

Introduction

The VDV File Converter is a very flexible and capable engine specially designed to convert almost any delimited text based data file into a VDV compatible file.

Users are able to create their own File Format templates and then add their data files to the VDV File Converter.

The purpose of the VDV File Converter is to allow for sensor data collected from any field device to be added to VDV for all data handling. This includes field devices that return data not compatible with the standard VDV file format as well as manual data files that need to be added to VDV.

The VDV File Converter will work on ordinary data files where new data is being added to the end (or to the front) of the data file.

The VDV File Converter will also work on incremental type of data files where data is sent from remote device in small portions, commonly to a FTP folder.

Furthermore, the VDV File Converter allows for individual scaling of any of the sensor readings found in the data files by using the equation $Y=aX+b$ where X is the original sensor reading, a is the slope constant, b is the offset and Y is the outcome of the equation and stored.

To get the VDV File Converter to work there are three steps to implement:

- Configure the File Format
- Add the new file and connect to the File Format
- Set the a and b constants as needed

Finally, to finish the process, you need to configure db.robot.c to monitor the new VDV data file, and to configure graphs using db.data.browser.

From then on VDV File Converter will continuously monitor the selected data files and convert new data to a VDV compatible data file which are added automatically into the VDV data handling system

Following are step-by-step instructions of how to configure the File Format(s) and to add new file(s).

The VDV File Converter application has been developed by Vista Engineering as part of the Vista Data Vision applications known as VDV.

The **VDV File Converter** application has been developed by **Vista Engineering**.

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System Requirements

32/64 Bit Operating System: Windows 7, Windows Vista, Windows XP Professional, Windows Server 2008, Windows Server 2003

CPU: 1.5GHz or faster. 2.2GHz or faster is preferable and does greatly improve application response.

RAM: 1Gbyte or more. Increasing the RAM will improve the performance of the application.

Installation

- VDV File Converter should be placed on the same computer that is running Vista Data Vision. The default location is C:\VDV File Converter\
- It is not recommended to place the VDV File Converter directory within the Vista Data Vision directory.
- If VDV File Converter needs to run on a separate computer then the LabView runtime engine must be installed on the computer for VDV File Converter to run.

How to Buy

Information on how to order **VDV File Converter**:

Visit www.vistadatavision.com for information about price of the application and How to Buy.

After payment by major credit card, you will receive **User** name, **Company** name and **Product Key** by email that will allow you to register the product.

See [Register File Converter](#) for information on how to register.

Register File Converter

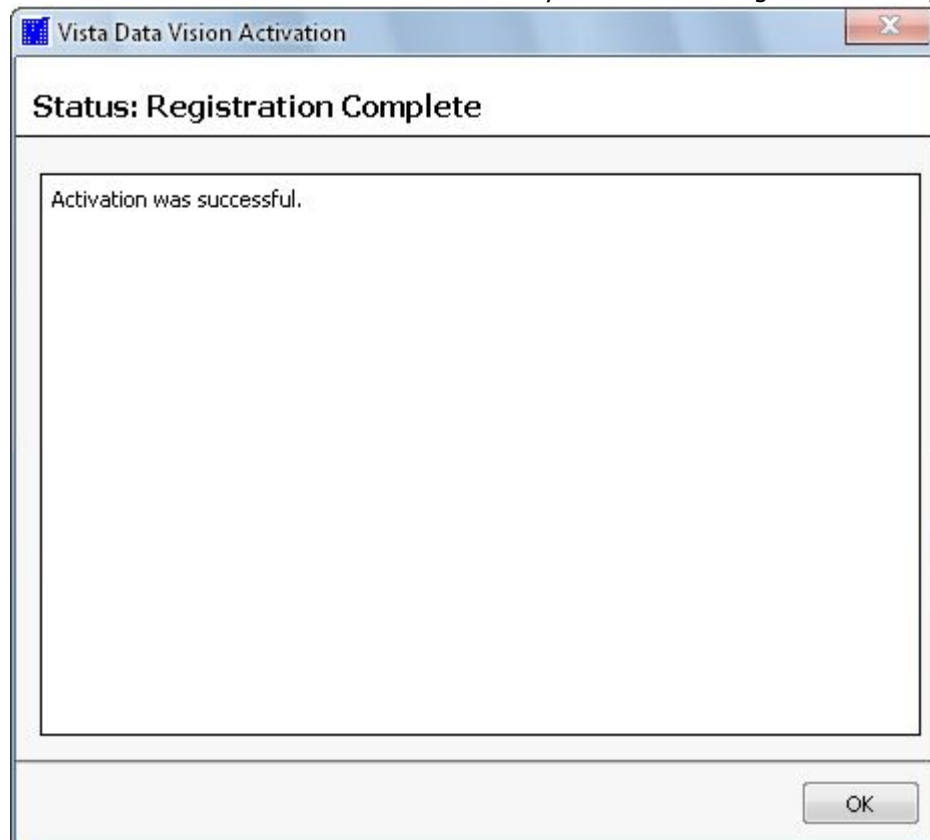
To register **VDV File Converter** choose the **Register** command from the **Help** menu.

Enter **User** name, **Company** name and **Product Key** in the appropriate fields and press OK.



The image shows a Windows-style dialog box titled "Register Product". On the left side, there is a vertical blue bar with the word "REGISTER" written in white capital letters. The main area of the dialog is titled "Enter Registration Information". It contains three text input fields: "User" with the text "John Smith", "Company" with the text "Vista", and "Product Key" with the text "xxxx-yyyy-xxxx-yyyy-xxxx". At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

If all the information has been entered correctly then the following information appears:



The image shows a Windows-style dialog box titled "Vista Data Vision Activation". The dialog has a white background and a blue title bar. At the top, it says "Status: Registration Complete". Below this, there is a large white rectangular area containing the text "Activation was successful.". At the bottom right of the dialog, there is an "OK" button.

else a error message will appear.

See also [Contact Information](#) for further information.

Contact Information

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For Contact information:

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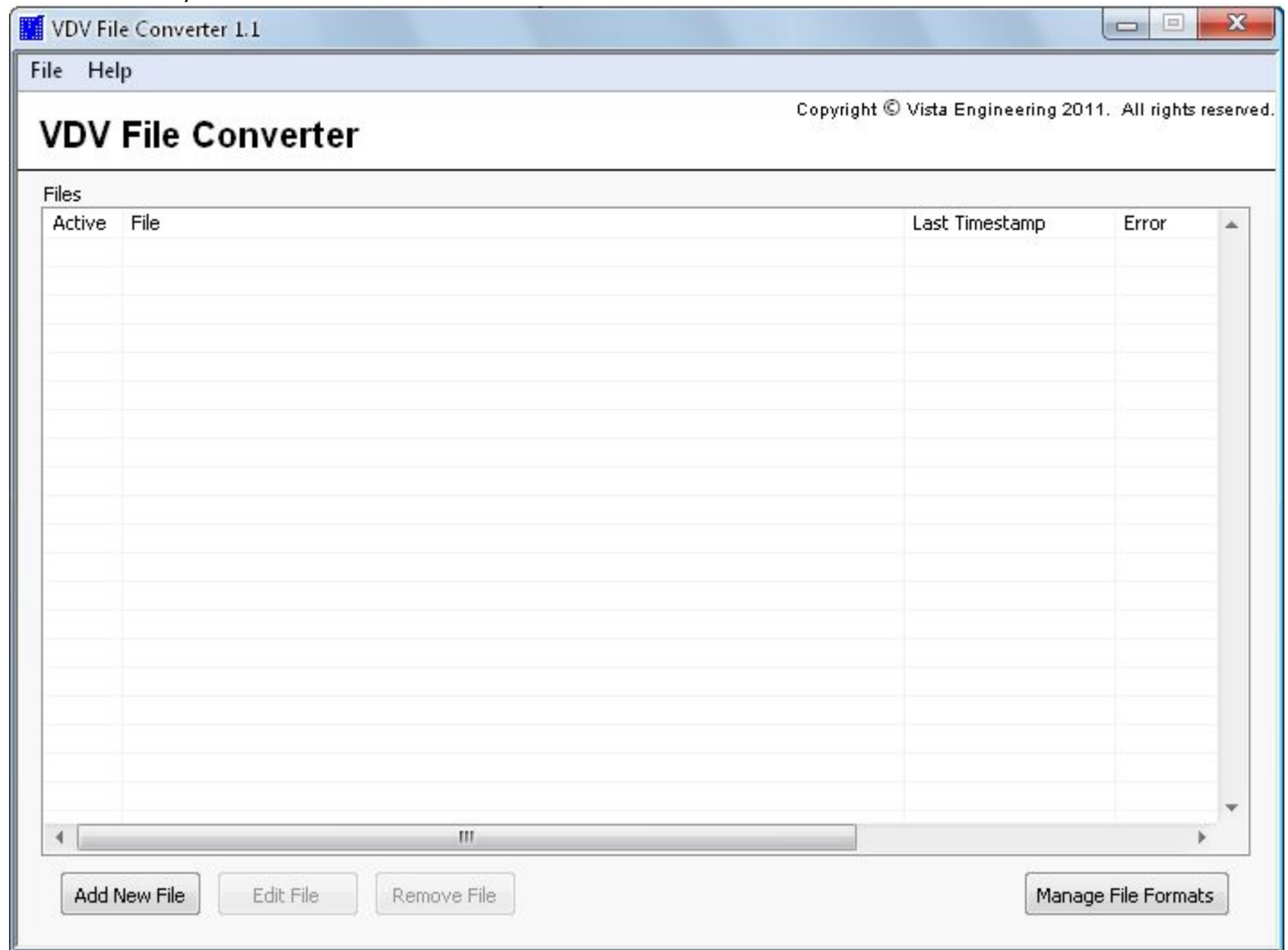
Web Site: www.vistadatavision.com

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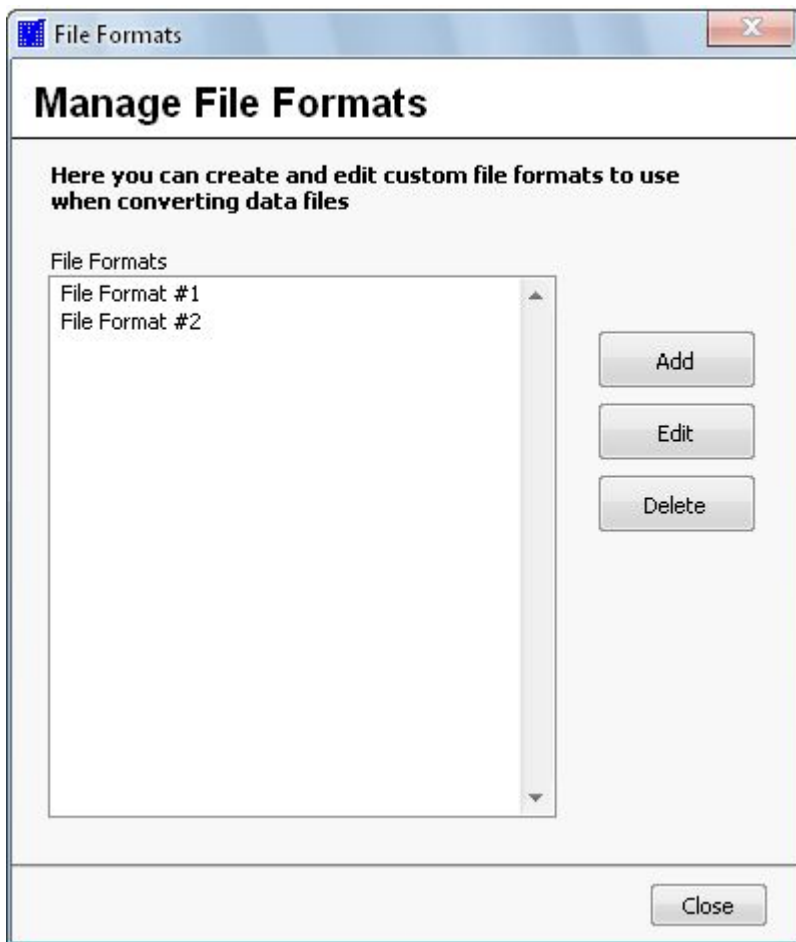
Warning: This computer program is the Property of Vista Engineering and is protected by copyright law and international treaties, as well as other intellectual property laws and treaties. This computer program is provided "as is" without warranty of any kind. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.

New File Format

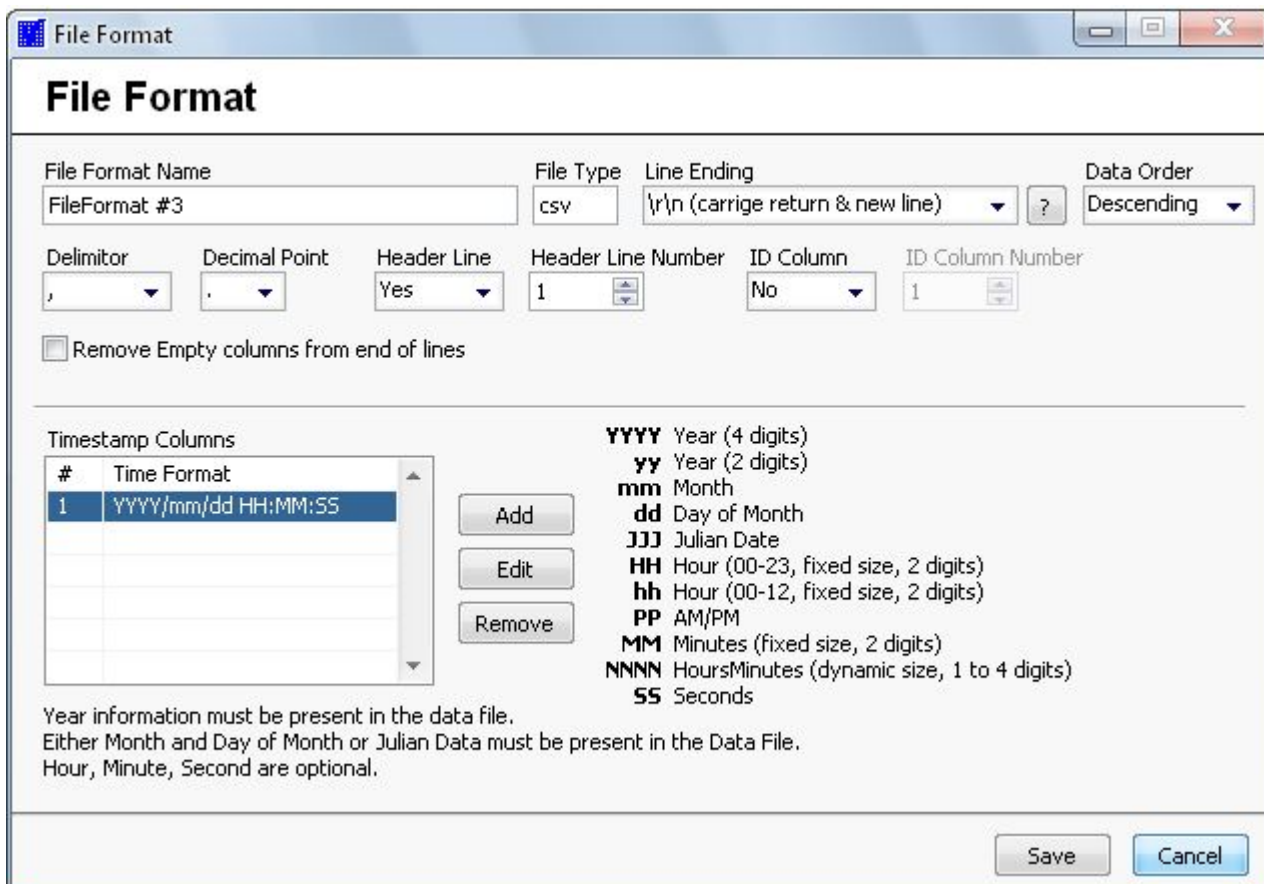
To convert a file you must first create a file format for that file.



Click Manage File Formats.



Select **Add** to create a new File Format.



Here you configure the file format parameters to match your data file format.

File Format Name: Give your File Format Name to identify it from others.

File Type: Type in File Type (file ending) of the files you will convert. For example if the file name is textfile.csv then you would type in csv into this field.

Line Ending: Select Line Ending Type for your data file. If you do not know what the Line Ending is for your file, click the "?", locate your file and click Select. This will automatically select the right Line Ending for you.

Data Order: Select if the data is in Descending or Ascending order. Almost all data files have a descending order.

Delimiter: Select the Delimiter type in the data file.

Decimal Point: Select Decimal Point type.

Header Line: Select if your data file has a header line. VDV File Converter will use the header line to give default names to the data columns in the converted file.

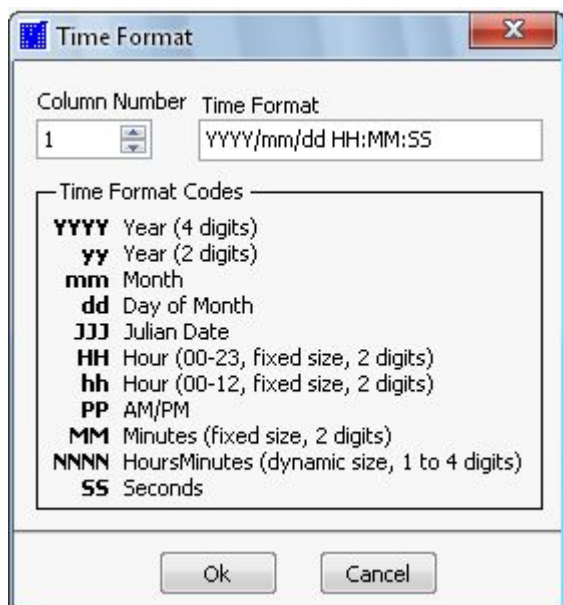
Header Line Number: Select line number for the header line if your data file contains a header line.

ID Column: Select if your data file has a ID column.

ID Column Number: Select Column number for the ID column if your data file contains a ID column.

Remove Empty columns from end of lines: Check this checkbox if you want the File Converter to skip empty columns, if there are any, from the end of lines.

Next you need to add Timestamp Columns. You need to add all columns that have any part of the Timestamp. You may edit or delete Timestamp Columns at any time. Click Add to add a new timestamp Column.



Here we have a Timestamp setup where the data and time is in the same column so we only need to add one Timestamp Column. Important is to Change the Column Number if your data file has the Timestamp in other column than the first.

In the example above the timestamp is in column 1, formatted as YYYY/mm/dd HH:MM:SS, an example for this time stamp format is 2011/07/03 15:31:00.

If the timestamp is split between two or more columns, then use the Column Number to build the Time Format. If for example the timestamp is split between 2 columns then use the Column number to set where each portion of the timestamp information is located.

Column 1: YYYY-mm-dd for Year-Month-Day like 2011-03-25

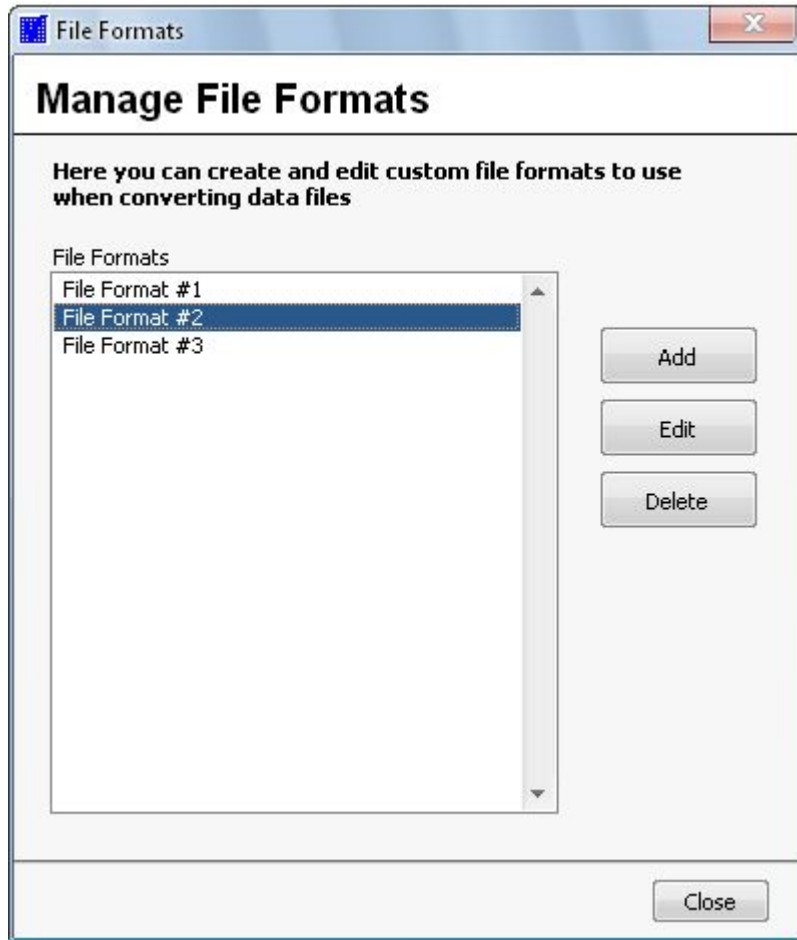
Column 2: HH:MM:SS for time of day like 15:31:00

Note: Check carefully that the Column Number match the actual location of the time stamp. As an example, if there is an ID column found in the data file, and the ID column is column 1 and time stamp in column 2, then set the Time Format Column Number to 2.

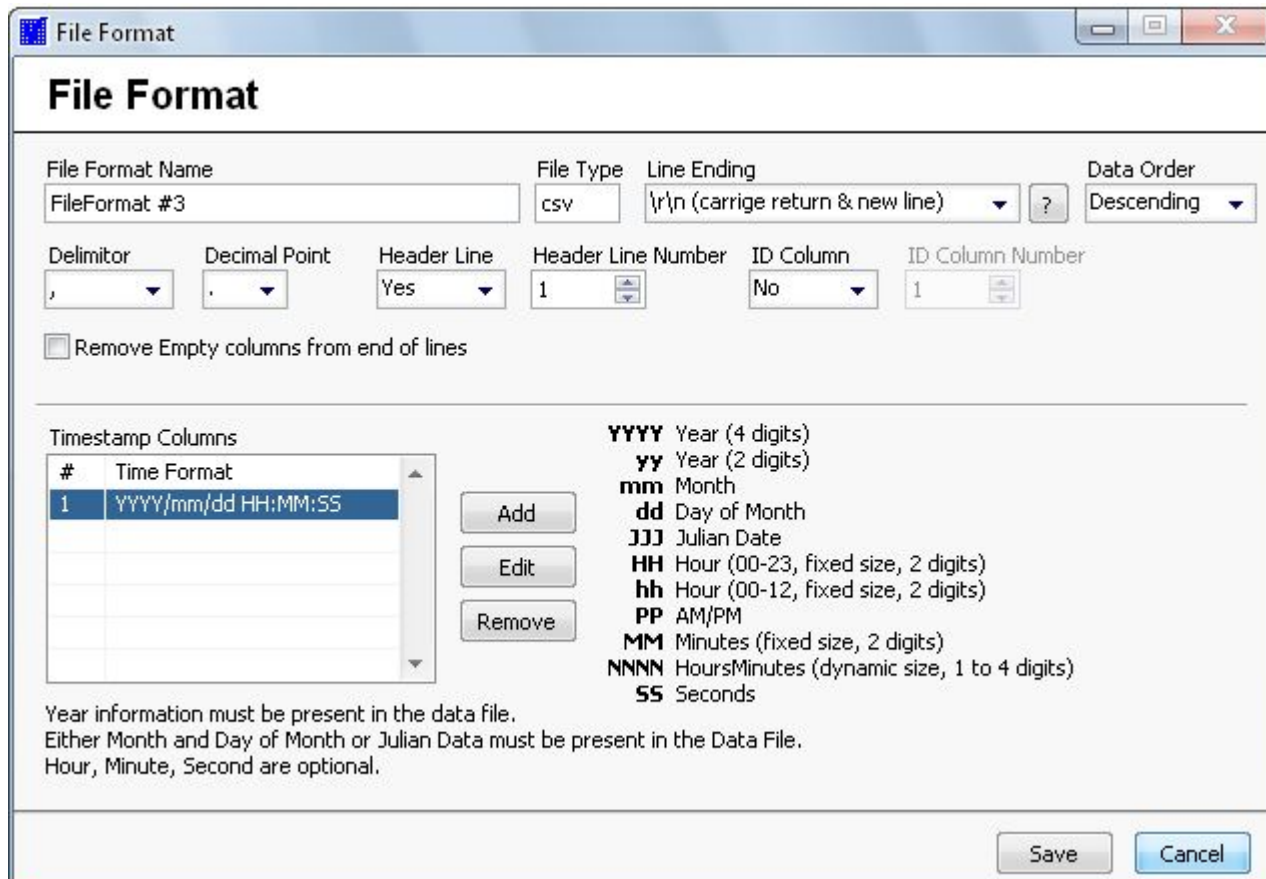
When you have done configuring the File Format click **Save**.

Edit File Format

If you want to edit a File Format, select **Manage File Formats**.



Select the File Format you wish to edit and press Edit.



The File Format edit window gives complete overview of the File Format configuration. When you have finished editing your File Format click Save.

Example File Formats

1. Header Line and two column timestamp

This is an example file with Header Line and Date and Time in separate columns, see:

```
"date","time","degC-inside","degC","degC-Ave","degC-sun","degC-ground"  
2011/04/16, 10:05:00,20.155822,18.00324,18.719308,19.382428,16.098972  
2011/04/16, 10:10:00,20.427984,18.18753,18.331688,18.803218,16.05917  
2011/04/16, 10:15:00,20.663588,18.36116,18.689118,19.104336,16.375736  
2011/04/16, 10:20:00,20.888986,18.65835,19.318062,19.623304,16.581544
```

File Format

File Format Name: Example Format | File Type: csv | Line Ending: \r\n (carriage return & new line) | Data Order: Descending

Delimiter: , | Decimal Point: . | Header Line: Yes | Header Line Number: 1 | ID Column: No | ID Column Number: 1

Remove Empty columns from end of lines

Timestamp Columns

#	Time Format
1	YYYY/mm/dd
2	HH:MM:SS

Legend:

- YYYY Year (4 digits)
- yy Year (2 digits)
- mm Month
- dd Day of Month
- JJJ Julian Date
- HH Hour (00-23, fixed size, 2 digits)
- hh Hour (00-12, fixed size, 2 digits)
- PP AM/PM
- MM Minutes (fixed size, 2 digits)
- NNNN HoursMinutes (dynamic size, 1 to 4 digits)
- SS Seconds

Year information must be present in the data file.
Either Month and Day of Month or Julian Data must be present in the Data File.
Hour, Minute, Second are optional.

Buttons: Add, Edit, Remove, Save, Cancel

Notice that in this example the timestamp is located in two columns. The 1st column contains the Date and 2nd column the Time. Since there is a header line in the data file the Header Line is changed to Yes and the Header Line Number set to 1.

2. No Header Line and Timestamp is in a single column. Delimiter as tab and Decimal Point as ,

This is an example file with Delimiter is tab and Decimal Point is , see:

```
2009-05-06 09:45:00 1 13.61 1,723 1,559 1,847 14,99  
2009-05-06 10:00:00 2 13.62 1,296 0,988 1,559 14,99  
2009-05-06 10:15:00 3 13.62 1,669 1,532 1,785 14,99  
2009-05-06 10:30:00 4 13.63 1,699 1,518 1,845 14,99  
2009-05-06 10:45:00 5 13.62 1,306 0,989 1,573 14,99
```

File Format

File Format Name: Example File Format

File Type: csv

Line Ending: \r\n (carriage return & new line)

Data Order: Descending

Delimiter: Tab

Decimal Point: ,

Header Line: No

Header Line Number: 1

ID Column: No

ID Column Number: 1

Remove Empty columns from end of lines

Timestamp Columns

#	Time Format
1	YYYY-mm-dd HH:MM:SS

Add

Edit

Remove

YYYY Year (4 digits)
yy Year (2 digits)
mm Month
dd Day of Month
JJJ Julian Date
HH Hour (00-23, fixed size, 2 digits)
hh Hour (00-12, fixed size, 2 digits)
PP AM/PM
MM Minutes (fixed size, 2 digits)
NNNN HoursMinutes (dynamic size, 1 to 4 digits)
SS Seconds

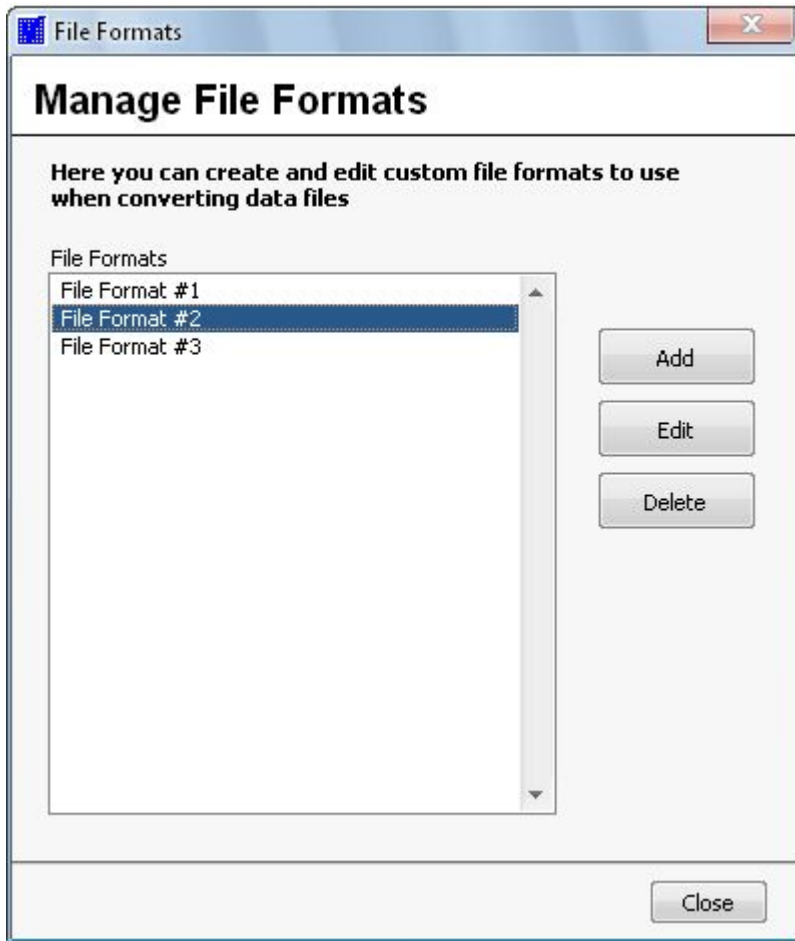
Year information must be present in the data file.
 Either Month and Day of Month or Julian Data must be present in the Data File.
 Hour, Minute, Second are optional.

Save Cancel

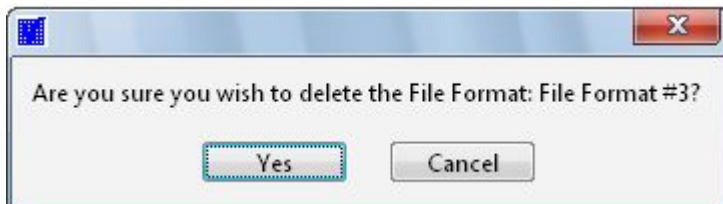
Notice that here we have change the **Delimiter** to "tab" and **Decimal Point** to ",". Our timestamp is in single column.

Delete File Format

If you want to delete a File Format, select **Manage File Formats**.



Select the File Format you wish to delete and press Delete.



Press Yes to confirm that you want to delete the File Format.

Custom File Formats

If you have a data file that cannot be converted with the VDV File Converter then you can contact us for information about a custom file converter.

Add Single File

In this example the data file has the name MyData.csv.

Name ▲	Size	Type	Date Modified
MyData.csv	2 KB	Microsoft Office E...	6/7/2011 11:54 AM

We have a single .csv file with data.

VDV File Converter

Select a File and the correct File Format

File Structure
Single File (new data gets appended to a single data file)

File Format
File Format #3

Source File
C:\my_data\MyData.csv Active

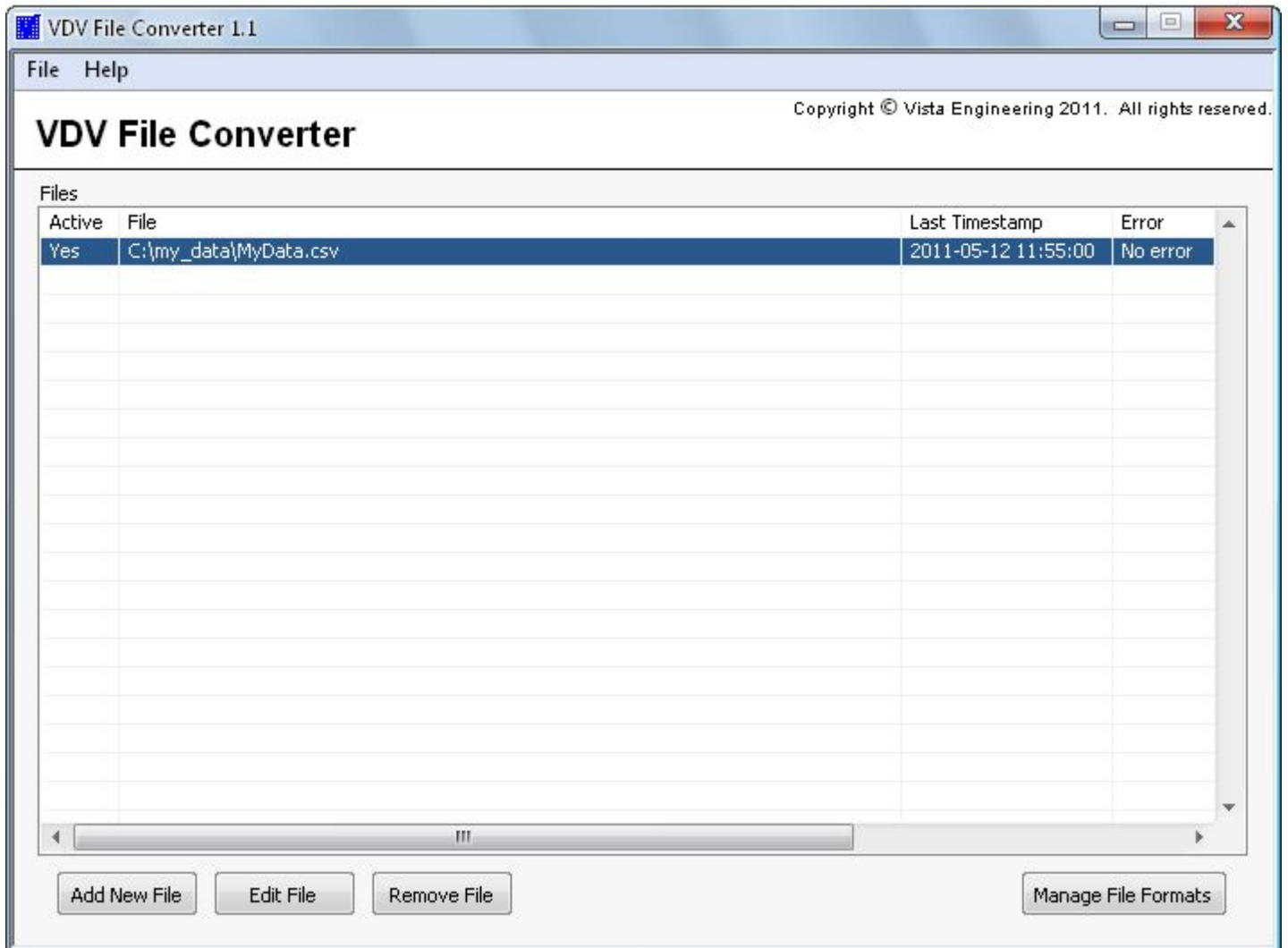
0

Delay before VDV File Converter starts reading the file after it has detected that it has been updated. This is used with files that take some time to update. In these cases the file modification time of the file gets updated before all the data has been written to the file. This can apply to files that are uploaded to an FTP site. In most cases the Delay should be set to 0.

Notice
Converted files will be placed in the same folder as the source file.
The converted files will have a **_vdy** postfix to the file name.
The file type of the converted file is **.dat**.

On the front end of the VDV File Converter click on Add New File. Here we have located a single .csv file and chosen File Format #3 to be used to convert this file.

Click Next.



Our file is now being monitored and converted into VDV compatible format. You may locate the new file in the folder where are the original MyData.csv file is.

Name	Size	Type	Date Modified
MyData.csv	2 KB	Microsoft Office E...	6/7/2011 11:54 AM
MyData_vdv.dat	2 KB	DAT File	6/7/2011 12:06 PM

When converting data from the original data file into the VDV data file, the new VDV data file will have the same name as the original data file but with _vdv added to its name, and the file extension is .dat. The location of the new VDV data file is in the same folder as the original file, see the example above.










The VDV File Converter will from now on continuously monitor MyData.csv for new data, and when new data is found it will convert that new data and append it to MyData_vdv.dat. The final step is to configure db.robot.c to import the data into the VDV database.

Add Incremental File

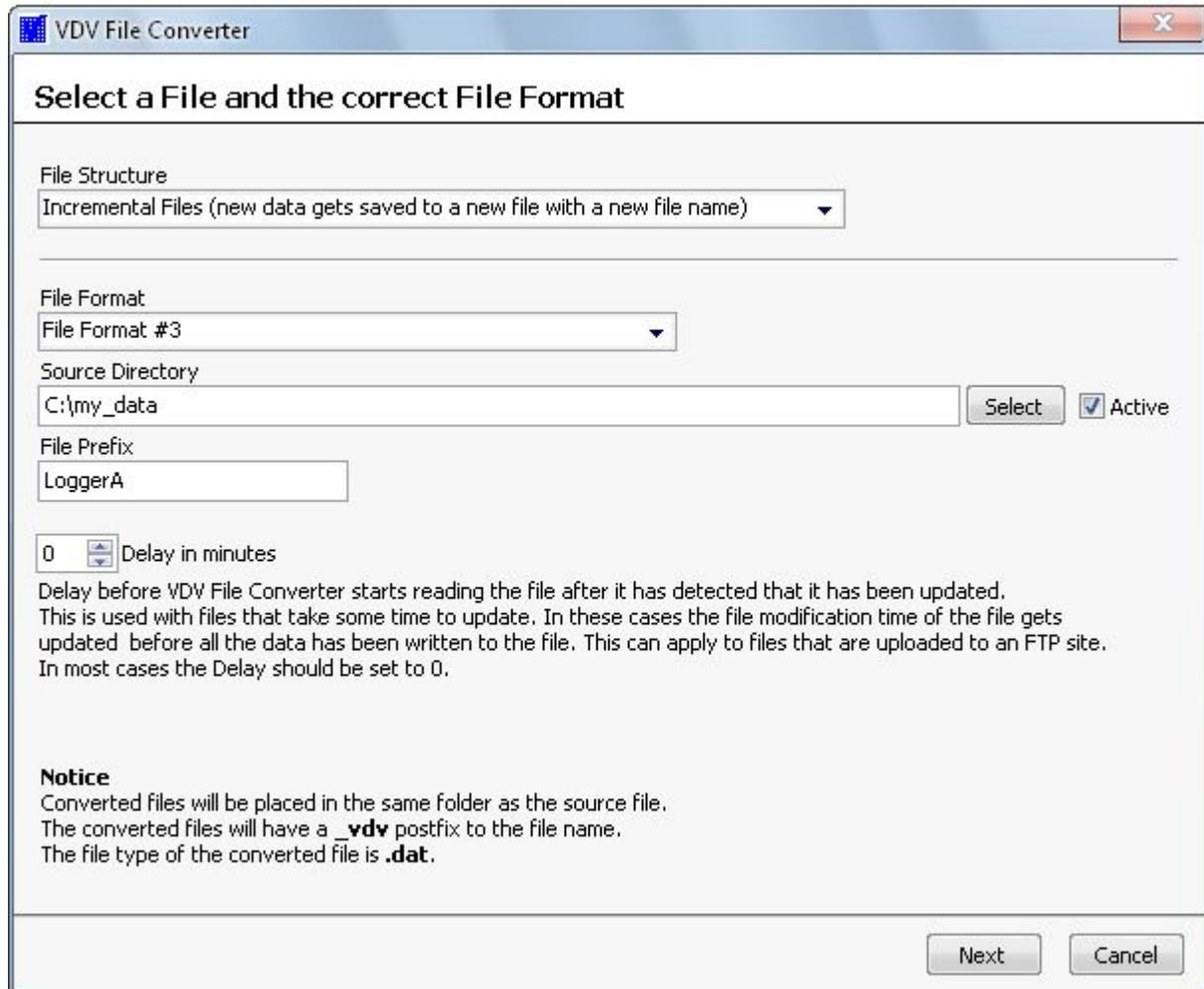
Incremental data files are common in data logger systems where a data logger uploads new data onto a FTP site by cell phone or IP communications by adding a new data file each time. As an example, the data logger may upload new data file once every day with all measurements since last upload.

VDV File Converter will work with this type of data files, also called Incremental Files.

The example below gives a step-by-step guidance of how to work with Incremental Files.

Name	Size	Date Modified	Type
 LoggerA_20110412T100001.CSV	19 KB	4/12/2011 12:00 AM	Microsoft Office E...
 LoggerB_20110411T152137.CSV	30 KB	4/11/2011 5:22 AM	Microsoft Office E...
 LoggerA_20110411T090000.CSV	24 KB	4/10/2011 11:00 PM	Microsoft Office E...
 LoggerB_20110410T090000.CSV	25 KB	4/9/2011 11:00 PM	Microsoft Office E...
 LoggerA_20110409T090001.CSV	25 KB	4/8/2011 11:00 PM	Microsoft Office E...
 LoggerB_20110408T090001.CSV	25 KB	4/7/2011 11:00 PM	Microsoft Office E...
 LoggerA_20110407T090001.CSV	25 KB	4/6/2011 11:00 PM	Microsoft Office E...
 LoggerB_20110406T090001.CSV	25 KB	4/5/2011 11:00 PM	Microsoft Office E...
 LoggerA_20110405T090000.CSV	25 KB	4/4/2011 11:00 PM	Microsoft Office E...
 LoggerB_20110404T090000.CSV	25 KB	4/3/2011 11:00 PM	Microsoft Office E...

This is a directory with incremental files. Each file contains data for one day.



The screenshot shows the VDV File Converter dialog box with the following settings:

- File Structure:** Incremental Files (new data gets saved to a new file with a new file name)
- File Format:** File Format #3
- Source Directory:** C:\my_data (with a "Select" button and a checked "Active" checkbox)
- File Prefix:** LoggerA
- Delay in minutes:** 0

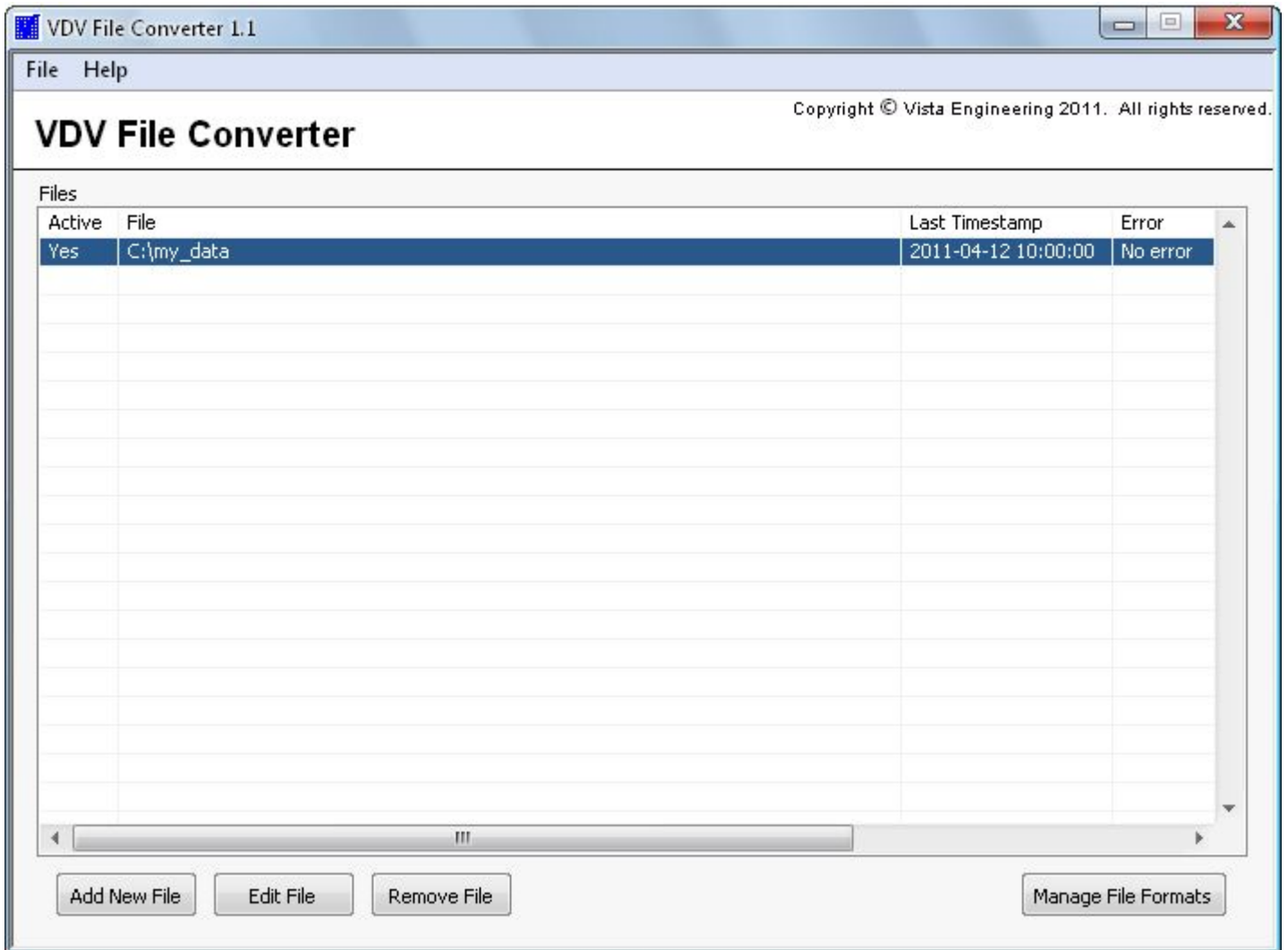
Below the settings, there is a paragraph of text: "Delay before VDV File Converter starts reading the file after it has detected that it has been updated. This is used with files that take some time to update. In these cases the file modification time of the file gets updated before all the data has been written to the file. This can apply to files that are uploaded to an FTP site. In most cases the Delay should be set to 0."

At the bottom, there is a **Notice** section: "Converted files will be placed in the same folder as the source file. The converted files will have a **_vdy** postfix to the file name. The file type of the converted file is **.dat**."

At the bottom right, there are "Next" and "Cancel" buttons.

When converting incremental files you must change the File Structure to Incremental Files. We are using File Format #3 for our data files and we have selected our Source Directory. In our Source Directory we have data files from two loggers, A and B. In our converted .dat file we only want data from LoggerA. So we use File Prefix "LoggerA". Press Next when you have finished configuring the file.

Click Finish

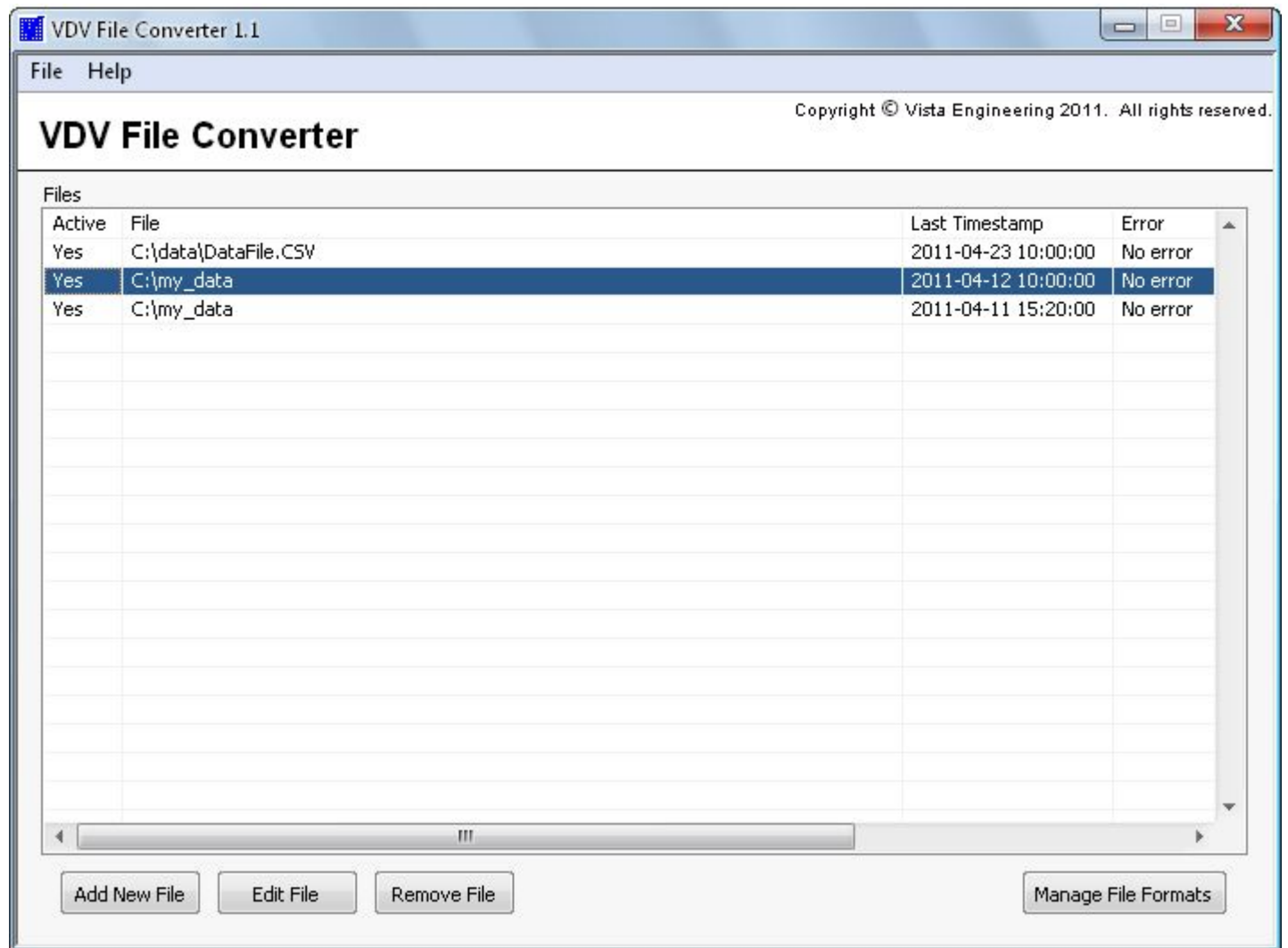


Our directory is being monitored and when new data files arrive they are converted into VDV compatible format and added to the VDV dat file. We can locate our new .dat file in the folder where are the original .csv files are.

Name	Size	Date Modified	Type
vdv_backup		6/7/2011 1:13 PM	File Folder
my_data_LoggerA_vdv.dat	120 ...	6/7/2011 1:13 PM	DAT File
LoggerB_20110404T090000.CSV	25 KB	4/3/2011 11:00 PM	Microsoft Office E...
LoggerB_20110406T090001.CSV	25 KB	4/5/2011 11:00 PM	Microsoft Office E...
LoggerB_20110408T090001.CSV	25 KB	4/7/2011 11:00 PM	Microsoft Office E...
LoggerB_20110410T090000.CSV	25 KB	4/9/2011 11:00 PM	Microsoft Office E...
LoggerB_20110411T152137.CSV	30 KB	4/11/2011 5:22 AM	Microsoft Office E...

All .csv files which have been converted are moved into vdv_backup folder. We can see that only .csv files with the LoggerA prefix have been converted. VDV File Converter has created a file named my_data_loggerA_vdv.dat which may be imported into db.robot.c.

Edit File



Select the File you wish to edit and press edit.

VDV File Converter

Select a File and the correct File Format

File Structure
Incremental Files (new data gets saved to a new file with a new file name)

File Format
File Format #3

Source Directory
C:\my_data Active

File Prefix
LoggerA

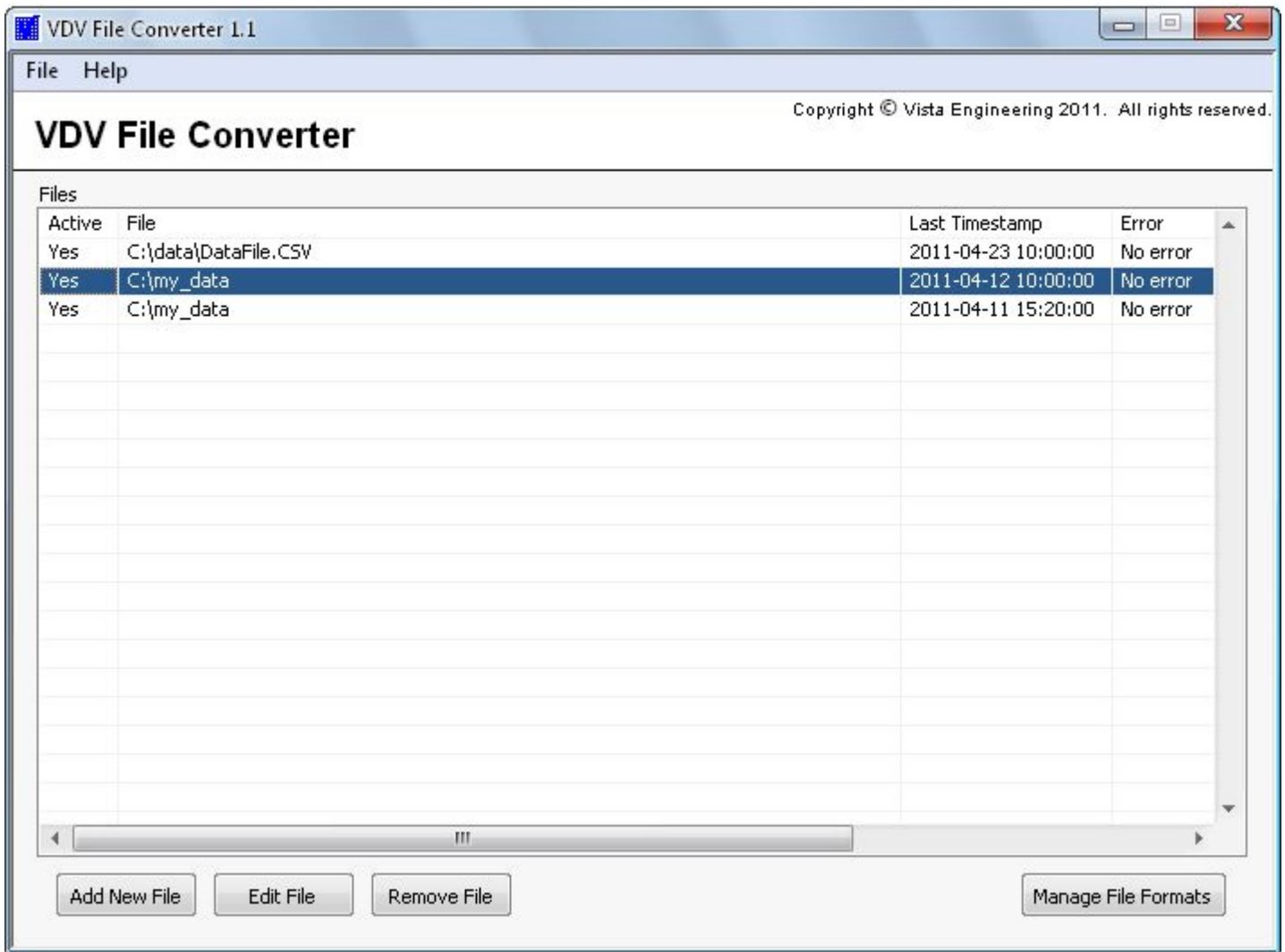
0 Delay in minutes

Delay before VDV File Converter starts reading the file after it has detected that it has been updated. This is used with files that take some time to update. In these cases the file modification time of the file gets updated before all the data has been written to the file. This can apply to files that are uploaded to an FTP site. In most cases the Delay should be set to 0.

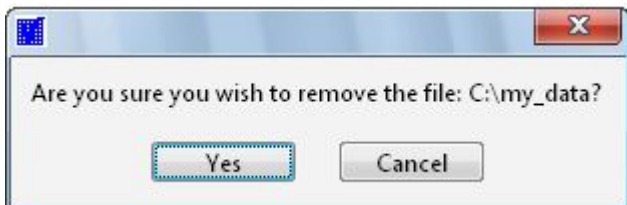
Notice
Converted files will be placed in the same folder as the source file.
The converted files will have a **_vdy** postfix to the file name.
The file type of the converted file is **.dat**.

All configurations made for this File are displayed. When finished editing click Save.

Remove File



Select the File you wish to delete and press Remove File.



Press Yes to confirm that you want to Remove the File.

Notice: Instead of Removing the File you have the option of un-activating the File Conversion. Select the File and click Edit. Uncheck the Active checkbox after the Source File/Directory line.

VDV File Converter

Select a File and the correct File Format

File Structure
Single File (new data gets appended to a single data file)

File Format
File Format #3

Source File
C:\data\DataFile.CSV Active

0 Delay in minutes

Delay before VDV File Converter starts reading the file after it has detected that it has been updated. This is used with files that take some time to update. In these cases the file modification time of the file gets updated before all the data has been written to the file. This can apply to files that are uploaded to an FTP site. In most cases the Delay should be set to 0.

Notice
Converted files will be placed in the same folder as the source file.
The converted files will have a **_vdy** postfix to the file name.
The file type of the converted file is **.dat**.

Note that the Active checkmark has been un-checked, indicating that this file will not be monitored for new data for the time being.