could not enable usage data tracking for this consumable.
<b>CM7-24772</b>	Chromeleon XPS: When a sample set was set to export after each injection, Chromeleon XPS would not send an email notification of the export.
<b>CM7-24850</b>	CMBX Backup: When exporting sequences that contain references to externally linked spectral libraries into a CMBX file, the spectral libraries were not restored.
<b>CM6-24039</b>	Waters Acquity 2489 UV/VIS Detector: It was possible to start a sequence requiring the 2489, despite not having the detector connected.
<b>CM6-24163</b>	Agilent 7890: When used with certain LAN cards, the GC would sometimes fail to connect if the acquisition service was set to automatically start on system start.



## 5 Limitations and Known Issues

The following sections list known issues and limitations. The numbers in the first column of the table below refer to the Thermo Fisher Scientific tracking IDs.

### 5.1 Limitations with Thermo Scientific Instruments

ID	Description
<b>CM7-15632</b>	TSQ Quantiva and Endura: When removing the source from a TSQ Quantiva or Endura in mid-acquisition, the sequence does not abort.
<b>CM7-16030</b>	TSQ Quantiva and Endura: With these instruments the standby state reports that the instrument is on, regardless of the real instrument state.
<b>CM7-16154</b>	TSQ Quantiva and Endura: When creating an Instrument Method for the TSQ Endura or TSQ Quantiva, the MS run time is not the same as the Chromeleon run time. The user should enter the correct run time on the MS page of the Wizard.
<b>CM7-16557</b>	MSQ Plus and Tune Application: When using the MSQ Plus with Chromeleon the user has to wait for the Chromeleon Instrument Controller to be in idle mode before opening the Tune application. Without waiting, the MSQ Plus will not be able to change the operating mode (On, Off, Standby), or it will not be possible to run injections. To recover from this error both the PC and the MSQ Plus would have to be restarted.
<b>CM7-16851</b>	UltiMate 3000 MWD-3000 and DAD-3000: In the Instrument Method Editor for these devices, the script page offers one additional option for the data collection rate (20 Hz) that is not present in the Instrument Method Wizard. This additional option is a valid value for this parameter. Although it is possible to manually type in a value for the data collection rate that is not in the list, these values will be rejected by the Ready Check when a sequence is submitted.
<b>CM7-17500</b>	Exactive Series: Exactive Series instruments are usually shipped with a PC ("Exactive PC") that includes all the necessary instrument data files, such as calibration files, for operating the instrument. If you want to control an Exactive instrument using a different PC, make sure that the specific instrument data files residing on the Exactive PC are backed up and transferred to the new PC. For details on performing the data backup on the Exactive PC, refer to the Thermo Exactive Series 2.5 SP1 Release Notes, section Backup provided on the Chromeleon installation disk in the Packages\Thermo Exactive\Documentation folder.
<b>CM7-17668</b>	TSQ Quantiva and Endura: TSQ Endura and TSQ Quantiva instruments are usually shipped with a PC ("Endura/Quantiva PC") that includes all the necessary instrument data files, such as calibration files, for operating the MS instrument. If you want to control an instrument using a different PC, make sure that the specific instrument data files residing on the Endura or Quantiva PC are backed up and transferred to the new PC. For details on performing this process, please consult with your local MS field service engineer.
<b>CM7-17783</b>	UltiMate 3000 WPS-3000FC: When using the WPS-FC, the needle will not automatically be flushed prior to collecting the first fraction. To work around this limitation, add the following lines to the instrument method command script: Sampler.EndFraction Sampler.Collect Delay 10 Sampler.Drain

ID	Description
<b>CM7-18098</b>	Accela Open Autosampler: Sequences cannot be run when the sampler does not include the DLW option. This configuration is not supported and requires a custom script.
<b>CM7-18129</b>	TSQ Quantiva and Endura: After an upgrade of the TSQ Endura/Quantiva instrument driver, an error may occur when opening the Chromeleon Instrument Configuration. To resolve the error, remove the Chromeleon Mass Spectrometer driver from the configuration and then add it again. This will update the configuration information in Chromeleon to match the updated TSQ Endura/Quantiva instrument driver version.
<b>CM7-20295</b>	TSQ 8000 and ISQ Series: When a GC-MS instrument method includes a scan event containing multiple SIM ions (e.g. "SIM 115, 152, 188") then data from matching filters collected at different time ranges will not be combined into a single filter in the data for that injection.
<b>CM7-20547</b>	247 Instrument Controller: TDS4: Due to the smaller internal storage space available on TDS4 models of 247 Instrument Controller, and the larger data files created by 3D acquisition, TDS4 models of 247 should only be used to acquire 2D data. To acquire 3D data, a TDS5 model of 247 should be used.
<b>CM7-21342</b>	Vanquish Variable Wavelength Detector: For acquiring data on a single channel only using the Vanquish VWD it is necessary to use channel UV_VIS_1.
<b>CM7-21967</b>	TSQ Quantiva and Endura: The TSQ Endura and Quantiva mass spectrometer method editor is supported on English operating systems with English/United States regional settings only.
<b>CM7-22490</b>	Exactive Series: When setting the divert valve parameters for an Exactive Series MS with a 2-position valve, the valve positions are recorded in the MS raw data opposite of how the divert valve parameters were configured.
<b>CM7-23138</b>	MSQ Plus: It is recommended to use only the MS driver provided on the Chromeleon installation medium. Other versions of the MSQ Plus driver may not be compatible with Chromeleon. Please consult your local field service engineer for additional details.
<b>CM7-23295</b>	Exactive Series: Due to differences in how the Exactive 2.8 SP1 driver writes the scan header in MS data files during acquisition, non-targeted peak detection will not work correctly when data generated from both the Exactive 2.8 SP1 driver and older drivers are present in the same sequence.
<b>CM7-23614</b>	Instrument Configuration: Due to some registry settings the Instrument Configuration window did not display any text.
<b>CM7-23669</b>	TSQ 8000 Series: If you attempt to abort an acquisition of multiple timed acquisitions while the MS is acquiring data, the MS will not cycle back to a Ready state and the sequence will not end. It is necessary to stop and restart the Instrument Controller to regain access to the instrument.
<b>CM7-24161</b>	Ultimate DAD/MWD-3000: If a non-supported data collection rate was set, no warning message was issued.
<b>CM7-24384</b>	When Chromeleon 7.2 SR5 is installed on a Windows 10 PC, upgrading that PC to Chromeleon 7.2.6 will appear to complete successfully, with no IQ errors or warnings. However, attempting to export a sequence to PDF will fail with an error stating "Printer not activated, error code – 30". To resolve this problem, rerun the Chromeleon 7.2.6 setup, selecting 'Repair' on the opening screen of the setup program.
<b>CM7-24445</b>	TSQ Quantiva and Endura: Instrument methods written with an earlier version of the method editor cannot be opened with a newer version thereof.

ID	Description
<b>CM7-24600</b>	Spectral Library: If an older Chromeleon version than Chromeleon 7.2.7 is used to create and name components from library screening results, then upon selecting the folder reference attempts to close the dialogue with OK will result in an exception being thrown.
<b>CM7-24825</b>	A sample with a processing method created in Chromeleon 7.2.7 when opened in the Chromeleon 7.2.6 in the Studio should show a notification bar indicating that the evaluation results may differ from those using the version which was used to create/save the processing method. This notification bar is not displayed.
<b>CM6-21321</b>	Accela Open Autosampler: When using this autosampler, a dot (‘.’) must be used as decimal separator.
<b>CM6-22760</b>	TRACE 1300 GC: The autozero function does not work correctly for the FID, NPD, ECD and FPD detector types.

## 5.2 Compatibility of Chromeleon 7.2.7 and SII for Xcalibur

At current time, SII for Xcalibur (SII) has not been validated for use with Chromeleon 7.2.7. As such any installation combining SII with Chromeleon 7.2.7 is not supported. At a time when SII is compatible with this release, documentation outlining support will be released which will supersede this known limitation.

## 5.3 Mass Spectrometers and Windows 10

Thermo Scientific Foundation 3.0 SP2 is required for mass spectrometer support under Chromeleon. As Foundation 3.0 SP2 is not compatible with Windows 10, no mass spectrometers other than the ISQ EC are supported under Windows 10 at this point in time.

## 5.4 Upgrading a Windows 10 PC From Chromeleon 7.2 SR5 to Chromeleon 7.2.7

When Chromeleon 7.2 SR5 is installed on a Windows 10 PC, upgrading that PC to Chromeleon 7.2.7 will appear to complete successfully, with no IQ errors or warnings. However, attempting to export a sequence to PDF will fail with an error stating “Printer not activated, error code – 30”.

To resolve this problem, rerun the Chromeleon 7.2.7 setup, selecting ‘Repair’ on the opening screen of the setup program.

## 5.5 Compatibility with Foundation 3.1

Chromeleon is only compatible with Thermo Foundation 3.0 SP2. Users may encounter situations where PCs provided with mass spectrometers come pre-installed with Foundation 3.1 or newer. In these instances, the factory procedure to uninstall any MS instrument control component software must first be followed before reinstalling Foundation 3.0 SP2 and the mass spectrometer driver.

This procedure must only be carried out by individuals that have completed the necessary software and hardware training.

## 5.6 Limitations with the Waters Driver Pack

ID	Description
<b>CM7-19830</b>	When using the Waters Acquity driver in a Citrix environment, the Acquity console does not update correctly and therefore doesn't show current log file entries. This is due to a problem in the Acquity console, and can be mitigated by using the instrument audit trail on remote clients.
<b>CM7-22872</b>	When using the Waters Acquity driver, some Chromeleon screens may not appear properly, such that text from the previous screen is still visible. This has been observed with the Sequence Properties and the Chromeleon Log on screen.
<b>CM7-23504</b>	In rare circumstances when the user configures and then deletes an Acquity PDA, the module will still be shown in the Acquity Console. If a command is then executed (e.g. lamp on), the module disappears from the console, after which the user then needs to reconfigure the instrument in the Chromeleon Instrument Configuration Manager in order e.g. to turn off the lamp.
<b>CM7-23730</b>	When using the Waters Acquity Driver Pack4 and trying either to create a new instrument method, or to open the Acquity console from the ePanel a problem sometimes occurs. A message appears informing the user that launching the application had failed, and that the Acquity driver pack may not be installed. If this occurs, the user should contact Thermo Fisher Scientific for further advice.
<b>CM6-21040</b>	Waters Acquity: Should a Waters instrument detect an IP address conflict during start up, the Chromeleon CDS driver will log the error message in the Audit Trail. If this message is ignored, it will be displayed again after 2 hours, which can result in a running sample being aborted.
<b>CM6-21112</b>	Waters 2998 PDA: Localization to a non-English regional setting for the PC (e.g., German) does not function correctly for the timed events table, e.g., using a Waters 2998 PDA detector and setting a timed event in the program file (e.g., wavelength change at 5 minutes). The event is recorded, but without the event time.
<b>CM6-23194</b>	After removing the Sample Organizer from the Instrument Configuration, the plate setup is not updated correctly. Manually updating the plate settings in the plate setup configuration dialog avoids this issue. If the total length of the instrument name plus detector name is more than 32 characters, the sequence will abort shortly after initial injection. The affected detectors are: 2489, 2998, and Acquity FLR.
<b>CM6-24158</b>	Waters 2489 PDA: After changing the Instrument Method from single to dual-wavelength mode (without changing Channel A wavelength), the data rate for Channel B is set incorrectly and incomplete data collection occurs.
<b>CM6-24164</b>	When the Waters Driver Pack 4 is installed in a Citrix environment, the World Wide Web Publishing Service is automatically disabled, so that after restarting the PC, the Citrix web application is no longer reachable. The service should be reset to automatic start, after which the application can be reached
<b>CM6-24191</b>	In extremely rare cases the Acquity PDA server stops working, which then causes the running sequence to be interrupted.

## 5.7 Limitations with Agilent ICF

For a general overview regarding the Agilent Instrument Control Framework, please refer to the document Chromeleon and Agilent ICF - Quick Start Guide - Chromeleon 7.2 .pdf, found in the \Documents\ folder of the Chromeleon 7.2 CDS DVD.

ID	Description
<b>CM7-19347</b>	Agilent G1312B DAD: When using a G1312B DAD in combination with an old JetDirect card, the user may experience problems collecting data at 80Hz. If the user observes this, they should get in touch with their local Thermo Fisher Scientific representative for advice on possible solutions.
<b>CM7-19540</b>	Agilent ICF: The Agilent GC System Configuration dialog includes entries to configure the 7697A Headspace, G1888A Headspace, 7890 GC, 6890 GC, 68550 GC, and 7820 GC. Currently, it is only possible to configure the 7697A Headspace sampler. Attempting to configure any of the other modules will result in a message indicating that the modules are not supported.
<b>CM7-19863</b>	Agilent ICF: The Agilent LC System Configuration dialog includes entries to configure the following devices, which are not supported by the release: All ELS Detectors (Drivers are not included, so they cannot be configured) Multi-sampler and DAD HDR (Although configurable, they have several known issues and are therefore not supported)
<b>CM7-19975, CM7-20451</b>	Agilent 7697A: The Soft Config option, available via the ICF for Agilent LCs, is not supported for the Agilent 7697 HS. It should not be added to any custom ePanel as its use can cause issues by allowing configuration changes to be applied to the sampler during acquisition.
<b>CM7-19993</b>	Agilent 7697A: If the 7697A loses its connection to the network, an audit trail message is added indicating this fact. However, the ePanel will still show the unit as 'Ready'.
<b>CM7-20047</b>	Agilent VWD G1314B: When using a G1314B VWD, occasionally the chromatogram is half the expected length.
<b>CM7-20259</b>	Agilent 7697A: Although the vial position may be assigned in the instrument method script, unless this is done in the Instrument Setup Stage, the sequence table will not be updated. This can result in misleading information in reports and should be avoided.
<b>CM7-20991</b>	Agilent ICF: Occasionally when performing injections with ICF controlled instruments the injection volume is incorrectly displayed, although the injection itself was performed correctly.
<b>CM7-21172</b>	Agilent ICF: If the user has the monitor DPI settings on their PC set at greater than 100%, then some parts of the Agilent LC system device ePanel are not visible.
<b>CM7-21427, CM7-18984</b>	Agilent ICF with 1100 or 1200 LC DAD: When acquiring data from an Agilent 1100 or 1200 LC DAD, the signal trace may be shifted to the start of the run, and the end time is inconsistent. No data points are lost with a data rate of 10 Hz and slower ( $\geq 0.025$ min 0.5 sec) 20 Hz and a low number of spectra (all other than ALL Spectra) 20 Hz and spectrum range 190- 400 step 2
<b>CM7-23096</b>	Agilent ICF: If a Fraction Collector with Thermostat is installed, the channel mapping is not correct. This can be resolved by removing the <Channel name="FC: Delay Sensor"> node from DefaultConfiguration.xml before adding the driver. After this, the user can configure the mapping for the two channels manually on the Signals (2D) tab of the configuration dialog.

ID	Description
<b>CM7-23242</b>	Agilent 7697A: Running multiple 7697A Headspace autosamplers on a single 247 Instrument Controller can cause Windows "Out Of Memory" errors, requiring a reboot of the 247 to resolve. Thermo Fisher therefore recommends that only one 7697A is connected to any 247 Instrument Controller.
<b>CM6-23980</b>	Agilent 7697A: When starting a sequence while the 7697A Headspace Sampler is in an 'Error', 'Running', or 'Not Connected' state, the ready check does not give an error message. After the sequence starts, the following happens: If the sampler is in error state, the sequence starts without getting interrupted If the sampler is running, the sequence stops with audit trail message "Sequence stopped by user" If the sampler is not connected, the sequence interrupts with audit trail messages "Lost connection to Agilent 7697A Headspace Sampler", and "The instrument is offline. Check power to all modules, cabling between modules and whether the configuration matches the list of modules."
<b>CM6-23992</b>	Agilent 7697A: The 7697 Headspace Sampler has two versions; 111- and 12-vial capacity configurations. The Chromeleon driver is written and tested with the 111 vial capacity version. Though not tested, the driver is expected to work with the 12-vial capacity module. The user should not use vial positions greater than 12 in this case. The rack view always shows 111 vial positions.
<b>CM6-23996, CM7-19940, CM7-21324</b>	Agilent 7697A: The 7697 Headspace Autosampler has two options for handling missing vials: Pause and Abort. An issue has been observed when the Abort option has been selected. In either mode, the autosampler overlaps sample preparation, i.e.: sample 2 is prepared while sample 1 is acquiring. If the autosampler finds that the sample 1 vial is missing, it will Abort or Pause the sequence at the point it discovers the vial is missing. However, if the autosampler finds that the sample 2 vial is missing, while sample 1 is already acquiring, and the Abort option has been selected, the entire sequence will be aborted, including the acquiring sample 1.
<b>CM6-24004</b>	Agilent 7697A: Using the instrument front panel, the allowed range for Transfer Line Diameter is 200-600 microns. However, when setting this value in the Chromeleon instrument configuration the limit is 250-530 microns.
<b>CM6-24005</b>	Agilent 7697A: When 7697A headspace instrument method parameters are included in a report, the "fill pressure" parameter is rounded to the nearest integer.
<b>CM6-24007</b>	Agilent 7697A: Some parameters logged to the instrument audit trail are rounded to nearest integer. However, all values are downloaded to the instrument with the proper precision.
<b>CM6-24008</b>	Agilent 7697A: When editing an existing 7697A Headspace instrument method, if the values for Purge Flow, Purge Time or Leak Flow are changed, the Save button is not enabled until the user changes tabs.
<b>CM6-24009</b>	Agilent 7697A: When configuring an Agilent 7697A, there is an option in the user interface to "Upload Config from Instrument". This option does not work. Instead, you will need to manually configure the instrument settings.
<b>CM7-24022</b>	Waters Acquity: If the user has two Acquity systems connected to one Instrument Controller, the range for the column temperature in the Waters method editor does not always match the hardware configuration. This is affecting the method editor only, and occurs when opening a method for instrument A while the Acquity console for instrument B is open.

## 5.8 Limitations with Other Third Party Instruments

ID	Description
<b>CM7-9675</b>	Agilent 7890 GC: There is a backward compatibility issue that affects the Agilent 7890 GC Sampler Positions. When using a 7890 GC in combination with a 7693 sampler, certain positions in the sampler could give a misspelled value to a move command. This has now been corrected and could in rare cases lead to Instrument Method files needing to be updated to avoid errors.
<b>CM7-12366</b>	<p>Agilent 5890 DICE Card: Please note the following when using the 19257 DICE card with the Agilent 5890 GC:</p> <p>Control and acquisition using the DICE card is only supported via the serial interface. The GPIB interface is not supported.</p> <p>Digital data acquisition via the serial interface of the DICE card is only supported for a single channel; dual channel digital acquisition is not supported.</p> <p>Currently, it is possible to select certain illegal combinations in the Configuration Dialog such as:</p> <p>Digital acquisition with the 19254 card. This is not supported.</p> <p>Digital acquisition on one detector and analog acquisition on the other. Acquisition needs to be exclusively digital or exclusively analog.</p> <p>When using the DICE card to acquire data digitally, the 5890 INET mode must be set to "GLOBAL" not "LOCAL". Failure to do so will result in a "No response from GC" message following the AcqOn command in the audit trail.</p> <p>Note that when performing analog acquisition, the 5890 INET mode should still be set to "LOCAL" (as described in the online help).</p>
<b>CM7-15293, CM7-18463</b>	Agilent 1100 Obsolete Driver: Occasionally, when using a combination of older and newer modules, the raw data was not correctly acquired.
<b>CM7-15400, CM7-15556, CM7-15734, CM7-15736</b>	Perkin Elmer LC200 Autosampler: When upgrading from earlier versions of Chromeleon 7 CDS to Chromeleon 7.2 CDS SR3, it is necessary to reload the Perkin Elmer LC200 Autosampler driver and configure the loop size within the configuration. The user should then check all instrument methods using this autosampler to ensure that they continue to function correctly.
<b>CM7-15716</b>	PerkinElmer Clarus 400 GC: Some users must select Autosystem XL in configuration in order to communicate with the PerkinElmer Clarus™ 400.
<b>CM7-17948</b>	Shimadzu LC: Unlike most drivers, some Shimadzu UV detectors require that you select the Advanced filter in the Command (F8) window in order to access the Lamp On/Off command.
<b>CM7-20464</b>	Varian 3800 GC: It is not possible to start a manual data acquisition if the GC is not ready (i.e. all temperatures, pressures and so on are at their set points). Trying to do so will generate a Ready Check message detailing what is not ready.



ID	Description
<b>CM7-24042</b>	Instrument Configuration Manager: The .NET 4.7 framework is installed by Windows Update. For Windows 7 it is a recommended update, but for Windows 10 it is a mandatory update. This release of Chromeleon has been validated against .NET 4.7. However, under rare circumstances, the installation of .NET 4.7 could lead to malfunctioning or crashes of the instrument configuration manager or configuration plug-ins. If this occurs, please contact your Chromeleon support desk for assistance in correcting the problem.
<b>CM7-24724</b>	Agilent 7890B GC: With certain firmware versions, the GC does not properly send abort information to the software, meaning that events such as FID flame out, pressure errors, hardware faults and so on, will not be recognized or reported by Chromeleon. The problem is seen in FW versions B.02.01, B.02.04.2 and B.02.05, but not versions A.01.xx.x. The 7890A GC does not seem to have this problem.
<b>CM6-23947</b>	Shimadzu LC-10A, LC-2010: If the user cancels the keylock state of the front panel of the instrument and then, for example, stops a manual acquisition, this is likely to lead to unexpected effects during the next operation such as sudden abort of the sample run.

## 5.9 Other Limitations

ID	Description
<b>CM7-17203</b>	Report Designer: With some date/time formatting settings in the report, the order of month and day changes for some formats automatically. The settings in the Report Template can change based on the windows regional settings. For example it is not possible to set m.d.yy as format with German regional settings. The Report Template replaces this with d.m.yyyy. The substitution occurs for report variables and non-report variable entries.
<b>CM7-17841</b>	Report Designer: If using a non-Chinese format as the regional setting in Windows, and Chinese as the setting for Non-Unicode programs, then the header on a Chromeleon report is not correctly displayed for variables. If the format is changed to Chinese, then everything is correctly displayed.
<b>CM7-21331</b>	Report Variable <code>chm.massSpectrum("...").resolution</code> always shows "0,5000": The mass spectrum resolution report variable returns an internally used processing value instead of the resolution setting defined in the MS instrument method. It is recommended to discontinue use of this report variable until further notice.
<b>CM7-24972</b>	Nested Autorepeat: When applying a two level Autorepeat rule with double grouping to a plot object, if the sequence contains a large number of injections and a large number of components, it is possible that software performance will degrade significantly and that Out of Memory errors will be generated. This has been observed when applying Autorepeat to an MS Components plot for a sequence with 27 injections and 292 components.



ID	Description
CM7-20335	Comparison of Old Report Versions Shows Change in CmbxExportParameters: If a report which was created in Chromeleon 7.2 SR2 or earlier, and modified in SR3, has its history compared in SR4, the history will appear to show that the "Cmbx Export Parameters" value has changed from True to False. This is due to a change in the default value of this field, and does not represent any user-modification of the report.
CM7-18252	Export MS Raw Data: When acquiring MS data, Chromeleon acquires MS data and all other signal data, such as UV, FLD, and pump pressure signals, in separate formats. As a result, when MS data is exported, non-MS data is not exported with the MS raw data file.
CM7-19336	Chromeleon 6 Import: Due to changes in Auditing between Chromeleon 6 and Chromeleon 7, when a Chromeleon 6 Sequence is imported into Chromeleon 7, some of the text displayed in the Instrument Audit trail will not appear exactly as it did in Chromeleon 6. Refer to the topic "Viewing Chromeleon 6 Data" in the online help for further information.
CM7-20449	User Management: Login "Role" dropdown box becomes empty after upgrading to Chromeleon 7.2 SR4. This is due to the fix for CM7-18178 "Roles were offered in the Logon dialogue, even if they were not specified as Logon roles". To work around this issue, enable the "Logon Role" property in the user database for all logon roles that users need to be able to select.
CM7-20637	Logon with Current Windows Account after Disconnecting Network Fails with Misleading Error Message: In the event of a loss of network connection on a system using LDAP logon, attempting to logon to Chromeleon again with the same account details results in a misleading error message "The user name or password are incorrect."
CM7-21399	Injection Variables 'Auto Dilution Ratio' and 'Retention Time Standard': Auto Dilution Ratio and Retention Time Standard columns are not available in the custom filter conditions for injection records (e.g., in the IRC editor or summary report).
CM7-21780	<p>NIST MS Search and Demo Library No Longer Automatically Installed: Incompatibilities of the NIST 2008 MS Demo Library installer with Window 7 and 10 could cause the main Chromeleon installer to hang or crash. To address this, the NIST Demo library, and the associated AMDIS and MS Search software are no longer automatically installed when you install Chromeleon. If desired, this package may be installed manually using the setup program found in the /Tools/ folder of the Chromeleon DVD. Alternatively, one may install AMDIS and MS Search using the full (licensed) NIST library installer.</p> <p>Note that MS library searching within the Chromatography Studio is not affected by this issue.</p>
CM7-21783	Performance When Importing Fixed Calibration Standards for MS Sequences: When working with sequences of MS data, importing injections for use in a fixed calibration can take 1-2 minutes to complete, depending on the data.
CM7-22111	<p>Mixed Installations with Chromeleon 7.2 SR5 Domain Controller: If you have an existing installation of Chromeleon &lt; 7.2 SR1, the following limitations apply during an upgrade:</p> <ul style="list-style-type: none"> <li>• Stations that have Chromeleon 7.2 or below installed will not see any data vaults or instruments that have been created with Chromeleon 7.2 SR5, until after those stations are upgraded to 7.2 SR5.</li> <li>• It is not possible for a Chromeleon 7.2 (and below) station to join a Chromeleon 7.2 SR5 domain.</li> <li>• Stations that have Chromeleon 7.2 or below will not receive any updates from the Discovery Service after the Chromeleon domain controller has been upgraded to 7.2 SR5, and will only see resources that were already in existence and cached.</li> <li>• Please refer to the Enterprise Documentation for guidance on upgrading an older installation of Chromeleon 7 to Chromeleon 7.2 SR5.</li> </ul>

ID	Description
<b>CM7-22145</b>	Discrepancy in "Last Modified" Time: Owing to differing rounding methods used, it is possible that the value of the "last modified" time for an object in a sequence has a difference of 1 second between the client display and the value shown in a report. For more details, please see the on-line help.
<b>CM7-22738</b>	<p>Empty Inject Time and GUID fields have been seen in a few single injections. Raw data have been successfully acquired and stored on the local Instrument PC. The Injection Audit Trail on the Instrument PC contains complete information, including the missing details. Too few instances have been reported to identify the root cause of this problem.</p> <p>Note: If you are affected by this problem, please contact your local Thermo Fisher representative for assistance with recovery of the missing injection details.</p>
<b>CM7-23033</b>	<p>Legacy Upload: With replication framework disabled, when trying to modify a sequence while the automatic upload is already in progress the upload may fail in very rare cases and it is not possible to remove the sequence from the instrument queue by retry of the upload. To recover the sequence a copy of the sequence has to be stored manually. Chromeleon 7.2 SR5 adds an audit trail entry to the manually uploaded sequence that refers to the original sequence so that traceability is ensured.</p> <p>Thermo Fisher Scientific recommends to enable the replication framework with Chromeleon 7.2 SR5 to avoid the problem.</p>
<b>CM7-23051</b>	<p>In a few cases Sequences have been reported to abort with messages in the audit trail that were not conclusive, such as:</p> <ul style="list-style-type: none"> <li>• "The audit trail was unavailable for some time. Several audit trail messages are lost. They have been logged to the file "Dionex\Chromeleon\Log\AuditTrailMessages.log" in the (common) application data folder."</li> <li>• "The injection audit trail / signal "... " cannot be saved. Error detail: The transaction has aborted. The transaction commit operation failed."</li> </ul> <p>However, the SQL Server ERRORLOG files of the affected Instrument Controller PCs revealed errors due to slow file operations on the local hard drive. Thus it is assumed that these failures were caused by poor disk drive performance. Chromeleon 7.2 SR5 introduced additional internal error reporting so that similar errors can be identified more easily in the future.</p>
<b>CM7-23099</b>	<p>The Microsoft Visual C++ 2005 Run Time component is no longer supported by Microsoft. However, this component is required for the Shimadzu LC-2010A and Shimadzu LC-10A/20A/30A drivers and is therefore installed by Chromeleon.</p> <p>If you don't use these drivers, it is possible to uninstall the Visual C++ 2005 Run Time component from the 'Programs and Features' page of the Windows Control Panel. Alternatively, during the installation of Chromeleon, it is possible to suppress the installation of the Visual C++ 2005 Run Time component by using a response file and excluding the "__MicrosoftVisualC2005_SP1__" package. Please refer to the Installation Guide for details.</p> <p>Several of the Shimadzu devices can be controlled by obtaining an updated driver directly from Shimadzu (see the "List of Supported Instruments" for details).</p>
<b>CM7-23481</b>	Fatal Error in Chromeleon 7 Real Time Kernel Service: When leaving the Instrument Configuration Manager open over extended periods of time the Chromeleon Real Time Kernel Service might stop unexpectedly with a fatal error in the Windows Event Log.
<b>CM7-24058</b>	Console: The new eWorkflow option "Preserve Layout", introduced in Chromeleon 7.2.6 is not backwards compatible with older versions of Chromeleon. If a client with an earlier version attempts to open an eWorkflow for which this option is enabled, the error message "Cannot load, as the data was created with a newer Chromeleon version." Is displayed.

ID	Description
<b>CM7-24706</b>	<p>Installation of KB4041083 "Security and Quality Rollup for the .NET Framework 3.5.1, 4.5.2, 4.6, 4.6.1, 4.6.2, and 4.7 for Windows 7 SP1 and Windows Server 2008 R2 SP1: September 12, 2017" on a PC with the Agilent ICF framework will cause the Chromeleon Instrument Configuration Manager to crash.</p> <p>To resolve this issue, uninstall KB4041083. This may require reinstallation of one or more of the following KBs, depending on what .NET versions were originally installed on the PC:</p> <ul style="list-style-type: none"> <li>-KB4040973 for .NET Framework 4.6 or newer</li> <li>-KB4040977 for .NET Framework 4.5.2</li> <li>-KB4040980 for .NET Framework 3.5.1</li> </ul> <p>If .NET Framework 4.7 was originally installed, please uninstall both KB4041083 and .NET 4.7, reboot, then install .NET 4.7 from the Windows updates and reboot again.</p> <p>Note that the same issue can be caused by installing KB4043766 "Quality Rollup for .NET Framework 3.5.1, 4.5.2, 4.6, 4.6.1, 4.6.2, and 4.7 updates for Windows 7 SP1 and Windows Server 2008 R2 SP1: October 17, 2017) and any .NET Security and Quality Rollup released since September 2017.</p>
<b>SWFR-248</b>	<p>The following limitations apply to the import of data from Waters Empower:</p> <ol style="list-style-type: none"> <li>1. Time zone information is not supplied by the Waters toolkit API, so dates and times will be imported as if they were local.</li> <li>2. Empower allows injections that are not contained in sample sets. These are not visible to the importer and cannot be imported unless added to a sample set.</li> <li>3. Some peak results fields show incorrect units in Chromeleon since there is currently no mechanism to change the units on 'core' fields. They are included correctly in custom fields that by default are hidden.</li> </ol>
<b>SWFR-2543</b>	<p>Sampling Devices That Do Not Use <math>\mu\text{L}</math> As Units for Volume: Although most liquid injection devices expect volumes to be entered in <math>\mu\text{L}</math>, there are a few devices (e.g. Thermo AS-HV and Perkin-Elmer GC Autosampler) which do not use <math>\mu\text{L}</math> as their default volume unit. If one of these devices is configured in the same instrument that also includes an injection device that uses <math>\mu\text{L}</math>, problems may be observed with volume validation in the sequence table as well as units associated with volumes in reports.</p>
<b>CM6-23886</b>	<p>Exception Error When Removing USB-&gt;COM Port Adapter: If a USB-to-RS232 adapter is used to provide COM communication between an Instrument PC or 247 Instrument Controller and an instrument, and the USB connection is unplugged, Chromeleon reports a Fatal Error in the Instrument Audit trail. The USB-to-RS232 adapter should not be disconnected from the Instrument PC or 247 Instrument Controller while it is powered-on.</p>

## 5.10 Obsolete Drivers

Chromeleon includes a number of obsolete drivers in order to provide backward compatibility of existing installations:

- Agilent/HP 1200 HPLC System
- AI 1310/3000 GC Sampler - 10ul
- AI 1310/3000 GC Sampler - 5ul
- AI 1310/3000 GC Sampler - 5ul - 155 Vials

- 
- AI 1310/3000 GC Sampler - 5ul - 105 Vials
  - AI 1310/3000 GC Sampler - 10ul - 155 Vials
  - AI 1310/3000 GC Sampler - 10ul - 105 Vials
  - PAL Sampler for GC
  - PAL Sampler for LC
  - TRACE 1300 Series GC (First generation driver that has been superseded by TRACE 1300 Series GC II driver)

Please note that issues reported for any of these drivers will no longer be addressed. If you are using one of these drivers Thermo Fisher Scientific recommends migrating to a supported driver as soon as possible.

## **5.11 Functional Differences between Chromeleon 7.2 and Chromeleon 6.8**

Chromeleon 7.2.7 implements the vast majority of Chromeleon 6.8 features, and in general, has a richer feature set than Chromeleon 6.8. However, a few Chromeleon 6.8 features remain to be implemented on the Chromeleon 7 platform and a few will never be implemented, since they are now obsolete or no longer relevant. If a particular missing feature is important to you, please contact your local Thermo Fisher Scientific representative to find out if that feature is in the product development plans.

## 6 Backward/Forward Compatibility Issues

### 6.1 Thermo Scientific Vanquish Charged Aerosol Detector [CM6-23499]

Any Instrument Methods created for the Vanquish Charged Aerosol detector with Chromeleon 7.2 SR2 MUa and earlier may need to be updated due to changes in the driver introduced in Chromeleon 7.2 SR2 MUb.

### 6.2 Thermo Scientific Vanquish Autosampler [CM6-23405]

Any Instrument Methods created for the Vanquish Autosampler containing the WashSpeed property will need to be updated. The WashSpeed value needs to be divided by 0.06 in order for the Instrument Method to work correctly.

### 6.3 Thermo Scientific TriPlus RSH

The current driver for this instrument is incompatible with firmware older than version 2.4.

### 6.4 Thermo Scientific TriPlus 300 HS

The current driver for this instrument is incompatible with firmware older than 2001.9.0.

### 6.5 Thermo Scientific TriPlus LS-100

The current driver for this instrument is incompatible with firmware older than version 2.4.

### 6.6 Thermo Scientific TSQ Quantiva

The driver version 1.1 QF1 for this instrument, included in this Service Release, may not be compatible with existing TSQ Quantiva mass spectrometers running driver version 1.0 without a hardware update. Please contact your local MS service engineer before attempting to upgrade the unit.

**Note:** New TSQ Quantiva modules from the factory are not affected by this issue.

### 6.7 Thermo Scientific TSQ Quantiva and Endura

The driver version 1.1 SP1 for these instruments may not be compatible with existing TSQ Quantiva and Endura mass spectrometers running driver version 1.0 without a hardware update. Please contact your local MS field service engineer before attempting to upgrade the unit.

**Note:** New TSQ Quantiva and Endura modules from the factory are not affected by this issue.

### 6.8 TSQ Quantiva and Endura Instrument Method [CM7-18759]

Instrument methods created with older versions of the TSQ Quantiva and Endura instrument method editor cannot be opened with newer versions of the method editor. If a large number of instrument methods have already been created for regular use, upgrade of the TSQ Quantiva and Endura driver is not recommended. Contact your local Thermo Fisher Scientific representative for additional details.

## 6.9 Signed Sequences [CM7-16374]

Sequences that have been signed within Chromeleon 7.2 SR1 will fail verification after copying within later versions of Chromeleon 7.2 CDS.

## 6.10 Chromeleon Enterprise Compatibility of a Chromeleon 7.2 SR5 Domain Controller with Newer Versions of Chromeleon Clients and Instrument Controllers

In general, it is possible for a Chromeleon Enterprise with a domain controller running Chromeleon 7.2 SR5 (MUa, MUb or MUC) to work with instrument controllers and client PCs running newer versions of Chromeleon (7.2.6, 7.2.7). However, the following restrictions apply:

### Opening Processing Methods Created on Newer Versions on an Older Client

These processing methods may be opened, edited and saved without losing any parameters specific to the newer version. However, the new parameters will not be applied to data processing, will not be accessible as report variables and will be completely 'invisible' on the older client. The new parameters include:

- Peak Identification by Reference Mass Spectrum
- Time based specification of the Cobra Wizard the integration parameters 'Smoothing Width', 'Baseline Noise Range' and 'Consider Void Volume'
- UV Spectrum Search Across Multiple Libraries
- Variable Amount ISTD quantitation Based on Ratio (Response) vs Ratio (Amount)

### Enterprise Functionality Specific to Newer Chromeleon Versions

Features such as email notification and Chromeleon XPS will not function, even if accessed from a client running a newer version of Chromeleon.

### Support for Instrument Control Specific to Newer Chromeleon Versions

In general, it is possible to control these instruments. However the following restrictions apply:

- The instrument controller PC must be running the newer version of Chromeleon
- Older client PCs will not be able to create, edit or view instrument methods for the new driver
- Older client PCs will not be able to view ePanels related to the new driver
- Some instrument view toolbar items such as 'Consumables' and 'Troubleshooting' may be disabled (or have fewer sub-options) on the older client.
- Older client PCs will not be able to perform manual tuning or do real-time scanning for remote mass spectrometers

Additional restrictions may also apply. If you have any questions or concerns, please contact your local Chromeleon support channel.

## 7 Appendix

This chapter contains general information about Service Releases, Release Notes, Online Help, and Contributed Content.

### 7.1 Release Notes

The Release Notes list the new features and improvements of the current release. Included in these Release Notes are all of the functionality and bug fixes from Chromeleon 7.2 SR5 MUa and Chromeleon 7.2 SR5 MUb. For details about Chromeleon 7.2 SR5 and other previous releases, refer to the relevant release notes which can be found on the Chromeleon 7.2.7 DVD.

### 7.2 Online Help

In general, new features, updates and drivers that are introduced with this release are described in an updated Online Help that is distributed with the release.

### 7.3 Contributed Content

The Chromeleon 7 disk contains a folder titled Contributed Content. This folder contains:

- Demonstration Material
- Localized Documents
- Localized ePanels
- Localized Report Templates
- eWorkflow Templates
- User Management Example
- Charlie Mouse Pointer

**Note:** The files in the Contributed Content folder have not been tested and validated according to Thermo Fisher Scientific Software Development Cycle guidelines modeled after ISO 9001:2008 standards. Thermo Fisher Scientific assumes no responsibility for any errors that may appear in the content provided in the Contributed Content folder.

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