

Pulp & Paper Division

LabTrac

OPERATIONS MANUAL

Data Collection Software
for the
ECA 2100

Version 1.1

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1.0 GENERAL INFORMATION

1.1 What is OPC?

OPC (OLE for Process Control) is an industry standard for exchanging data in an automation environment. OPC was created by integrators and developers, in various industries, for PC based systems (SCADA, HMI, etc..).

The OPC interfaces are based upon Microsoft's OLE/COM technologies.

1.2 System Requirements

Chemtrac Systems highly recommends the minimum features:

- Windows 95, 98, NT
- Pentium II 233 MHz
- 32 Megs of RAM
- 3.5 high density floppy drive and CD-ROM drive
- Available serial port (necessary)

Along with the above computer requirements, a serial cable is necessary to establish communication between the ECA 2100 and the PC. In most cases a 9-pin male to 9-pin female cable is required.

2.0 Communication

2.1 ECA 2100 Communication

A dedicated serial port on the PC must be available to communicate with the ECA 2100. Connect the serial cable from the back of the ECA 2100 to the rear of the PC/Laptop.



Make sure the DISPLAY screen is visible on the touch screen display and data collection is halted. The solid circle in the lower right hand corner of the touch screen indicates that data collection is halted. A solid triangle indicates that data collection is in progress.

Select the Download option in the software or press the F2 key to start downloading the data.



If you still encounter a communication error, select the Default Settings or Change Communication Settings options, as described in Section 2.3.

2.2 Download Titration Data

Selecting Download Titration Data from one of the menus will start communication with the ECA 2100. A window will display the progress of the download if communication is successful. Pressing F2 from the main window will start communication as well.

An individual download should take no longer than 30 seconds.

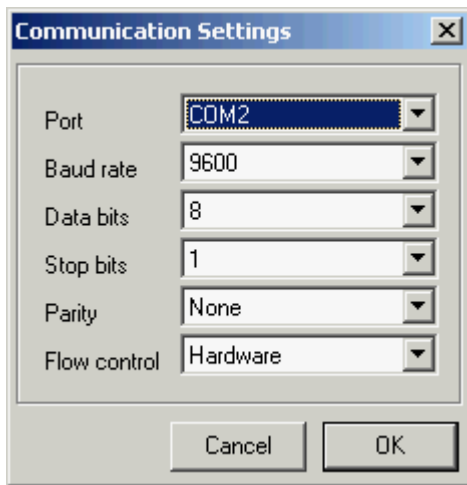
The screenshot shows a standard Windows-style 'Save' dialog box. The title bar reads 'Save'. Below the title bar, there are three main sections of input fields. The first section has a 'Name' label and an empty text box. The second section has a 'Time & Date' label and a text box containing '7/18/2000 5:00:42 PM'. The third section is for titration parameters, with labels 'Charge Demand', 'Unit (ex: mL, meq)', and 'pH' on the left, and three corresponding text boxes containing '0', an empty box, and '0'. Below this is a 'Sample Volume' label and a text box containing '0' followed by 'mL'. At the bottom of the dialog are two buttons: 'Cancel' and 'OK'.

After the download is complete another window will open. This window will allow the user to customize the titration with a name and attributes. At this point values for Charge Demand, pH, and Sample Volume can be manually entered. These values can be changed later through the edit attributes feature.

After entering the appropriate information and selecting OK, a save dialog window will appear. This window will allow the user to name and store a database file. This file will contain all entered attributes and downloaded data, including the sensitivity and gain settings. A directory named .\data has been created, and can be used for all download files.

2.3 Change Communication Settings

To match the computer's settings, the communication settings in LabTrac may need adjustment. If communication does not appear to be working, it is recommended to first select Default Settings, then select the appropriate communication port. If the default settings do not solve the communication problem, the settings may need to be changed.



2.4 Default Communication Settings

Selecting this option will change the baud rate, data bits, stop bits, parity, and flow control to the recommended defaults.

The default settings are listed below:

Baud Rate : 9600

Data Bits : 8

Stop Bits : 1

Parity : None

Flow Control : Hardware

The communication port setting will remain unchanged. It is up to the user to determine which communication port is available and connected.

3.0 Groups, Items and Selection

3.1 Add Group

In the navigation area of the main screen (upper left corner), it is possible to organize and arrange groups and items. These groups and items can be named and configured to represent various downloads or samples.

This area contains a main header (i.e. ECA 2100), group names, and items.

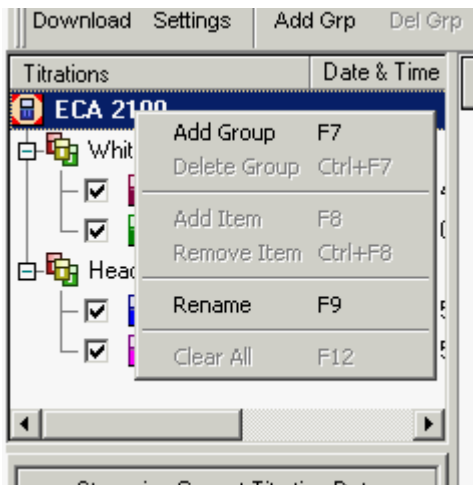
Groups can be used to represent different sample points in a process. They can be renamed at any point in the program. All navigation (tree) settings are automatically saved when the program is closed.

Items can be added or removed from groups. Items contain and represent data from an individual titration.

To Add a Group:

1. Highlight the main header in the navigation area.
2. Right Click or select Add Group from one of the menus.
3. Name the Group.

The new group will always be added to end of the list.



3.2 Delete Group

Deleting a group will remove the group and all of its items. This feature will be disabled when the currently selected tree item is not a group.

A prompt asking for confirmation will appear when the Delete Group option is selected.

To Delete a Group:

1. Select a group in the navigation area.
2. Select Delete Group from one of the menus.
3. Click the Yes button to confirm deletion of the group.



3.3 Add/Edit Item

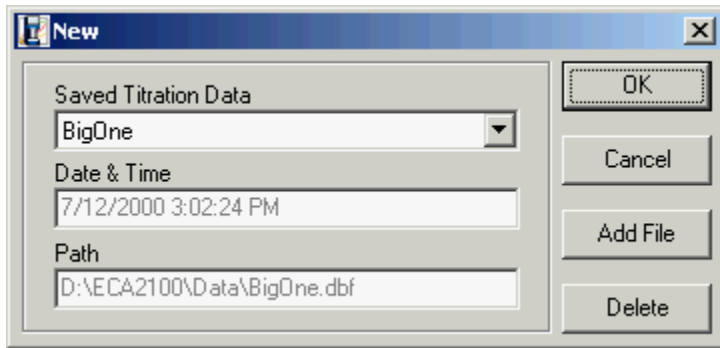
Use this feature to add a new item (titration) to a group.

Highlight one of the groups in the navigation area to add an item. Hit F8 or select one of the menu options to open the “Add/Edit Item” window.

This window displays saved downloads with name, date/time, and current path. A dropdown list allows the user to select and add an item to the tree list. Select the item and hit OK to add the item to the group. Once the item is added, it will be checked and highlighted. Checking the item will display the titration data on the graph, while highlighting the item will display the data in the list (lower left corner).



From the “Add/Edit Item” window, clicking the Add File button will allow the user to name a new item and select a file. This option is useful when moving files from one machine to another.



3.4 Remove Item

The Remove Item feature will clear the selected item from the list. Remove Item can be selected from the edit menu, the toolbar, or a popup menu.



3.5 Rename

Selecting Rename from one of the menus will allow the user to edit the name of the selected tree item. It is only possible to rename the main text or one of the group items.

3.6 Clear All

Selecting Clear All from one of the menus will uncheck all of the currently checked items.

Checking an item will show the corresponding data on the chart. Therefore, selecting Clear All will remove all of the series on the chart.

3.7 Selecting/Deselecting an Item

In the navigation area it is possible to check/uncheck a particular item (Tree Item with check boxes). When the item is checked the corresponding series will appear on the graph.

Up to 8 items can be checked at a time.

When an item is highlighted the data will appear in a table on the lower left-hand corner of the main window. This list will stay active until another item has been selected.

4.0 List and Attributes

4.1 General (List)

There are two tabs available for the two item lists. One list contains the downloaded titration data for the selected item, and the other contains attributes/settings associated with the download.

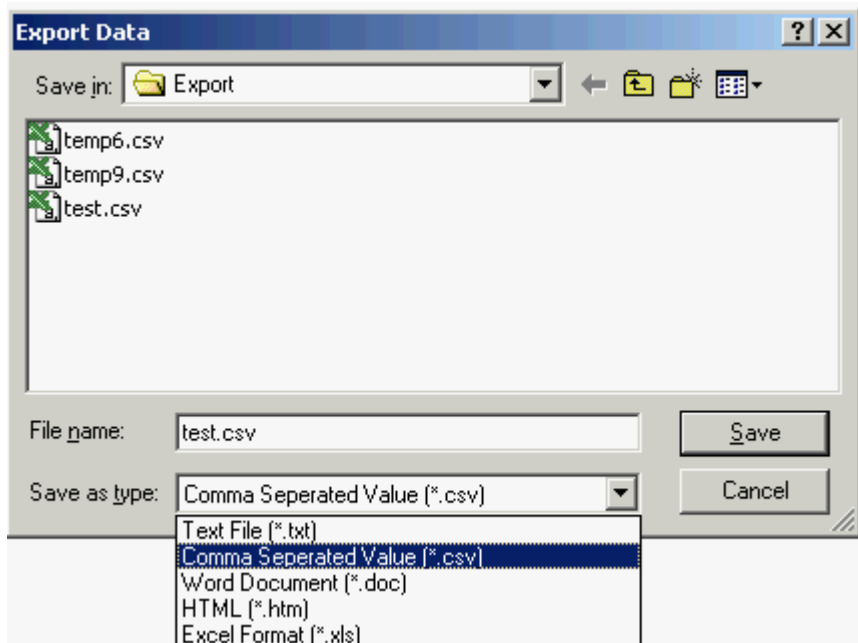
The Streaming Current tab list contains time and streaming current values for 30 minutes of data. The Attributes tab contains Gain, Sensitivity, Charge Demand, pH, and Sample Volume attributes.

4.2 Export Data

It is possible to export the currently selected list to five different file formats. The data list will contain both the time and value for 30 minutes of data (one record/second).

The exported list will be the one located on the lower left-hand corner of the screen. Select the Streaming Current tab to view the data before exporting.

A popup window will allow the user to name the file and location.



The file types are defined as follows:

TXT	-	Text File
CSV	-	Comma Separated Value
DOC	-	Word Format
HTML	-	HTML Document
XLS	-	Excel Format

4.3 Edit Attributes

The Edit Attributes window allows the user to change settings for Charge Demand, pH, and Sample Volume. These values are initially entered after the data has been downloaded .

The user manually enters these values.

The screenshot shows a 'Save' dialog box with the following fields and values:

Name	Titration 1 - HB		
Time & Date	7/13/2000 2:50:30 PM		
Charge Demand	Unit (ex: mL, meq)	pH	
400	meq	7.5	
Sample Volume	225 mL		

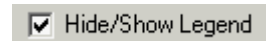
Buttons: Cancel, OK

5.0 Graph

5.1 Hide/Show Legend

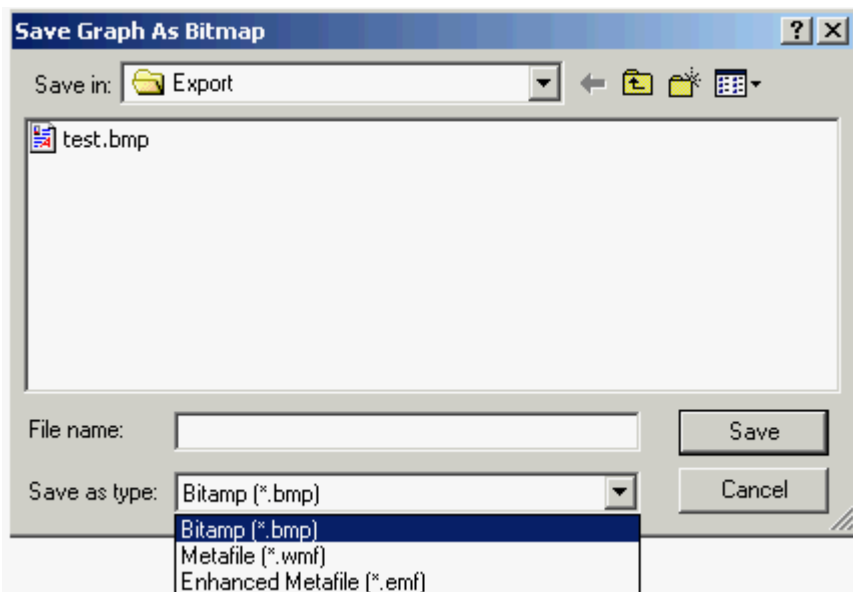
Selecting this menu item, or selecting/deselecting the checkbox item, will toggle the view legend feature of the chart. When the menu item is selected or checked the legend will become visible in the chart.

The default setting is selected or visible.



5.2 Export Graph

Export the current graph to one of three file types. A popup window will appear allowing the user to select a name, path, and file type.



The file types are defined as follows:

BMP	-	Bitmap
WMF	-	Metafile
EMF	-	Enhanced Metafile

5.3 Print Graph

Color Graph:

Select Print Color Graph from one the menus to print to a color printer.

A preview window will open with print options and settings. The user can change printer, printer setup, margins, position, and orientation.

Black & White Graph:

Selecting Print Color Graph when printing to a B & W printer will not display the entire graph properly. Select Print B & W Graph from one of the menus to print to a Black & White printer.

5.4 Graph Zooming/Panning

Zooming

It is possible to Zoom In or Zoom Out on the graph simply by clicking and dragging with the mouse.

To Zoom In on the graph

Click the left mouse button and drag from upper left to lower right over the desired area.

To Zoom Out on the graph

Click the left mouse button and drag from lower right to upper left anywhere on the graph. Zooming out will return the graph to its original size.

Panning

Panning in the graph is as simple as clicking the right mouse button over the graph, holding the button down, and dragging in any direction.

6.0 Company Contact Information

For technical support of the LabTrac software or the ECA 2100, please contact Chemtrac Systems at:

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