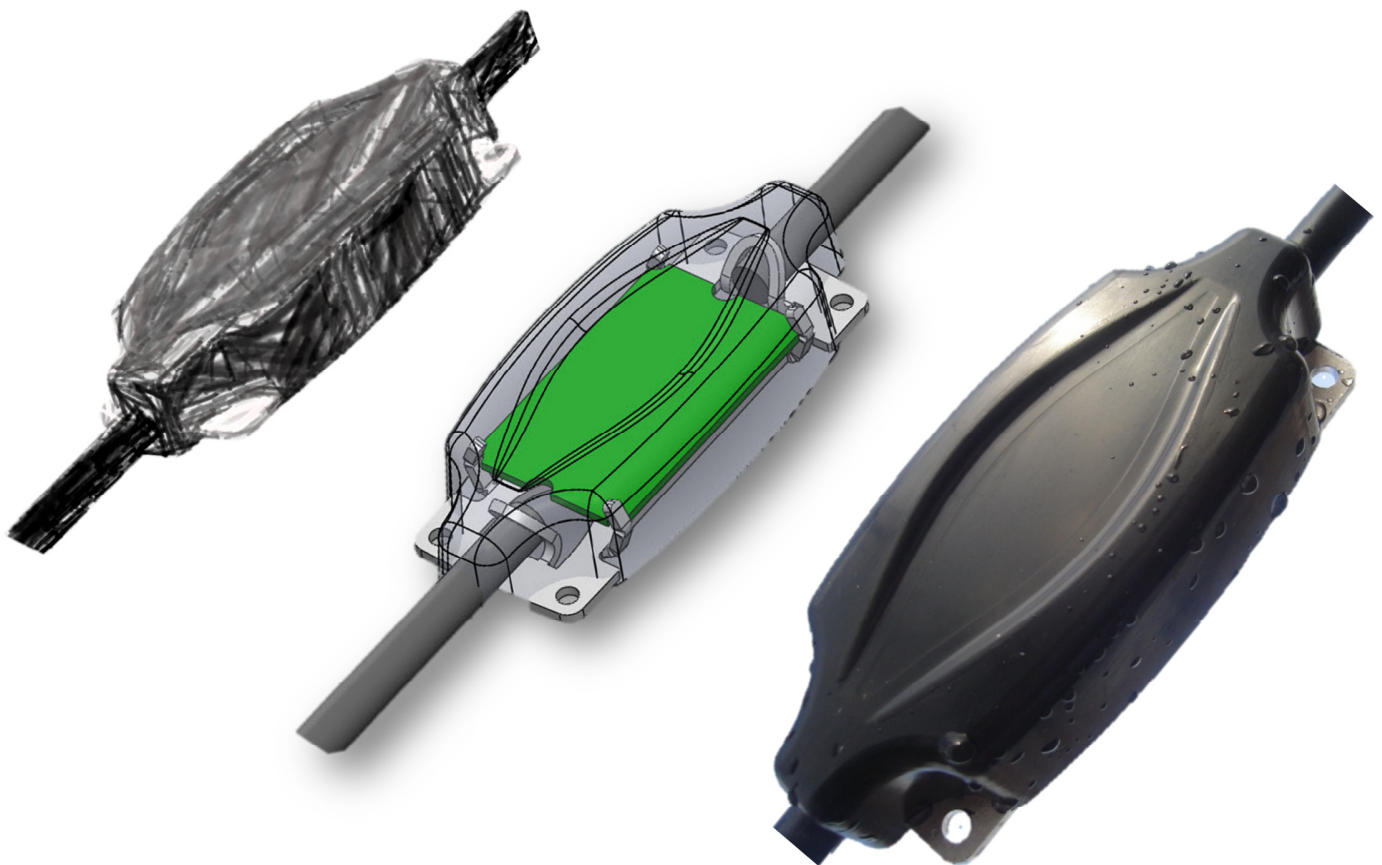


G.M. AFCON Security Technologies L.P.



Data Storage User Guide



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DATA STORAGE USER GUIDE

What is the Data Storage Application?

The DATA STORAGE is a utility application used by installers of GM's V-Alert Intrusion Detection System.

With reference to the V-Alert System, the DATA STORAGE application is used to read the data flow from all the V-Alert sensors connected to any V-Alert Processor Card.

Why do we need the DATA STORAGE APPLICATION?

The V-Alert Sensor data flow provides the V-Alert installer with real-time data coming from each individual sensor. The installer can then analyse the data in order to change the values in the V-Alert Sensor and Card Settings windows.

DATA STORAGE is used when it is necessary to "fine-tune" the V-Alert System in order to maximise the performance of the system, or when it is necessary to see the actual data flow from the sensors in a new type of installation.

In addition the DATA STORAGE application can be used to RECORD the data readings from a specific V-Alert Sensor or group of sensors at a specified time and date.

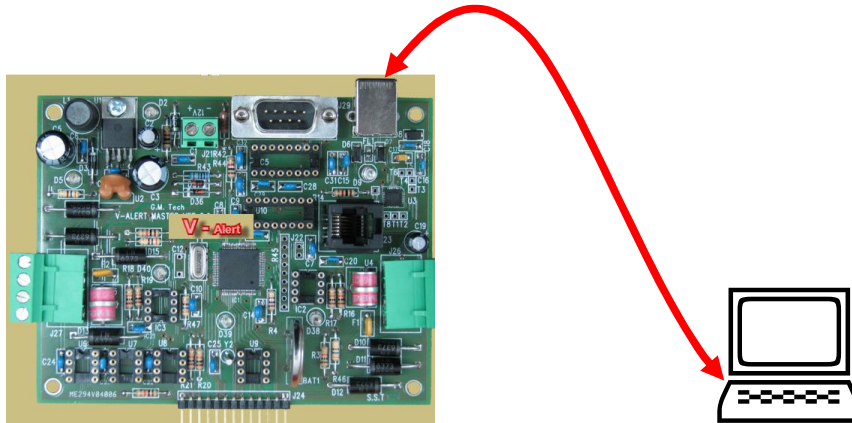
When should the user start using the DATA STORAGE APPLICATION?

The application should be used after the user has a thorough knowledge and understanding of the following:

- ☒ V-Alert Intrusion Detection System Technology.
- ☒ Mechanical and Electronic Installation of the V-Alert Intrusion Detection System.
- ☒ V-AlertCOMM Settings Manager.
- ☒ V-AlertCOMM Card and Settings Manager.

1. Connections

Use a USB cable (A-B type) to connect the USB port on a computer that is running the DATA STORAGE Application to the USB port on the V-Alert Processor Card.

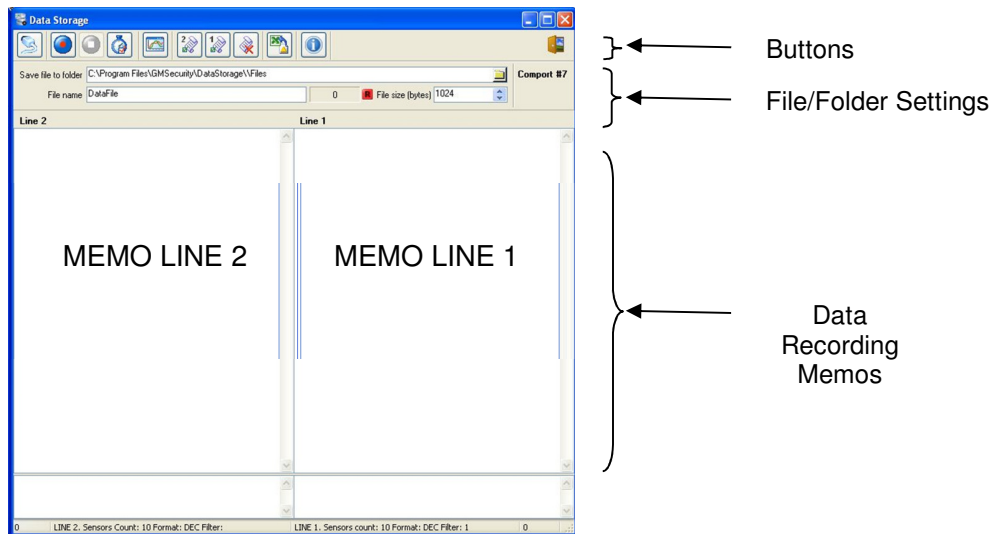


2. Opening the DATA STORAGE APPLICATION

OPEN the Data Storage Application by double-clicking on the Data Storage shortcut that has been automatically installed on your Desktop when installing the Application.










The MAIN SCREEN of the DATA STORAGE Application will open as below.







3. Main Screen Buttons

The table below provides an explanation of the MAIN SCREEN buttons:



Button	Function	Explanation
	Select Comport	Select the comport so that there is a communication link between the V-Alert Processor Card and the Data Storage Application.
	Start Record	Start recording data.
 	Stop Record	Stop recording data – this button will only be active when a V-Alert Processor card is connected to a computer that is running the Data Storage Application. The button is grey when it is inactive. The button is blue when it is active.
	Auto Run Record Settings	Set the automatic recording of sensor data from specified sensor(s) and for specified Time and Date.
	Show Sensor Monitor	Opens the sensor monitor which graphically displays the sensor values.
	Save Line 1 memo to file	Saves the number of sensors in the sensor line 1 and/or specified sensors from which you wish to record data.

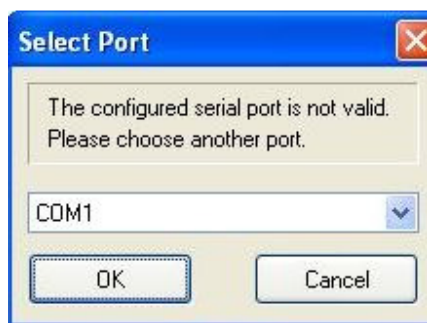
	Save Line 2 memo to file	Saves the number of sensors in the sensor line 2 and/or specified sensors from which you wish to record data.
	Clear both memo's	Clears recorded data from both memo's.
	Convert to Excel	Converts the recorded data to an EXCEL file.
	About	About the Data Storage Application.

4. Using the MAIN SCREEN buttons

4.1. Select Comport



Clicking on the SELECT COMPORT button opens the following window:



It is possible to select the serial port that will ensure that there is a communication link between the computer and the V-Alert Processor Card.

Once you have set the Comport you will be able to start using the DATA STORAGE Application.

4.2. Start Record



Clicking on the Start Record button will start recording data according to the settings of the Line 1 and Line 2. See Paragraph 4.6 below for a full explanation of the sensor line settings.

The data strings from the sensor lines will be shown on the Main Screen's memo's. This will be explained below in paragraph 5.

4.3. Stop Record



Clicking on the Stop Record button will stop the recording of data.

4.4. Auto Run Record Settings



Clicking on the Auto Run Record Settings button will open the following window:

Start Date	Stop Date	Start Time	Stop Time
19/01/2009	20/01/2009	20:00:00	22:00:00

The record will be on/off from "Start Date" to "Stop Date" and from "Start Time" to "Stop Time".

The Auto run record settings function enables the recording of data from specified sensors for a specified date period and for a specified time period.

The function will record the data from a specific sensor or group of sensors as specified in the save line 1/line 2 memo's to file (see paragraph 4.6 below).

In the example above the specified sensor/group of sensors will be recorded in the period 19/1/2009 to 20/1/2009 between the hours of 20h00 and 22h00.

This function is used to record data from sensors or groups of sensors the sensitivity of which needs to be "fine-tuned" according to specific site conditions. The data collected from these sensors will provide the installer with the required data to decide how to optimally change the V-Alert Card and Sensor Settings parameters. A full explanation of the card settings can be found in a separate user guide called the Card and Sensor Settings Manual.

4.5. Show Sensor Monitor

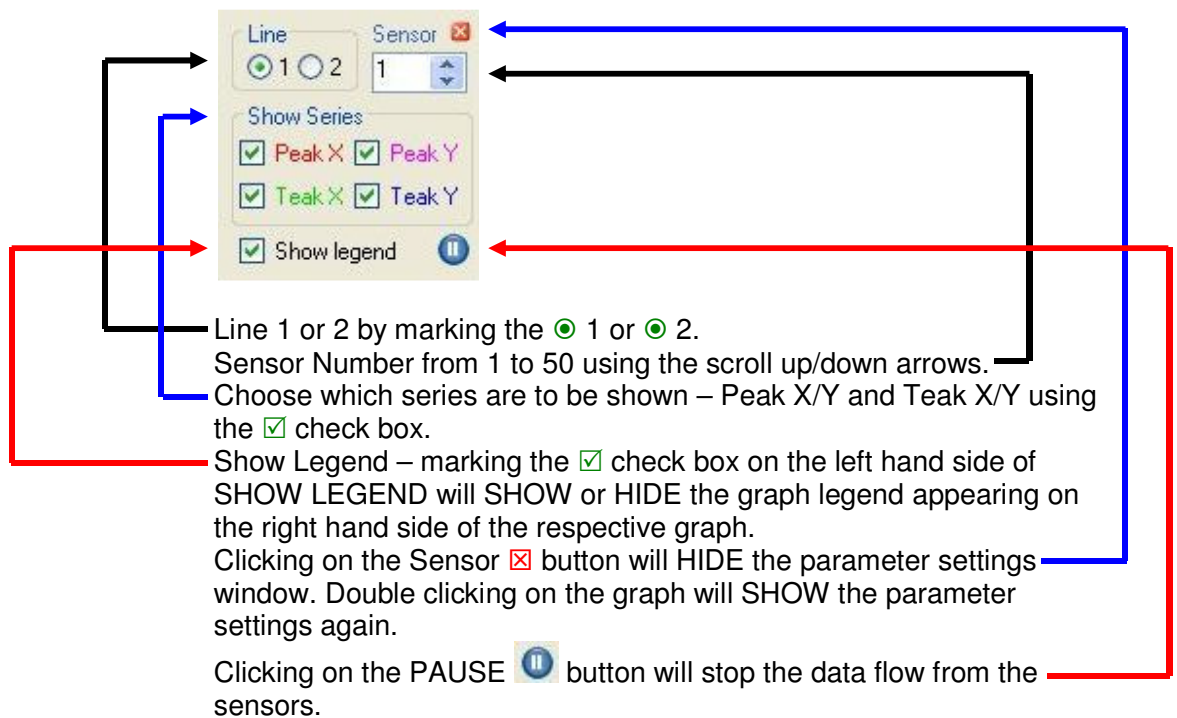


Clicking on the Show Sensor Monitor button will open the following window:



The monitor will display the data flow from the specified sensor in the form of a graph.

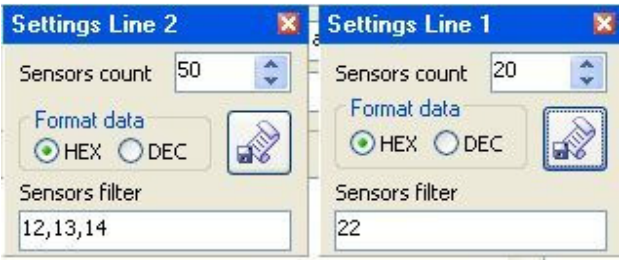
It is possible to set the following parameters:



4.6. Save Line 1 memo to file and Save Line 2 memo to file

Clicking on the save line 1 memo to file  or save line 2 memo to file  will open the following windows:



It is possible to set the following parameters:



Sensor Count for Line 1 and 2 using the scroll up/down arrows. In the example sensor line 2 has been set with 50 sensors and sensor line 1 has been set with 20 sensors.

Data Format – HEX or DEC by marking ☒ HEX or ☐ DEC. Usually DEC is used and this user guide is explained using DEC data.


Specify specific sensors from which you wish to receive data from the respective sensor line. In the example above sensors 12,13 and 14 have been chosen from sensor line 2 and sensor 22 from sensor line 1.

Clicking on the save memo to file button  will save the settings. Clicking on the  button will close the settings line 1 and 2 windows.

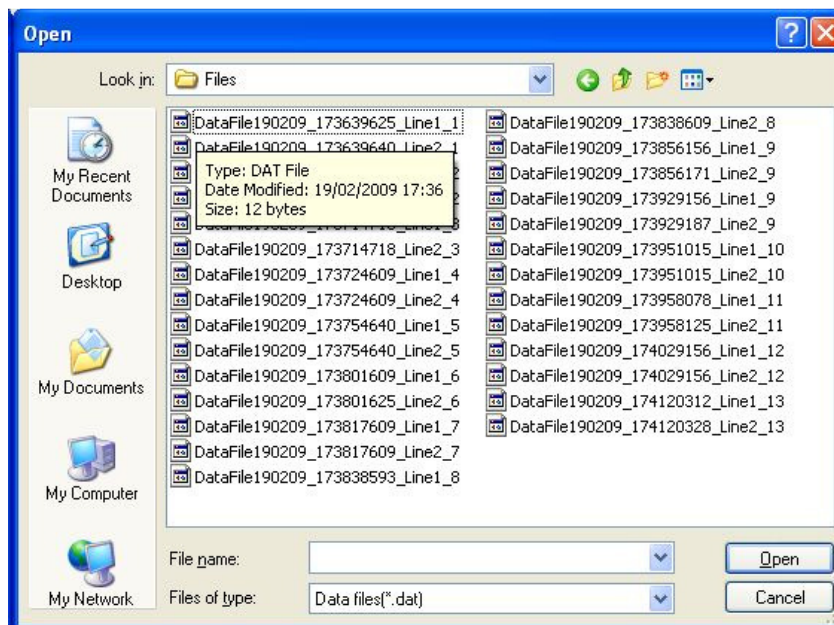
4.7. Clear both memo's

Clicking on the Clear Both Memo's button  will clear any data that has been recorded in the Line 1 and/or Line 2 memo fields.

4.8. Convert to Excel

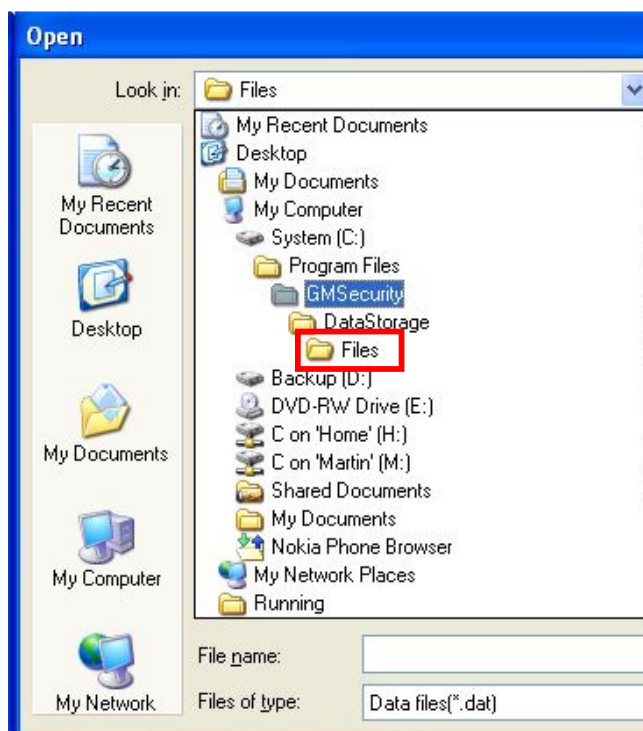
Clicking on the Convert to Excel button  will enable the user to convert sensor data into an excel file. This facilitates the analysis of the data.

The following window will open after clicking on the Convert to Excel button:

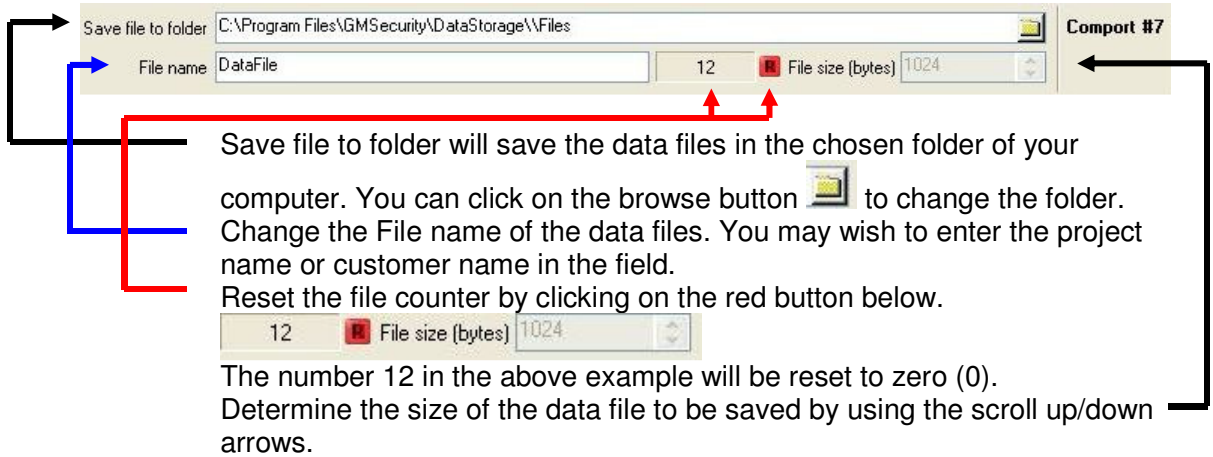



It is now possible to choose any data file that has been automatically saved in the **FILES** folder that is found in the following folder on your computer:

- ⇒ PROGRAM FILES
- ⇒ GM SECURITY
- ⇒ DATA STORAGE
- ⇒ **FILES**



It is possible to set various parameters of the data files from the top part of the main screen. These settings refer to the saved data files of the Data Storage Application:



Save file to folder will save the data files in the chosen folder of your computer. You can click on the browse button  to change the folder. Change the File name of the data files. You may wish to enter the project name or customer name in the field. Reset the file counter by clicking on the red button below.

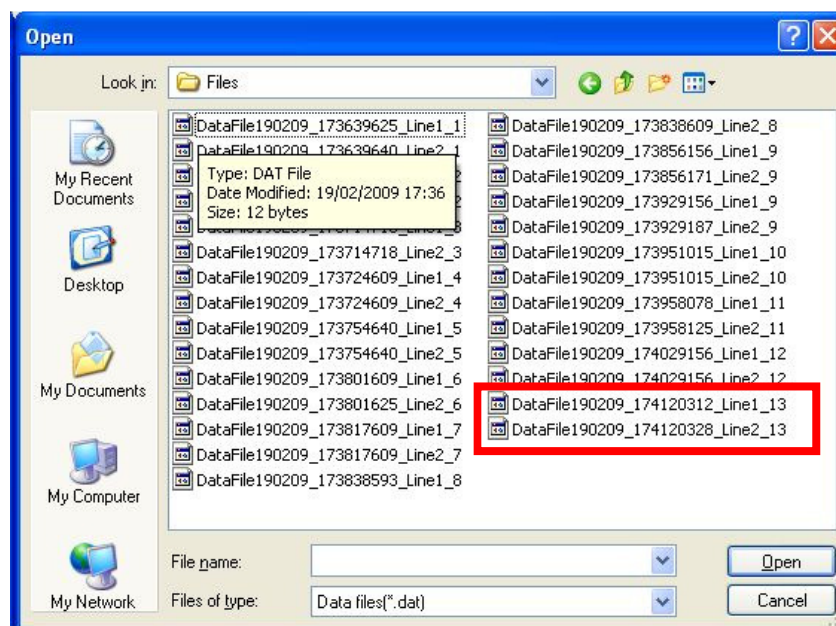
The number 12 in the above example will be reset to zero (0). Determine the size of the data file to be saved by using the scroll up/down arrows.

Each time a data file is saved, a separate file for line 1 and a separate file for line 2 are saved.

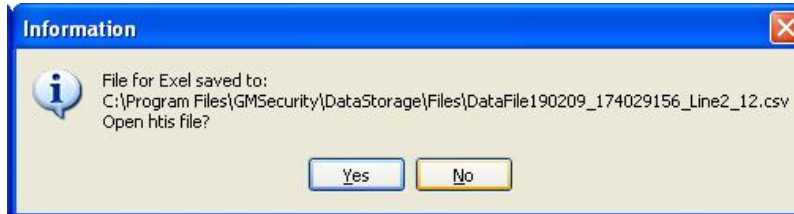
If we look at an example of saved Data Files taken from the OPEN window below:

DataFile190209_174120312_Line 1_13
DataFile190209_174120328_Line 2_13

- Changing the File name will change the **DataFile** in the example above.
- The number 190209 refers to the date that the data file was saved.
- Line 1 and Line 2 shows which sensor line the file refers to.
- The number 13 refers to the file counter number of the file.



Choosing a data file and then clicking the OPEN button will open the following window:



Clicking YES will convert and save the data file into an Excel file. Refer to the example below:

A screenshot of an Excel spreadsheet. The menu bar includes File, Edit, View, Insert, Format, Tools, PATools, Data, Window, and Help. The toolbar shows various icons for file operations and formatting. The status bar at the bottom indicates the file path: 'DataFile290109_150751578_Line1_'. The spreadsheet has columns A through F and rows 1 through 30. The data is as follows:

	A	B	C	D	E	F
1	29/01/2009 15:07:39					
2	1	10	10	0	0	
3	2	10	10	0	0	
4	3	10	10	0	0	
5	4	10	10	0	0	
6	5	10	10	0	0	
7	6	10	10	0	0	
8	1	17	10	0	0	
9	2	133	160	93	91	
10	3	15	10	0	0	
11	4	10	10	0	0	
12	5	10	10	0	0	
13	6	10	10	0	0	
14	1	10	10	0	0	
15	2	128	136	169	150	
16	3	12	10	0	0	
17	4	10	10	0	0	
18	5	12	10	0	0	
19	6	10	10	0	0	
20	29/01/2009 15:07:51					
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

In the above example the data flow from a sensor line consisting of 6 sensors has been saved.

An explanation of the meaning of the data from the sensors is explained below and in a separate users manual called the " V-Alert CARD & SENSOR SETTINGS MANUAL".

4.9. About



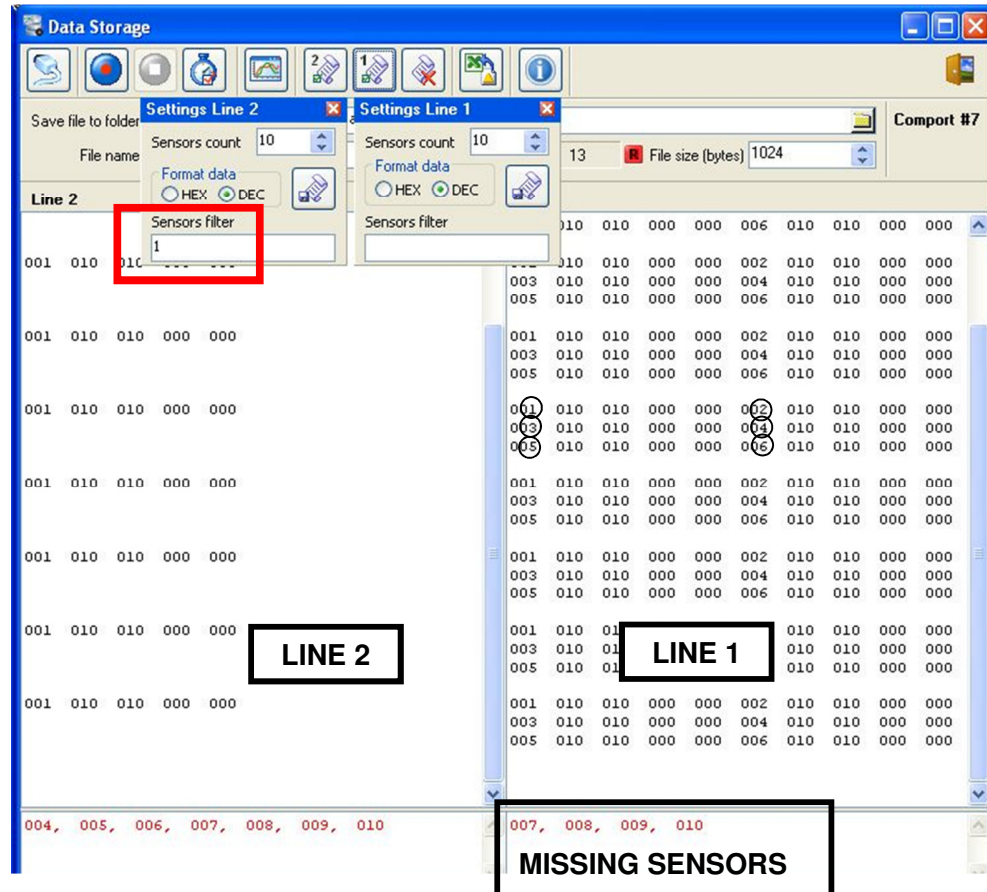
Clicking on the About button opens the following window showing the Data Storage Version.



5. V-Alert Sensor Data

- 5.1. Paragraph 4 above as explained how to use the Data Storage Application to record the data flow from the V-Alert Sensors.
- 5.2. Typical recorded data flow can be seen in the below, in which the memo fields on the main screen display recorded data.

5.3. The following is an explanation of the data flow in the example below:



Sensor Line 1:

Settings Line 1 has been set for a 10 sensor count even though sensor line in the example consists of 6 sensors. You can therefore see the data flow from the 6 sensors of that sensor line. The data from all 6 sensors is recorded every second, and there is an open line in the recorded data between seconds. Sensors. ① to ⑥ have been ringed above.

Each sensor will display the following data for each sensor number:

001 010 010 000 000				
SENSOR NUMBER	PEAK X	PEAK Y	TEAK X (WIDTH)	TEAK Y (WIDTH)

The RED numbers in the bottom part of the memo field denote the missing sensors that have not been found. In the example the Settings Line 1 window has been set to record data from 10 sensors. Because the sensor line connected to the V-Alert

Processor card only consists of 6 sensors, sensors 007/008/009 and 010 have been marked as missing.

Sensor Line 2:

Settings Line 2 has ALSO been set for a 10 sensor count even though the sensor line in the example consists of 3 sensors. In addition line 2 has been set to record the data from sensor number 1 only - see 1 in sensor filter field.

The resulting recorded data is the data flow from sensor 1 only every second.

Once again the missing sensors are shown as the RED numbers in the bottom part of the memo field. In the example the Settings Line 2 window has been set to record data from 10 sensors. Because the sensor line connected to the V-Alert Processor card only consists of 3 sensors, sensors 004/005/006/007/008/009 and 010 have been marked as missing.

Sensors 002 and 003 exist, but no data will be recorded from these sensors because sensor 1 has been entered into the Sensor Filter Field.

6. Sensor Data Analysis

- 6.1. This user guide is designed to explain how to collect the data from V-Alert Sensors using the Data Storage Application.
- 6.2. The analysis of the sensor data recorded by the Data Storage Application is explained fully in a separate user guide called the " V-Alert CARD & SENSOR SETTINGS MANUAL"

<p>PLEASE CONTACT AN AUTHORIZED GM INSTALLER OR GM'S TECHNICAL SUPPORT FOR ANY ASSISTANCE THAT MAY BE REQUIRED</p>

GM THANKS YOU FOR USING THE V-ALERT INTRUSION DETECTION SYSTEM

