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Introduction

EZReporter Overview

Diablo’s EZReporter 4.0 software is a flexible, advanced, post-run analysis and reporting solution for any instrument that can be controlled by a supported chromatography data system.

There are different Editions of EZReporter that can be licensed depending on your needs, starting with the Standard Edition, which includes the base feature set that is available with all other editions. See “Licensing” on page 7 for a complete list of software editions and the modules that are included in each.
Standard Edition

The Standard Edition can process calibrated peak results automatically from any supported chromatography data system. It allows for flexible reporting and exporting, parameter alarms, and history/trend plotting among other capabilities.

- **Multi-Channel Reporting**: Results from multiple detector channels can be combined into a single report with both raw and normalized amounts (normalized across all channels) displayed.

- **Custom Calculations**: You can create custom formulas using GC component results and other results. The results of the custom calculations can be displayed on the printed report, monitored, trend plotted, and exported to text files.

- **Easily Update the Component List**: The list of components to process and report is completely customizable. Components can be added to or deleted from the component list. Natural Gas Analysis/Liquids calculation constants can be loaded from standard data sources or entered manually.

- **Data Export**: Results can be exported to a text file for transfer to a Laboratory Information Management System (LIMS), Process Control System, or Microsoft Excel. The format of the text file can be customized easily using EZReporter’s flexible Export Templates.

- **Custom Sample Information**: You can create custom sample information fields to include in the printed report, exported results, and data files.

- **Monitor Important Results**: You can monitor important results and assign high/low visual alarms to notify you when those results exceed the limits.

- **Trend/History Plots**: You can create trend plots of important results to see how they change with time.

Optional Modules

In addition to the standard functions described in this manual, EZReporter has a number of additional optional modules that add enhanced functionality. Please refer to the reference manual for each module for information on how to configure and use that functionality.

**Natural Gas Analysis Module**

The EZReporter Natural Gas Analysis (NGA) Module is designed to perform standard Natural Gas and Refinery Gas Analysis heating value and related calculations. The results from these calculations are available for reporting, monitoring, trend plotting, and exporting.

**Natural Gas Liquids Module**

The EZReporter Natural Gas Liquids (NGL) Module is designed to perform standard Natural Gas Liquids extended analysis and reporting based on the GPA 2186-02 and GPA 2186-14 (and related) standards. The results from these calculations are available for reporting, monitoring, trend plotting, and exporting.

**Results Database Module**

The optional Results Database Module allows you to capture results and save them in a local SQLite database. Results in the database can be searched by sample name and date range and can be batch re-processed for printing, exporting or trend plotting.

**Modbus Module**

The EZReporter 4.0 Modbus Module is an optional module that adds Modbus TCP Slave functionality to any of the EZReporter 4.0 editions. Most numeric results that are calculated and reported in the edition of EZReporter you are running can be assigned to a Modbus register for a Modbus Master to read.
System Requirements

The Full .NET 4.0 Framework must be installed before trying to run EZReporter 4.0. The .NET Framework will be installed automatically, if necessary, when you install the software from the distribution CD or use the single-file installer. If you use the web-based installer the .NET 4.0 Framework will be downloaded automatically if necessary. You can also download and install the .NET 4.0 Framework from Microsoft using the following link:


Windows 10 Compatibility

EZReporter 4.0 has been tested under Windows 10, and no significant issues have been identified to date. However at this time many of the chromatography data systems used to control the Gas Chromatographs and provide raw component results to EZReporter are not yet compatible with Windows 10. It is important that you check with the vendor of your chromatography data system before attempting to upgrade to Windows 10.

Windows Screen Resolution

The software is designed to run best with the Windows screen resolution set to 100%. We have made our best effort to ensure the software will run correctly on higher resolution displays, but if you have the screen resolution set to "Medium" (125%) or "Larger" (150%) or any scaling factor > 100%, some of the controls and windows may not display optimally.

Windows 7: right-click the desktop and select “Screen Resolution” from the popup menu. Then choose the link, “Make text and other items larger or smaller”. Choose, “Smaller (100%)”.

Windows 10: Right-click the desktop and select “Display Settings” from the popup menu. Click the “Advanced Display Settings” option and then “Advanced sizing of text and other items”. Click the “Set a custom scaling level” link and then set “Scale to this percentage of normal size: 100%”.

Chromatography Data Systems

In order for EZReporter 4.0 to process results automatically from a particular chromatography data system, a “Connector Plugin” must be written for that data system. Please refer to the EZReporter release notes for the current list of supported data systems, or contact Diablo Analytical for more information.

EZReporter 3.0 Compatibility

EZReporter 4.0 was designed so that it can be installed on the same computer as an existing EZReporter 3.0 installation. The two programs can be run side-by-side. EZReporter 4.0 can open EZReporter 3.0 configuration and data files.

Note: you may need to make changes to the settings of the chromatography data system you are using in order to switch automatic processing back and forth between EZReporter 3.0 and 4.0. Refer to the documentation for the connector plug-in for your chromatography data system for more information.

EZReporter 3.0 Configuration Files

If you open an EZReporter 3.0 configuration file in EZReporter 4.0, it will be converted to the EZReporter 4.0 format and saved with the same name in the EZReporter 4.0 settings folder. You should review the results generated by the converted configuration file and confirm that reports and exported text files are correct for your application. The converted files should produce equivalent results, but depending on the program features used, there may be some additional editing required.

Known Compatibility Issues

The following are the known compatibility issues with converted EZReporter 3.0 configuration files.
1. **Export Templates**: If you use custom format strings for date/time export variables (InjectionTime, for example), you may have to change the format string. See “Export Template Format” on page 55.

2. **Export Templates**: Custom format strings for text export variables (SampleName, for example) are no longer supported. You can use the new fixed-length field export capability to achieve the same results. See “Export Template Format” on page 55.

---

**Installation**

EZReporter 4.0 is installed by running the setup program on the distribution flash drive/CD, or the installation program downloaded from our web site.

**Important**: You must be logged on with Administrator privileges when you install EZReporter (but you can run the software thereafter as a standard user)

There are two different versions of the EZReporter installation program that can be downloaded from our web site:

1. A web-based installer that should be used to update an existing installation of EZReporter 4.0 or to install the software on a computer that has Internet access. This version of the installer will download the required .NET 4.0 Framework files automatically over the Internet if required.

2. A single-file installer that should be used to install EZReporter on a computer with no access to the Internet. This version of the installer includes the full .NET 4.0 Framework and is consequently much larger in size.

**Data System Support**

Make sure you download the version of the installation program that includes the data system connectors for the manufacturer of the chromatography data system you will be using to control your gas chromatograph.

**Installation and System Directories**

In order to comply with Windows 7 security guidelines, the folders used to store the various EZReporter program, data, configuration, and support files have changed from those used for EZReporter 3.0.

**Note**: You can access and browse these folders using the “Tools > Browse EZReporter System Folders” menu option.

**Program Folder**: Contains the EZReporter program executable, required libraries and other read-only support files. The end user should not modify any files in this folder directly.

- `C:\Program Files (x86)\Diablo EZReporter 4.0`

**Default Files Folder**: Contains configuration template files (.CFGT), and example export and import templates.

- `C:\ProgramData\Diablo Analytical\EZReporter\Default Files`

**Settings Folder**: Contains the EZReporter configuration files (.CFG).

- `C:\Users\Public\Documents\Diablo EZReporter\Settings`

**Default Data Folder**: Contains EZReporter data files and is the default location for export text files.

- `C:\Users\Public\Documents\Diablo EZReporter\Data`

**ProgramData Folder**: Contains log files, and other support files that don’t need to be accessed directly by the end user.

- `C:\ProgramData\Diablo Analytical\EZReporter`

**Common Documents Folder**: this folder contains all of the files that the end user should have to access on a regular basis. It includes the “Settings” folder, the “Data” folder, the “Backup” folder, and the results database file.

- `C:\Users\Public\Documents\Diablo EZReporter`
EZReporter Manuals and Help

This reference manual describes EZReporter 4.0 functionality that is common to all editions of the software. Depending on the program edition and add-on modules you have purchased, you may also need to refer to additional manuals and help files included with the software in order to complete the setup and configuration of the software for your application.

Help files can be accessed from the “Help” option of the main program menu. There are also context sensitive “Help” buttons displayed on many of the program windows.

PDF versions of all manuals, including manuals for the installed connector plugins are located in the “Manuals” folder of the EZReporter installation folder and can be accessed easily via the “Help” menu (Help > View Software Manuals).

Note: Manuals and corresponding help files are identical in content.

All Editions:
Refer to the EZReporter 4.0 Reference Manual for information on configuring the standard program options.

Natural Gas Analysis (NGA) and Natural Gas Liquids (NGL) Modules:
Refer to the NGA and NGL Modules manual for information on configuring and generating natural gas analysis reports.

Results Database Module:
Refer to the Results Database Module manual for information on configuring and using the optional Results Database.

Modbus Module
Refer to the Modbus Module manual for information on configuring and using the optional Modbus Module.

Data System Connector:
Refer to the manual for the “Connector” plugin for your chromatography data system to set up EZReporter to process results automatically at the end of your GC run. Help files for specific connector plugins can be accessed either from the “Help” button on connector’s “Edit” window, or by right-clicking the corresponding instrument in the instrument table on the Sample Processing tab, and selecting the “Help” option.

Software Licensing and Activation

When you run EZReporter 4.0 for the first time, you will have a trial license that allows you to use and evaluate all of the program modules for up to 30 days. The program is fully-functional during the trial period. In order to continue using the software after the 30-day trial period, you must purchase a license for the desired program modules, and then activate the software.

Important: Once the software has been activated, only the modules that were included in the license you purchased will be available.

To activate your license, click the “Activate License” button on the License Status window that is displayed when you start the software or when you click the menu option, “Help > License Status…”.
When you purchase your software license, you will receive a 31-character Serial License Code (this is different than the shorter Serial Number). To activate the software, you must enter that License Code into the text box on the “Activate License” window. If you copy the Serial License Code to the Windows Clipboard from an email message, you can paste into the text box using the “Paste” button. Alternatively, if you received a text file containing the Serial License Code, you can load it using the “File Open” button.

**Note:** If you received a distribution flash drive, the text file containing your serial license code may be saved on the flash drive.
After entering the Serial License Code, click the “Apply” button. If your computer is connected to the Internet, the software will contact the License Server and automatically activate the software.

If your computer is not connected to the Internet, or if there is a problem contacting the License Server, then you will need to activate the software manually by clicking the “Manual” button and following the instructions.

After activating your license, EZReporter functionality will reflect the program modules that you licensed.

Refer to the EZReporter Software License Guide for more information about licensing and activation.

**Note:** An Internet connection is only required when applying an activation code or deactivating the software. No Internet connection is required during normal operation of the software.

### Licensing

The following tables list the different “Editions” of EZReporter 4.0 that can be licensed, and the modules that will be available for each of those editions. New in EZReporter 4.0 is a Data Analysis Edition. The Natural Gas Liquids (NGL) functionality is now located in a separate module than the Natural Gas Analysis module and requires a separate license.

<table>
<thead>
<tr>
<th>Software Edition</th>
<th>Modules</th>
<th>Instruments*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard</td>
<td>NGA</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Standard</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Results Database</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Natural Gas Analysis</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Natural Gas Liquids</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NGA RDB</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NGL RDB</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

*Contact Diablo Analytical for information on multi-instrument licenses.

### EZReporter 3.0 Software Upgrades

Please contact Diablo Analytical to receive a quote to upgrade existing EZReporter 3.0 licenses to EZReporter 4.0. The price will depend on 1) the number of licenses, 2) the edition you are upgrading from and upgrading to, and 3) the number of instruments you want to license.

### Software Support

New EZReporter 4.0 licenses (including upgrades from EZReporter 3.0) include one year of software support. During the support period you will be able to install all upgrades of the EZReporter software (including major upgrades). Once your software support has expired, you will not be able to install any upgrades released after the date your support expired. However, you will be able to continue to use your existing version of the software – you just won’t be able to install any later upgrades until you renew support.

The date that your software support expires is displayed in the “License Details” section of the License Status window. When you are less than a month away from the expiration of your software support, a reminder will be displayed on the status bar at the bottom of the main EZReporter window. Support renewal will take effect from the end date of the expired/current subscription, regardless of when the renewal is purchased.

Please contact Diablo Analytical for more information on software support or to renew your support when it is expiring.
Technical Support

EZReporter 4.0 is developed and supported by Diablo Analytical, Inc.

Diablo Analytical, Inc.

5141 Lone Tree Way
Antioch, CA  94531
Phone: (925) 755-1005
Fax: (925) 755-1007

Electronic Mail

Use our dedicated support address for e-mail based technical support:
support@diabloanalytical.com

World Wide Web

Access online support resources on our web site:
http://www.diabloanalytical.com/support.htm
Getting Started

Quick Start Instructions
To get started with EZReporter 4.0 you will need to take the following steps:

1. Select a configuration template to create a new configuration file.
2. Review and edit the configuration
3. Configure an instrument for processing (skip if you are using the Data Analysis Edition of EZReporter 4.0)
4. Enable sample processing (skip if you are using the Data Analysis Edition of EZReporter 4.0)

Select a Configuration Template
When you start EZReporter 4.0 for the first time, you will be asked whether to create a new configuration file from a template or load an existing configuration file.

Create a new configuration file from template: Choose this option if you don’t have an existing configuration file you would like to use. You will be presented with the New Configuration File Wizard, which allows you to select the configuration template you want to use to create your new configuration file.

Load existing configuration: Choose this option if you have an existing configuration file you would like to use. It should be saved in the EZReporter “Settings” folder.

Create new configuration file from template
The New Configuration File Wizard, allows you to select the configuration template you want to use to create a new configuration file. Click the “Select Template Category” list box to view different sets of templates.
Note: If you are using the Standard Edition with no natural gas analysis calculations or reporting required, then choose the configuration template named, “STD Default.cfgt” which is displayed in either the “Common” or “Standard Edition” categories. You will need to add the components from your GC method/report to the component table in the configuration editor. See the EZReporter reference manual for more information.

Note: Configuration templates in the “Obsolete” categories are using physical properties or are based on calculations that have been superseded by newer versions of the pertinent standard methods.

After selecting the configuration template to use, click the “Next” button, and you will be prompted for a configuration file name, and the new configuration file will be saved and loaded.
Load an existing configuration file

If you choose to load an existing configuration file, you can select either an EZReporter 4.0 configuration file (.CFGX) or an EZReporter 3.0 configuration file (.CFG) by clicking the file types list box.

Note: if you choose an EZReporter 3.0 configuration file as the template, it will be converted automatically to an EZReporter 4.0 configuration file and saved in the EZReporter 4.0 settings folder. The original EZReporter 3.0 configuration file will not be modified.
Review and Edit the Configuration

Once you have loaded a configuration file, you can review and edit the configuration by clicking the “Edit Configuration” button on the main toolbar or by clicking the “Tools > Edit Configuration…” menu option.

To navigate the configuration editor, simply click the desired settings category at the bottom of the navigation bar, and then click the desired settings from the list that is displayed for that category.

**Important:** In order for EZReporter to identify the component results from the chromatography data system correctly, the component names in the EZReporter component table must match the spelling of the corresponding component name.
from the GC results exactly (differences in capitalization are ignored). See the EZReporter reference manual for more information.

**Configure Instrument for Processing**

After selecting and loading a configuration file, you must next configure EZReporter to process results from your chromatography data system.

**Add an Instrument**

First, you must add and configure an instrument. Switch to the “Sample Processing” tab of the main window, and click the “Add” button below the instruments table.

**Select the Data System Connector**

In order to process results from your chromatography data system, you must select the Data System Connector for the data system you are using, and then “Edit” the connector to select and apply any connector-specific settings.

Please refer to the reference manual or help file for the particular Data System Connector you are using.

**Important**: The data system connectors available for you to select will depend on which version of the installation program you used to install the EZReporter 4.0 software. Make sure that you download the installer that includes support for the chromatography data system you are using to control your gas chromatograph.
Enable Sample Processing

After configuring the instrument, you are ready to begin monitoring the instrument and processing results. Check the “Monitor Instruments” checkbox to begin monitoring the instrument for results and processing results automatically as soon as they are received from the connector.
Start Instrument Monitoring Automatically

If you want EZReporter to begin monitoring for results from all configured instruments automatically after starting up, click the “Configure” button in the Processing Control panel:

In the “Configure Processing” window, check “Automatically Start Instrument Monitoring”, and “Save”:

Processing Results

With both “Monitor Instruments” and “Process Results” checked, EZReporter will process any results that have been added to the sample log table as they are submitted by the data system connector. Processing is performed in the order added, and the table is checked for new samples on the sample processing interval specified in the Processing Control Settings.
Menus and Toolbars

Main Toolbar

The EZReporter toolbar provides quick access to the most commonly used program functions.

Open Data File
This button prompts you to select an EZReporter 3.0 or 4.0 data file and then processes it using the configuration file you choose (current, original, or embedded).

Reprocess
This button allows you to reprocess the current report.

Print Report
This button will send the current report to the printer.

Save Report
This button will save the current report to either an Adobe Acrobat PDF file or a Rich Text Format (RTF) file.

Export
This button will export the current results to a text file using the export template and other settings in the current configuration file.

Load Configuration
This button will prompt you to select an EZReporter 3.0 or 4.0 configuration file and will load that file.

Edit Configuration
This button opens the configuration editor to edit the current configuration file.

File Menu

File | Tools | Help
---|---|---
New Data File... |  |  
Open Data File... |  |  
Save Data File As... |  |  
Display Raw Results... |  |  
Reprocess Results... |  |  
New Configuration File... |  |  
Load Configuration... |  |  
Export Results |  |  
Print |  |  
Exit |  |  

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New Data File
Select this option to create a new data file and manually enter component amounts and sample information.

Open Data File
This option prompts you to select an EZReporter 3.0 or 4.0 data file and then processes it using the configuration file you choose (current, original, or embedded). This option is the same as the Open Data File toolbar button.

Save Data File As
Select this option to save the current data and results to an EZReporter data file.

Display Raw Results
This option displays the current raw results including the sample information, original “raw” peak results, any sample information tags, and any processing log provided by the data system connector. You can reprocess results from this window and use the original configuration file, the currently loaded configuration file, or the original configuration file if it is embedded in the data file. See “Reviewing and Reprocessing Raw Results” on page 81 for more information.

Reprocess Results
This option allows you to update sample information and component results and then reprocess results. The “Manual Data Entry” window will be displayed allowing the Sample Information and Component Amounts to be edited before processing.

Note: if the current results were acquired from a data system connector you will not be allowed to modify the component results unless the component was configured for manual entry.

Auto-report: If this checkbox is checked, all reporting options specified in the configuration will be performed. If it is unchecked the calculations will be performed, and the main UI will be updated, but you will have to manually print the report, save the report to a PDF file, and export results to a text file. See “Report Control” on page 64 for more information on automatic reporting.

New Configuration File
This menu option will display the New Configuration File Wizard, which allows you to choose the configuration template you want to use to create a new configuration file. Once you have created a new configuration file from the template you can edit the configuration to customize it.
Load Configuration File

This option will prompt you to select an EZReporter 3.0 or 4.0 configuration file and will load that file. This option is the same as the Load Configuration toolbar button.

Export Results

This button will export the current results to a text file using the export template and other settings in the current configuration file. This option is the same as the Export toolbar button.

Print

The “Print > Report” menu option allows you to send the report to either the printer (Print > Report > Send to Printer) or save it to an Adobe PDF file (Print > Report > “Save as PDF”). These options are the same as the Print Report and Save Report toolbar buttons.

Exit

This option immediately closes the software.

Tools Menu

Edit Configuration

This option opens the configuration editor to edit the current configuration file. This option is the same as the Edit Configuration toolbar button.

Enable Debug Logging

To enable debug logging, click this menu option. Debug logging should only be enabled to troubleshoot specific problems with the software, and should be disabled when troubleshooting has been completed. You can view the current log file in Windows Notepad by clicking the “View Current Log File” menu option.

View Current Log File

Displays the current log file in Windows Notepad. This option is typically used when you have enabled debug logging for troubleshooting purposes.

Configure Password Protection

This option allows you to configure password protection of the configuration editor, instrument settings, and Modbus settings. Once password protection has been enabled, you will need to enter an administrator password to access the resources you have selected for protection.
After enabling password protection, you will be prompted to enter the administrator password the next time you try to access one of the protected resources:

Note: once you have entered the administrator password, “ADMINISTRATOR” will be displayed in the status bar at the bottom of the main EZReporter window:

While logged in as an administrator, you will not need to re-enter the password to access the protected resources. To log out of administrator mode, you can either close and restart EZReporter, or click “Tools > Log out Administrator”:

### Browse EZReporter System Folders

This menu option provides access to a number of sub-menus that allow you to browse the various EZReporter system folders. See “Installation and System Directories” under “Installation” on page 4 for more information about the system folders.

### Backup EZReporter Configuration

This option backs up the current EZReporter configuration and log files into a single “Zip” archive file and optionally allows you to copy the file to a flash drive or other backup location. The file is named, ‘ezreporter.backup.yyyymmdd-hhmmss.zip’, where ‘yyyymmdd’ is the current year month and day, and ‘hhmmss’ is the current hour, minute, and second of the day.
Help Menu

View Help
This option opens the EZReporter help file and displays the contents. Additional options may be displayed depending on which modules are active.

View Software Manuals
This option opens the folder containing the EZReporter manuals in PDF format.

View Release Notes
This option displays the EZReporter release notes/readme text file in Windows Notepad. This file contains information about the release of EZReporter that you are running including version/build information, a list of enhancements and fixes, and other information that may not be contained in the help file.

Open Support Web Page
This opens the EZReporter support page on the Diablo Analytical web site in the default browser:

http://www.diabloanalytical.com/products/software/ezreporter/#support

License Status
This option opens the EZReporter License Status window where you can activate your software license. See the EZReporter License Guide for more information.

Check for Software Update
If your computer has an active Internet connection, you can use this option to check if there are any updates to EZReporter available. If an update is available, then the following window will be displayed:
Click the “Display Update Readme File” link to download and display the “readme” file in Windows Notepad to see what changes have been made to the software. If you decide to update the software, click the “Update” button.

**Important**: EZReporter will be closed automatically in order to install the update. Make sure you are finished processing your current results before updating.

In order to install the update, you will need to be logged in as an administrator. If so, the software updater will be displayed allowing you to download and install the update. Follow the instructions provided by the installer.

**About EZReporter 4.0**

Displays information about EZReporter including the current product and build version.
The Sample Results tab contains the reported results divided into four tables: Sample Information, Component Results, Results Summary, and Errors and Warnings. The content of each of these tables is described below. To customize the results that are displayed in each table, see “Reported Results” on page 70. The results that are displayed in these tables are used to create the printed report. See the example report below.

**Sample Information**

This section of the Sample Results contains the sample information: sample name, injection date, data file name, etc.

**Component Results**

This section of the Sample Results contains the component results

**Results Summary**
This section of the Sample Results contains the summary/total results.

**Errors and Warnings**

This section of the Sample Results contains any errors or warnings that were generated by the data system connector or during processing of the results. You can choose whether or not to include the errors and warnings in the printed report.

**Example Printed Report**

The printed report contains the same results displayed in the Sample Results tables:

![Example Printed Report](image)

---

**Parameter Monitor Window**

This window shows the Parameter “Monitor” tab that displays the results from the last analysis for any monitored parameters. High and low alarm limits can be set up for each monitored parameter.
Floating Parameter Window

You can display a “floating” parameter window that exactly mirrors the parameter table as it is displayed on the "Parameter Monitor" tab of the main UI. This allows the parameter table to be displayed on a separate monitor or large LCD panel. To enable/display the floating window, right click the main parameter table to display a pop-up menu, and click the "Display Floating Parameter Window" option. To disable/hide the floating window, click the same menu option again. The location and window state (maximized, normal, minimized) of the floating window will be saved and restored when you exit and restart EZReporter.

Parameter History

This window shows the parameter history tab that can be enabled to plot the historical values of any of the monitored parameters.

If you have enabled History Plots for any of the monitored parameters, then “Parameter” and “History” tabs will be displayed on the left side of the Parameter Monitor tab. You switch back and forth between the history plot and the parameter table using these tabs.
**Reset**

Clears the current history data.

**Zoom Full**

Zooms the history plot so that all of the selected data can be viewed.

**Options**

The Parameter History Options window allows you to modify some of the history plot display settings during a run. Any changes you make to these settings will be written to the configuration file so that they are used the next time a sample is processed. See the “Setting Parameter Options” discussion under “Monitored Parameters” on page 43 for more information on these settings.
Copy
Copies the current history plot as an image to the Windows clipboard.

Print
Prints the current trend plot and statistical summary table to the printer.

Export
Exports the current history data to a comma-delimited text file.
Configuration Editor

Configuration Editor Overview

All of the settings that are used to define the calculations, customize the report format, and determine what actions are performed when processing results are defined within the configuration file. The configuration editor is used to modify those settings. The configuration editor can be opened either by clicking the “Edit Configuration” toolbar button or the “Tools > Edit Configuration…” menu option.

The configuration editor uses a navigation bar located on the left side of the window to choose the settings to edit. The navigation bar is divided into several groups, “General Settings”, “Report Settings”, and if you have one of the optional modules activated you will also see “Natural Gas Analysis” or “Results Database”. Click on the button at the bottom of the navigation bar to select the options for that particular group of settings, and then click on the desired option in the list to display the settings you want to edit. Once you are done editing the settings make sure to click the “Save” or “Save As” button to save your changes.

See Also:

* Configuration Files
* General Settings
**Configuration Files**

EZReporter 4.0 configuration files are XML files with either a “.CFGX” file extension (configuration files) or a “.CFGT” file extension (configuration template files). Configuration template files are used to create new configuration files with the “New Configuration File Wizard”. A number of default configuration template files are installed with the software.

Configuration files are stored in the folder,

```
C:\Users\Public\Documents\Diablo EZReporter\Settings
```

**Configuration Template Files**

Configuration template files are stored separately from the configuration files in the folder,

```
C:\ProgramData\Diablo Analytical\EZReporter\Default Files
```

Whenever the EZReporter software is installed or upgraded, the default template files will be updated to be compatible with the version of EZReporter being installed. However, configuration files created from the template files are not overwritten or modified during installation as could be the case with EZReporter 3.0.

**EZReporter 3.0 Configuration Files**

EZReporter 4.0 can load EZReporter 3.0 (.CFG) configuration files. The .CFG file will be converted automatically to an EZReporter 4.0 .CFGX file and saved in the EZReporter 4.0 Settings folder. The original EZReporter 3.0 .CFG file is not modified in any way.

To load an EZReporter 3.0 configuration file, click the “Files > Load Configuration…” menu option, and then select “EZReporter 3.0 Files (*.cfg)” in the file types list box. Then, browse to the folder containing your EZReporter 3.0 data files (usually C:\Program Files (x86)\Diablo EZReporter\Settings).
General Settings

The General Settings contains the configuration settings for functionality that applies to all editions of EZReporter. Click the “General Settings” button at the bottom of the navigation bar on the left side of the configuration editor, and then choose the specific type of setting you want to edit from the list.
Component Settings

The component settings are used to manage the list of components that will be included in the calculations and report.

Component Name

The component names entered in the components table will be displayed in the component summary tables and reports.
**Important:** If you are going to be processing data from a chromatography data system, then you must make sure that the names in the EZReporter component table match the names in the chromatography data system calibration/report exactly.

**Component ID**

The Component ID is a unique identifier that is assigned to a component when it is first added to the component table. The ID is used to identify the component in export template variables, calculated result formulas and other related functions.

**Component Type**

Indicates whether the specified component is a normal Peak Result, a Reporting Group, or a Calculated Component as described below.

**Peak Result:** This is the normal component whose raw amount is provided by the chromatography data system.

**Reporting Group:** A reporting group is comprised of multiple Peak Result components. The reporting group is only displayed in the component table on the main sample report and is intended to simplify reports containing a large number of components by grouping them together. The component results displayed for the group in the component results table are the sum of the individual components that comprise the group. Only the component results displayed in the report are calculated and included in the reporting group. Reporting Groups can’t be used for any other purpose. To edit the components in the reporting group, click the [...] button that is displayed on the right edge of the “Component Type” cell in the component table and then check the individual components to include in the group. You have the option to exclude the components in included in the group from the report.
**Calculated Component:** A Calculated Component is a component for which the raw amount is calculated from a formula rather than deriving from a standard peak/group result. The formula used to calculate the amount can include the raw amount, peak area, and user constant from other components or numeric sample information fields. To edit the calculated component formula, click the [...] button that is displayed on the right edge of the “Component Type” cell in the component table and then enter the formula.

![Component Settings](image)

**Manual Amount Entry**

Check this box if you are using the software to generate reports automatically from a chromatography data system, and you need to be able to enter the specified component mole percent based on the results of a separate analysis.

When results from the data system are processed, a “**Manual Data Entry**” window will be displayed, allowing you to enter the component's un-normalized amount, which will then be included in subsequent calculations.
Exclude From Report

If this checkbox is checked, the specified component isn't displayed in the component results table in the main sample report. However, it is included in normalization and calculations.

Exclude From Calculations

If this checkbox is checked, the specified component is not included in the normalization and subsequent NGA/NGL calculations. Only the peak retention time, peak area, and raw amount will have non-zero values.

User Tag

A user-defined text "Tag" associated with a particular component that can be displayed in the component table on the report or exported to text files.

User Constant

A user-defined numeric constant associated with a particular component that can be displayed in the report, exported to text files, used in calculated result formulas, or displayed as a monitored parameter.

Adding new components

Press the "Add" button to add a new row to the component table manually. Then, select the type of component you want to add (peak result, reporting group, or calculated component). The row will be added below the currently selected row. Enter the component name and calculation factors for the new component.
Deleting existing components

To delete components from the component list, select the rows containing the desired components and press the "Delete" button.

Important: When you delete the selected Components, any monitored parameters or other results that reference these Components will also be deleted. In addition, any calculated result formula or export template that includes variables referencing these Components will no longer generate valid results and will need to be edited.

Changing the component order

The order of the components in the component settings table is the order that they will be printed in the report. You can easily rearrange the component order by left-clicking the Component ID in the table and dragging it to the new position.

Clearing the table

Press the “Clear” button to delete all components from the component table.

Undoing changes to the component list

Press the “Undo” button to return the component list to the last saved configuration.

Component Table Context Menu

The following context menu will pop up when you right click with the cursor anywhere in the component table:

Add new component below: Clicking this option will result in a new blank line being added to the component table directly below the currently selected line.

Clone selected component below: Clicking this option will result in a new line being added to the component table directly below the currently selected line. All of the component physical property data and other settings will be copied from the selected component. The cloned component name will have a "*" appended to it as a reminder that you need to rename it (duplicate component names are not allowed).

Delete selected component: Clicking this option will delete all of the currently selected components.

Sample Information

The Sample Information Fields options allow you to enable and configure custom sample information fields that can be used to report additional conditions like well number, pressure, temperature, etc. They are simply a way for the user to
enter additional custom information during an analysis, and have that information printed on reports and saved in the data and export files.

Check the “Enable custom sample information fields” checkbox to enable the custom sample information fields. Press the “Add” button to add a new sample information field, or the “Delete” button to delete the field that is currently selected. The captions are displayed on the printed report, and when you are prompted to enter the associated custom sample information. You can also specify whether the field is numeric.

Default Value

A default value can be specified for each of the custom sample information fields. The default value will be displayed automatically when the Sample Information dialog box is displayed. However, if the “Recall” option is set and a previous value exists for the field, then the previous value will be displayed instead of the default value.

Select From a List of Items

You can specify a list of items to select from in a custom sample information field. Set the "Default" value in the sample information table of the configuration editor to the list of items separated by the "pipe" character (|). The list must start with "<" and end with ">". If you place a pipe character immediately after "<", then a combo box is used display the list, allowing the user to enter any text. For example, <Item 1|Item 2|Item 3>. Otherwise, a list box is displayed and the user can only select from the listed items. For example, <Item 1|Item 2|Item 3>.

When the “Manual Data Entry” form is displayed during sample processing and you click the sample information field, the list will be displayed:
Custom Instrument Sample Information Variables

Some of the EZReporter data system connectors will import additional sample “tags” from the results provided by the chromatography data system. These tags are not available from every data system and the available tags may change based on your data system method settings. However, if those sample tags are available, you can set the “default value” of a sample information field to a sample information variable to display the value of a sample tag.

The format of the sample information variable is: `{TagName}`

To see what sample tags are available from your data system, double click a result in the Sample Processing Log of the Sample Processing tab of the main EZReporter window. The Raw Results window will be displayed. Switch to the “Sample Tags” tab. Any available sample tags will be displayed in this window:

So the sample information variable you would use to display the “Processing method:” sample tag is:
The tag name must be entered exactly as it appears in the Sample Tags table.

Hint: You can select the desired Tag in the Sample Tags table and right-click to display a menu option to copy the selected Tag to the Windows Clipboard. You can then past the Tag into the Sample Information variable.

When the “Manual Data Entry” form is displayed during sample processing the value of the sample tag will be displayed:

---

**Numeric Sample Information Fields**

If a sample information field is numeric, special numeric formatting and scaling can be applied to the value in the export file.

**Recall Last Value**

Check the “Recall” check box if you would like the last value entered into this field to be recalled when the form is displayed.

**Report**

If the “Report” checkbox is checked, then the field will be displayed in the “Sample Information” section of the report. If it is unchecked, then the field will not be added to the report.

**Disable Prompt during Processing**

Check this option if the data system connector plugin you are using supports sample information variables and you don’t want to be prompted to enter sample information manually.

**Changing the order of Sample Information Fields**

The order of the fields in the sample information table is the order that they will be printed in the report and displayed in the sample information prompt. You can easily rearrange the field order by left-clicking the field ID in the table and dragging it to the new position.
Sample Information Rules

The Sample Information Rules allow certain raw sample information results reported by the instrument/connector to be replaced with alternate text based on a set of rules. You must first select the result you want to edit in the “Results” list:

Sample Information Mode

The default Sample Information mode is “Use original value from raw results”. When this option is selected, no change will be made to the value reported by the instrument connector for the selected result.

To create a set of rules for the selected result, you must select “Use rules to replace original value”, and then click the “Add” button to define a new rule.

Sample Information Replacement Rules

After adding a new rule, you must select the condition (Equals, Contains, Starts with, Ends With, and Is Like), and enter the Condition Text, and the Replacement Text to use if the rule is a match.
Result: You can base the rule on the Sample Name, User Name or Comments/Sample Info/Miscellaneous Info.

Condition: Rule conditions include, “Equals” (the result matches the condition text exactly), “Contains” (the result contains the condition text), “Starts With” (the result starts with the condition text), “Ends With” (the result ends with the condition text), and “Is Like” (use pattern matching):

The pattern-matching features allow you to match each character in the result against a specific character, a wildcard character, a character list, or a character range in the condition text. The following table shows the characters allowed in pattern and what they match.

<table>
<thead>
<tr>
<th>Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>Any single character</td>
</tr>
<tr>
<td>*</td>
<td>Zero or more characters</td>
</tr>
<tr>
<td>#</td>
<td>Any single digit (0–9)</td>
</tr>
</tbody>
</table>

Condition Text: The text string that is used for the comparison with the result.

Replacement Text: The text that will replace the value of the selected result if the rule is a match.

Notes:
1) The rules are not case sensitive, so “CAL” is treated the same as “Cal”.
2) You can define multiple rules for each result. The rules are processed in the listed order. The replacement text from the first rule that is a match will be applied to the result. To change the order of the rules, left-click the blank cell in the first column (to the left of the result name) for the desired rule, and drag it to a new location in the table.

3) The rules are only evaluated when processing raw results from the instrument through the Sample Processing Table. The rules are not applied when loading EZReporter data files or reprocessing from the Results Database.

4) You can use Sample Tags and some variables in the replacement text. For example, the variable {Now} will be replaced by the current data and time. You can generally use sample information variables that are derived directly from the raw results.

**Example Sample Information Replacement**

For example, for the rule shown above, if the Sample Name Equals "Cal" it will be replaced with "Calibration Sample" followed by the current date and time because of the {Now} variable.

Here is the Manual Data Entry Window with the replacement text displayed for the Sample Name:

![Manual Data Entry Window](image)

Similarly, the Sample Name result will contain the replacement text in the Sample Information table:

![Sample Information Table](image)

In addition, a “Warning” will be displayed in the “Errors and Warnings” table to notify you that the Sample Name result was replaced by rule:

![Errors and Warnings Table](image)
Calculated Results

Calculated results are based on custom formulas you enter using the “Formula Builder”. The Formula Builder allows you to select from a list of available result variables and supported arithmetic operators to build a custom formula that will be evaluated to a numeric value when processing results. The Calculated Result is then displayed in the Results Summary part of the report along with a descriptive caption that you also specify.

Calculated Results can also be used as Monitored Parameters for alarming and trend plotting and both the caption and value can be specified in an Export Template and exported to a text file.

### Calculated Results

<table>
<thead>
<tr>
<th>ID</th>
<th>Caption</th>
<th>Formula</th>
<th>Report</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>1001</td>
<td>Calc 1</td>
<td></td>
<td></td>
<td>0.0000</td>
</tr>
</tbody>
</table>

#### Adding Calculated Results to the Configuration and Report

To add a Calculated Result to the configuration and report:

1. Click the “Add” button.
2. In the new line that is added to the Calculated Results table, enter a caption that describes the result. This caption will be displayed along with the calculated value in the “Results Summary” section of the report.
3. Click the […] button that is visible when you click in the “Formula” cell to display the Calculated Result Formula Builder and create the custom formula.
4. Check the “Report” checkbox if you want this Calculated Result displayed in the report.
5. Enter the desired numeric format string for this result.

#### Creating a Custom Formula using the Formula Builder

You create a custom formula for a Calculated Result using the Formula Builder tool that is displayed by clicking the […] button when the cursor is in the Formula cell of the Calculated Results table.

Formulas consist of Result Variables and arithmetic Operators (+,-,*, etc.). Simply double click the desired Result Variable or Operator from the respective list and it will be inserted at the current cursor location in the “Current Formula” box.
If the Result Variable you have selected is a Component Result, you will also be prompted to select the desired component.

Once you have created the custom formula you can check that the syntax is valid by clicking the “Check Syntax” button. If the formula syntax is invalid, an error message will be displayed:
If the formula syntax is valid, the result of the calculation will be displayed. Note that the result of the calculation will be 0 unless there is a current report with actual results displayed in the main EZReporter Sample Result window in which case it will use the actual result values in the calculation.

![Valid Formula dialog box]

### Changing the order of Calculated Results

The order of the Calculated Results in the table is the order that they will be displayed and printed in the report. You can easily rearrange the order by left-clicking the ID in the table and dragging it to the new position.

### Monitored Parameters

The “Monitored Parameters” option allows you to configure a list of component or calculated results that will be displayed in the “Parameter Monitor” window of the main software screen. You can set both high and low alarm limits for these monitored parameters – if the parameter value exceeds either of these limits, the result will be displayed with a red background in the parameter table to alert you.

![Monitored Parameters dialog box]

**Options:** Clicking the “Option” button displays the Monitoring Options dialog box. See “Setting Parameter Options” on page 44.

**Add:** Clicking the “Add” button allows you to configure and add a new parameter to the monitored parameter table. See “Adding or Editing Parameters” on page 46.
**Edit:** Clicking the “Edit” button allows you to edit the options for the parameter that is currently selected the parameter table. You can also double-click the desired row in the table to edit a parameter’s options. See “Adding or Editing Parameters” on page 46.

**Delete:** Clicking the “Delete” button will remove the selected parameter from the parameter table.

**Clear:** Clicking the “Clear” button will clear the parameter table.

**Undo:** Clicking the “Undo” button will restore the parameter table to the last saved configuration.

**Help:** Clicking the “Help” button displays context-sensitive help for this topic.

**Changing the Display Order of Parameters**

To rearrange the order of the parameters in the parameter table, left-click the parameter number of the desired parameter in the first column of the table and drag it to a new location in the table.

**Clone Selected Parameter**

Right clicking on a parameter in the table displays a context menu that allows you to clone the properties of the selected parameter to a new parameter. This allows you to create a new parameter quickly using an existing parameter as a template.

**Automatically Add Remaining Components**

Right clicking on a component parameter table displays a context menu that allows you to add the remaining components in the configuration to the parameter table using the selected component parameter as the template.

**Setting Parameter Options**

Click the “Options” button to set additional options for Parameter Monitoring.

**Parameter Options**

The parameter options allow you to configure the displayed parameter table and also generate an optional parameter report.
Parameter Display

You can change the parameter display font by clicking the font button and choosing the desired font, style, and size.

Check the “Display alarm limits and status” option if you would like to include the actual upper and lower alarm limits in the parameter table along with the parameter name and value. This can be especially useful when using relative alarm limits so that you can see the actual calculated limits for each parameter.

Parameter Report

You can have a parameter report included with any EZReporter printed report by checking the “Print parameter report” option. The report can either be included immediately after the standard report, or you can specify to have it start on a new page. You can also include only parameters that have exceed an alarm limit and have “Failed” status.

History Options

The history options allow you to configure the trend/history plot for any parameters that have been enabled for plotting.
Enable Parameter History Plots:  Check this box to enable history plots for the monitored parameters.  Note that this option will be set automatically if history plots are enabled for any of the individual parameters.

X-Axis Data Source:  You can choose to plot the parameter values against a sequential data point/run number, the current time when the report/results are generated, or the injection date/time of the chromatographic run.

X-Axis Scroll Window:  The X-Axis will automatically zoom to this time (in minutes) or data point window.  When new results are received, older data points outside this window will no longer be visible.  However, the entire history plot can be displayed at any time by clicking the “Zoom Full” button, or double-clicking on the plot window.

Y-Axis Scaling:  You can choose to have the y-axis scale adjusted automatically so that the range includes only the data points that are visible in the current plot/window.  Alternatively, you can choose to have the y-axis scale adjusted so that it represents the full range of parameter values, including those outside the current plot/window.

Parameter Series Display Mode:  You can display each parameter history plot series either individually or with all series overlaid on the same axes.

Adding or Editing Parameters

Click the “Add” button to add a new parameter or the “Edit” button to edit the parameter currently selected in the parameter table (you can also double click the line in the table that you want to edit).  You can also clear the current table by pressing the “Clear” button, or undo any changes you have made to the table by pressing the “Undo” button.
**Parameter:** Select the parameter that you want to monitor from this list box. If you select a parameter that is derived from a component result (component amount, for example), then you will also need to specify the corresponding component from the component list box.

Note that if the NGA/NGL Module is active, the parameter list will include a number of different NGA-related result parameters. If the NGA module is not active, only chromatographic parameters like retention time, peak area, and amount will be listed.

**Component:** If you select a parameter that is derived from a component result (component amount, for example), then you will also need to specify the corresponding component from the component list box.

**Parameter Display Format:** You can set the numeric formatting for the displayed parameter value by entering a format string in this text box. Examples of common formatting strings are shown in the table below.

<table>
<thead>
<tr>
<th>Format String</th>
<th>Result</th>
</tr>
</thead>
</table>
| 0             | Will display all digits to the left of the decimal point and no digits to the right:  
The value 10000.2324 will be displayed as 10000  
The value 0.2324 will be displayed as 0 |
| 0.00          | Will display all digits to the left of the decimal point and two digits to the right of the decimal place:  
The value 232.4012 will be displayed as 232.40  
The value 232 will be displayed as 232.00 |
| 0.0###        | Will display all digits to the left of the decimal place, and from 1 to 4 digits to the right of the decimal place:  
The value 232.4012 will be displayed as 232.4012  
The value 232.4 will be displayed as 232.4 |
The value 232 will be displayed as 232.0

**Set Default:** If you click the “Default” button, the default formatting string for this type of parameter will be copied into the format text box for you.

**Display Name:** The text entered into the “Display Name” text box will be displayed for this parameter in the Monitor Table. You can click the [<] button to copy text from the parameter and component (if appropriate) list boxes into the text box.

**Enable History Plot for this parameter:** If you check this box, then the value of this monitored parameter will be plotted in the Parameter History display.

**Parameter Alarms**

You can enable both high and/or low parameter alarms by checking either one or both of these check boxes and selecting the desired alarm type/limit.

**Fixed Alarm Limits**

With the “Fixed alarm limits” alarm type you simply enter the upper and lower values for the alarm limits.

![Fixed Alarm Limits Diagram](image)

**Relative Alarm Limits**

With “Relative alarm limits” you must enter an alarm value and the limits are calculated relative to that value. You can specify whether you want the limits calculated as a percent relative to the Value (Value +/- %Limit of the Value) or use absolute limits (Value +/- Limit).
Sample History Alarm Limits

**Important**: This option is only available in trial mode or if your license includes the Results Database Module. In addition, the “GPA 2261” limit options will only be enabled if your license includes the Natural Gas Analysis Module.

Sample History Alarms Limits allow you to set alarms based on the historic average and standard deviation of samples stored in the Results Database.

The average (“Avg.”) and standard deviation (“Std. Dev.”) used to calculate the limits are determined by searching the results database for results with sample names matching the current result. By default, the search will use the filters from the Results Database Sample Processing “History” settings (see the Results Database reference manual for more information.)
However, you can also uncheck the default option and set specific history filters for this sample to limit the number of results returned by the search to the last ‘n’ results, or the last ‘n’ days, weeks, months, or years. You can further limit the results based on the Result Status.

The “GPA 2261” limit options compare the value of the current parameter with the historical average of the parameter using the GPA 2261 reproducibility and repeatability limits (see the NGA and NGL Module Reference for more information.)

**Text Alarms**

Text alarms are available when the chosen parameter is a non-numeric, text result like “Sample Name”. If you enable the Text Alarm, the alarm will be triggered when the parameter text matches the alarm condition defined by the “Alarm Text” and the “Alarm when” setting. The comparison is *not* case sensitive. You can also specify a reverse comparison (Not Equal, Does Not Contain, etc.).

![Text Alarm Control](image)

**Text Export**

The EZReporter software includes a flexible text export feature that allows you to create custom text files in almost any format you might need. An export template file defines the format of the export file.
Export Control

Export Options
Check “Enable automatic export of results” if you want the results from a chromatography data system to be exported automatically when the data is processed by the EZReporter software.

Check “Append results if export file exists” if you want the exported results to be appended to any results that already exist in the specified export file. If this option is unchecked, then existing results will be overwritten.

Check “Export null instead of 0 if component amount not measured” if you are required to export a component amount of 0 only if the amount was measured. EZReporter determines if a component has been measured if it is included in the results from the GC (even if the amount is 0), entered manually in the manual data entry window (even if the amount is 0), or is the result of a calculated result. If this option is enabled and the component amount hasn’t been measured, then a null (blank) is exported instead.

Automatic Processing Control
These settings define how results will be exported when processing results automatically.
Export all results: All results will be exported according to the export control settings and export template.

Export only results with no failed alarms: If alarms are enabled for any of the parameters in the Monitored Parameters table, then only results with no failed alarms will be exported.

Display confirmation window before exporting result: A confirmation window will be displayed allowing you to review the monitored parameters and alarms. Check the option, “Display only if there are failed alarms” and the confirmation window will only be displayed if there are one or more failed parameter alarms. Check the option, “Require comment to export result with failed alarm”, and the user must enter a result comment in order to accept the result and export. The result comment is available in the result variable, \{ResultComment\}.

Note: If the confirmation window option is selected for both Export Control and Results Database Processing, then it will not be shown for export unless there is additional information required that wasn’t collected by the results database window (specifically, the result comment).

Export Directory
Click the “Open” button to select the directory to which export files will be saved.

Export File
These options are used to specify the export text file name. You can choose to name the export file based on the name of the EZReporter data file (see the “Data Files” settings), or you can enter a “fixed” file name. If you choose the first option, the export file will have the same base file name as the data file.

You can also have the export file named based on the sample name. This allows results from replicate runs of the same sample to be added appended to the same export file even though the data file names are different.

Note: You can have a set of pre-defined result comments loaded automatically into the Result Comments list box by adding those comments to a file named, 

C:\Users\Public\Documents\Diablo EZReporter\ResultComments.dat.

If this file is found, each line of text present in the file will be added as a separate item in the list box.
Export File Extension: Enter the file extension to use for the export file into this text box field. The default extension if this field is left blank is “txt”.

Note: if you enter a fixed export file name that already includes a file extension, it will take precedence over the entry in the Export File Extension field.

Export Template

The Export Template defines the format of the text file that will be created when results are exported. The Export Template uses “Export Variables” to determine where to place results from the report in the text file. Export variables are special text strings contained between curly braces. Whenever the export engine encounters an export variable, the variable text is replaced by the actual value of the corresponding result. In the example below, the export variable, {SampleName}, is replaced by the actual sample name from the report. Any text that is not part of an Export Variable is copied to the text file without modification.

Note: EZReporter 4.0 Export Templates are saved as part of the configuration file. This is unlike EZReporter 3.0 where they were contained in separate export template files. This makes it easier to backup configurations and transfer them to other systems.

Load an Export Template

A default export template is loaded by default. You can either edit the default template directly, or load a template from a file by clicking the “Load” button.

Save an Export Template

If you want to save the current export template to disk in order to share it with someone else, click the “Save As” button.

Export Template Editing Menu

To edit an export template, place the cursor at the desired location in the template and right click to display the export template editing menu.
Insert Export Variable

To insert a variable into the template, select the type of variable (Sample Information, Component, Total/Summary, or Miscellaneous/Control) and then select the desired variable. The export variable that will be inserted into the template is displayed in the “Current Variable” panel.

Edit Selected Variable

If you place the cursor on a variable in the export template and select “Edit Selected Variable”, that variable will be displayed in the variable editor allowing you to modify or change the variable.
Convert Tab Characters and Variables

Tab characters are commonly used in export templates to create “tab-separated” or “tab-delimited” text files. Since tab characters are not visible in the template, you can instead use the \{Tab\} variable. You can use the corresponding export template editing menu options to convert back and forth between tab characters and tab variables.

**Note:** Tab characters and tab variables are treated exactly the same by the export engines, so you can use either interchangeably.

Convert Comma and Tab Delimiters

These options allow you to convert between tab or comma delimiter characters in the export template. Delimiter characters are used as “field separators” when the text file is imported into Excel, FlowCal, or other software.

Convert Variable IDs and Indexes

As of version 4.0.10, EZReporter uses a 4-digit ID code to identify components, calculated results, and sample information fields in the export template. Prior to this version, an index number was used. These options allow you to convert between variable indexes and IDs to help support older versions of the software.

Word Wrap

If you select this option the current template will toggle on or off word wrap display mode where long lines are wrapped so you don’t have to scroll the window. This setting has no impact on the exported text – it is for display purposes only.

Export Template Format

The export function will replace any "variables" it finds within the export template file with the current value of the variable. Variables are pre-defined names enclosed between braces: \{VariableName\}.

Any other text that is present in the template file will be exported "as is" unless it is part of a comment or other special template section.

```
{StartComment}
Any text present between \{StartComment\} and \{EndComment\} will not be saved to the export file. Comments can be used to annotate the template file.
{EndComment}
```

The lines between `StartHeader` and `EndHeader` will only be saved to a new export file. They will not be saved when new results are appended to an existing export file. This can be used to create a column header for a summary list of results from multiple runs, for example.

```
{StartHeader}
Date, Name, Ret. Time, Area, Mole%
{EndHeader}
```

"DecimalPlaces" is a special variable used to set the number of decimal places to include for calculated results (4 places in this example). It affects the results that are exported after its place in the template. Note that the default value is the number of decimal places specified in the Data Files configuration.

**Note:** It is generally best to change the number of decimal places to report using the option in the Data Files section of the EZReporter configuration editor rather than the “Decimal Places” variable.

```
{DecimalPlaces,4}
```
To create a comma-delimited export file, simply include commas between the fields you wish to separate. In addition, if you want quotation marks to enclose text fields, simply include them in the template as shown below.

"CurrentDate", "{Now}"  
"SampleName", "{SampleName}"  
"UserName", "{UserName}"  

To create a tab-delimited file, simply use the tab key on your keyboard, or include the special tab variable, "Tab", between the fields you wish to separate as shown below.

CurrentDate {Now}  
SampleName {SampleName}  
UserName {UserName}  

or

MethodName{Tab}{MethodName}  
SettingsFile{Tab}{SettingsFile}  
InjectionTime{Tab}{InjectionTime}  

You can use the special component loop to print the component-specific results (Name, Mole%, Area, etc.) for all of the components in the current configuration. The components are exported in the same order that they appear in the configuration editor.

{StartCompLoop}  
{CompName},{CompRT},{CompArea},{CompNormMolePct}  
{EndCompLoop}

You can exclude components from being exported in a component loop by placing one or more instances of the special variable {ExcludeCompFlag, Flag} on a line by itself before the component loop. The following flags are supported:

<table>
<thead>
<tr>
<th>Variable, Flag</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>{ExcludeCompFlag, RT}</td>
<td>Exclude the component if its retention time is 0</td>
</tr>
<tr>
<td>{ExcludeCompFlag, AMT}</td>
<td>Exclude the component if its raw amount is 0</td>
</tr>
<tr>
<td>{ExcludeCompFlag, AREA}</td>
<td>Exclude the component if its peak area is 0</td>
</tr>
<tr>
<td>{ExcludeCompFlag, REPORT}</td>
<td>Exclude the component if “Exclude from Report” is checked in the component configuration.</td>
</tr>
<tr>
<td>{ExcludeCompFlag, 1001}</td>
<td>Exclude the component with the specified component ID (shown as &quot;1001&quot; in this case – replace with the actual ID)</td>
</tr>
<tr>
<td>Variable</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><code>{ExcludeCompFlag, -1001}</code></td>
<td>Force the component with the specified component ID to be <strong>included</strong> in the component loop export regardless of whether it is excluded by other flags. Set the component ID to a negative value.</td>
</tr>
<tr>
<td><code>{ExcludeCompFlag}</code></td>
<td>Use the variable with no flag to reset all of previous flags to allow all components to be exported.</td>
</tr>
</tbody>
</table>

If instead, you want to export the results for a specific component, simply include the component ID in the variable as shown below. The Component IDs are displayed next to the Component Name in the component table.

```
Component 1 Name: {CompName,1001}
Component 1 Mole%: {CompNormMolePct,1001}
```

You can use the special line continuation variable, ",_", to force the next line in the template to be appended to the current line instead of in a new line:

```
{CompName,1},{_}
{CompName,2},{_}
{CompName,3}
```

Line continuation is most useful in instances where you want all of the results to appear in a single line. For example, you would use the line continuation in a component loop to create a summary export file in which each line corresponds to a single run.

```
{StartCompLoop}
{CompName},{CompRT},{CompArea},{CompNormMolePct},{_}
{EndCompLoop}
```

**Export Variable Format Strings and Scale Factors**

Optional formatting strings and scaling factors can be specified for export variables to increase flexibility. The export variable syntax is shown below:

```
{VariableName, [PARAMETER], [FORMAT], [SCALEFACTOR]}  
```

**VariableName**: The name of the variable.

**[PARAMETER]**: An optional parameter value that is required for some variables.

**[FORMAT]**: A special format string that instructs the export engine on how to format the variable value before writing it to the export file.

**[SCALEFACTOR]**: If the variable is numeric, it will be multiplied by the specified scaling factor prior to formatting and writing the result to the export file.

**Important Note for EZRe=porter 3.0 Export Templates**: If you are using an export template that was originally developed for EZRe=porter 3.0, and you use custom format strings in your template, you may need to modify those strings since some of the custom formatting characters have change between EZRe=porter 3.0 and EZRe=porter 4.0. In particular:
• The date format characters have changed for the month and minute. See the table below for the new date/time format strings.
• EZReporter 3.0 Text String Formatting is no longer supported. See “Fixed Format Length and Alignment” below for instructions on how to accomplish the same formatting in EZReporter 4.0.

The following table describes the special characters used to make up a format string.

<table>
<thead>
<tr>
<th>Format Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Numeric Formatting</strong></td>
<td>Digit placeholder. Display a digit or a zero. If the variable has a digit in the position where the 0 appears in the format string, display it; otherwise, display a zero in that position.</td>
</tr>
<tr>
<td>0</td>
<td>Digit placeholder. Display a digit or nothing. If the variable has a digit in the position where the # appears in the format string, display it; otherwise, display nothing in that position.</td>
</tr>
<tr>
<td>.</td>
<td>Decimal placeholder. The decimal placeholder determines how many digits are displayed to the left and right of the decimal separator. If the format expression contains only number signs to the left of this symbol, numbers smaller than 1 begin with a decimal separator. To display a leading zero displayed with fractional numbers, use 0 as the first digit placeholder to the left of the decimal separator.</td>
</tr>
<tr>
<td><strong>Date Formatting</strong></td>
<td>Display the day as a number without a leading zero (1 – 31).</td>
</tr>
<tr>
<td>d</td>
<td>Display the day as a number with a leading zero (01 – 31).</td>
</tr>
<tr>
<td>dd</td>
<td>The abbreviated name of the day of the week (Mon – Sun).</td>
</tr>
<tr>
<td>dddd</td>
<td>The full name of the day of the week (Monday – Sunday).</td>
</tr>
<tr>
<td>M</td>
<td>Display the month as a number without a leading zero (1 – 12).</td>
</tr>
<tr>
<td>MM</td>
<td>Display the month as a number with a leading zero (01 – 12).</td>
</tr>
<tr>
<td>MMM</td>
<td>The abbreviated name of the month (Jan – Dec).</td>
</tr>
<tr>
<td>MMMM</td>
<td>The full name of the month (January – December).</td>
</tr>
<tr>
<td>yy</td>
<td>Display the year as a 2-digit number (00 – 99).</td>
</tr>
<tr>
<td>yyyy</td>
<td>Display the year as a 4-digit number (100 – 9999).</td>
</tr>
<tr>
<td><strong>Time Formatting</strong></td>
<td>The hour, using a 12-hour clock from 1 to 12.</td>
</tr>
<tr>
<td>h</td>
<td>The hour, using a 12-hour clock from 01 to 12.</td>
</tr>
<tr>
<td>H</td>
<td>The hour, using a 24-hour clock from 0 to 23.</td>
</tr>
<tr>
<td>HH</td>
<td>The hour, using a 24-hour clock from 00 to 23.</td>
</tr>
<tr>
<td>m</td>
<td>The minute, from 0 through 59.</td>
</tr>
<tr>
<td>mm</td>
<td>The minute, from 00 through 59.</td>
</tr>
<tr>
<td>s</td>
<td>The second, from 0 through 59.</td>
</tr>
<tr>
<td>ss</td>
<td>The second, from 00 through 59.</td>
</tr>
<tr>
<td>tt</td>
<td>The AM/PM designator.</td>
</tr>
</tbody>
</table>

**Fixed Format Length and Alignment**
You can create fixed length numeric export fields by adding an alignment prefix to the format string:

Length!Format
For Example: \textbf{10!0.000} would format the number to three decimal places and pad the result with spaces so that it occupies 10 characters in the text file.

For fixed length text export fields, simply specify the alignment prefix as the format string:

\textbf{Length!}

For Example: \textbf{10!} would export the text field so that it occupies 10 characters in the text file.

Additional Notes:

- For right-justified text, the alignment length should be positive (10!).
- For left-justified text the alignment length should be negative (-10!).
- If the alignment length is less than the length of the text, the text will be truncated to the specified alignment length. The text will be truncated from the end of the string if you use either the “!” or “>!” alignment operator. If you want to truncate the text from the start of the string, use the “<!” alignment operator instead (10<).

The following table shows a few examples of format and alignment strings and scaling factors.

<table>
<thead>
<tr>
<th>Variable Value</th>
<th>Variable</th>
<th>Value Exported</th>
</tr>
</thead>
<tbody>
<tr>
<td>{CompRawMolePct,1001,0.000}</td>
<td>1.523446</td>
<td>1.523</td>
</tr>
<tr>
<td>{CompRawMolePct,1001,0.000}</td>
<td>85.67234</td>
<td>85.672</td>
</tr>
<tr>
<td>{CompRawMolePct,1001,00000,1000}</td>
<td>85.67234</td>
<td>85672</td>
</tr>
<tr>
<td>{CompArea,1002,0000000}</td>
<td>1234</td>
<td>0001234</td>
</tr>
<tr>
<td>{InjectionTime}</td>
<td>10/12/2004 1:08:13 PM</td>
<td>10/12/2004 1:08:13 PM</td>
</tr>
<tr>
<td>{InjectionTime,MMddyyyy}</td>
<td>10/12/2004 1:08:13 PM</td>
<td>10122004</td>
</tr>
<tr>
<td>{InjectionTime,HHmm}</td>
<td>10/12/2004 1:08:13 PM</td>
<td>2013</td>
</tr>
<tr>
<td>{SampleName,,8!}</td>
<td>Sample Name</td>
<td>Sample N</td>
</tr>
<tr>
<td>{SampleName,8&gt;}</td>
<td>Sample Name</td>
<td>Sample N</td>
</tr>
<tr>
<td>{SampleName,8&lt;}</td>
<td>Sample Name</td>
<td>ple Name</td>
</tr>
<tr>
<td>{SampleName,-8!}</td>
<td>RC1</td>
<td>RC1*****</td>
</tr>
<tr>
<td>{CompRawMolePct,1001,10!0.000}</td>
<td>1.523446</td>
<td>*****1.523</td>
</tr>
<tr>
<td>{CompRawMolePct,1001,-10!0.000}</td>
<td>1.523446</td>
<td>1.523*****</td>
</tr>
</tbody>
</table>

* = a space character
**Miscellaneous Settings**

**Component Amount Rounding**

Use this option to set the number of decimal places to round the component amount or mole percent values prior to their being used in calculations. Component and related total amounts will also be displayed in the report using this number of decimal places.

**Important:** The normalized mole% values will be rounded to the number of decimal places specified in this setting before they are used in any calculations. In addition, if rounding causes the total normalized mole% not to sum to 100%, then a correction is made to the normalized mole% of the most concentrated component in the sample (usually methane in NGA applications) to force the total to 100%.

**Result Rounding**

If this option is enabled, then the component results are rounded to the number of decimal places specified in each result's display format setting in the reported results table before calculating the total results. This addresses a situation where sum of the component results displayed in the component table on the report would not exactly equal the total result due to rounding of the displayed component result.

If this option is disabled (the default), then the total results are calculated using the full double-precision component results. Certain results that are used in subsequent calculations (Molecular weight and Compressibility), are initially calculated at full, double precision, and then rounded after all other calculations have been completed.

**ISTD Amount Mapping**

This is an advanced option that isn’t supported by all data systems. It allows you to map the Internal Standard Amount from an analysis to the raw mole% of one of the components. This means that you can enter a result from another analyzer (e.g. H2S from a Draeger tube) into the chromatography data system sequence, and have it automatically applied to the specified component without requiring reprocessing or prompting.

**Note 1:** Some data systems will switch the ISTD Amount from 0 or blank to 1 in the sequence table. Consequently, you may need to enter a very small non-zero number for 0 (for example 0.000001).

**Note 2:** There may be additional method settings required to enable this capability.
### Sample Tag Mapping

This is an *advanced* option that isn’t supported by all data systems. It allows you to map the value of a sample “tag” from a raw result to the raw mole% of one of the components. This means that you can enter a result from another analyzer (e.g. H2S from a Draeger tube) into the chromatography data system sequence, and have it automatically applied to the specified component without requiring reprocessing or prompting.

To determine what sample tags are available from your chromatography data system, open the raw results window by clicking either the “File > Display Raw Result” menu option or by double-clicking a sample in the sample processing log. Switch to the “Sample Tags” tab to see the tags available to you. Enter the desired tag name into the “Sample Tag” field exactly as it is spelled.

#### EZReporter Data Files

EZReporter 4.0 data files are XML files with either an “.EZRX” file extension (uncompressed data files) or an “.EZR” file extension (compressed data files). Compressed data files are simply standard data files that have been compressed into a “Zip” file and then renamed with the “.EZR” file extension.

<table>
<thead>
<tr>
<th>Tag</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>systemSerialNumber</td>
<td>ibd222</td>
</tr>
<tr>
<td>systemHostname</td>
<td>FusionSimulator</td>
</tr>
<tr>
<td>systemPartNumber</td>
<td>F08100</td>
</tr>
<tr>
<td>softwareVersion</td>
<td>v1.3.3</td>
</tr>
<tr>
<td>Tag1</td>
<td>05</td>
</tr>
<tr>
<td>TotalCalibratedArea</td>
<td>2846469.518</td>
</tr>
<tr>
<td>TotalUncalibratedArea</td>
<td>3091623.069</td>
</tr>
<tr>
<td>TotalArea</td>
<td>5938092.587</td>
</tr>
<tr>
<td>TotalConcentration</td>
<td>99989</td>
</tr>
</tbody>
</table>
**Default Data Directory**

Specify the directory into which you would like to save data files – use the "Browse" button to select or create the desired directory. The default data directory in EZReporter 4.0 is:

```
C:\Users\Public\Documents\Diablo EZReporter\Data
```

**Automatic File Saving**

Check this box if you would like to have a data file created in the default data directory during automatic processing of data from a chromatography data system.

**Data File Naming Options**

These options define how the data file name will be determined when it is created during processing.

**Use chromatography data system data file name**

If you choose this option, the data file will be named based on the source data file name generated by the chromatography data system. The file will be named with the same base filename, but with the "*.EZX" file extension instead of the "*.DAT" file extension.

**Use Date-Time**

The data files are named using a Date + Time format:

```
YYYYMMDD-HHMMSS.EZX
```

Where YYYYMMDD is the current date and HHMMSS is the current time (e.g. 20050208-153423.EZX).
Check this box if you would like to have the sample name added to the Date+Time formatted file name during automatic processing (e.g. NGA Sample-20050208-153423.EZX).

**Sample Name Options**

This option allows you to set whether the sample name is added before or after the file name. Select “Before” (e.g. NGA Sample-20050208-153423.EZX) if you want the data files to sort alphabetically by sample name when you view the data file directory in Windows Explorer. Select “After” (e.g. 20050208-153423-NGA Sample.EZX) if you want the data files to sort by the Date/Time.

---

**Report Settings**

Report Settings contains the configuration settings for controlling, customizing, and formatting the report. Click the “Report Settings” button at the bottom of the navigation bar on the left side of the configuration editor, and then choose the specific type of setting you want to edit from the list.
Report Control

Default Automatic Reporting Settings:
- Auto-report new instrument results
- Auto-report when reprocessing results

Report Control:
- Print report automatically when processing results
- Report only components with non-zero amounts
- Report null instead of 0 if component is not measured
- Print Sample Information Results
- Print Summary/Total Results
- Print Component Results
- Print Errors and Warnings

PDF File Control:
- Save PDF file when processing results
- Save PDF file to Folder:
  - C:\Users\Public\Documents\Diablo EZReporter\Data
- PDF File Name:
  - Name PDF based on EZReporter data file name
  - Use fixed file name: EZReporter Report

Post Processing Program:
- Enable post processing program

Default Automatic Reporting Settings

These settings allow the default automatic reporting behavior to be modified. The following reporting functions are executed when they are enabled in the configuration and when automatic reporting is also enabled:

- Save the raw results to an EZReporter data file (see “EZReporter Data Files” on page 61).
- Print the report to the default printer (see Report Control below).
- Save the report to a PDF file (see PDF File Control below)
- Run the post-processing program (see Post Processing Program below)
- Export results to a text file (see “Text Export” on page 50)
- Save results to the Results Database (see the Results Database reference manual)

Auto-report new instrument results
Automatic reporting is enabled by default when processing new results submitted from instruments to the sample processing log. If you uncheck this option, automatic reporting will be disabled.

**Auto-report when reprocessing results**

Automatic reporting is disabled by default when reprocessing results by clicking the “Reprocess” toolbar button, or the “Reprocess Results” option of the “File” menu. If you check this option, then the automatic reporting options enabled in your configuration will be performed.

**Overriding Automatic Reporting**

Automatic processing can be overridden by checking or unchecking the “Auto-report” checkbox on the “Manual Data Entry” window that is displayed if you have custom sample information fields enabled or manual component amounts enabled.

**Report Control**

Check the “**Print report for automatically processed results**” box if you would like a report to be sent to the default printer when processing data automatically from a chromatography data system.

By default, all components in the component table will be included in the report. Check “**Report only components with amount > 0**” if you would like components with a raw amount of 0 to be excluded from the component results in the report.

Check or uncheck, “**Print Sample Information Results**”, “**Print Component Results**”, “**Print Summary/Total Results**”, and “**Print Errors and Warnings**”, to include or exclude those sections of the report when printing or saving as a PDF file.

Check “**Report null instead of 0 if component amount not measured**” if you are required to report a component amount of 0 only if the amount was measured. EZReporter determines if a component has been measured if it is included in the results from the GC (even if the amount is 0), entered manually in the manual data entry window (even if the amount is 0), or is the result of a calculated result. If this option is enabled and the component amount has not been measured, then a null (blank) is reported instead.

**PDF File Control**

These settings allow an Adobe Acrobat, “PDF” version of the report to be saved to a specified folder when processing results automatically. To enable this option check, “**Save PDF file when processing results**”.
Save PDF File to Folder: Click the “Open” button to select the directory to which the “PDF” files will be saved.

PDF File Name: These options are used to specify the PDF file name. You can choose to name the PDF file based on the name of the EZReporter data file (see the “Data Files” tab), or you can enter a “fixed” file name. If you choose the first option, the PDF file will have the same base file name as the EZReporter data file. You can also have the export file named based on the sample name from the chromatography data system.

Note: If you select the “Use fixed file name” option, you can use result variables to further customize the file name. For example, if you enter the fixed file name, `{SampleName}`-{`{InjectionTime}`}, the file name would be changed to the actual sample name and injection time.

Post Processing Program

You can specify an external program to run after all processing has completed. You can specify optional parameters to pass to the program when it runs. The command-line options can include variables like `{ExportDirectory}` and `{ExportFile}`.

For example, if you have Microsoft Excel installed on your computer, you can enter the following program and options to open the exported text file in Excel automatically at the end of the run:

**Post Run Program**: Excel.exe

**Options**: `{ExportDirectory}\{ExportFile}`

NOTE: The quotation marks are required if there are any spaces in the directory path or file name.

Report Format

Use the “Report Format” panel to change the report margins, to append custom text at the end of the report, or to add a logo to the top of the first page of the printed report.
Report Margins
You can set the margins of the printed report in inches in order to make space for letterhead or logo, or to increase or decrease the number of lines printed on each page.

Note: The minimum left/right margin you can set is 0.25”.

Customize Result Order
You can edit the order of results displayed in the Sample Information, Component Results, and Summary Results tables. You must first check "Allow results to be re-ordered by dragging rows or columns" option and then save the configuration file:
Then right-click the desired table in the Sample Results tab of the main EZReporter window, and choose the "Change Result Order" option from the pop-up menu:

Finally, left-click either the column header (component table) or result caption (sample information or summary results table) and drag it to the new desired location in the table.

The custom result order is saved with the currently loaded configuration file. Make sure to disable this option in each table when you are finished by right-clicking "Change Result Order" again. This option is also automatically disabled when you restart EZReporter, process results, or load a configuration file.

**Append Text File to Report**

This option allows you to append additional custom text to the bottom of the main report – below the total/summary results table. You can either edit the file “additional.txt” by clicking the Notepad icon, or browse and select a different file containing the desired text. You can also choose whether the text is left, center, or right aligned on the report page and you can also select the font that will be used.

**Note:** This additional text is only included in the printed report. It is not displayed on screen.

**Report Logo**

You can add a logo graphic to the printed report. The following file formats are supported: JPEG, TIF, BMP, PNG, and GIF. Click the “Load Logo” button to select and load a logo file from disk. The logo is printed at the top of the first page of the report between the header and the report title. It can be aligned to the left margin, page center, or right margin. You can also specify a height or width (in inches) and the logo will be scaled proportionally (the height/width aspect ratio of the graphic will be maintained so that the logo isn’t distorted). If you specify the height and width as “0” then the logo will be printed at the original dimensions and resolution.

**Note:** The logo graphic is stored in the configuration file. To prevent your configuration file from becoming too large, we recommend using the smallest logo that will meet your needs.
Report Titles and Fonts

Use the “Report Titles and Fonts” table to modify the titles, captions, and other labels that are displayed in the displayed/printed report.

<table>
<thead>
<tr>
<th>Item</th>
<th>Title, Caption, or Label</th>
<th>Font</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Report Titles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report Title</td>
<td>Natural Gas Analysis Report</td>
<td>Arial, 14, Bold</td>
</tr>
<tr>
<td>Report Subtitle</td>
<td></td>
<td>Arial, 12, Bold</td>
</tr>
<tr>
<td>Report Header</td>
<td></td>
<td>Arial, 10, Bold</td>
</tr>
<tr>
<td>Report Footer</td>
<td>Diablo EZReporter Natural Gas Analysis</td>
<td>Arial, 10, Regular</td>
</tr>
<tr>
<td><strong>Sample Information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Info Table Caption</td>
<td>Sample Information</td>
<td>Arial, 12, Bold</td>
</tr>
<tr>
<td>Sample Info Table Header Font</td>
<td></td>
<td>Arial, 10, Bold</td>
</tr>
<tr>
<td>Sample Info Table Font</td>
<td></td>
<td>Arial, 10, Regular</td>
</tr>
<tr>
<td>Sample Info Item Label</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Info Value Label</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Component Results</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component Results Table Caption</td>
<td>Component Results</td>
<td>Arial, 12, Bold</td>
</tr>
<tr>
<td>Component Results Table Header Font</td>
<td></td>
<td>Arial, 10, Bold</td>
</tr>
<tr>
<td>Component Results Table Font</td>
<td></td>
<td>Arial, 10, Regular</td>
</tr>
<tr>
<td>Component Name Label</td>
<td>Component</td>
<td>Name</td>
</tr>
<tr>
<td>Component Total Label</td>
<td>Total:</td>
<td></td>
</tr>
<tr>
<td><strong>Summary Results</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Context Menu

Right-click the Report Titles and Fonts table for the following additional options in the context (popup) menu:

* **Edit Selected Font**: Edit the font for the selected report item.

* **Edit Report Table Caption Fonts**: Edit the Table Caption font for the Sample Information, Component Results, Summary Results, and Errors and Warnings tables in the report.

* **Edit Report Table Header Fonts**: Edit the Table Header font for the Sample Information, Component Results, Summary Results, and Errors and Warnings tables in the report.

* **Edit Report Table Fonts**: Edit the Table body font for the Sample Information, Component Results, Summary Results, and Errors and Warnings tables in the report.

Print Page Numbers

To have page numbers included on the printed report, you can add the following special “tokens” to the Footer Text:

Current page number: [PageNo]

Total page Count: [PageCount]

For example:

Page [PageNo] of [PageCount]
**Print Report Date and Time**

To print the report date in the report header or footer, you can include the `{Now}` variable. Use a format string to specify the format:

- Date Only: `{Now,,MM/dd/yyyy}` or `{Now,,yyyy-MM-dd}`
- Date & Time: `{Now,,yyyy-MM-dd hh:mm:ss}`

See “Export Template Format” on page 55 for a list of variable format characters and how they can be used.

**Reported Results**

The reported results table lists all of the possible results that can be included in the displayed/printed report. The table is divided into three sections: sample information at the top, component results that will be displayed in the component table next, followed by total/summary results. To include a particular result in your report simply check the checkbox in the “Report” column. Results that have been selected for the report are highlighted in yellow.

You can change the text of the labels that identify a result on the report, set the formatting of numeric results, and add/remove a result from the report.

Note that the “|” character is converted into a line break when the labels are rendered onto the report. This is particularly useful for component results when you want to minimize the width of the component result column.

**Format**

You can set the numeric formatting for a result by entering a format string in the corresponding field. Examples of common formatting strings are shown in the table below.

**Important**: The format of component and related total amount results is determined by the “Component Amount Precision” setting (see “Component Amount” on page 60). You are not able to customize the format of those results.
Format String | Result
--- | ---
0 | Will display all digits to the left of the decimal point and no digits to the right:  
The value 10000.2324 will be displayed as 10000  
The value 0.2324 will be displayed as 0
0.00 | Will display all digits to the left of the decimal point and two digits to the right of the decimal place:  
The value 232.4012 will be displayed as 232.40  
The value 232 will be displayed as 232.00
0.0### | Will display all digits to the left of the decimal place, and from 1 to 4 digits to the right of the decimal place:  
The value 232.4012 will be displayed as 232.4012  
The value 232.4 will be displayed as 232.4  
The value 232 will be displayed as 232.0

Context Menu

If you right click anywhere on the report/result table, the following context menu options will pop up:

Select all results: Check all of the results currently displayed in the table.

Select no results: Uncheck all of the results currently displayed in the table.

Select default results: Check only the results that are included in the default configuration.

Reset report labels to default values: Resets all of the report labels to their original, default value.
Sample Processing Overview

You manage the processing of results from instruments (chromatography data systems) using the “Sample Processing” tab of the main window.

Note: The Data Analysis Edition of EZReporter does not include a license for processing, so this tab and its functionality aren’t available.
See also:

**Instruments**

**Processing Control**

**Sample Processing Log**

---

**Instruments**

With the exception of the Data Analysis Edition, most EZReporter editions include a license for processing results from one instrument (contact Diablo Analytical for information on multi-instrument licenses).

![Instruments Panel](image)

To process results from an instrument, you must first click the “Add” button to add an instrument and then configure the Data System Connector plugin for your specific chromatography data system.

**Add/Edit Instrument**
Instrument Name

Enter a descriptive name for this instrument. This name will be displayed in the instrument table.

Data System Connector

In order to process results from your chromatography data system, you must select the correct Data System Connector plugin for the data system you are using, and then “Edit” the connector to select and apply any connector-specific settings. Please refer to the reference manual or help file for the particular Data System Connector you are using.

Important: The data system connectors available for you to select will depend on which version of the installation program you used to install the EZReporter 4.0 software. Make sure that you download the installer that includes support for the chromatography data system you are using to control your gas chromatograph.

The following is an example of a generic Data System Connector settings window. The settings window for your instrument/data system may be different.
**Configuration File Mode**

The Configuration File Mode settings allow you to customize the configuration file that is used to process results from the instrument.

**Use Active EZReporter configuration file**

If you choose this option, then EZReporter will use whatever configuration file is currently loaded to process results from this instrument.

**Load Default Instrument configuration file**

This option allows you to select a specific configuration file to be loaded whenever processing results from this instrument.
**Use Rules to select configuration file**

This option allows you to specify a set of rules to determine which configuration file will be loaded when processing results from this instrument. Rules are processed in the order listed. If none of the rules match, then the default instrument configuration file is loaded.
Parameter: You can base the rule on the Sample Name, Method File, Sample Comments, or User Name.

Condition: Rule conditions include, “Equals” (the parameter matches the condition text exactly), “Contains” (the parameter contains the condition text), “Starts With” (the parameter starts with the condition text), “Ends With” (the parameter ends with the condition text), and “Is Like” (use pattern matching):

The pattern-matching features allow you to match each character in the parameter against a specific character, a wildcard character, a character list, or a character range in the condition text. The following table shows the characters allowed in pattern and what they match.

<table>
<thead>
<tr>
<th>Character</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>Any single character</td>
</tr>
<tr>
<td>*</td>
<td>Zero or more characters</td>
</tr>
<tr>
<td>#</td>
<td>Any single digit (0–9)</td>
</tr>
</tbody>
</table>

Condition Text: The text string that is used for the comparison with the parameter.

Load Configuration File: The configuration file that will be loaded if the rule is a match.

Monitor Instruments

In order for EZReporter to monitor the configured instruments for results you need to check this checkbox. It is unchecked by default when you start EZReporter. If you would like EZReporter to begin monitoring instruments automatically when it starts, you can set the option in the Processing Control configuration.

Processing Control

Processing of results that have been added to the sample log table is managed using the “Processing Control” settings. Sample processing is performed in the order samples are added to the log table, and the table is checked for new samples on the sample processing interval specified in the Processing Control Settings.

Configure Processing

Click the “Configure” button to configure the Processing Control Settings.
Automatically Start Instrument Monitoring: If this checkbox is checked, instrument monitoring will be enabled automatically whenever the EZReporter software starts. If you leave it unchecked, you will have to manually check the “Monitor Instruments” option in order to start monitoring instruments for results.

Maximum Samples in Processing Queue: In order to conserve memory and system resources, EZReporter only keeps the number of samples specified here in the processing queue (log table). When this maximum value of samples is reached, the oldest sample in the table will be deleted each time a new sample is added.

Sample Processing Interval: This is the interval, in milliseconds, that the processing queue/log table is checked for new samples. Leave it at the default value of 2000 milliseconds (2 seconds) unless you have a specific need.

Sample Processing Log

If you enable instrument monitoring and your instrument is connected, then new samples will be displayed in the Sample Processing Log table as they are received from the instrument/chromatography data system. Sample results are processed and reported automatically in the order they are received.
Entering Sample Information

If you have custom sample information fields defined in your configuration, the “Manual Data Entry” window will be displayed automatically each time a sample is processed (unless you have disabled it in the configuration). Enter or update any required sample information and then click the “Process” button to process the results. If you click “Cancel” the sample will not be processed and the status will be displayed as “Aborted” in the Sample Log Table.
**Auto-report**

If this checkbox is checked, all reporting options specified in the configuration will be performed. If it is unchecked the calculations will be performed, and the main UI will be updated, but you will have to manually print the report, save the report to a PDF file, export results to a text file, etc. See “Report Control” on page 64 for more information on automatic reporting.

**Entering Component Amounts**

If you have any of the components in your configuration have the “Manual Amount Entry” option checked, then the Manual Data Entry window will also include a “Component Amounts” tab. Switch to this tab to manually enter those component amounts.

Note: When processing results from an instrument, you will only be able to update those component amounts that have the “Manual Amount Entry” option checked.

The component raw amounts displayed in the manual data entry window are initialized to null/blank values if they have not been measured yet. Values that have been measured, for example from the results of the GC analysis, will be initialized to the measured value. If an unmeasured value is entered manually, it will then be determined to have been measured (even if the value entered is 0). If a value is entered accidentally by entering the cell, it can be cleared using a new context menu option. “Clear raw amount”. The component measured status is used to determine whether to report or export 0 values or null/blank values if those options are enabled. See “Export Control” on page 51 and “Report Control” on page 64.

**Reviewing and Reprocessing Raw Results**

You can review the “raw” sample results generated by the chromatography data system by double-clicking the desired sample in the Sample Processing Log or by clicking the “File > Display Raw Results” menu option for the current result.

The “Display Raw Results” window allows you to view the sample information, peak results, and sample tags provided by the chromatography data system, and the processing log generated by the data system connector.

To reprocess the raw results, select the desired “Processing Option” and then click the “Process” button. The raw results will then be re-submitted to EZReporter for reporting using the configuration file specified by the Processing Option you selected.
You can also save the raw results to an EZReporter data file by clicking, “Save As…”, and if your raw results contain the original configuration file used to process results, you can extract that configuration file and save it to disk by clicking, “Extract…”.

**Raw Sample Information**

The Summary tab contains the Sample Information as reported by the chromatography data system and instrument connector.

**Raw Peak Results**

The Peak Results tab contains the raw component/peak results as reported by the chromatography data system.
This information can be very helpful when troubleshooting issues with component results. For example:

- **Missing or Mismatched Peak Names**: EZReporter identifies components by the peak/component name. If a peak name reported in the raw peak results is not present in the EZReporter component table, it will be ignored. Similarly, if the a peak name in the raw results is spelled differently than the corresponding component name in the EZReporter component table, it will be ignored and EZReporter will report a raw amount of 0 for that component.

- **Duplicate Peak Names**: If there are multiple peaks with the same name in the raw peak results, EZReporter will use the results from the last peak in the table. If you need to use the results from a specific peak, then change the names of those duplicate peaks in the GC method calibration/peak table so they are unique, and then set the component name in the EZReporter component table to match the name of the desired peak name.

- **Amount is Zero**: If the amount for a particular peak is 0 in the raw peak results and you expect it to be non-zero, then this generally indicates an issue with integration or calibration of your GC method.

### Sample Tags

Some of the EZReporter data system connectors provide additional sample “tags” from the results provided by the chromatography data system. These tags are not available from every data system and the available tags may change based on your data system method settings. These sample tags can be mapped to custom sample information fields for display in your report or to be exported to text files. See “Sample Information” on page 34 for more information about using sample tags with custom sample information fields.
The Processing Log contains information logged by the instrument connector when processing the raw results provided by the chromatography data system. This information can sometimes be helpful when troubleshooting errors or other issues.
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