

## Thermo Electron LC Control Software for EZChrom Elite™ CDS and Agilent OL Operating System for the Laboratory

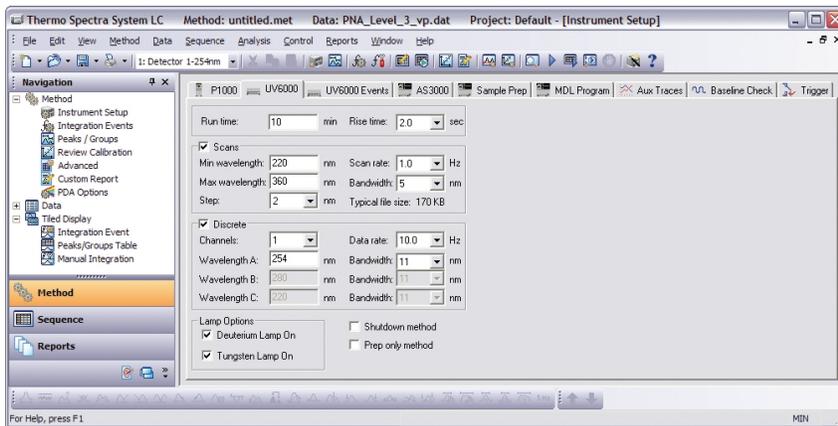


Figure 1. EZChrom Elite and Agilent OL control of the Thermo LC family includes full digital support for all components, include the PDA detector.

### Specifications

Control is included for the following modules. The Model SN4000 interface is required.

- Models P1000 (isocratic), P1500 (binary), P2000 (binary gradient) and P4000 (quaternary) Pumps.
- Models AS1000 and AS3000 including the Sample Prep option.
- Model UV6000LP Photodiode Array Detector.
- Models UV1000, UV2000 and the UV3000 Scanning UV detector.
- Models FL2000 and FL3000 Fluorescence detectors.

### Control Thermo Electron's SpectraSYSTEM LC

One of the world's most popular LC systems, Thermo Electron's SpectraSYSTEM™ LC, can be fully controlled through both the EZChrom Elite CDS and Agilent OL Operating System for the Laboratory. This allows the SpectraSYSTEM HPLC to be integrated into Agilent Technology's impressive library of more than 300 different supported instrument modules in EZChrom Elite and Agilent OL. The entire SpectraSYSTEM LC product line of pumps, autosamplers, UV detectors, Fluorescence detectors, and PDA detector can be controlled through this optional instrument control software.

### Intelligent Auto Configuration

Configuring a system has never been simpler. A special Autoconfiguration mode in EZChrom Elite or Agilent OL automatically identifies all SpectraSYSTEM connected modules and configures them to the software system without end user intervention. The configuration is then saved and the user subsequently develops methods appropriate to that specific configuration rather than for a generic HPLC or GC configuration.

## Easy Access to Status and Control

End users benefit from a convenient tabbed status dialog that provides detailed real-time status on a component-by-component basis. With parameter modification and run management only a few mouse clicks away, users have complete control of their system. For further assistance, EZChrom Elite's built in software Wizards make developing new sequences and methods a breeze.

## Superior Diode Array Data Handling

In addition to the standard 2 dimensional SpectraSYSTEM instrument control, an additional SpectraSYSTEM PDA Analysis and Control Software for EZChrom or Agilent OL supports the SpectraSYSTEM PDA detector. This additional software can fully control the PDA detector and provide PDA software analysis. It provides an unlimited number of acquisition and analysis channels. All data are saved in a single data file so any chromatograms or spectra can be recalled for review after analysis. With the complete data acquisition and powerful visualization capabilities in the software, even minor components are easily detected and reported.

## Complete Autosampler Control

The wide variety of autosampler controls for the SpectraSYSTEM are fully supported including heating and cooling options and Sample Preparation options. This enables a flexible treatment to be applied for all injections under the complete control of software.

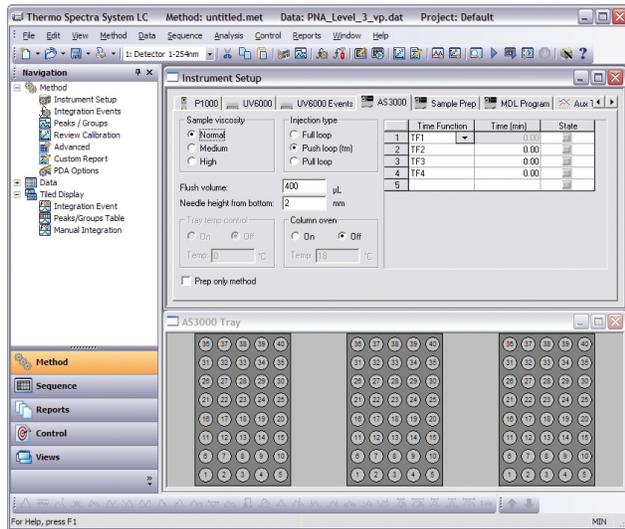


Figure 2. Tabbed instrument method setup screens and autosampler tray graphics make it easy to develop methods and sequences.

## Special EZChrom Single Instrument Version

A special EZChrom SI (single instrument) version for the SpectraSYSTEM HPLC is available for users who have only one Thermo SpectraSYSTEM LC and who require only basic EZChrom Elite features. This provides instrument control of the SpectraSYSTEM LC with a broad range of chromatography data handling capabilities at a very attractive price.

## Security and Regulatory Compliance

Agilent's security and compliance tools for EZChrom and Agilent OL allow users to address regulations such as FDA's 21 CFR 11 for electronic records and signatures. Audit trails are comprehensive, recording every event starting from file creation. Once electronically signed, data files cannot be reanalyzed or modified. All audit trails provide "who, what, when and why," and are CRC checksummed to prevent unwanted manipulation.

## Scalable and Flexible Deployment

EZChrom Elite and Agilent OL provide a wide range of flexible deployments. Whether your needs call for a single user workstation or a large client/server operation or the use of web clients across the enterprise, EZChrom *Elite* and Agilent OL can provide the ideal solution for collecting data and controlling the Thermo LC systems.

## Fully Protected Data Acquisition and Control

The unique data acquisition and instrument control architecture in EZChrom and Agilent OL make it possible to perform data collection even in the event the host computer network is down. The special Agilent Instrument Controller acts as a network appliance and can take control of each SpectraSYSTEM LC. The Agilent Instrument Controller can run injections, collect and protect the data completely. If the network is down, these injections will be securely stored in special flash RAM in each Agilent Instrument Controller.

The data storage in each Agilent Instrument Controller allows multiple injections from entire sequences (including injections based on different methods) to be safely stored and protected so your instrument runs can continue under such serious network problems.

Up to four(4) SpectraSYSTEM LCs (non PDA) can be connected to a single Agilent Instrument Controller and up to two (2) SpectraSYSTEM LCs with PDA can be connected to a single Agilent Instrument Controller.

## 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 Thermo LC systems. "Smart" electronic filters specific for the Thermo LC results are used to extract key metadata from each LC 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.

Agilent OL manages all the electronic information in the laboratory. In addition to all Thermo SpectraSYSTEM LC 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 Thermo SpectraSYSTEM HPLC 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.

## Hardware Requirements

SpectraSYSTEM LC control is by RS232 to the Thermo SN4000 interface. A serial port is required for the SN4000 interface. An additional serial port is required for the UV6000LP PDA and/or UV3000 scanning detector.

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Printed in U.S.A. November 3, 2006  
5989-4302EN

## Thermo SpectraSYSTEM Firmware Requirements

EZChrom Elite and Agilent OL control of the Thermo Electron SpectraSYSTEM HPLC and associated components requires the following firmware requirements.

System Controllers	Version
SN4000	9.05

Pumps	Version
P1000	4.01 or higher
P1500	4.02 or higher
P2000	4.03 or higher
P4000	4.04 or higher

Autosamplers	Version
AS1000	3.31 or higher
AS3000	3.31 or higher*
AS3500	3.31 or higher
AS2000	3.13 or higher
HS2000	3.1a7 or higher

\* Note: Autoconfiguration feature only works on version 3.41 or higher

Detectors	Version
UV1000	3.09 or higher
UV2000	3.12 or higher
UV3000	all revs
FL2000	3.11 or higher
FL3000	3.11 or higher
UV6000	RAM 1.4