Glossary

Chromeleon 7.2

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1 Chromeleon Glossary

The following terms and abbreviations are used throughout the Chromeleon™ 7 documentation. Some terms are Chromeleon-specific. Others are general terms, but in Chromeleon, they have (in addition) a special meaning.

Some words are formatted in special ways. This is what the formatting means:
• Underlined terms are explained in the Glossary.
• [If different, the corresponding (or related) Chromeleon 6 term is given in brackets with italics.]
• Italics at other places are used to add emphasis.

The terms are also color-coded according to the area where they are used:

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<td>Chromeleon objects and user interface elements</td>
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### 3D Data Acquisition License

**3D Data Acquisition License**: One of the Instrument Controller Licenses. Enables acquisition of 3D data from 3D-capable detectors, such as diode array detectors and certain fluorescence and electrochemical detectors.

### 3D Field

**3D Field**: A special type of Channel that contains multiple responses for each point in time; for example, the responses at multiple wavelengths of a diode-array UV-Vis detector.

### Administration Console

**Administration Console**: Chromeleon application that provides a central access point for all administrative tasks in Chromeleon, such as:
- managing users (see User Database), allocating licenses (see License Manager), scheduling events (see Scheduler) and defining Global Policies for the Chromeleon Domain, and for
- managing Data Vaults and configuring the Discovery Service on the local Chromeleon station.
[The Administration Console combines and extends functionality that was previously available via the User Manager, the License Server, the Online Transfer Agent, and other Chromeleon 6 utilities.]

### Assigned Devices

**Assigned Devices**: Sub-elements (Devices) of a Module can be specifically assigned to different Instruments. In this case, they are not available for use by other Instruments. For example, the two pump devices in a dual pump module can be assigned to two different Instruments. See also: Shared.
**Audit Trail:** A record of the events associated with an analysis. Chromeleon 7 generates Instrument Audit Trails, which document real-time events associated with instrument operation, and Data Audit Trails, which track creation and modification events associated with individual data objects. [The Data Audit Trail was called ‘History’ in Chromeleon 6.]

**Blank:** One of the available Injection Types, Blank represents an injection used to verify the solvent/eluent absorption (baseline). Blank “injections” can be made without an actual injection taking place. Blank chromatograms can be subtracted from all other chromatograms in the Sequence.

**Calibration Standard:** One of the available Injection Types; a sample with known concentration of components. Calibration Standards are used to construct a calibration curve in order to establish the relationship between the amounts of components in the sample and the corresponding detector responses. [‘Standard’ in Chromeleon 6.]

**Category Bars:** Selectors in the bottom left area of main Chromeleon windows; used to switch between the major categories in the Console (Instruments, Data, and eWorkflows) and the Studio (Injection List, Instrument Method, Data Processing, Report Designer, Electronic Report, and Spectral Library)

**Channel:** An individual data stream collected during a chromatographic run. Typically contains a series of values corresponding to the response of a detector over time, but could represent measurements of another parameter over time, such as temperature or pump pressure
**Check Standard**: One of the available Injection Types, Check Standard represents a sample with known component concentration(s) that is used to verify a calibration. ['Validation' in Chromeleon 6]

Chromeleon **Client**: The main Chromeleon application that provides the user interface for operating instruments and processing data. The Chromeleon Client consists of two main application window types that work together: the Chromeleon Console and the Chromatography Studio.

**Client Licenses**: A group of license options. On Chromeleon stations where the Chromeleon Console and Studio are used (the great majority of cases), the Data Client license must be present, at minimum. The other licenses in this group enable additional client features; see Instrument Operation, Report Designer Pro, Compliance Tools, Virtual Column Basic, and Virtual Column Complete.

**CM (7.x)**: Chromeleon™ (Release 7.x)

**Compliance Tools License**: One of the Client Licenses, the Compliance Tools License enables user access control, versioning, electronic signatures, and Data Audit Trails. ['GLP License' in Chromeleon 6]

**Component**: A substance whose quantity, presence, or absence is being determined in a sample undergoing analysis. ['Peak' in Chromeleon 6]

**Connecting** (instruments/modules): ‘Connecting’ has two different meanings: (a) Physically connecting instruments/modules to the PC; (b) Establishing communication between Chromeleon software components and the physically connected instruments/modules.
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<tr>
<th><strong>Chromeleon Console</strong>: One of the main Chromeleon (client) program windows. The console is used for navigation, data management, instrument access, and for working with eWorkflows. [The Console is somewhat similar to the ‘Browser’ in Chromeleon 6.]</th>
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<tr>
<td><strong>Data Client License</strong>: One of the Client Licenses, the Data Client License is the basic license that has to be present in order to use the Chromeleon Console and the Studio [‘Client License’ in Chromeleon 6]</td>
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<tr>
<td><strong>Data Vault</strong>: A secure container for storing Chromeleon chromatographic data (injection data, audit trail data, methods, reports, etc.). [‘Datasource’ in Chromeleon 6]</td>
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<tr>
<td>Chromeleon 7 <strong>Data Vault Service</strong>: Chromeleon software component that manages secure data transfer between the other Chromeleon software components and the file system.</td>
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<td><strong>Device</strong>: A functional sub-unit of a Module that can only be operated with the module. Some types of devices can be Assigned or Shared. Modules like the DGP-3600 have several devices: two pumps, several relays, etc.</td>
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<tr>
<td><strong>Direct Control</strong>: To take control of an instrument and send <em>ad hoc</em> commands to it. Instruments are most often controlled in a programmed manner via Sequences, using pre-defined Instrument Methods. However, direct interaction with the instrument is sometimes necessary, for example to start/stop the flow or to autozero a detector. Direct control is most conveniently accomplished via ePanels in Chromeleon. You can also monitor instruments using the ePanels.</td>
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**Chromeleon 7**

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<tr>
<th><strong>Discovery Service</strong>: Chromeleon software component that functions as a central repository for address information about the available Chromeleon resources (<strong>Instruments</strong>, <strong>Data Vaults</strong>, <strong>User Database</strong>, and Licensing). The corresponding <strong>Services</strong> send information about the resources to the Discovery Service, upon changes. All software components can request the information about the available resources from the Discovery Service, when they need it.</th>
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<th><strong>Dongle</strong>: See License Key under <strong>License</strong>.</th>
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<tr>
<th><strong>Driver</strong>: Chromeleon file or file set that provides support for a specific <strong>Instrument</strong> or <strong>Module</strong>; handles translation of generic commands into specific commands, handles messages and error conditions, etc</th>
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<th><strong>Electronic Report</strong>: A file that captures a “snapshot” of the results of a Sequence, using a specific <strong>Report Template</strong>. Electronic Reports can be signed electronically. [Similar to the ‘Signed off Result’ (SOR) in Chromeleon 6 with the difference that in Chromeleon 7 Electronic Reports are not necessarily signed.]</th>
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<th><strong>ePanel</strong>: A set of graphical elements that is used to control and monitor an Instrument. A typical ePanel contains buttons and switches for turning on and off instrument functions; status displays and indicators; and a real-time plot of the instrument’s data. [‘Panel’ in Chromeleon 6]</th>
</tr>
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</table>
**eWorkflow**: an electronic procedure for automating processes related to a chromatographic analysis. An eWorkflow contains a set of templates (e.g. *Instrument Methods*, *Processing Methods*, *Report Templates*) and a set of rules. The rules define, for example, the sequence layout (such as the maximum number of Unknown injections allowed between Calibration Standards), and the list of Instruments in the network that are suitable for the analysis. When you start an eWorkflow, it will create a sequence with predefined associated items and a well-defined structure.

**IC Control SE License**: a special *Instrument Controller License* for operating a single entry-level ion chromatograph.

**Injection**: Represents a single injection of a *Sample* to be analyzed in the chromatograph. Once the Injection has been analyzed, it may also refer to the acquired data, namely the *Channels*, *3D Fields* and *Sample Audit Trail*. ['*Sample*’ in Chromeleon 6]

**Instrument**: A chromatography instrument (LC, IC, or GC). An instrument typically consists of several *Modules* (e.g. pump, autosampler, and detector). The modules can be either physically separated or housed together in an integrated system. ['*Timebase*’ in Chromeleon 6]
**Instrument Class 1/2/3 License**: One of the Instrument Controller Licenses. On Chromeleon stations directly connected to instruments, this license must be present in addition to the Instrument Controller License.

**Class 1** enables controlling the specified number of Dionex instruments.

**Class 2** enables controlling the specified number of Third Party GCs, as well as all Class 1 instruments.

**Class 3** enables controlling the specified number of Third Party LCs, as well as all Class 1 and Class 2 instruments.

[‘Timebase Class’ in Chromeleon 6]

Chromeleon **Instrument Configuration Manager**: Chromeleon application that allows setting up and configuring Instruments. It can be started from the Services Manager. [‘Server Configuration’ in Chromeleon 6]

**Instrument Controller License**: One of the Instrument Controller Licenses. A basic license that must be present on Chromeleon stations directly connected to Instruments. It must be complemented with the appropriate number of Instrument Class 1/2/3 Licenses. [‘Server License’ in Chromeleon 6]

**Instrument Controller Licenses**: A group of licenses/options. On Chromeleon stations that are directly connected to instruments, the Instrument Controller service must be running. For this, the Instrument Controller and some Instrument Class 1/2/3 License options must be licensed, at a minimum. The other licenses in this group facilitate additional instrument control related features, see 3D Data Acquisition and IC Control SE. [‘Server Licenses’ in Chromeleon 6]
Chromeleon 7 **Instrument Controller Service**: Chromeleon software component that (in close cooperation with the Real Time Kernel service) manages instrument control and data acquisition. As a service, the Instrument Controller is mostly invisible; it handles the communication/data transfer between the visible software components of Chromeleon (the Console and the Instrument Configuration Manager), the connected Instruments, and the Data Vaults. ['Chromeleon Server' service in Chromeleon 6]

**Instrument Method**: A stored set of instructions for controlling an Instrument. Each Injection of a Sequence is processed using an Instrument Method; a Sequence can use one or more Instrument Methods. ['Program' or 'PGM' in Chromeleon 6]

**Instrument Operation License**: One of the Client Licenses; enables accessing a local or remote Instrument Controller for operating the Instruments connected to the Controller. ['Remote Control License' in Chromeleon 6]

**Interactive Charts**: A Pane in the Work Area of the Studio that displays graphic results on the screen. It is interactive and dynamically linked to other panes; for example, if you click on a data point in the chart, the corresponding peak/sample is selected/shown in the chromatogram pane, and any corresponding row is highlighted in the Interactive Results. If you make any modification in any other pane that affects results, such as a baseline modification, the Interactive Charts pane updates instantly. ['Trend Plot' in Chromeleon 6]
**Interactive Results**: A Pane in the **Work Area** of the **Studio** that displays tabulated results on the screen. It is interactive and dynamically linked to other panes. For example, if you double-click on a row in the Interactive Results, the corresponding peak is selected in the chromatogram, and any corresponding calibration point is highlighted in the calibration plot. If you make any modification in any other pane that affects results, such as a baseline modification, the Interactive Results pane updates instantly. [‘(on screen) Report’ in Chromeleon 6]

**License**: A Chromeleon 7 license has two components:
- A hardware component, i.e., a USB License Key (dongle),
- A License File that contains the license information.

To activate a valid license, the two components must match each other (they must have the same serial number) and both must be present at the same time.

**License Manager**: Node in the **Administration Console** for managing all Client and Instrument Controller Licenses.

**Chromeleon 7 License Service**: Chromeleon software component that manages the distribution of licenses. [‘License Server’ in Chromeleon 6]

**Matrix**: One of the available Injection Types. The sample matrix can influence the analysis results. A Matrix Injection can be used to compensate for this. The peak areas in the Matrix are subtracted from the corresponding peak areas in all the other Injections in the Sequence. The resulting areas are then used for further calculations; for example, for calibration.

**Module**: A functional part of a chromatography **Instrument**, e.g. a pump, an autosampler, or a detector.
**Monitor (instruments):** To observe the status of an Instrument, without affecting what it is doing (in contrast to Direct Control).

**Navigation Pane:** The area on the left side of the screen in which you can navigate through the objects related to the selected **Category;** such as a list of instruments for the Instruments category of the **Console,** or a list of Injections and Channels for the Data Processing category of the **Studio.** Note that when the Navigation Pane is collapsed, the **Category Bars** are collapsed to buttons.

**Pane:** A part of the Work Area (the right side of the **Studio** window) that shows a specific object type, such as a chromatogram or calibration curve. Panes can be displayed/hidden individually using the corresponding buttons in the ‘Panes’ group of the ‘Data Processing Home’ Ribbon tab or using **Presets.**

**Preset:** A predefined arrangement of **Panels.**

**Processing Method:** A set of parameters used to analyze raw chromatography data. A Processing Method typically includes signal processing settings, peak detection parameters, a defined set of components with peak identification parameters, and calibration settings. [‘Quantification Method’, ‘Method’, ‘QNT’ in Chromeleon 6]

**Injection Query:** A set of criteria used to search for Injections. A Query can be generated *ad hoc* and run immediately by specifying a set of criteria (such as characters found in the sample name, injection type, date range, and result characteristics). A Query can also be saved and re-run at any time, and the Query Results will then include any new data that match the criteria.
**Queue**: The list of **Sequences** that are waiting for analysis. ['Batch' in Chromeleon 6]

Chromeleon 7 **Real Time Kernel service**: Chromeleon software component that takes care of low-level, real-time communication with the connected **Instrument**. This service works in close cooperation with the **Instrument Controller Service**. ['Chromeleon Driver’ service in Chromeleon 6]

**Report Designer Pro License**: One of the **Client Licenses**, Report Designer Pro enables using custom spreadsheet formulas and general charts in Report Templates. ['Report Publisher’ License in Chromeleon 6]

**Report Template**: A spreadsheet-like file that defines how data is displayed, printed, or exported. A Report Template can also be used to generate an **Electronic Report**. ['Report Definition’, ‘RDF’ in Chromeleon 6]

**Sample**: A small quantity of material selected to represent a larger quantity of the material; specimen.

**Scheduler**: Node in the **Administration Console** for managing automated data transfer. [Similar to the ‘Online Transfer Agent’ in Chromeleon 6]

Chromeleon 7 **Scheduler Service**: Chromeleon software component that manages scheduled data transfer between Data Vaults; for example, for archiving purposes.

**Sequence**: A collection of **Injections** that will be or were analyzed in a sequential order. A Sequence also contains all the associated items that are necessary to run, process, and report the Injections.
<table>
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<tr>
<th><strong>Service</strong>: A software program that runs invisibly in the background without a direct user interface. Services can stay running even when the user logs off from the PC.</th>
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<tr>
<td>Chromeleon <strong>Services Manager</strong>: Chromeleon utility program that shows the state of Chromeleon Services, and allows the Instrument Controller Service to be started and stopped. The Services Manager normally appears minimized as the Chromeleon Tray Icon in the ‘Notification Area’ of the Windows Taskbar.</td>
</tr>
<tr>
<td><strong>Shared</strong>: This term is used when the control of a Module or a Device is passed back and forth between Instruments, or when one Instrument controls the device as Master and another Instrument uses the device but does not control it (operates as Slave). See also: Assigned.</td>
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<tr>
<td><strong>Spiked</strong>: One of the available Injection Types; Spiked represents an Unknown sample to be analyzed with the Standard Addition method, with known amounts of components added.</td>
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<tr>
<td><strong>Chromatography Studio</strong>: One of the main Chromeleon (client) program windows. The Studio is used for detailed viewing and editing of chromatography data. Studio windows are launched from the Chromeleon Console window, for example by double-clicking on Injections. [Similar to the ‘Chromeleon 6 Client’]</td>
</tr>
</tbody>
</table>
**Chromeleon Tray Icon**: A Chromeleon icon that appears next to the clock, in the ‘Notification Area’ (also called System Tray) of the Windows Taskbar. It is a minimized version of the **Services Manager**. It shows the status of the **Instrument Controller Service** and provides shortcuts for opening the Services Manager, for starting/stopping the **Instrument Controller Service**, and launching the **Instrument Configuration Manager**. [Similar to the Chromeleon 6 ‘Server Monitor’]

**Unknown**: One of the available Injection Types, Unknown represents a **sample** for which the quantity, presence, or absence of components are to be determined during the analysis.

**Unspiked**: One of the available Injection Types, Unspiked represents an **Unknown** sample to be analyzed with the **Standard Addition method**.

**User Database**: A node in the **Administration Console** that allows creating Chromeleon User accounts and **Access Groups** and defining **Roles** (profiles that define what certain users/groups are allowed to do).

**Chromeleon 7 User Management Service**: Chromeleon software component that provides information to the other software components about user management related information, such as access rights and privileges of the users.
**View Settings:** Stores default settings that control which details are shown in the Studio window, and how they are displayed. Examples of these settings include the set of enabled **Panes**, the columns that are shown in the **Interactive Result Tables**, the scaling of plots, font settings, and color settings. [In Chromeleon 6, settings like these were stored in ‘Report Definition Files’ (‘RDF’)]

**Virtual Column Basic License:** One of the **Client Licenses**, the Virtual Column Basic License enables the use of the Virtual Column Separation Simulator in isocratic mode. [‘Virtual Column – Isocratic License’ in Chromeleon 6]

**Virtual Column Complete License:** One of the **Client Licenses**, the Virtual Column Complete License enables the use of the Virtual Column Separation Simulator in isocratic and gradient mode. [‘Virtual Column – Linear Gradient License’ in Chromeleon 6]

**Work Area:** The large area on the right side of the **Console** and **Studio** windows. It shows the content of the item that was selected in the **Navigation Pane**, and allows you to work with that item.

**XVault™:** A special **Data Vault** that is located on the Instrument Controller and stores a cached copy of the running Sequence. The secure XVault infrastructure keeps instruments running and data accessible for processing during network outages. The XVault is hidden.
2 General Abbreviations

The following general abbreviations are used throughout the Chromeleon 7 documentation.

**ASE**: Accelerated Solvent Extraction

**GC**: Gas Chromatograph

**HPLC**: High-Performance Liquid Chromatograph(y)

**IC**: Ion Chromatograph(y)

**IQ**: Installation Qualification

**LAN**: Local Area Network

**LDAP**: Lightweight Directory Access Protocol

**n.a.**: Not Applicable

**OQ**: Operational Qualification

**PDF**: Portable Document Format

**PQ**: Performance Qualification

**SR**: Service Release

**UAC**: User Account Control of Windows Vista and Windows 7

**UHPLC**: Ultra High-Performance Liquid Chromatograph(y)

**USB**: Universal Serial Bus