

# CipherLab User Guide

Data Converter

For 8 Series Mobile Computers

Version 3.02



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# RELEASE NOTES

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Version	Date	Notes
3.02	Jan 14, 2014	<ul style="list-style-type: none"><li>▶ <b>Options – Rules</b> – Screenshot updated (Conversion Type)</li><li>▶ <b>Options – Rules</b> – Screenshot updated (Defining the Record Format – Record Fields)</li></ul>
3.01	Oct. 28, 2013	<ul style="list-style-type: none"><li>▶ <b>Introduction</b> – 8600 supported</li><li>▶ <b>Using Data Converter</b> – Help item is added on the menu (popping up from the taskbar)</li></ul>
3.00	Oct. 01, 2013	<ul style="list-style-type: none"><li>▶ <b>Installation</b> – Setup Wizard screenshots updated</li><li>▶ <b>Options – General</b> – Display language file path varies</li><li>▶ <b>Options – General</b> – Log path changed</li><li>▶ <b>Options – Security</b> – Screenshot updated (checkbox removed)</li><li>▶ <b>Options – Rules</b> – Screenshot updated (Export/Import button added)</li><li>▶ <b>Options – Rules</b> – Screenshot for BASIC programming limited to 3 fields removed</li><li>▶ <b>Options – Rules</b> – Export/Import sections added</li></ul>
2.00	Oct. 12, 2012	Revised in accordance with Data Converter 3
1.00	Dec. 10, 2010	Initial release



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# INTRODUCTION

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For data transfer between PC and 8000/8200/8300/8400/8500/8600/8700 Series Mobile Computers, CipherLab Data Converter is an efficient utility specifically designed to convert data files to legal file format that can be processed by applications running on the mobile computer. With conversion rules established and file conversion automation, users can complete mundane tasks with ease. Also the utility features password protection for security reasons to prevent unauthorized personnel from handling rules management.

This manual serves to provide comprehensive understanding of data conversion. We recommend that you read the document thoroughly before use and keep it at hand for quick reference.

Thank you for choosing CipherLab products!

## SYSTEM REQUIREMENTS

Windows XP or above operating system is required to run Data Converter.

## DEFINITION OF TERMS

Data Converter is for use with 8000/8200/8300/8400/8500/8600/8700 Series Mobile Computers. The table below provides definition of the terms and abbreviations used in the program.

Term	Definition
Lookup	A lookup file is a database file created for information reference. Format (or field properties) needs to be specified correctly.
Transaction	A data file that saves data collected by the mobile computer.
C Programming	CipherLab provides own C Compiler and libraries for programmers to develop applications written in C language. License to use the C Compiler is required.
BASIC Programming	CipherLab provides own BASIC Compiler and runtime for programmers to develop applications written in BASIC language.
Forge AG	CipherLab provides own software Forge Application Generator for the users to develop custom templates for use with preloaded AG runtime, free of coding. Up to three lookup files can be defined.
PC	Personal computer can be a host or FTP server.
PDT (RAM), PDT (SD Card)	<p>“PDT” is an abbreviation of Portable Data Terminal, referring to the mobile computer.</p> <ul style="list-style-type: none"> <li>▶ Normally, the lookup files are stored in SRAM. The original lookup files (.TXT) need to be converted to legal file format before being downloaded to the mobile computer.</li> <li>▶ SD Card option is provided for 8200/8400/8600/8700, allowing files either to be saved to SD card or to SRAM via the card. You must have the lookup files (.TXT) converted to legal file format first.</li> </ul>
TXT	Filename extension for lookup files
DAT	Filename extension for transaction files
DBF	CipherLab own database file format.
Format	For the format of the input file, if the data field properties are specified improperly, it may go wrong while converting data.

# GETTING STARTED

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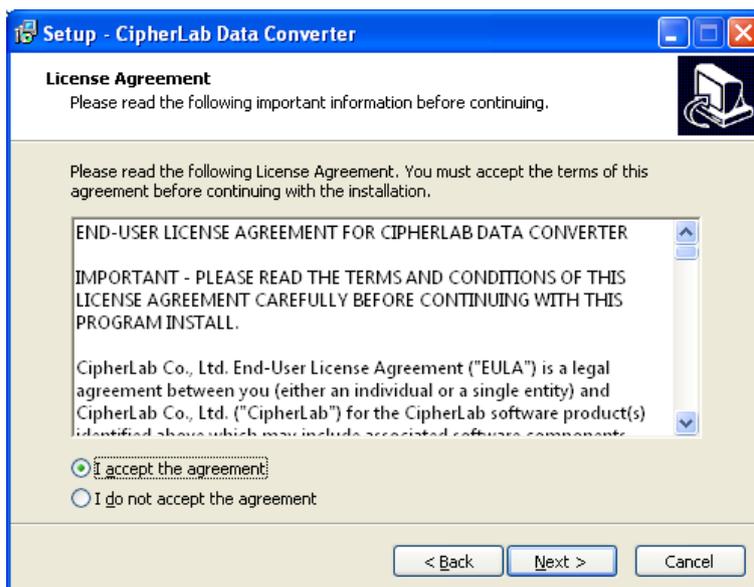
## INSTALLATION

Please follow the Setup Wizard step by step.

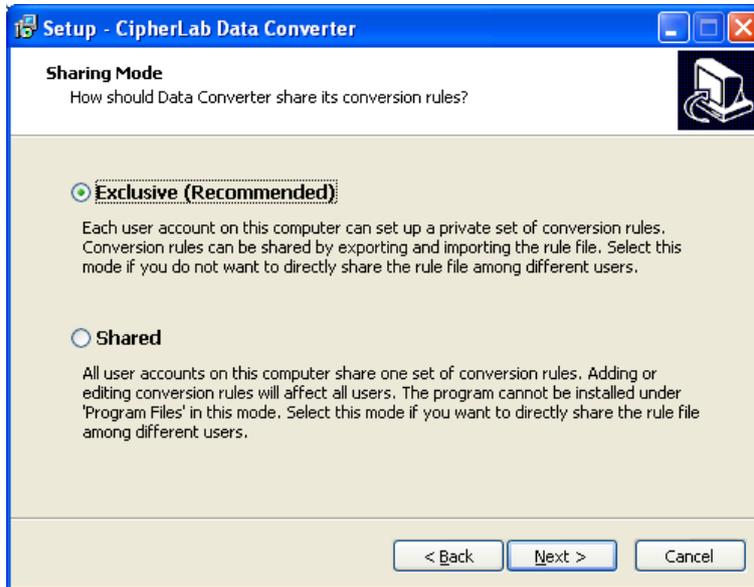
- 1) Run the setup file to install the Data Converter. Click the **Next** button to continue.



- 2) The License Agreement dialog shows up first. Click the **I accept the agreement** radio button and click the **Next** button.

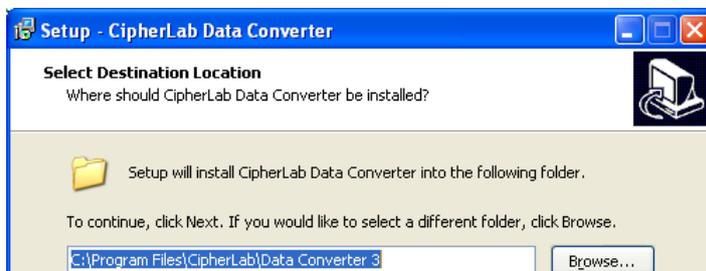


- 3) Before installing Data Converter, you have to determine whether the conversion rules to be established will be shared by all user accounts on the computer. By default, the **Exclusive (Recommended)** radio button is selected that conversion rules won't be shared between different users on the computer.



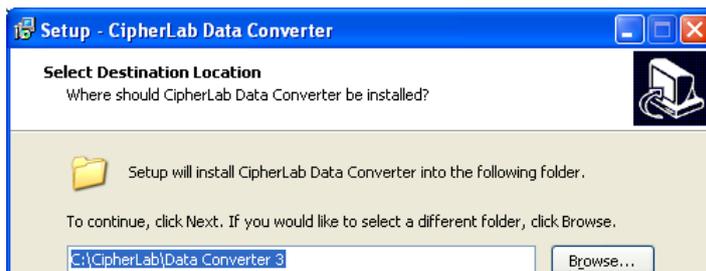
The default destination directory varies depending on Sharing Mode you have selected in the previous dialog. You can Click the **Browse** button to locate the destination directory to install Data Converter. Click the **Next** button to continue.

Exclusive Mode:

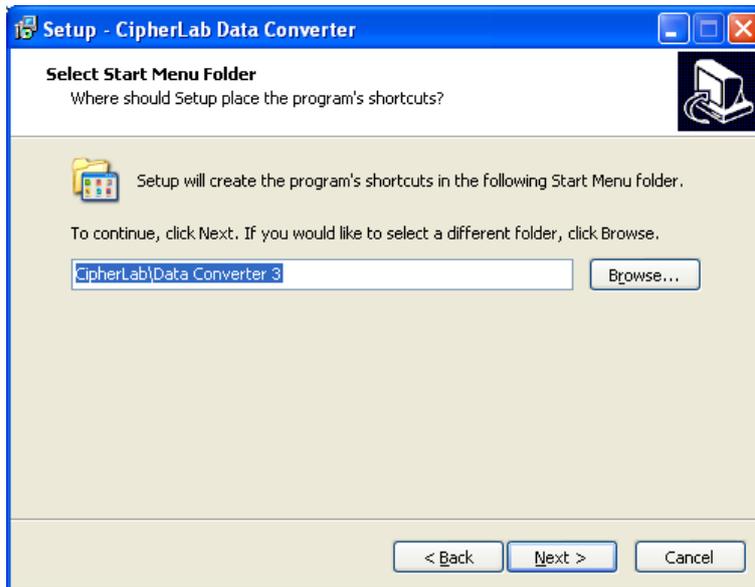


Shared Mode:

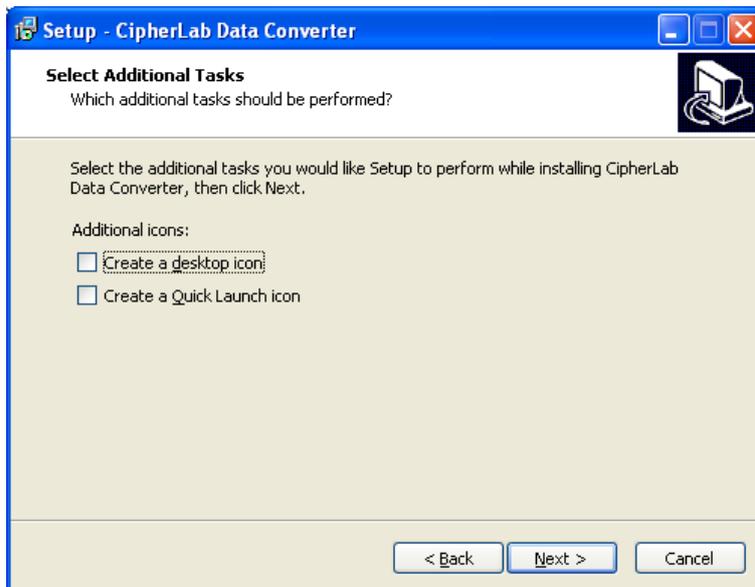
The conversion rules to be established will be shared by all user accounts on the computer. Note when you select this mode, don't specify the 'Program Files' as the destination directory.



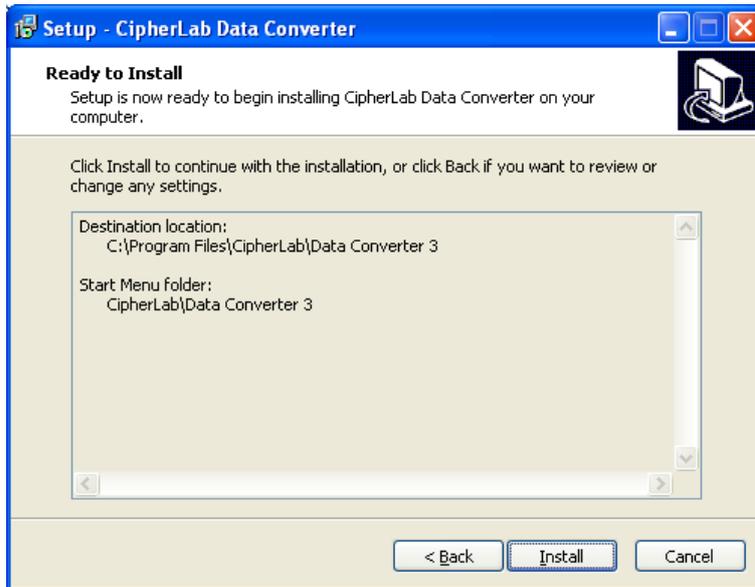
- 4) After you have determined the destination directory, this dialog appears to ask for your confirmation where to create the Start Menu folder. Click the **Next** button to continue.



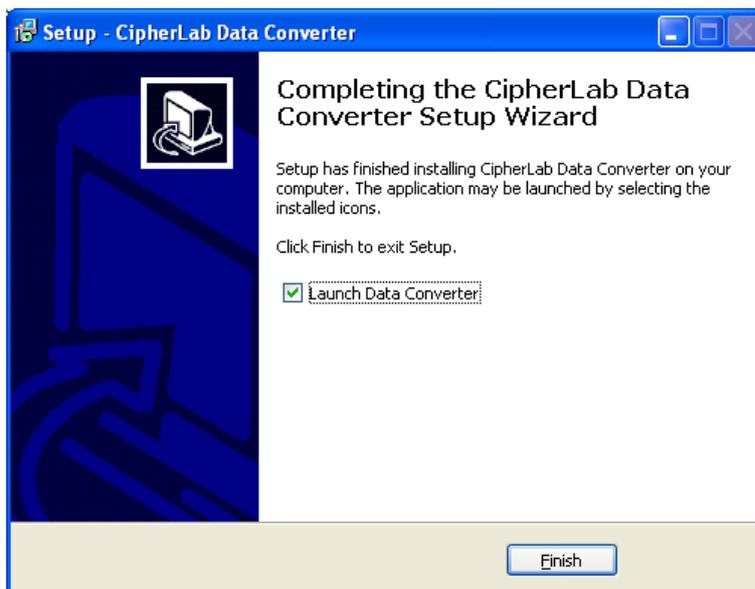
- 5) Tick the check boxes to create desktop and quick launch icons during installation.



- 6) This is the window for confirmation. Click the **Back** button to the previous dialog to change settings. Click the **Next** button to start the installation.



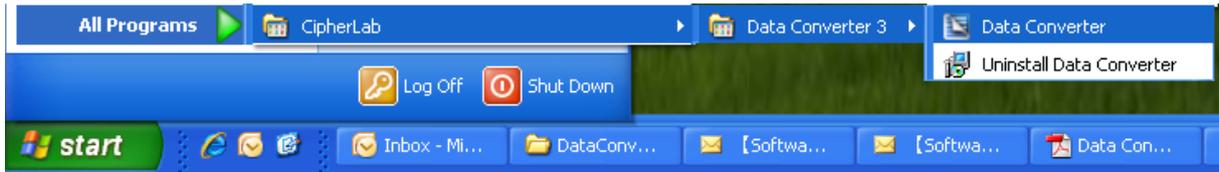
- 7) When the complete screen appears, click the **Finish** button to exit. If the check box is ticked, Data Converter will be launched immediately after you exit the Setup wizard.



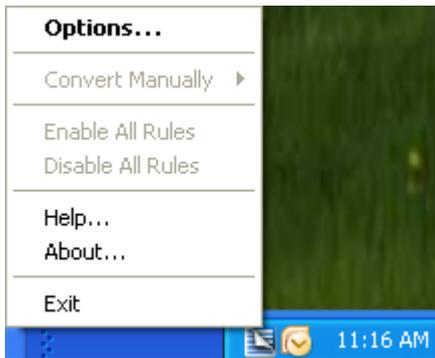
# USING DATA CONVERTER

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After the data converter is successfully installed, you are able to launch it by selecting **Start→All Programs→CipherLab→Data Converter 3→Data Converter**, as the picture shown below.



Data Converter is a long-running application known as Windows service that can be run in the background. You can find its icon in the bottom-right corner of the screen as the picture shown below.

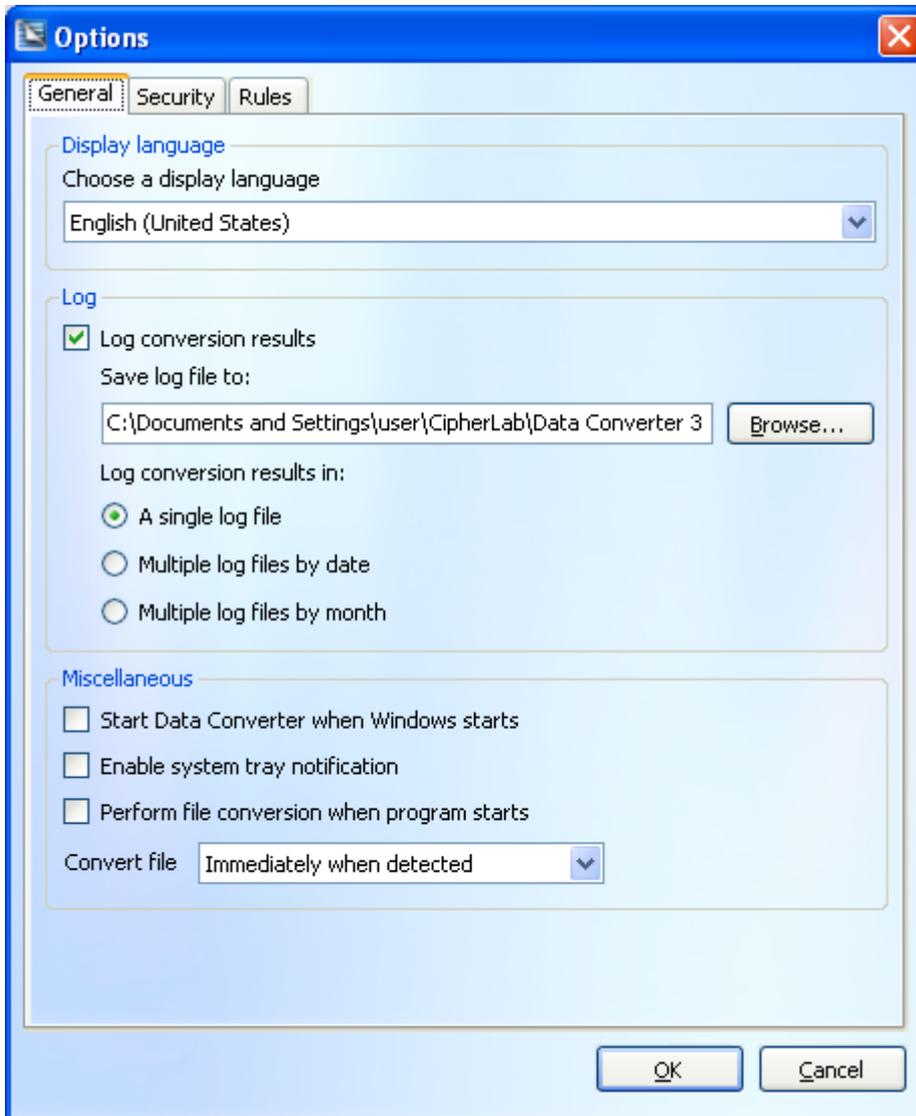


Right-click the icon to bring up the menu. If you start the application for the first time, the menu shows with four items available – **Options**, **Help**, **About**, and **Exit**.

Term	Descriptions
Options...	Click Options on the menu to configure Data Converter such as general settings, security, rule establishment and maintenance.
Help...	Click Help on the menu to open the Help window.
About...	Click About to show the Data Converter version and copyright information window.
Exit	Click Exit to terminate the application.

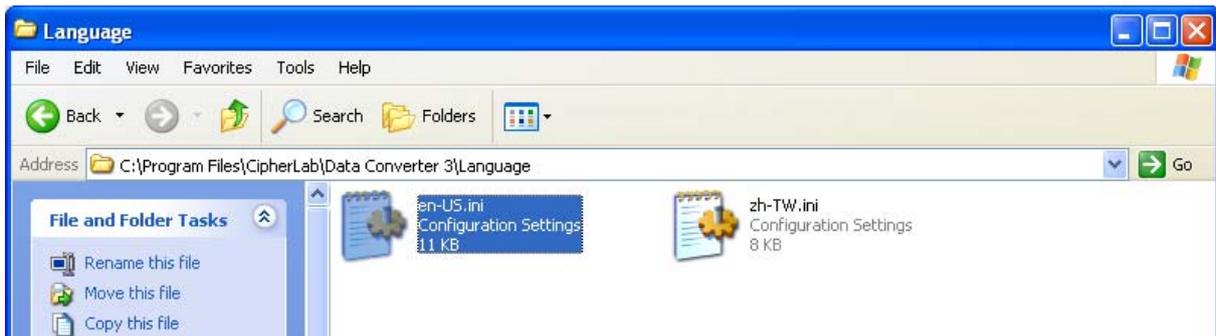
## OPTIONS - GENERAL

By clicking **Options** on the menu, the **General** tab shows up by default.



## DISPLAY LANGUAGE

By default the display language is English (United States). Click the pull-down menu to choose a display language that Data Converter uses to display text in dialog boxes, menus, and other items in the user interface. After the application is installed, two display language files (with '.ini' filename extension) are installed by default in the "C:\Program Files\CipherLab\Data Converter 3\Language" directory. (If you selected "Shared Mode" as the sharing mode during installation, the display language files are located in the "C:\CipherLab\DataConverter 3\Language" directory.)



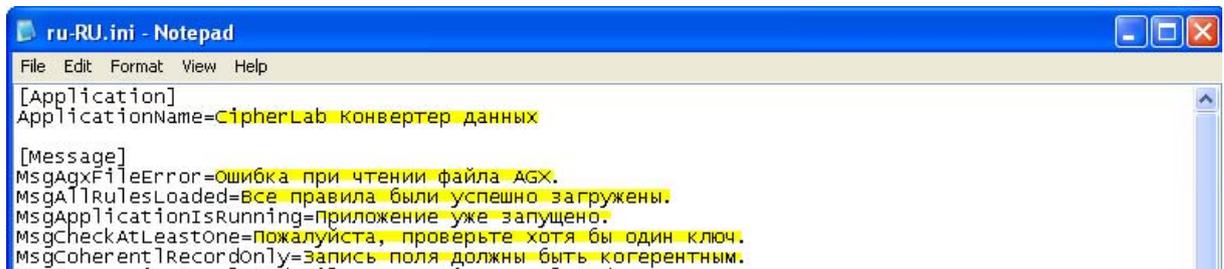
You can make a display language file for a particular language system applied to Data Converter. The file name should exactly follow the **Culture Name** defined in the [National Language Support \(NLS\) API Reference](#) table. Please follow the steps below to create a new display language file.

- 1) Open the existing 'en-US.ini' file in the **Language** folder.

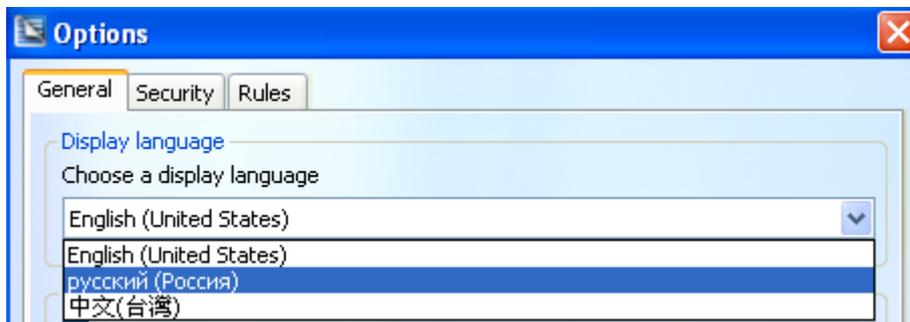
```
[Application]
ApplicationName=CipherLab Data Converter

[Message]
MsgAgxFileError=Error reading AGX file.
MsgAllRulesLoaded=All rules have been loaded successfully.
MsgApplicationIsRunning=The application is already running.
MsgCheckAtLeastOne=Please check at least one key.
MsgCoherentlRecordonly=Record fields must be coherent.
MsgConversionCompleted=File conversion completed
MsgConversionFailed=File conversion failed
MsgConversionSucceeded=File conversion succeeded
MsgDisableAllRules=All conversion rules will be disabled. Are you sure you want to continue?
MsgDisableAllRulesSuccess=All conversion rules have been disabled successfully.
MsgDllMissing=The application cannot start because a required DLL is missing.
MsgEnableAllRules=All conversion rules will be enabled. Are you sure you want to continue?
MsgEnableAllRulesSuccess=All conversion rules have been enabled successfully.
MsgEnterDelimiter=Please enter a delimiter character.
MsgEnterDeviceFileName=Please enter device file name.
MsgEnterOutputFileName=Please enter output file name.
MsgEnterPassword=Please enter your password.
MsgEnterValidOutputFileName=Please enter a valid output file name.
MsgFolderNotExist=The folder you specified does not exist. Please specify another folder.
MsgInputFileAlreadySpecified=The text file is already specified as an input file, please
specify another text file.
MsgInvalidField=One of the fields is invalid, please check your input.
MsgInvalidFileName=Please enter a valid file name.
MsgLogFolderDoesNotExist=The log folder you specified does not exist. Please specify another
folder.
```

- 2) Edit/translate the text on the right side of each equal sign in destination language (take Russian as the example). When finished, save the current file as '**ru-RU.ini**' ('ru-RU' is the culture name defined in the **NLS API Reference** table).

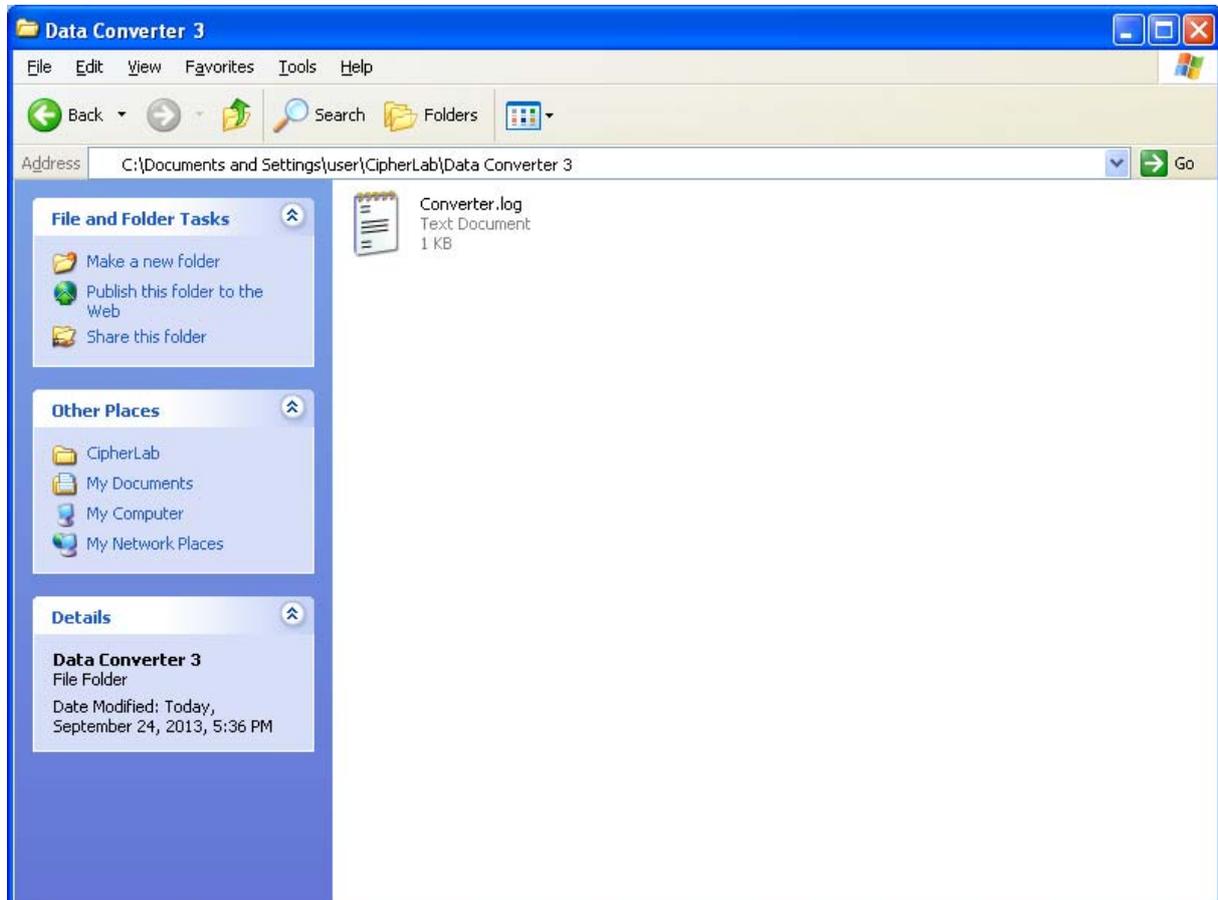


- 3) Once the display language file is created, you can change the display language by clicking the pull-down menu. The language option as the picture shown below will display with the local language name which is also defined in the **NLS API Reference** table.



## LOG

Tick the “**Log conversion results**” checkbox to save the log file to a specified directory. The default path is “C:\Documents and Settings\{user name}\CipherLab\Data Converter 3”. You can also click the **Browse** button to locate another destination directory.



With a destination directory specified, users can also determine how the conversion results are saved. The options are as follows:

- ▶ **A single log file:** Conversion results are saved in a single log file all the time.
- ▶ **Multiple log files by date:** Log files are created by date.
- ▶ **Multiple log files by month:** Log files are created by month.

## MISCELLANEOUS

This section includes miscellaneous settings for the Data Converter application.

**Start Data Converter when Windows starts:** Tick this checkbox to automatically launch Data Converter each time you start your computer.

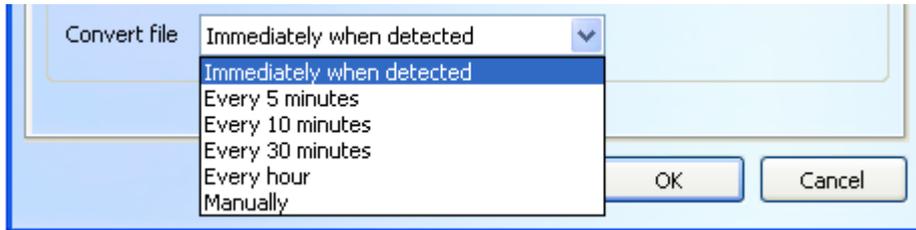
**Enable system tray notification:** When a data conversion event occurs with this checkbox ticked, a notification window shown below emerges from the system tray area in the bottom-right corner of the screen.



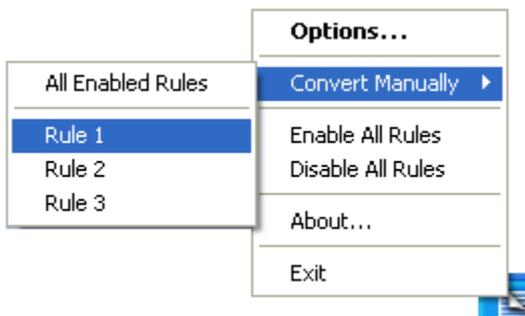
**Perform file conversion when program starts:** Tick this checkbox to perform file conversion if the monitored folder located with data files when Data Converter launches. The first figure in parenthesis represents successfully converted file(s); the second one represents failed file(s).



**Convert file:** Click the pull-down menu to determine the timing Data Converter starts to convert files in the monitored folder.

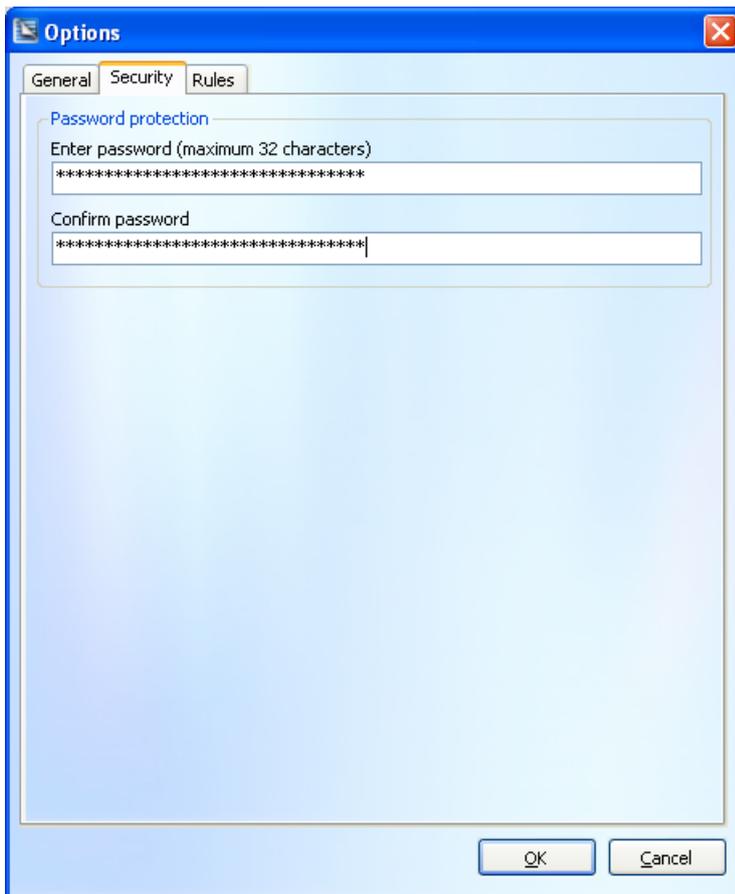


If you select **"Manually"** and click the **OK** button, the files located in the monitored folder won't be converted until you manually select to implement a particular rule by right-clicking the icon in the bottom-right corner of the screen. As the picture illustrated below, you can click Rule 1, Rule 2, or Rule 3 to perform the corresponding conversion task.

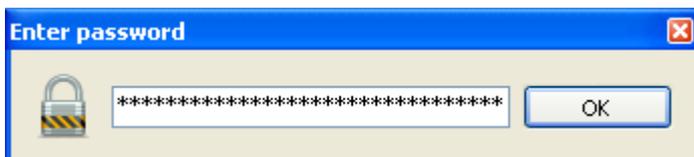


## OPTIONS - SECURITY

This tab allows you to enable password protection permitting only the authorized personnel to create, edit, or delete conversion rules. Immediately type your password in the first field with alphanumeric characters. And then re-type the same password in the second field. Note the fields are case-sensitive and can be filled with up to 32 characters. Click the **OK** button to have the settings take effect.

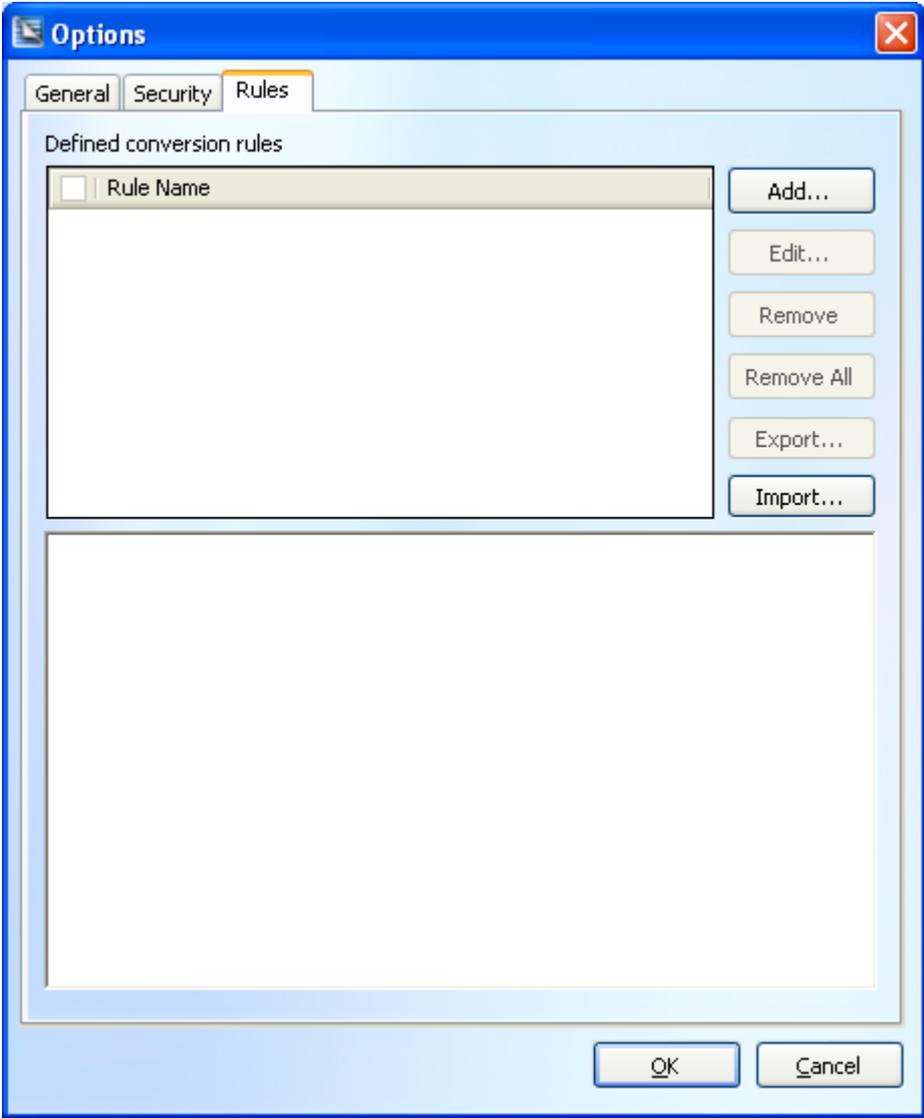


Each time when the Data Converter icon in the system tray area is double- or right-clicked, a dialog box shows up to ask users to enter password. You have to enter correct password to get into the application interface. If you don't want to employ this mechanism, remember to go back to this tab and clear characters in the password fields.



## OPTIONS - RULES

Now we will introduce how to create rules for data file conversion. Click the **Rules** tab and the screen shows up with an empty list box without any rule entries when you launch the application for the first time.

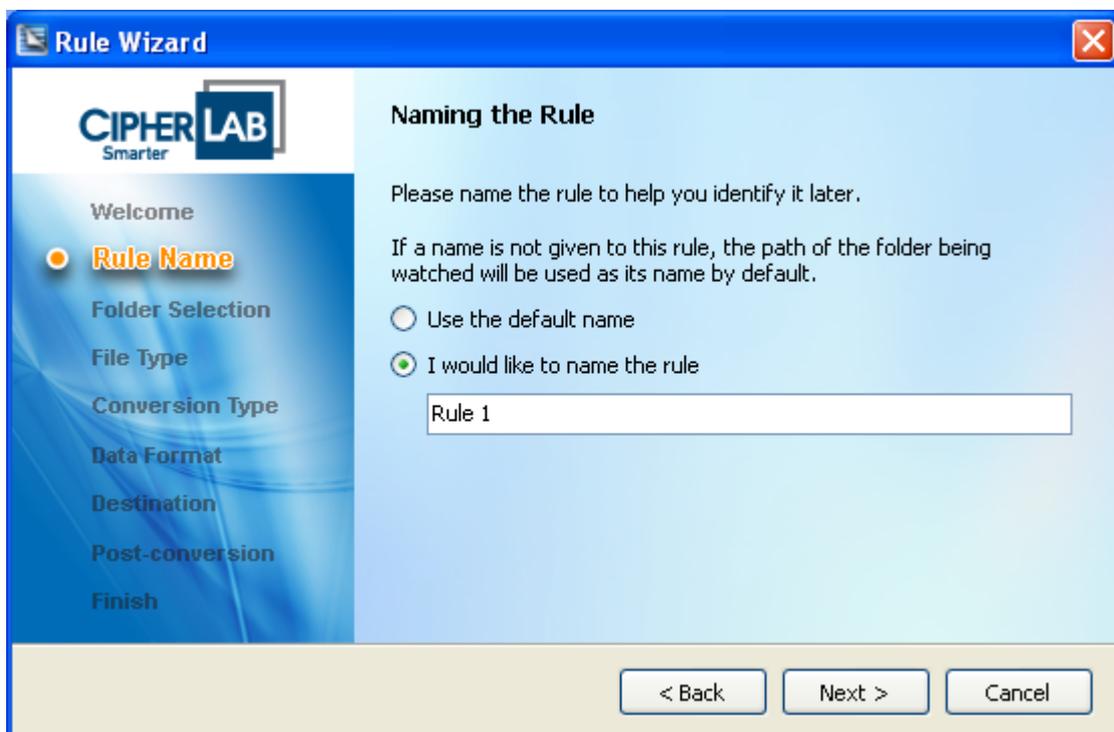


## ADD A RULE

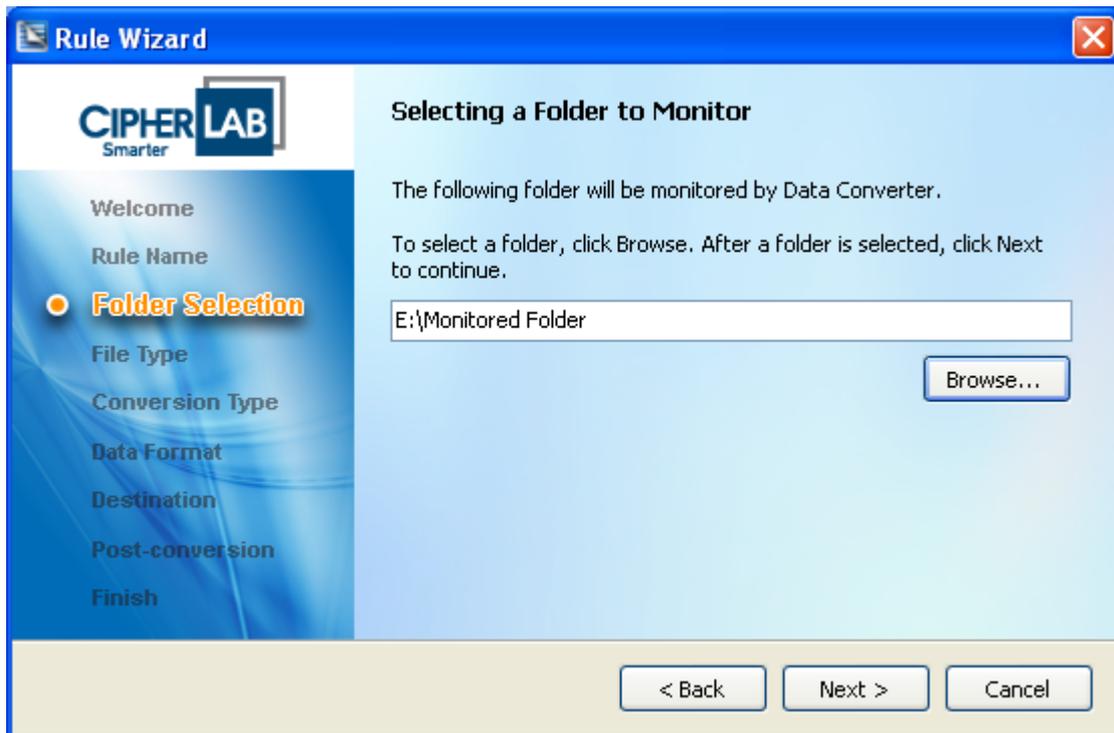
- 1) Click the **Add** button to create a new rule for data file conversion.



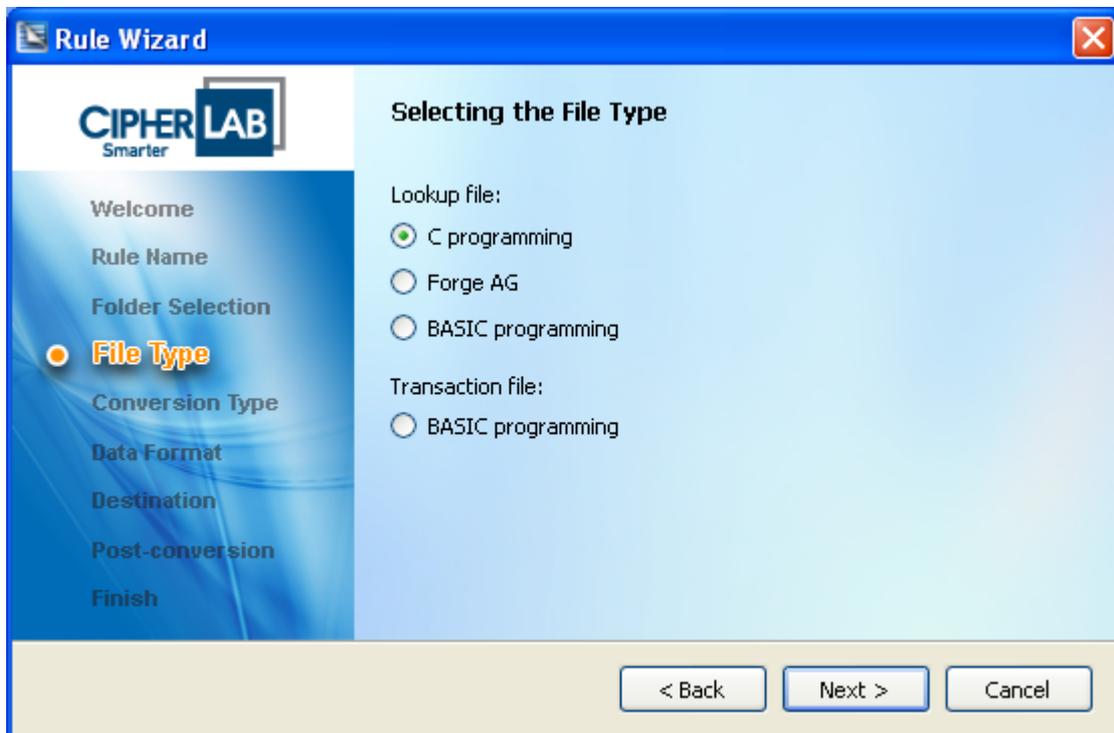
- 2) Click the second radio button to make the field in grey available. Give the rule a name.



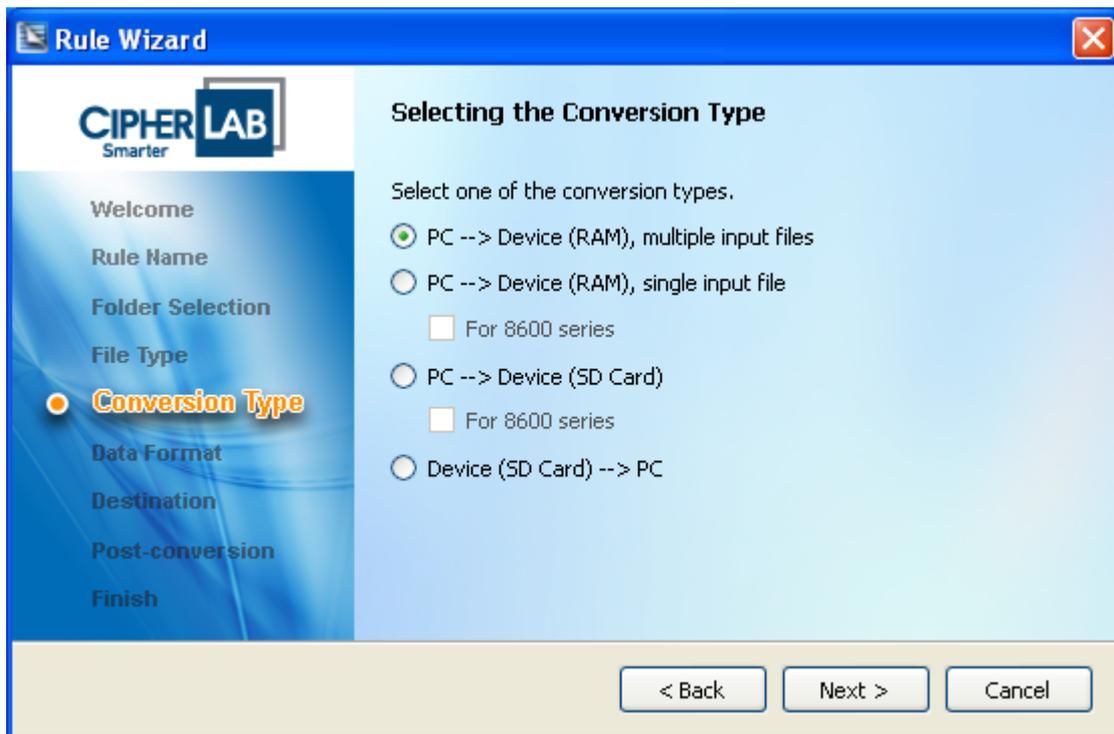
- 3) Type the path of a monitored folder or click the **Browse** button to locate it.



- 4) Select the lookup or transaction file type depending on the written language of the application program which will process the lookup files.



- 5) Data conversion done by Data Converter running on PC is more efficient than on the terminal device. There are four conversion types available to be determined.
- ▶ **PC → Device (RAM), Multiple Input Files:** Click this radio button to have multiple lookup files (\*.txt) being converted into a packed data file that has no filename extension. Note if you selected the transaction file as the file type in the previous screen, this option will be unavailable.
  - ▶ **PC → Device (RAM), Single Input File:** With this radio button selected, Data Converter will convert each file (\*.txt) into a single packed data file respectively. Therefore, it's unnecessary to specify the input file names one by one especially when there are many files to be converted. Note if you selected the transaction file as the file type in the previous screen, this option will be unavailable. Click the "For 8600 series" checkbox to specify the conversion type for 8600 series.
  - ▶ **PC → Device (SD Card):** This option is used to convert each single lookup file (\*.txt) into files whose filename extension may vary depending on the number of data fields. Those converted data files are ready to be transferred to the mobile computer. Note if you selected the transaction file as the file type in the previous screen, this option will be unavailable. Click the "For 8600 series" checkbox to specify the conversion type for 8600 series.
  - ▶ **Device (SD Card) → PC:** This option is used to convert those packed data files (same filename), known as DBF files, from SD Card into a single lookup file (\*.txt). Note if you selected "Forge AG" as the file type in the previous screen, this option will be unavailable.

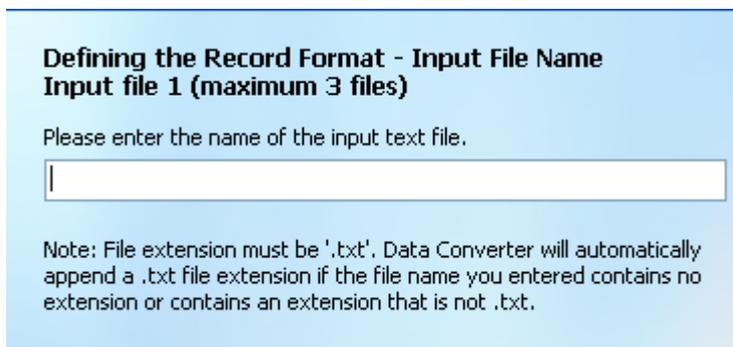


- 6) Fill in this field with the file name of the input text file to be converted. When the lookup file type you selected is **C Programming** or **Basic Programming**, you can specify up to five input files to be converted.



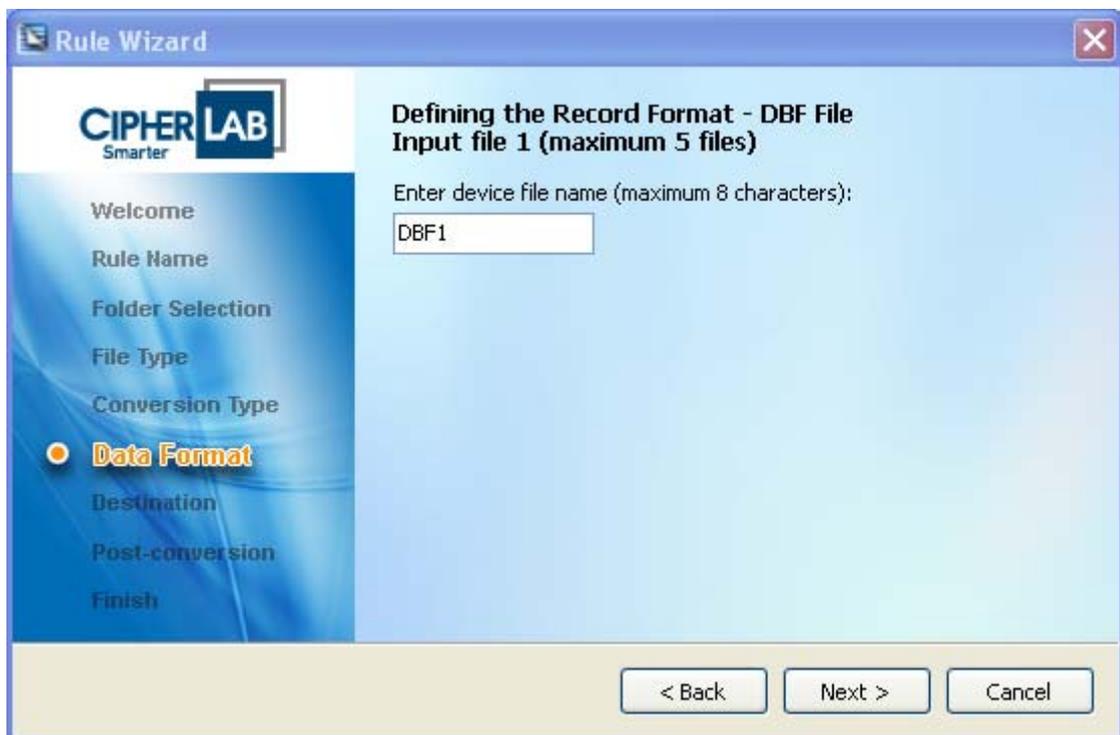
The screenshot shows the 'Rule Wizard' dialog box with the 'Data Format' step selected. The title bar reads 'Rule Wizard'. The main area is titled 'Defining the Record Format - Input File Name' and 'Input file 1 (maximum 5 files)'. It contains a text input field with 'TEXT1' entered. Below the field is a note: 'Note: File extension must be '.txt'. Data Converter will automatically append a .txt file extension if the file name you entered contains no extension or contains an extension that is not .txt.' The left sidebar shows a list of steps: Welcome, Rule Name, Folder Selection, File Type, Conversion Type, Data Format (selected), Destination, Post-conversion, and Finish. At the bottom are buttons for '< Back', 'Next >', and 'Cancel'.

If the lookup file type you selected is **Forge AG**, you can specify up to three input files.

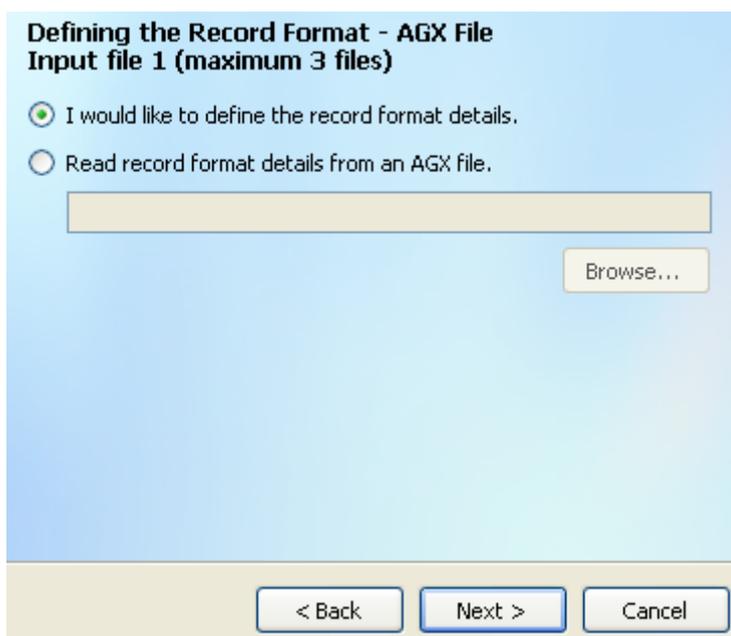


This screenshot shows a similar dialog box for 'Forge AG'. The title is 'Defining the Record Format - Input File Name' and the subtitle is 'Input file 1 (maximum 3 files)'. It features a text input field that is currently empty. The same note about the '.txt' file extension is present below the field.

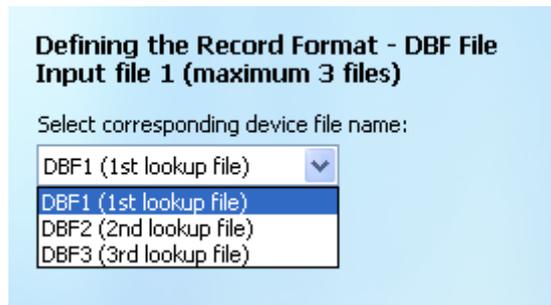
- 7) Assign the DBF name associated with the input file you specified in the previous screen.
- ▶ The picture below appears when you have selected “**C Programming**” as the lookup file type. You can assign up to five DBF names with the input file respectively.



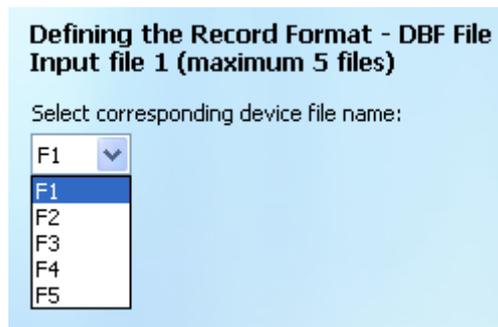
- ▶ With **Forge AG** lookup file type selected, click the second radio button to read record format from an AGX file. Or select the first radio button and click the **Next** button to proceed to the next page.



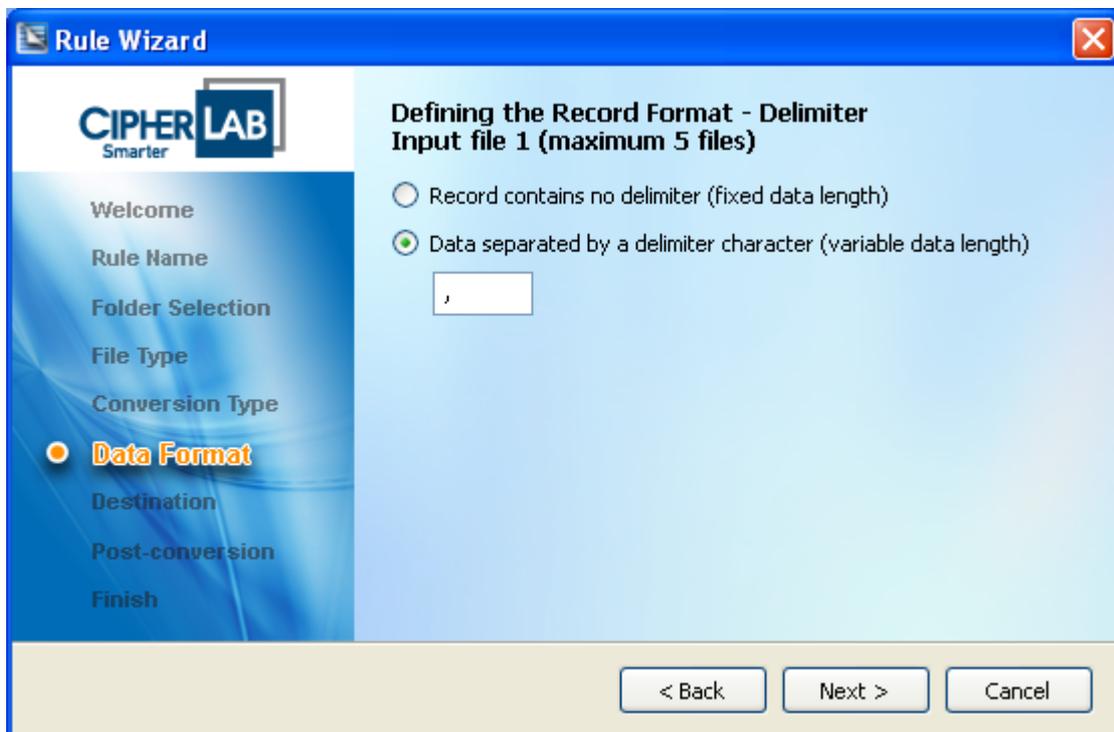
Then click the drop-down menu to select the corresponding device file name.



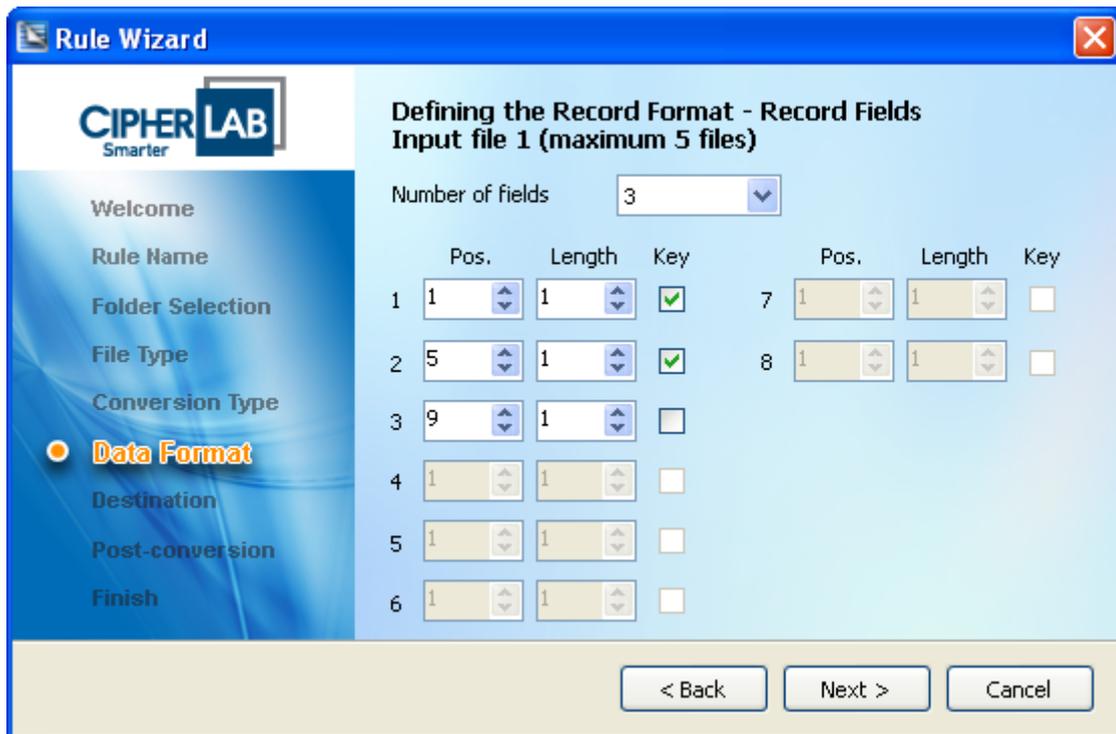
- ▶ For **Basic Programming**, you can click the drop-down menu to select corresponding device file name from F1 to F5.



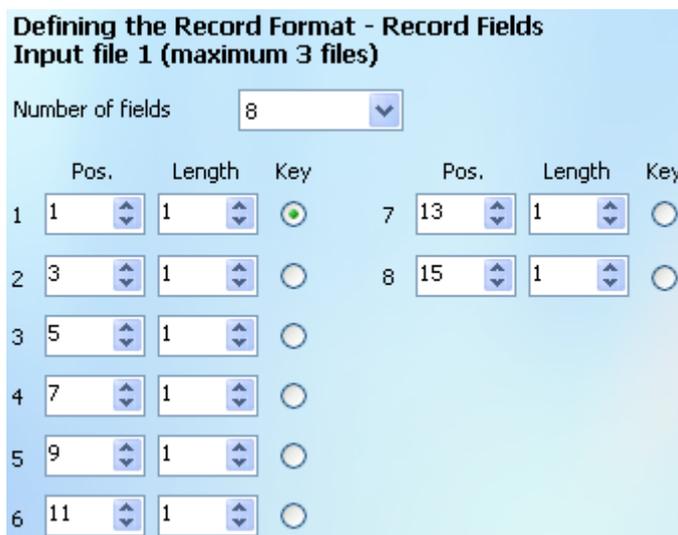
- 8) If the input file contains no delimiter, select the first radio button. Otherwise, you have to specify a delimiter that is used in the input file. The specified delimiter must match the one contained in the input file. If not, conversion may fail.



- 9) Click the **Number of Fields** drop-down menu to specify how many data fields a data record has; then **Offset**, **Max. Len.**, and **Key** items will be available according to the number of fields specified. **Offset** means the first character of the particular field. If you have specified the delimiter, **Offset** is automatically changed while you change the **Max. Len.** field. Or you have to specify **Offset** manually if the input file contains no delimiter. As for the **Key** checkbox, tick it to define the field as a key field.
- ▶ The picture below appears when you have selected “**C Programming**” or “**Basic Programming**” as the lookup file type. Up to three key fields can be specified for a particular record.



- ▶ For **Forge AG** lookup file type, only one field can be specified as the key field. The number of fields can be up to 12 when the “For 8600 series” checkbox is checked in the Selecting the Conversion Type window.

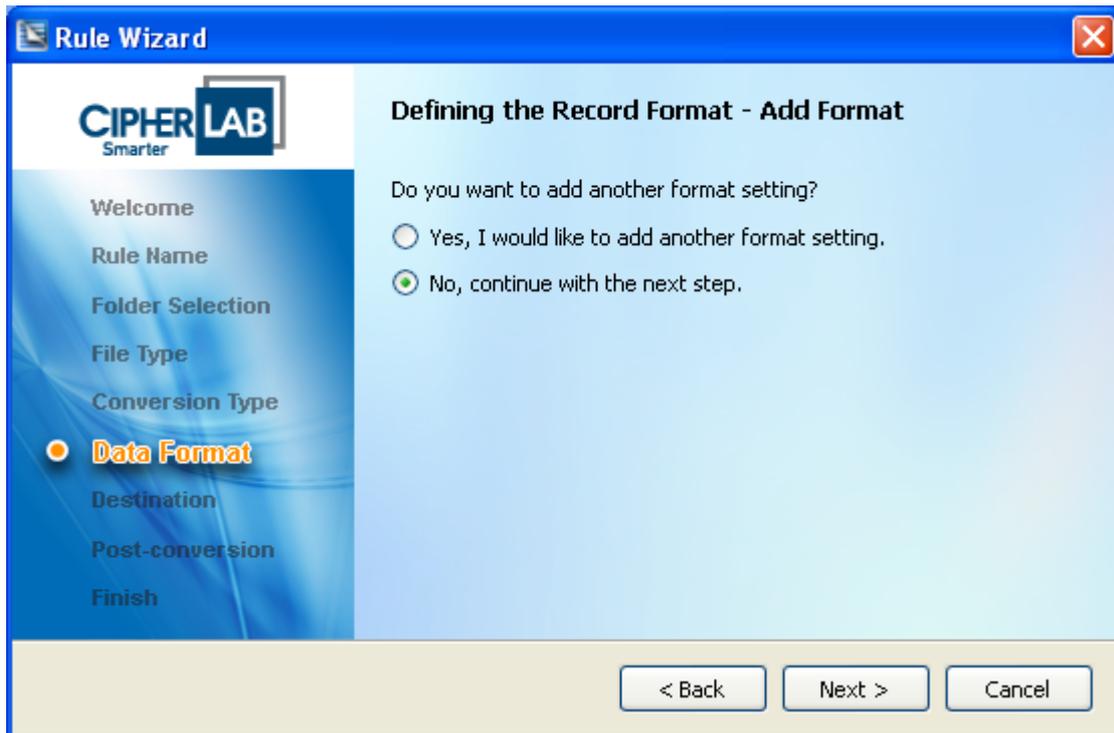


- 10) After you have finished defining record format of a particular input file, the window below asks whether you want to add another format setting. Select the first radio button to add and define up to five input file settings. Or you can select the second radio button to proceed to the next step. This step appears only when you have selected the multiple input files option in the Selecting the Conversion Type window.

#### Selecting the Conversion Type

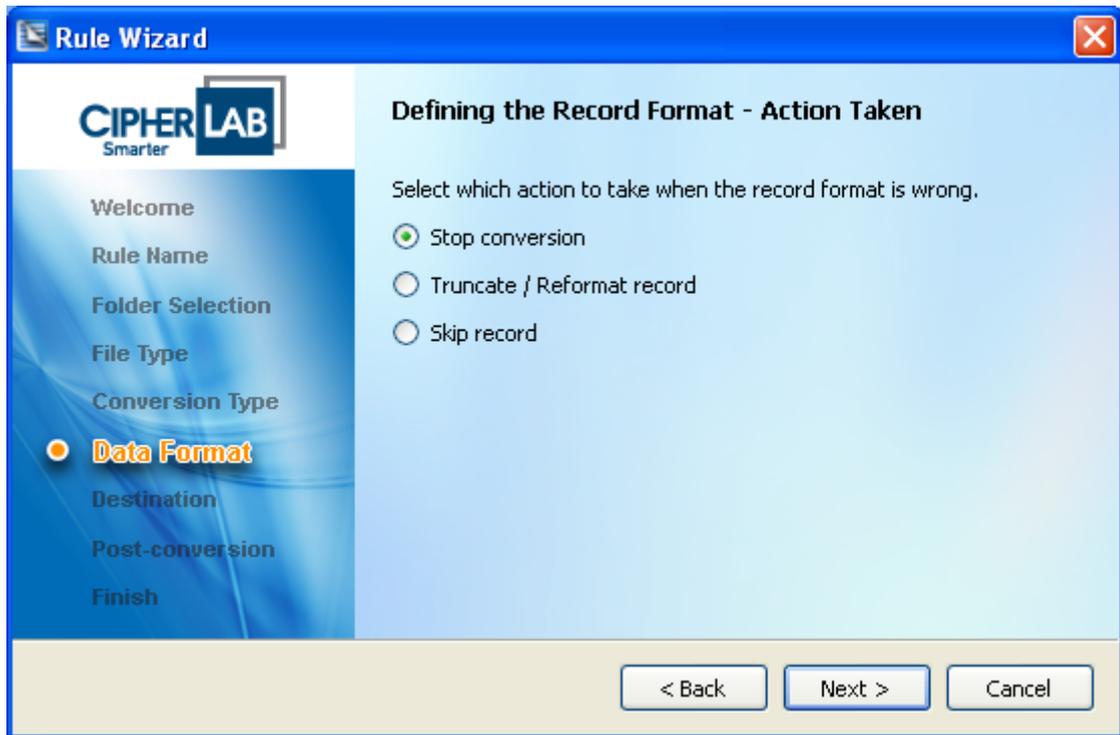
Select one of the conversion types.

- PC --> Device (RAM), multiple input files

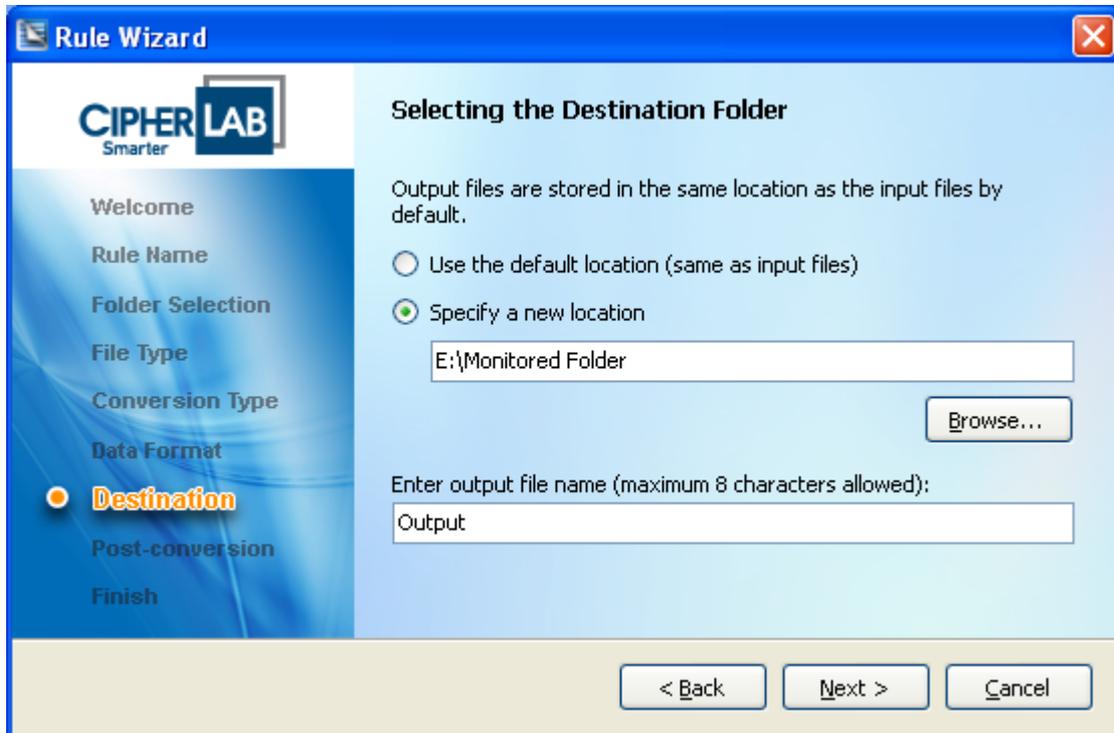


11) Choose the option to react when the record format error detected during conversion.

- ▶ **Stop Conversion:** If the format error is detected, the conversion task stops immediately.
- ▶ **Truncate/Reformat Record:** If the format error is detected, the converted field values will be truncated according to the format settings.
- ▶ **Skip Record:** During conversion if the format error is detected, the utility won't convert the current record and skip to next one.

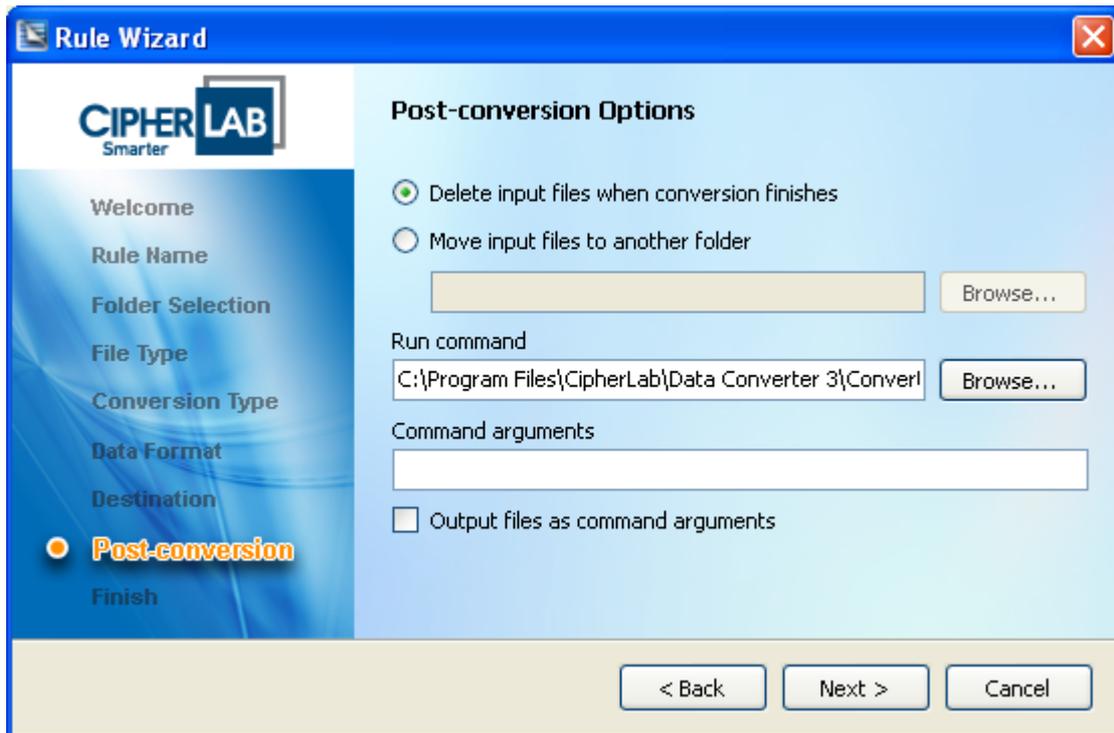


- 12) By default the output files will be stored in the same location as input files. If you want to store the output files in another location, click the second radio button to key in the path or click the **Browse** button to locate the destination folder. Besides, you have to specify the output name in the field before clicking the **Next** button to continue.



The screenshot shows the 'Rule Wizard' dialog box with the 'Destination' step selected. The 'CIPHER LAB Smarter' logo is in the top left. The left sidebar lists steps: Welcome, Rule Name, Folder Selection, File Type, Conversion Type, Data Format, **Destination**, Post-conversion, and Finish. The main area is titled 'Selecting the Destination Folder' and contains the following text: 'Output files are stored in the same location as the input files by default.' Below this are two radio buttons: 'Use the default location (same as input files)' (unselected) and 'Specify a new location' (selected). A text box below the second radio button contains 'E:\Monitored Folder' and a 'Browse...' button is to its right. Below the text box is the instruction 'Enter output file name (maximum 8 characters allowed):' followed by a text box containing 'Output'. At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

- 13) After conversion, the input files in the monitored folder will be deleted by default. If you want to keep those input files, select the second radio button and specify a path to which the input files will be removed from the monitored folder.
- ▶ **Run Command:** Type a path or click the **Browse** button to specify an executable or batch file that will be run after conversion.
  - ▶ **Command Arguments:** If necessary, type command arguments in the field associated with the command.
  - ▶ **Output files as Command Arguments:** Tick this checkbox to have output file names taken as a part of the command arguments.

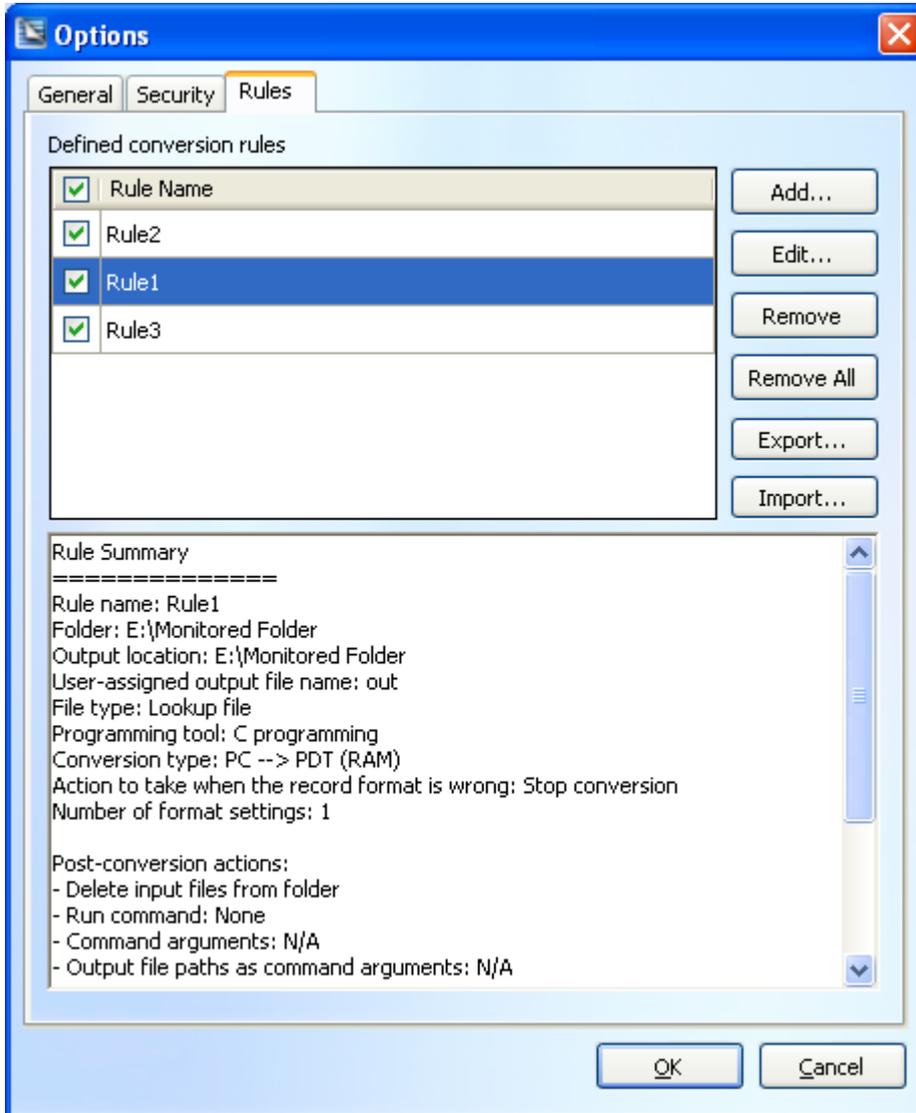


- 14) After you have finished the post-conversion settings, click the **Finish** button to complete the rule creating process. If you don't want to activate the rule, remove the tick from the **Enable this rule** checkbox.

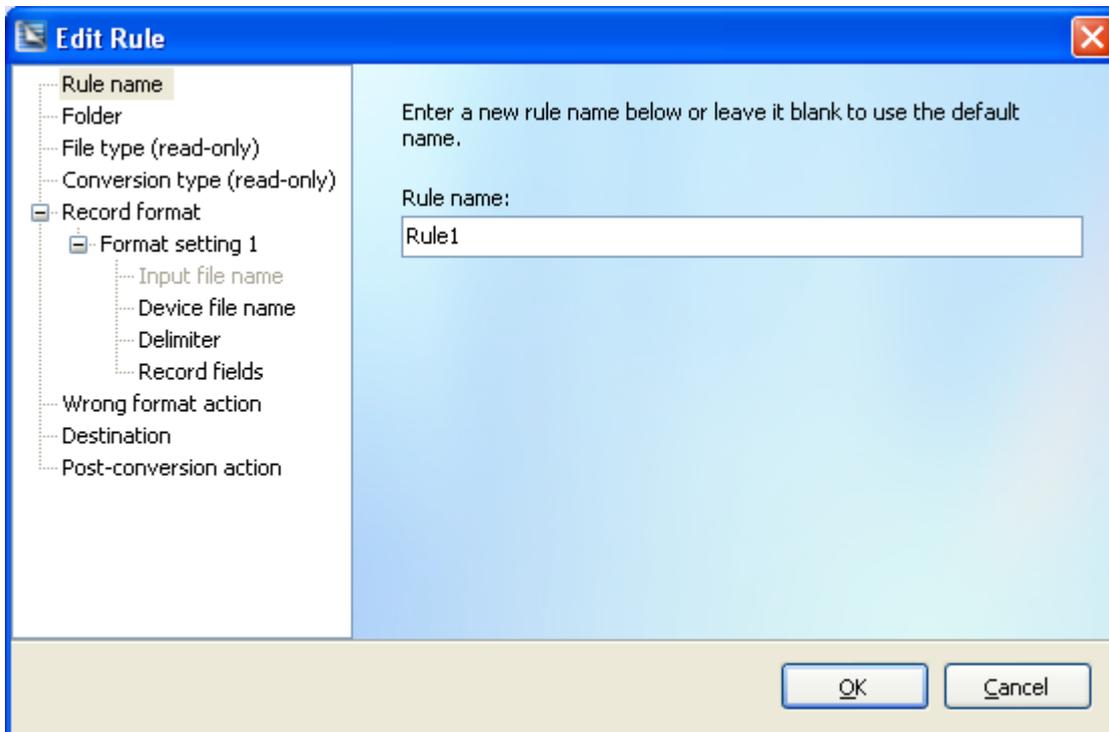


## EDIT RULES

You can click the **Edit** button to change settings of each rule that prevent you from removing and creating rules. Click a particular rule entry to see its rule summary shown in the text field.

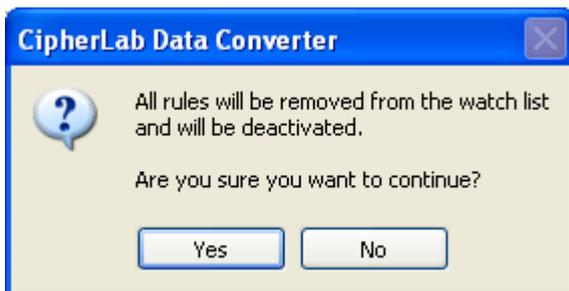


After clicking the Edit button, the rule editing window shows up. Click on the left-hand tree menu to select an item to change. Note that some items may be read-only, not allowing users to change them.



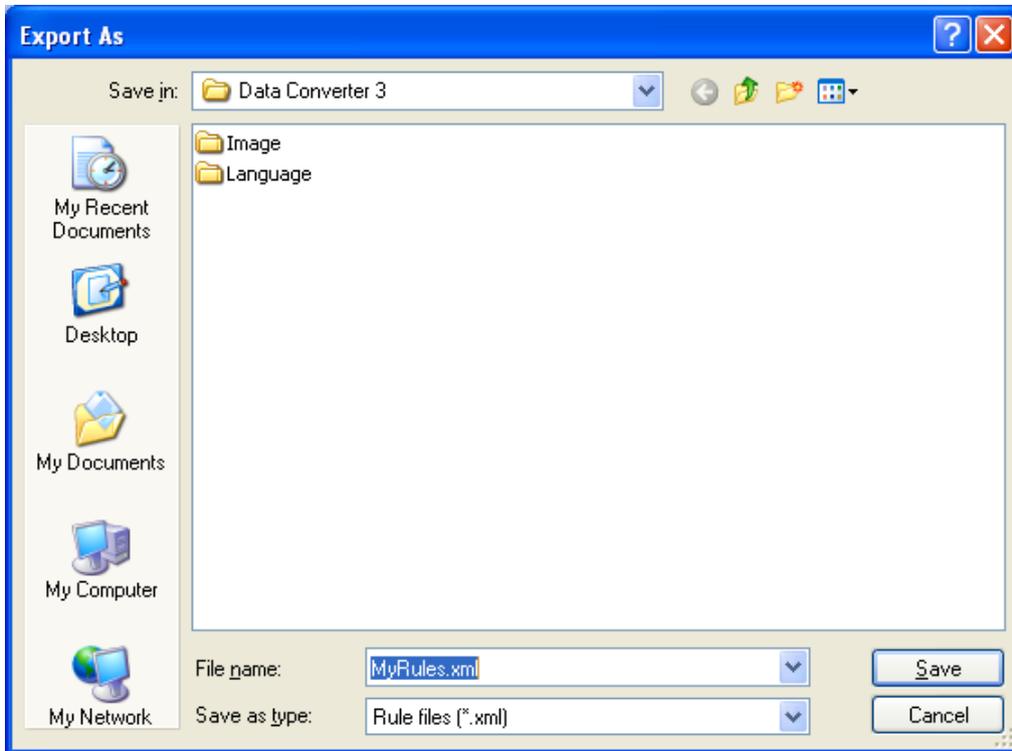
## REMOVE/REMOVE ALL

Click a rule entry to remove particularly. Clicking the **Remove All** button will bring up a confirmation dialog box asking whether you want to remove all rules. Click **'Yes'** to continue or **'No'** to exit.



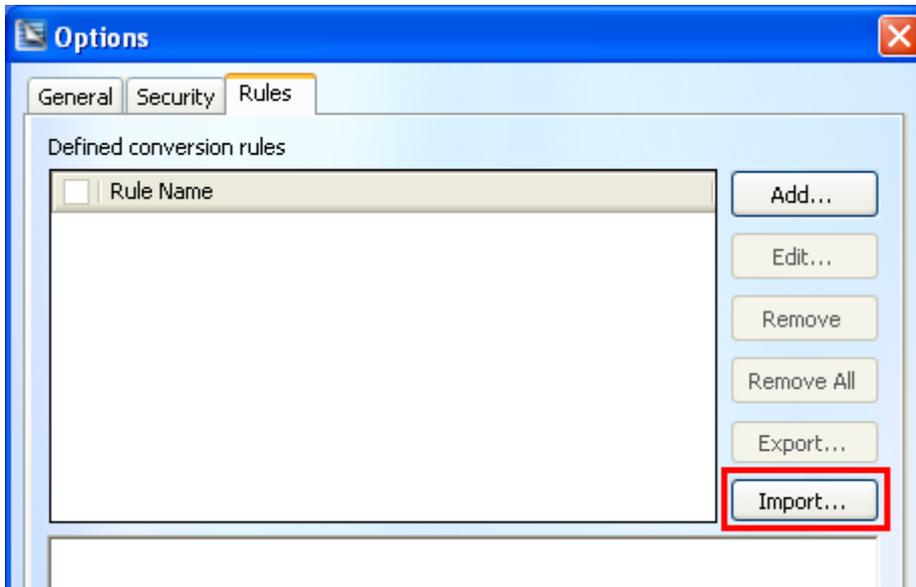
## EXPORT

Established rules can be exported into a file with the **'.xml'** extension. Click the **Export...** button and then a dialog box shows up. Select a file folder to export the rules into a file and specify the file name.

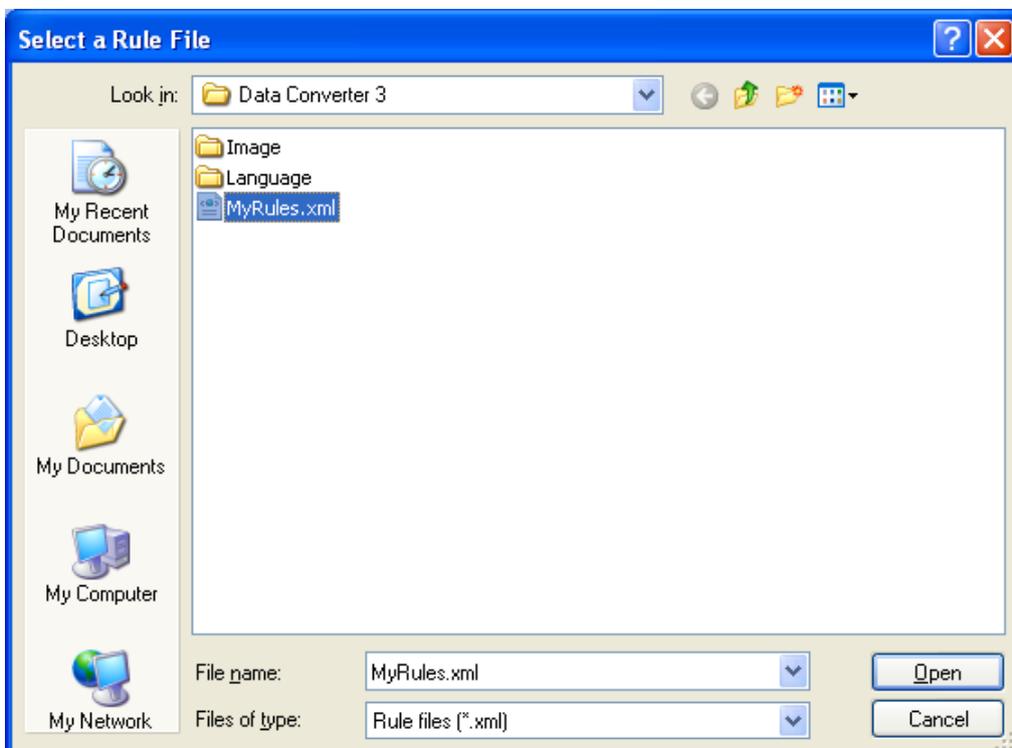


**IMPORT**

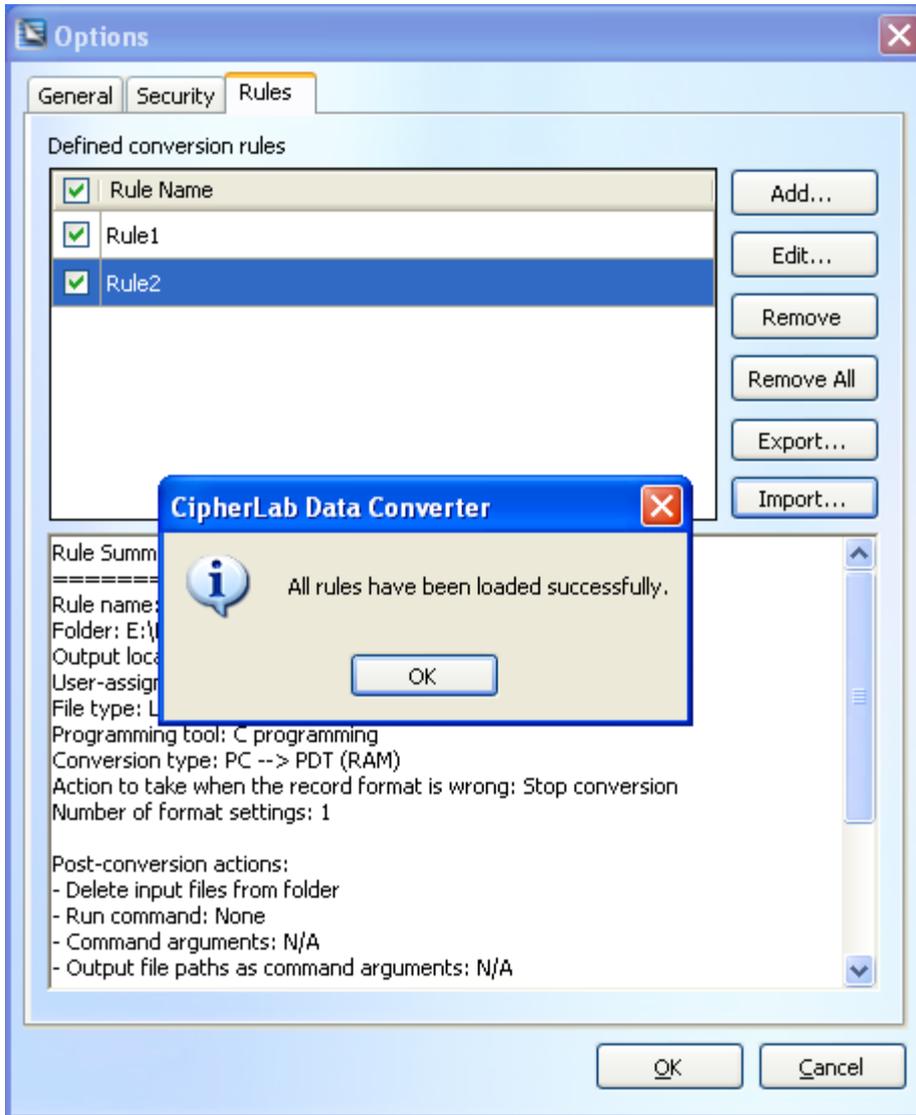
The exported rules can be retrieved from the file you saved. It's convenient especially when the rules are removed or changed by accident. Click the **Import...** button to bring up the dialog box.



Select the rule files you saved before. Click the **Open** button.



With the rules imported successfully, you will see a message box and the rules are added in the list field.



Keep in mind that a particular monitored folder can only be designated for a rule. Therefore, when you attempt to import rules from a previously saved file and the monitored folder defined in an existing rule is found the same with the one defined in a rule being imported, a Confirm Rule Replace window shows up listing detail information for the two rules whose monitored folders are the same. Click the **Keep** button to keep the existing rule; or click the **Replace** button to import the incoming rule and the existing one will be replaced.

