CTC PAL Autosampler Control Software for EZChrom Elite™ CDS and Agilent OL Operating System for the Laboratory

Key Benefits

- EZChrom Elite and Agilent OL control the CTC PAL family of autosamplers.
- Complete software control of CombiPAL, GC-PAL, LC-PAL, and HTS_HTC PAL Autosamplers.
- Flexibly control the CTC Autosampler with any HPLC or GC instrument on software platforms ranging from a single EZChrom Elite workstation through EZChrom Elite Client/Server environments.
- CTC PAL controlled using industry standard RS-232 communications.
- Execution of custom cycles designed using CTC's Cycle Editor software.

Control CTC PAL Autosamplers

The CTC PAL family of Autosamplers have met widespread acceptance in HPLC and GC operations. Their versatile operation and flexible options allow them to be used in laboratories demanding high precision, low carryover, high throughput and expandability. Agilent Technologies now offers instrument control software for CTC PAL Autosamplers so that they can be used as the autosampler for HPLC or GC systems controlled by the EZChrom Elite CDS or Agilent OL Operating System for the Laboratory.

Autosampler Control Through a Uniform Software Interface

Regardless of the model of CTC PAL Autosampler and the associated HPLC or GC, the EZChrom Elite and Agilent OL software simplify laboratory operations by providing the same software interface for all LCs, GCs and associated autosamplers. Users can create software methods for each type of CTC PAL Autosampler, create sequences for multiple runs and specify data analysis treatments for all injections. A uniform software interface for all LCs, GCs, and Autosamplers makes it much easier and more efficient to train end users and validate laboratory systems.

Agilent Technologies

Configuration of the CTC PAL autosampler is simple with an "auto configuration" in EZChrom Elite so that the software automatically detects all of the trays and options installed on the CTC hardware. You simply supply the communication port and model and the software does the rest.

The CTC PAL Autosampler Control Software provides control for vial type, syringe size, loop size, plate type, autosampler temperature control (if this is provided) and external flush.

The CTC PAL Autosamplers communicate via RS232 so if used on EZChrom Elite Stand Alone systems, an available RS232 port is required. In a client/server environment or with the Agilent OL Operating System for the Laboratory, the RS-232 version of the Agilent Instrument Controller or the RS232 built-in port on the Agilent Instrument Controller is required.

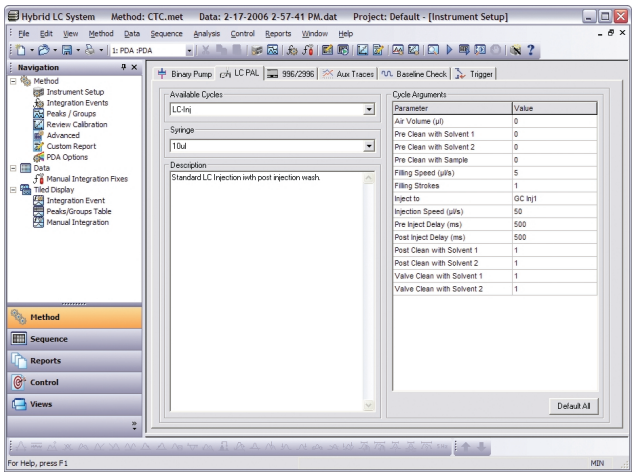


Figure 2. EZChrom Elite and Agilent OL software control provides a uniform interface for all CTC PAL Autosampler settings. All autosampler parameters can be easily specified for each injection cycle.

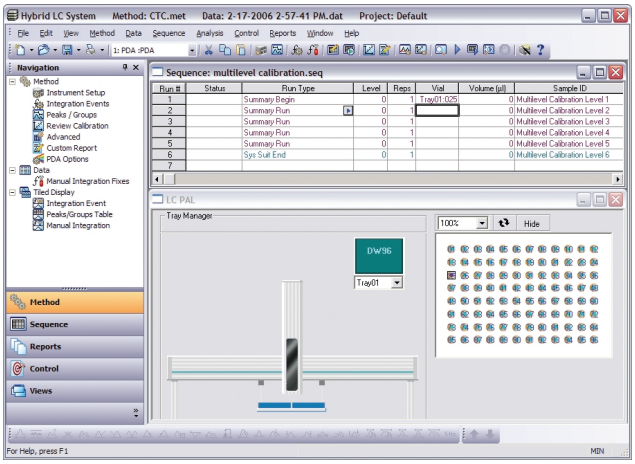
Apply Powerful Software to HPLC & GC Data

Both EZChrom Elite and Agilent OL are based on a multi-vendor support design so that both can provide instrument control for more than 300 different HPLC and GC instrument modules from over 25 different manufacturers. The PAL Autosampler Control Software extends the value to any chromatography lab by allowing this highly versatile autosampler to be integrated with a wide variety of LCs and GCs from various manufacturers such as Agilent, Shimadzu, Hitachi, PerkinElmer, Varian, and others.

EZChrom Elite is designed to handle a wide variety of chromatographic data ranging from routine runs to highly involved gradient programming. Capabilities include sophisticated baseline checks, multiple quantitation techniques, and a number of flexible report options. Each HPLC or GC run is stored with an embedded copy of the method, including instrument parameters and run conditions of the chromatograph and CTC PAL autosampler, so that users can easily trace and reproduce the exact instrument conditions used with any run. GLP/GMP operations may utilize the built-in security features, audit trails, and 21 CFR Part 11 features for electronic signature and signoff as well.

Graphical Tray User Interface Makes Operation Easy

The special graphical tray interface provides a visual representation of the installed trays for the CTC PAL autosampler. This makes it very easy for users to select locations for a sequence of injections and view the status during runs.



Make Your Automation Truly Intelligent with Smart Sequence

Agilent's exclusive SmartSequence technology adds a level of intelligence to the CTC PAL Autosampler operation. Users can setup their sequences with conditional logic based on the results of injections. These conditional instructions are handled by EZChrom Elite and Agilent OL to automatically control the autosampler or the instrument. For example, as runs are collected, a system suitability measurement can be performed on a peak of interest. In the event that the run fails system suitability, you can define rules that force the autosampler to reinject standards and re-calibrate, go to a different row in the sequence, or even shutdown the instrument.

Support for CTC PAL Custom Cycles

The EZChrom Elite and Agilent OL operation of the CTC PAL Autosampler support the standard CTC autosampler controls and settings for operation. It can, however, also support custom autosampler cycles developed through the separate CTC Cycle Editor software. In this way, custom cycles can be generated by knowledgeable users and made available for execution on an EZChrom Elite or Agilent OL controlled CTC autosampler.

Manage All Instrument Data with Agilent OL

The unique Agilent OL Operating System for the Laboratory provides powerful content management of all raw data and results from the controlled chromatographs. "Smart" electronic filters specific for the HPLC or GC results are used to extract key metadata from each run and store that information in a database. All results are automatically deposited in a safe, secure repository and made fully searchable. Users can readily find their data based on queries that not only specify criteria such as instrument, username and Sample ID, but even extend to detailed results such as component names and concentration ranges. Three different types of database searches are provided in Agilent OL to accommodate different situations and make it easy for users to find the results of their searches.

Agilent OL manages all the electronic information in the laboratory. In addition to all HPLC and GC raw data and results, Agilent OL can manage Microsoft Office files, e-mails, Adobe pdf files, chromatography data from EZChrom Elite and other CDS packages, mass spectrometry files, and much more. No other package offers this powerful capability to handle all electronic information and documents generated in the laboratory.

Conduct quick, focused searches across all your data to find hits from various HPLC and GC results, as well as Excel spreadsheets, Word documents, pdf reports, and more.

Furthermore, Agilent OL's management of the information makes it easier and safer to collaborate and share results with others with its powerful "check-in/check out" capabilities and electronic signoff capabilities.

Minimum Firmware Requirements

Model	Version
LC-PAL	2.4.0
GC-PAL	2.4.0
Combi-PAL	2.4.0
HTS_HTC-PAL	2.4.0

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