



VibdataPro

Professional Vibration Analysis Software

User Manual

Version 1.31

For Use with the Following Range of Castle Vibration Meters

GA2005 Range – Excio Vibration Meter

GA2006 Range – Vexo Vibration Meter

www.castlegroup.co.uk

Thank you for buying Castle software to compliment your Castle vibration meter. I am sure you will find the software and the service to be of the highest quality but if not, then please feel free to write to me personally and I will ensure that your needs are dealt with immediately.

This manual is designed to show you the operation and features of the software you have purchased and a very brief insight into vibration itself. If you would like to become a competent person in the eyes of the law, then you may like to know more about our Competent Persons training course for the Human Vibration. You can visit www.castletrainingacademy.com to find out more.

It is my intention for Castle Group Ltd to provide a wide range of technical health and safety products and Services of the highest standard. If you would like to know more about any of our other products and services then please telephone on +44(0)1723 584250 or visit www.castlegroup.co.uk

A handwritten signature in black ink, appearing to be 'Simon Bull', written over a faint, circular watermark or background.

Simon Bull
Managing Director

Copyright

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Minimum System Requirements

- Pentium 4 1.5 GHz or Athlon XP 1500+ processor or higher
- 200MB Free hard disk space
- 256MB Ram
- One free USB Port
- Operating Systems (minimum operating system requirements also apply): -
 - Windows XP SP3
 - Windows Vista SP2
 - Windows 7 – 32 or 64 bit
 - Windows 8 – 32 or 64 bit
 - Windows 8.1 – 32 or 64 bit

Windows 8.1 RT is not compatible with VibdataPro.

Contacting Castle Group

This manual contains complete operating instructions for the Castle software VibdataPro, read it carefully and you will quickly become familiar with its features and operation.

If you do encounter problems with the operation of your software please feel free to contact customer support with your enquiry on: -

Telephone:	+44 (0)1723 584250
Fax:	+44 (0)1723 583728
Website:	www.castlegroup.co.uk
Email:	techsupport@castlegroup.co.uk sales@castlegroup.co.uk

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Chapter 1

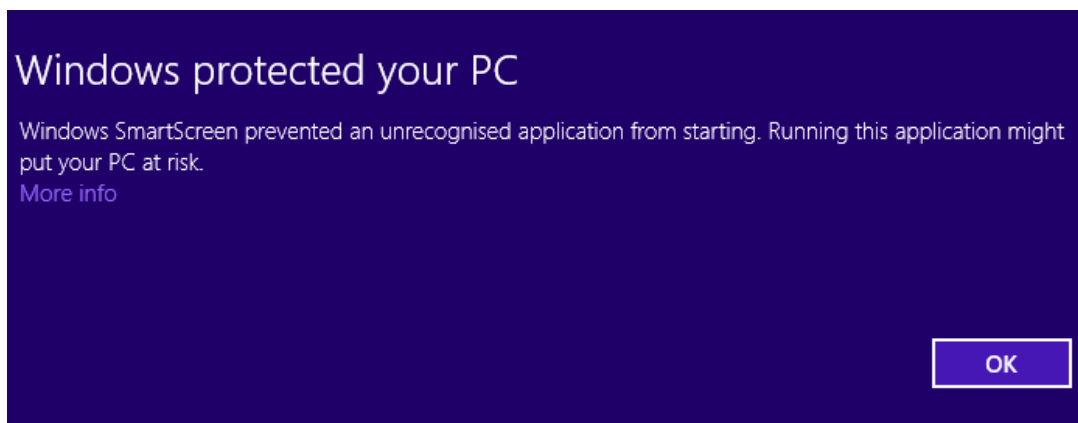
Installing VibdataPro

Installation of VibdataPro requires full administrative privileges, please seek advice from your IT manager if required.

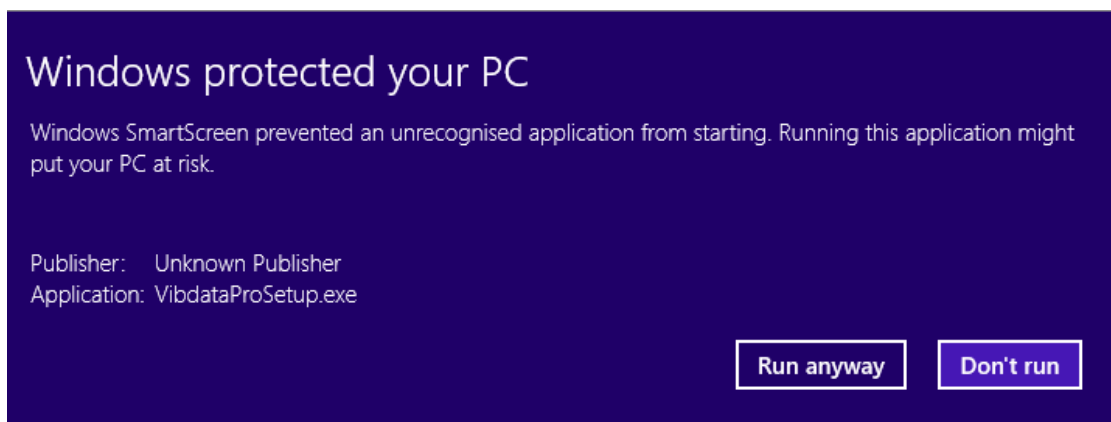
This example shows how to install VibdataPro on Windows 8.1, installation on other operating systems will be similar but may show slight variations in screens: -

1. Unplug any vibration meter device from the PC or laptop.
2. If you have downloaded VibdataPro double click the saved file named **VibdataProSetup.exe** to start the installation.

Depending on your operating system setup you may be prompted with the message as below: -



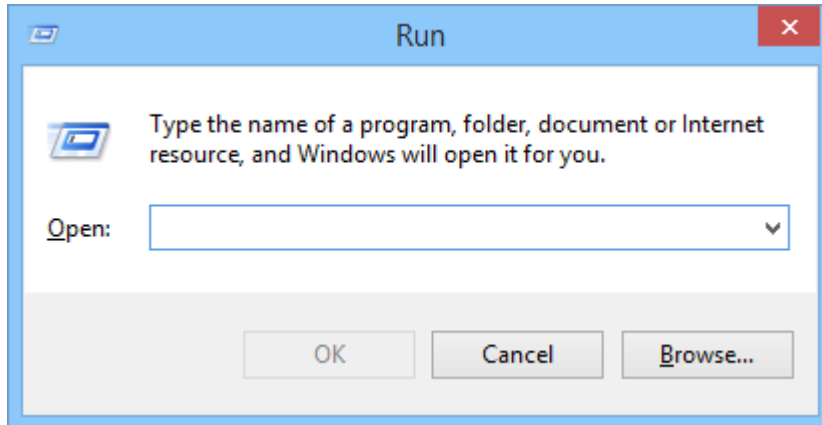
Click on the text **More info** and a new screen will be displayed: -



Click **Run anyway** to continue.

3. If you have a VibdataPro installation CD, insert the CD into your CD or DVD ROM drive. The CD should auto run the setup program after a few seconds. If this does not happen then on your keypad press and hold the **WINDOWS** key then press **R**.

The **RUN** window will now open.

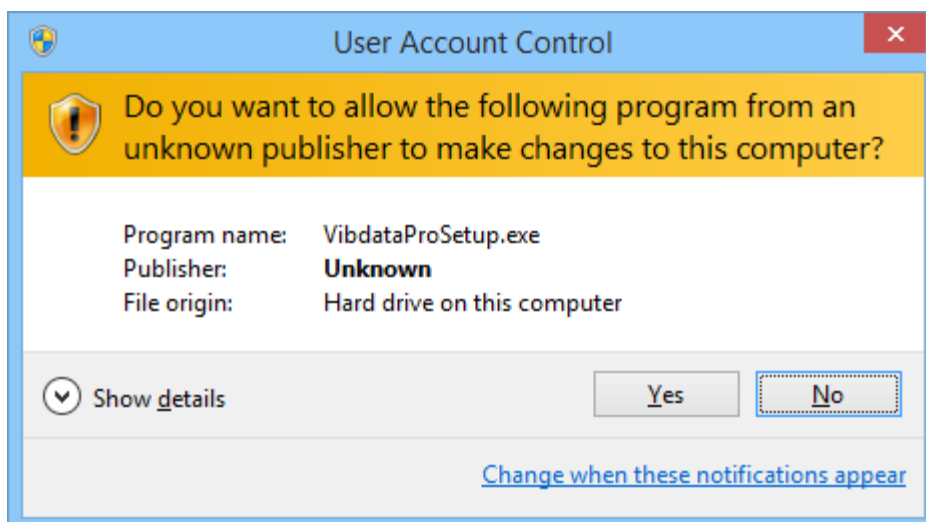


At the prompt type the following and then press **ENTER**: -

D:\vibdataprosetup.exe

(Where "D" is the designated letter for your CD or DVD ROM drive)

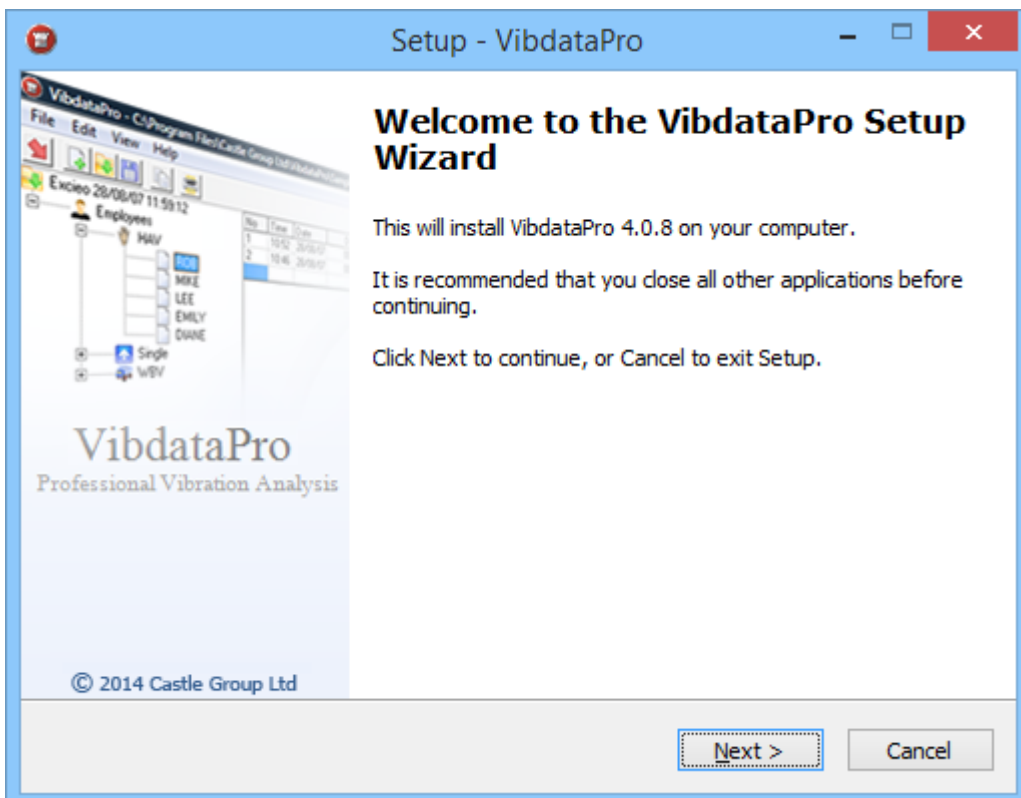
4. Depending on the operating system setup you may need to allow permission for the application to be installed. Click **Yes** to continue and start the installation.



The VibdataPro menu system will run showing the screen below: -

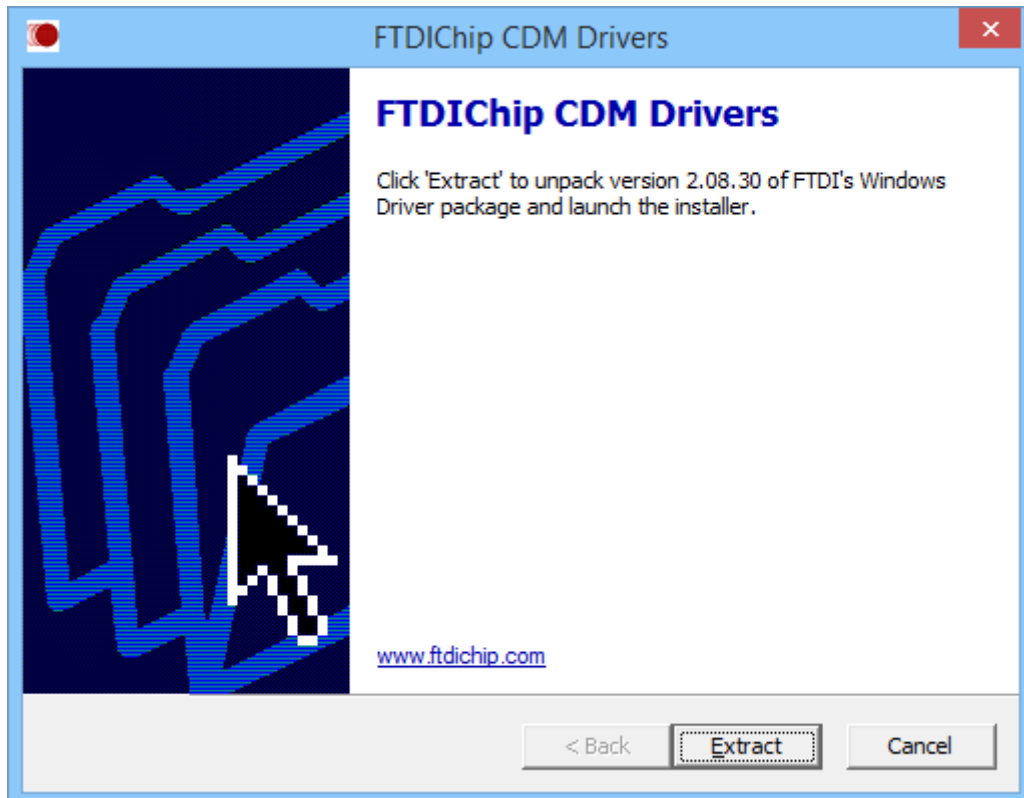


Click on **INSTALL VibdataPro Software** to begin the installation of VibdataPro and the following screen will be shown:-

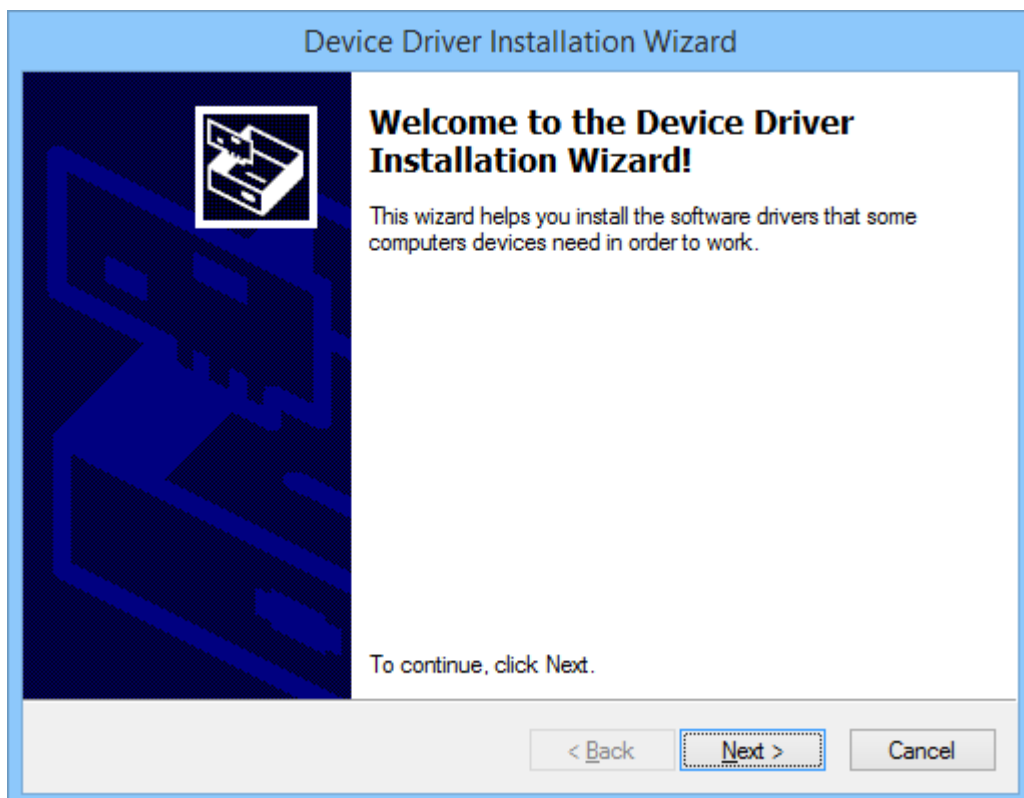


Follow the on screen instructions carefully to install your software correctly.

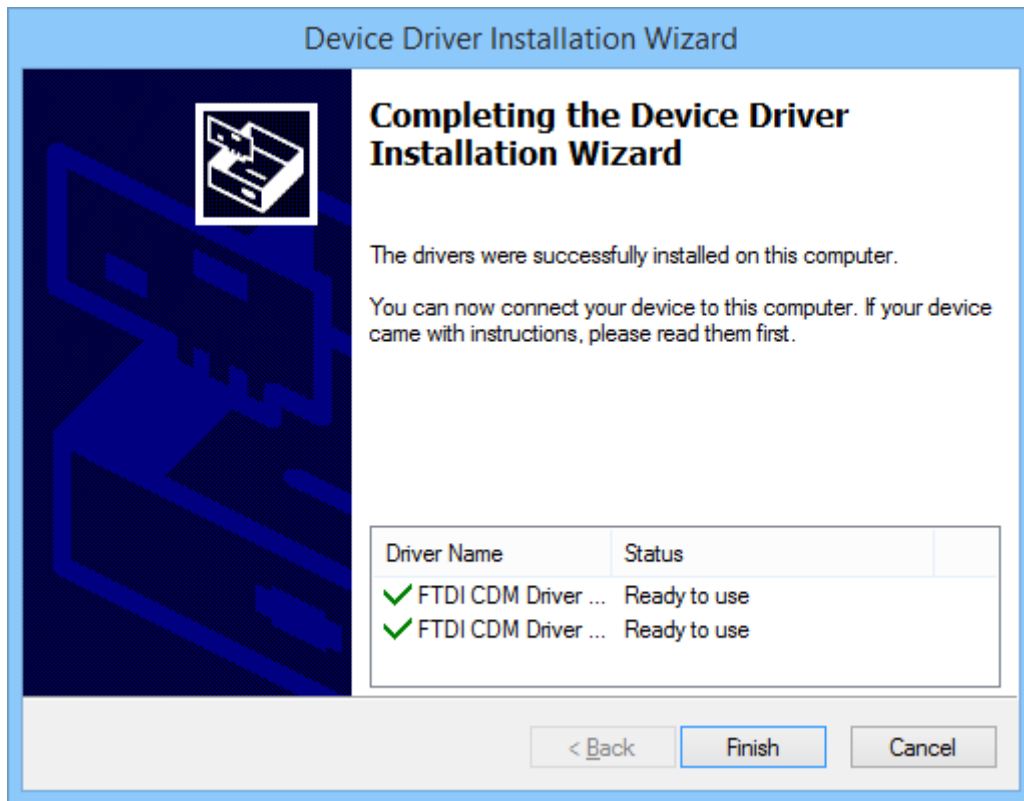
During the installation of VibdataPro the USB device drivers for your vibration will need to be installed: -



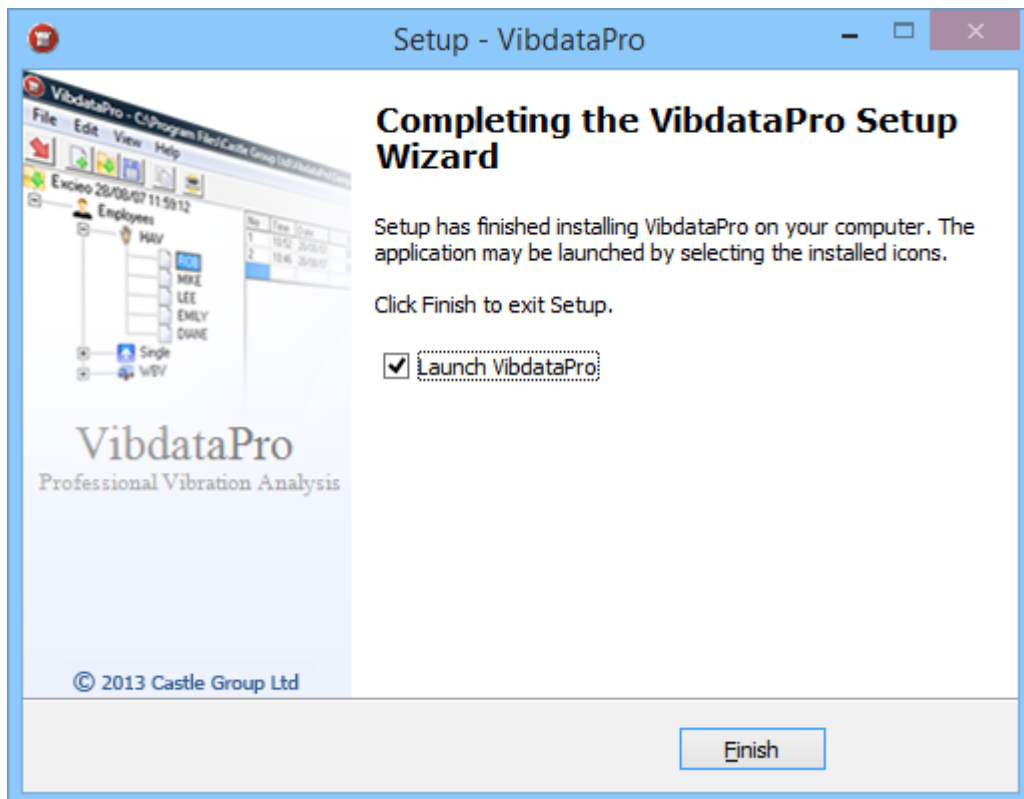
Click on **Extract** to open the **Device Driver Installation Wizard**.



Click on **Next** to start Driver Installation.



When the driver installation is complete the above screen will be displayed. Click on **Finish** to close the Driver Installation.

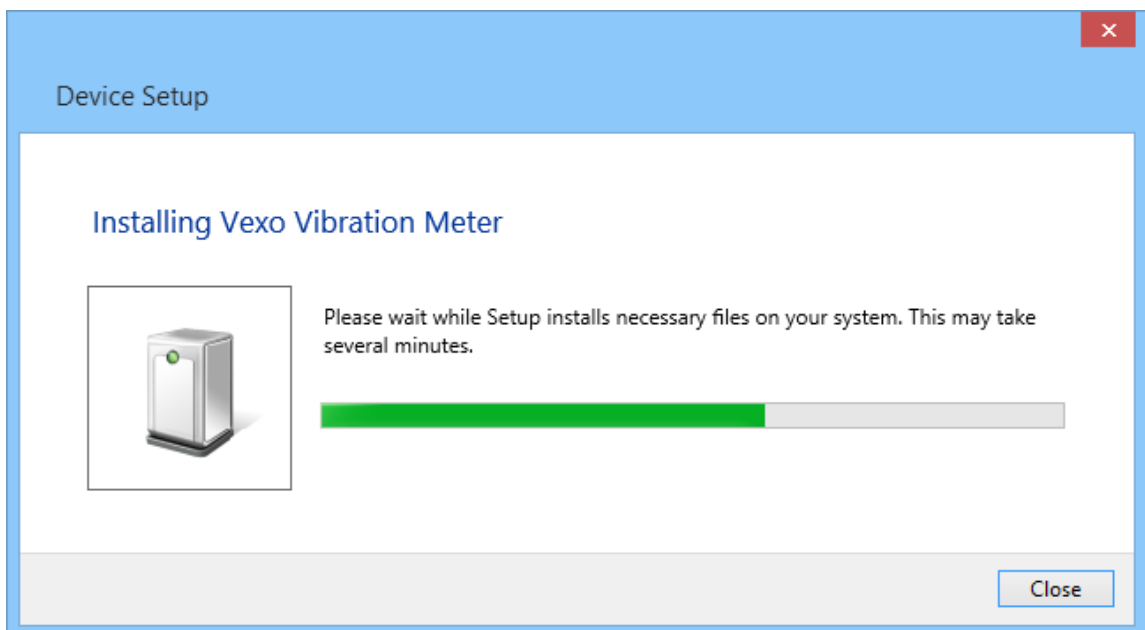
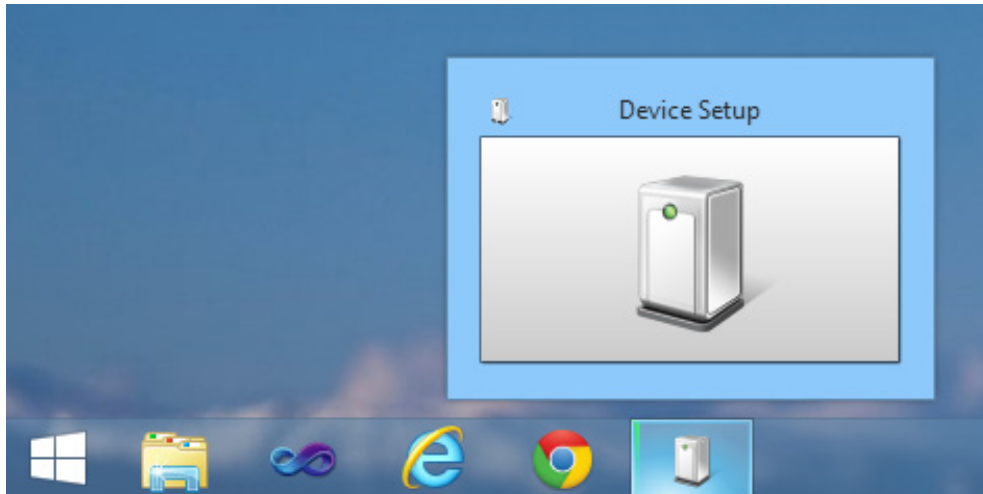


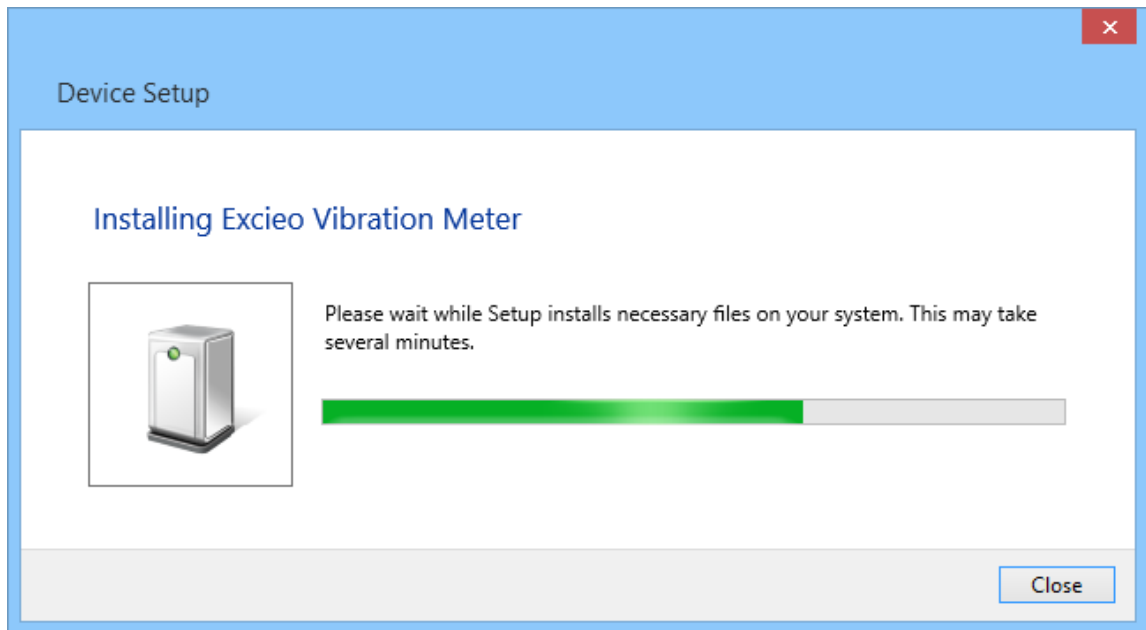
Click on **Finish** to complete the VibdataPro installation.

5. Your vibration meter may now be attached to a spare USB port on your laptop or desktop PC.

Note that the Vexo instrument must be turned OFF, USB cable plugged in and then switched ON.

The first time the meter is attached, windows will automatically configure the device for use: -





When complete your computer will be ready to download data from your vibration meter.

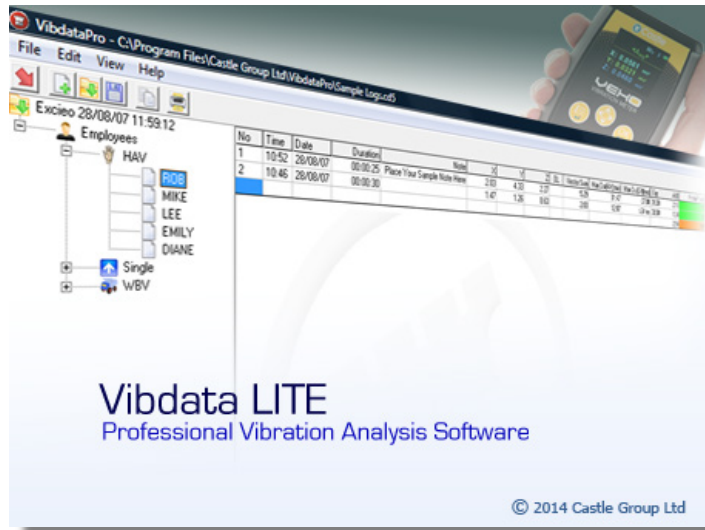
6. Click on **EXIT VibdataPro CD Menu** to exit the menu system.

Chapter 2

Vibdata LITE

Castle instruments are supplied with a free version of VibdataPro which has limited functionality.

Every time the software is opened, it will operate with limited functionality in LITE mode until the software has been unlocked. See **Registering** for further details.



This manual describes the functions that are available in the registered version of the software.

Functionality

In Vibdata LITE the following viewing screens are either unavailable or will display Not available in LITE mode: -

- Exposure Calculator
- Merge / Combine
- Adding Images
- Trend Analysis
- Add New Record

Registering

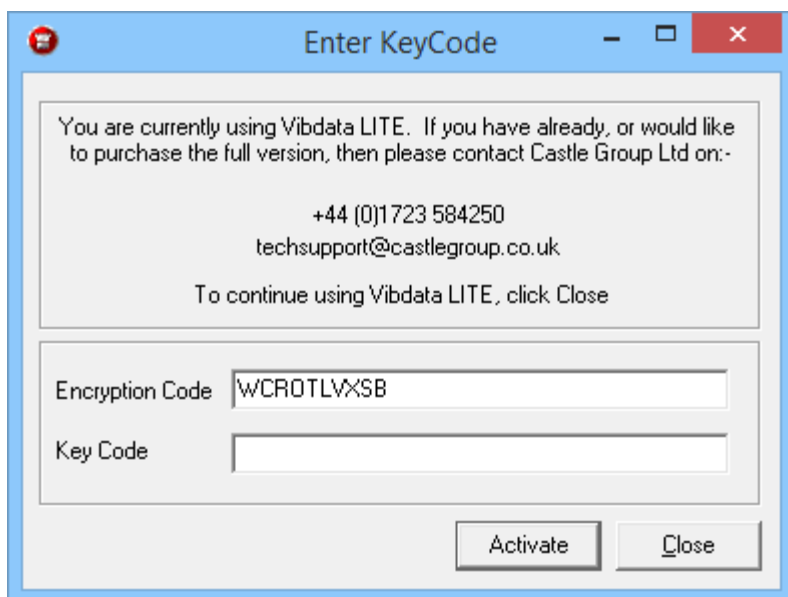
Vibdata LITE can easily be unlocked by entering a valid Unlock Key Code which can be purchased at any time.

If or when you have purchased VibdataPro you can unlock the software using the 3 Step Procedure below.

Please note that the Encryption Code provided in Step 1 is randomly generated, therefore if the software is removed and installed either on the same PC or another PC you will need to repeat all the steps outlined below.

Step 1

Copy the Encryption Code from the 'Enter KeyCode' screen. This displays each time VibdataPro LITE starts, or alternatively it can be opened by selecting 'Help', 'Licensing...' from the toolbar menu.



Step 2

Copy and Paste the Encryption Code into an email along with your Castle sound meter instrument serial number.

Please send the email to support@castlegroup.co.uk

Alternatively please contact Castle on 01723 584250

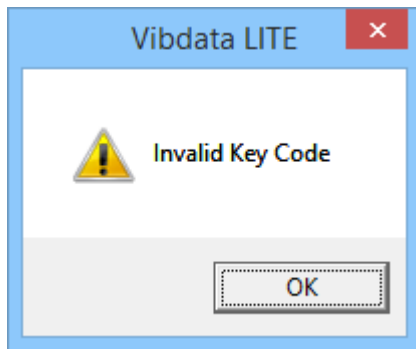
Step 3

Customer details will be validated and a valid Key Code will be issued by either email or telephone.

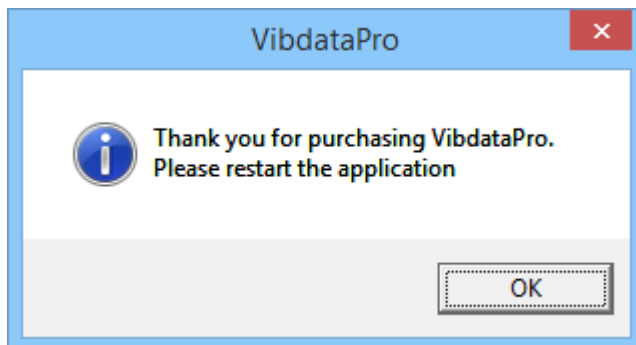
Enter the issued Key Code in the blank Key Code cell and press '**Activate**'.

All Unlock Key Codes must be entered in **UPPER CASE**.

If the entry is not valid then the following will be displayed: -



If a valid Unlock Key Code is entered the following will be displayed. Please click '**OK**' and then restart VibdataPro for the Unlock Key Code to take effect.



Your software is now registered and each time you start the software it will open with no restrictions.



Chapter 3

Connectivity

Downloading recorded data from your vibration meter into VibdataPro is only possible if you are using the correct cables and the required device drivers are correctly installed during installation of the software.

Depending on which vibration meter you are using, please see either **Vexo Instrument (All Models)** or **Excio Instrument (All Models)** for step by step instructions to help you get your meter connected.

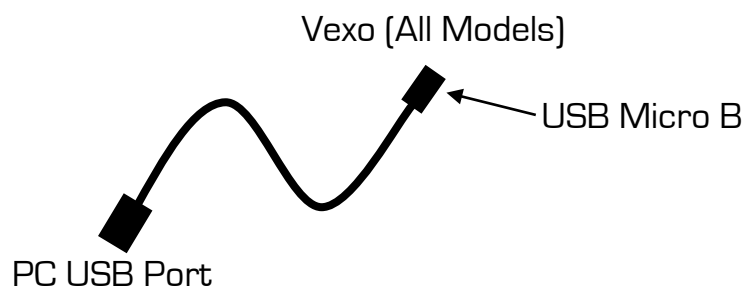
Vexo Instrument (All Models)

To download recorded data from your Vexo instrument into VibdataPro requires a spare USB port on your desktop or laptop and the installation of the supplied USB device driver which is installed during the installation of VibdataPro please see **Installing VibdataPro , Chapter 1** for more information.

Regardless of your operating system the USB device driver **MUST** be installed to allow communication between your Vexo instrument and your PC.

If the incorrect device driver or no device driver is installed then your instrument will not download.

Ensure your instrument is powered **OFF** and then connect the supplied USB cable as shown below: -



Switch your Vexo instrument **ON** and then the instrument is ready for downloading data into VibdataPro.

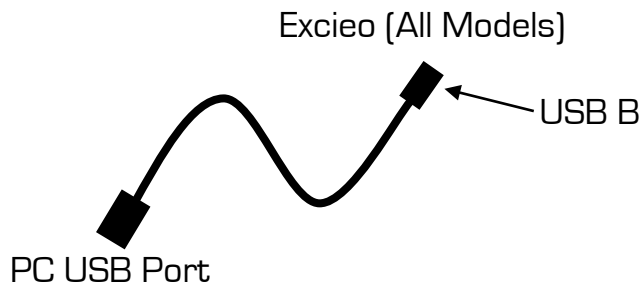
Excio Instrument (All Models)

To download recorded data from your Excio instrument into VibdataPro requires a spare USB port on your desktop or laptop and the installation of the supplied USB device driver which is installed during the installation of VibdataPro please see **Installing VibdataPro , Chapter 1** for more information.

Regardless of your operating system the USB device driver **MUST** be installed to allow communication between your Excio instrument and your PC.

If the incorrect device driver or no device driver is installed then your instrument will not download.

Ensure your instrument is powered on and connect the supplied USB cable as shown below: -



Your Excio instrument is now ready for downloading data into VibdataPro.

Chapter 4

Getting Started

VibdataPro can be run using either of the two options below: -

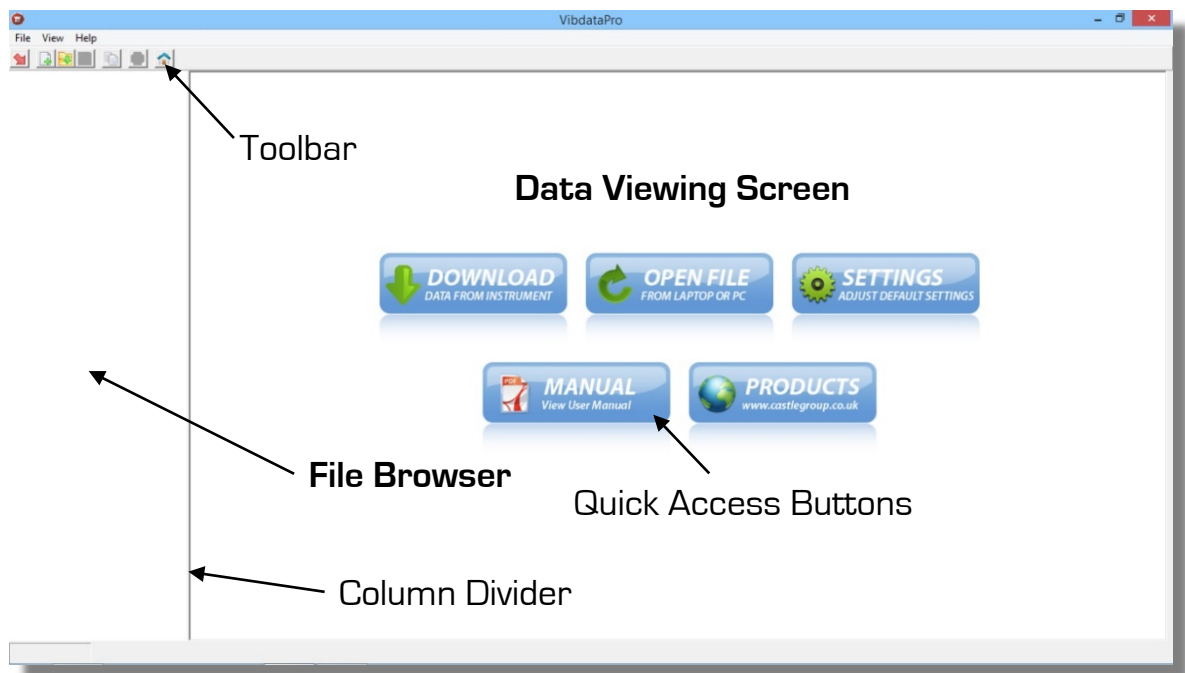
1. Double click on the desktop icon  or single click on the quick launch icon, both of which are named **VibdataPro**. Note these shortcuts are only available if selected during the installation process. Quick launch on Windows 7 or above will need to be turned on, alternatively simply pin the desktop icon to the taskbar.
2. On Windows 7 or below click the '**START**' button and select '**All Programs**', choose the folder '**VibdataPro**' and finally select the application '**VibdataPro**'.

On Windows 8 or above, press and hold the **Windows** key on the keypad then press **S**. Type **vibdatapro** in the search bar and then select the application **VibdataPro**.

Please be aware that VibdataPro is generic software for all models of Castle vibration meters. Some display parameters may not be available for your specific instrument.

Opening Home Screen

The display area is split into two sections.



The left hand column named the '**File Browser**' will display details of any file opened within VibdataPro.

The right hand area named the '**Data Viewing Screen**' displays downloaded data and instrument information relevant to the recording.

The Home Screen also contains quick access buttons to useful features of VibdataPro.

The File Browser or Viewing Screen can be resized horizontally by grabbing and moving the column divider.

At the top left of the screen is the Toolbar which gives quick access to the commonly used functions within VibdataPro.

Toolbar Options

The following toolbar options are available (some options listed below require an active file to be open): -

File Menu

Download	Download data from an instrument
New	Create a new blank folder
Open	Open a saved file
Save	Save the current data to a file
Save As	Save the current data to a new file specifying a new name
Close	Close the active data file
Close All	Close all the open data files
Print	Print current view
Exit	Close the application

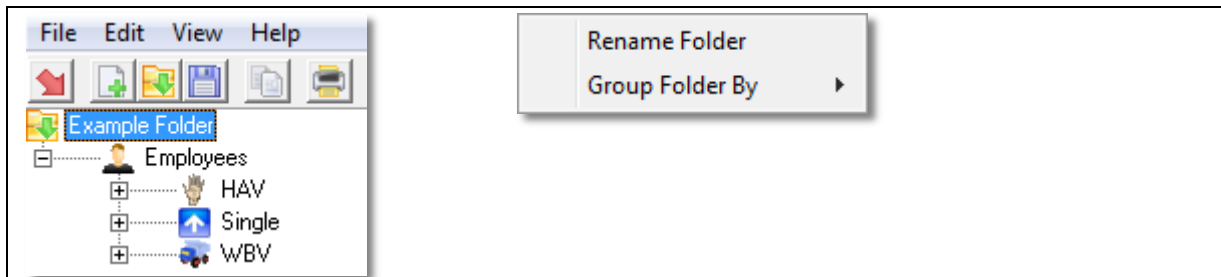
View Menu

Toolbar	Toggle toolbar on / off
Settings	Open the Options window for VibdataPro settings and user preferences

Help Menu

VibdataPro Help	View the help file
Castle Homepage	Opens Castle's Website in a browser window
About VibdataPro	Display the current software version

Edit Menu

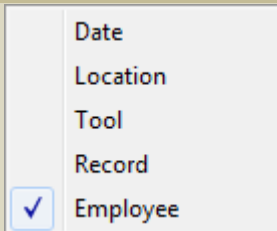


Click on the folder name and then click on Edit or right click on the folder name to show the options above and described below: -

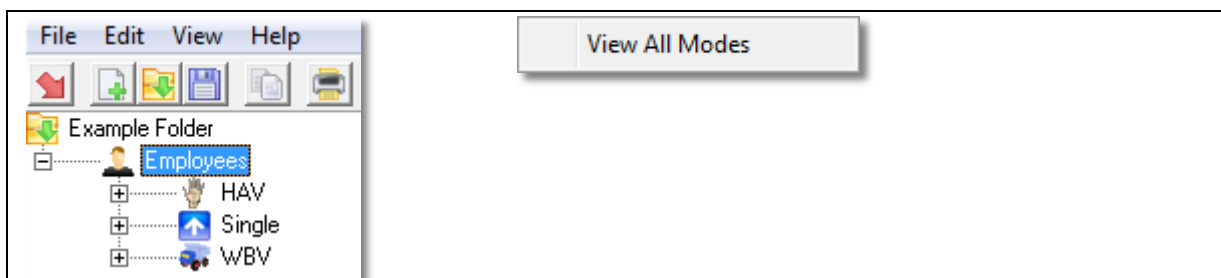
Rename Folder

Group Folder By

- ↳ Date
- ↳ Location
- ↳ Tool
- ↳ Record
- ↳ Employee



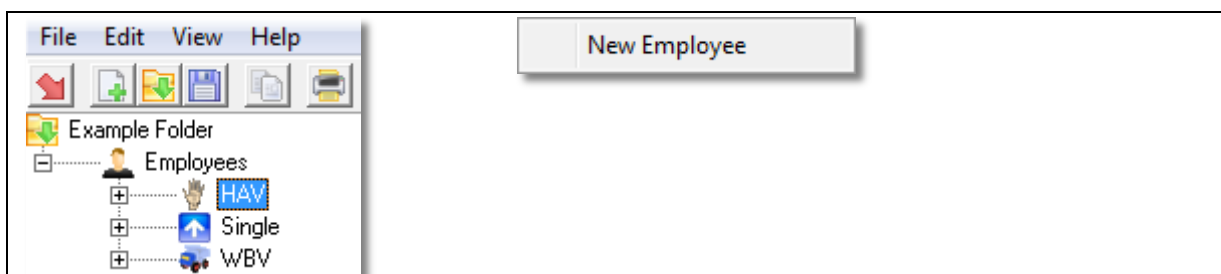
Regroup and sort the measurement folder by Date, Location, Tool, Record or Employee



Click on the Grouped By title and then click on Edit or right click on the Grouped By title to show the options above and described below: -

View All Modes

Toggle display for blank modes within the grouped file. In the example shown View All Modes is OFF and hence not showing Custom Mode which has no recordings.

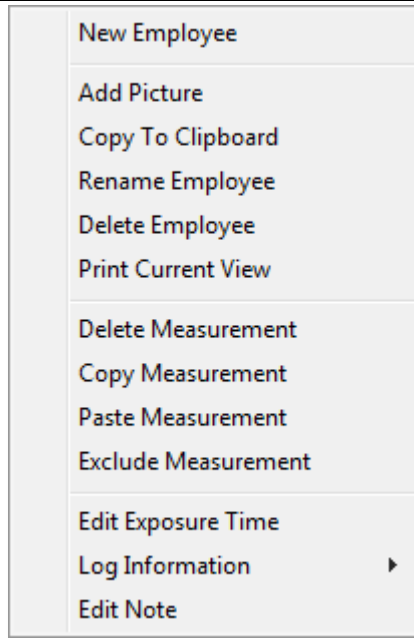
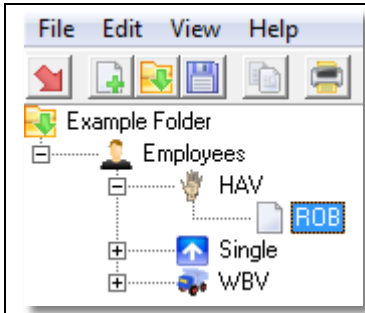


Click on a Mode type within the group and then click on Edit or right click on the mode type to show the options above and described below: -

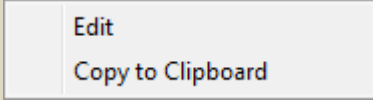
New ...

Create new :-

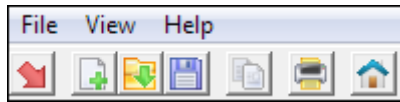
- Employee, Tool, Record, Location or Date
- Depending on Grouped By selection










Click on a recording and then click on Edit or right click on the recording to show the options above and described below: -

New ...	Create new :- <ul style="list-style-type: none"> Employee, Tool, Record, Location or Date Depending on Grouped By selection
Add Picture	Add a picture to file
Copy To Clipboard	Copy selected file data to clipboard
Rename ...	Rename either: - <ul style="list-style-type: none"> Employee, Tool, Record or Location Depending on Grouped By selection
Delete ...	It is not possible to rename by Date Delete Individual selection of either: - <ul style="list-style-type: none"> Employee, Tool, Record, Location or Date Depending on Grouped By selection
Print Current View	Print current view
Delete Measurement	Delete selected individual measurement
Copy Measurement	Copy selected measurement
Paste Measurement	Paste selected measurement into group
Exclude Measurement <i>Include Measurement</i>	Exclude / Include selected measurement from calculations.
Edit Exposure Time	Enter a new Exposure Time
Log Information	
↳ Edit	Edit Log Information such as Tool, Employee
↳ Copy To Clipboard	Copy all Log Information to the clipboard
Edit Note	Add a Note description to the measurement

Toolbar Buttons



From left to right, the buttons perform faster access to the following common actions: -

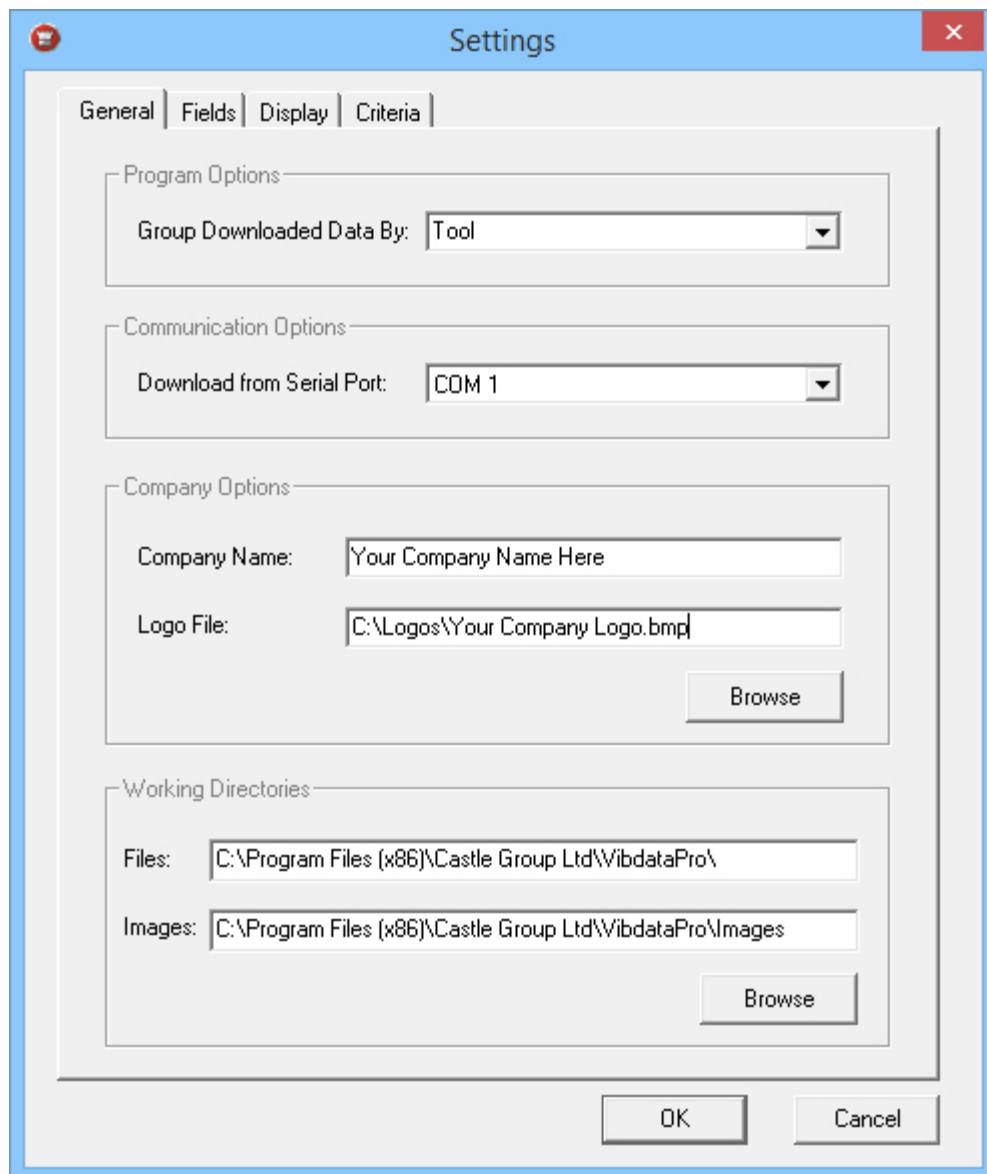
-  Download data from an instrument
-  Create a new blank folder
-  Open a saved file
-  Save selected data to a file
-  Copy current view data to clipboard
-  Print current view
-  Home Screen

User Preferences and VibdataPro Settings

To change user preferences and settings within VibdataPro, select '**Settings**' from the '**View**' menu.

Some settings may require a restart of VibdataPro to take effect.

General Tab



Program Options

Group Downloaded Data By:

Select how downloaded data will be grouped. The available grouping methods are by: -

- **Employee, Tool (Default), Record, Location, Date**

Data can be regrouped at any time if required after it has been downloaded.

Communication Options

Download From Serial Port:

This is an automated process between your PC and VibdataPro and therefore should not require changing; however the setting can be made manually if required by selecting which COM port has been assigned to your meter by your operating system.

Company Options

Company Name:

Enter your company name here.

Logo File:

Browse to the location of your company logo image file which is used when printing documents.

The image size is 170[W] * 57[H] pixels and must be in the .bmp or .wmf format.

Working Directories

Files:

Point to the folder where you wish to open and save your data.

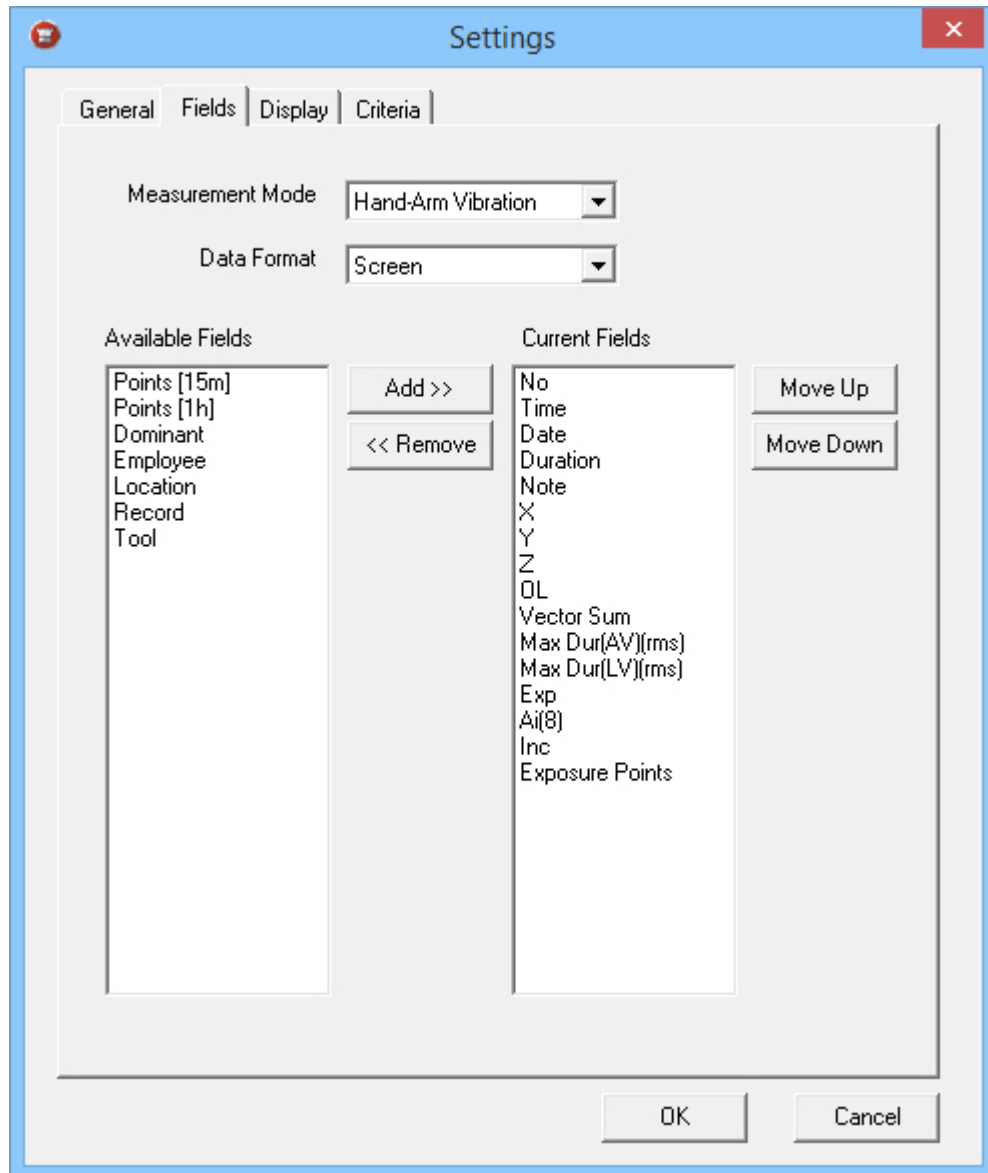
Images:

Point to the folder where you wish to open image files from.

Note that image files are 100[W] * 100[H] pixels and must be in either of the following formats: -

- .jpg
- .bmp
- .gif
- .png

Fields Tab



Use the Fields tab to select which information is: -

- **Displayed on screen**
- **Copied to the Clipboard**
- **Printed**

Each measurement mode can be set independently using the drop down box labelled **Measurement Mode**. The available modes are: -

Hand-Arm Vibration	HARM mode settings
Whole Body Vibration	WBV mode settings
Single Axis	Single Axis mode settings
Custom	Custom mode settings
VDV	Specific settings for Vibration Dose Value


Each mode can also be set independently for data displayed on your screen, data copied to the clipboard or which data is printed.

Use the drop down box labelled **Data Format** to select any of the following options: -

Screen	Select for parameters displayed on screen
Clipboard	Select for parameters copied to clipboard
Print	Select for parameters to be printed

Parameters in the Current Fields list will be displayed, copied or printed.

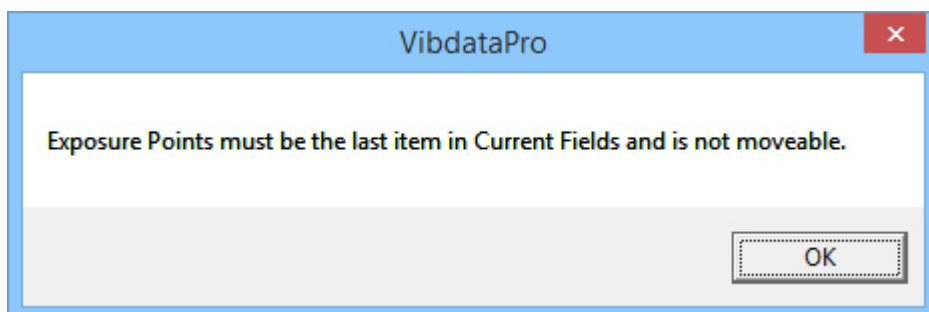
Highlight items under **Available Fields** and click on  to add the parameter to **Current Fields**.

To remove parameters, highlight the item and click on 

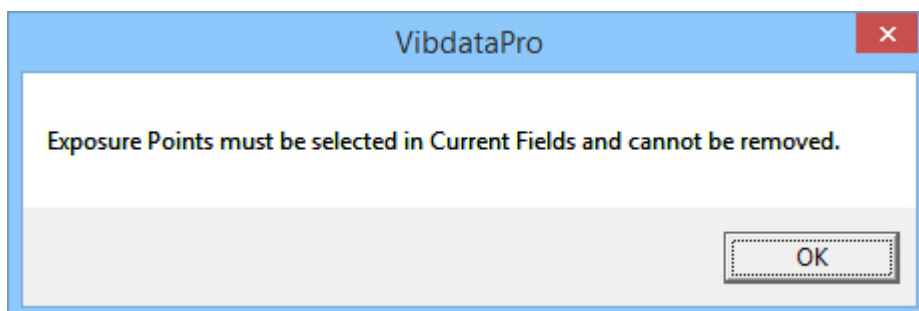
To change the order in which the parameters are displayed, copied or printed, highlight a parameter in the **Current Fields** list and then use the **Move Up** or **Move Down** buttons to move the selected item up or down the list.

Exposure Points which are available only for HARM or WBV or not moveable or removable from the **Current Fields** and are always the last parameter in the item list.

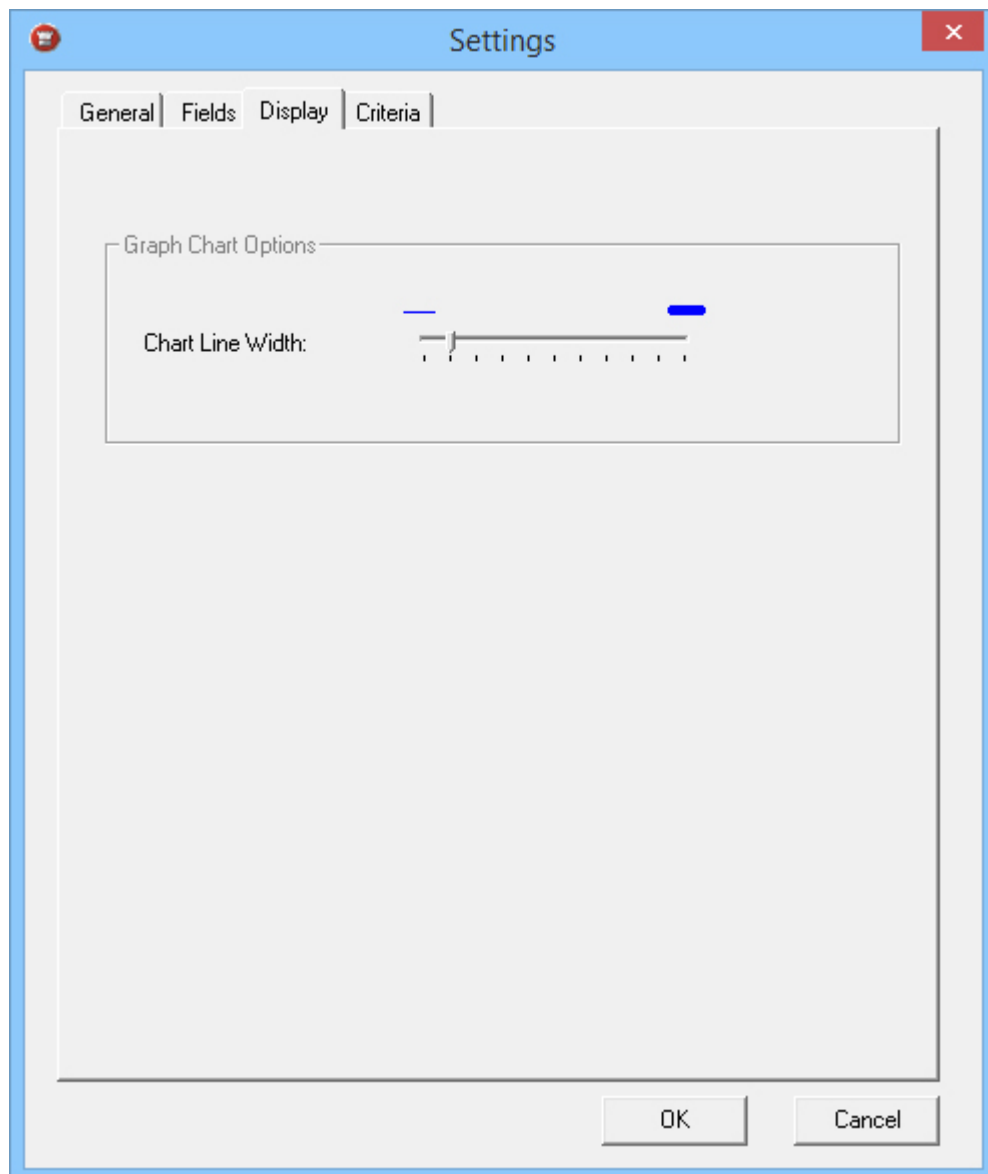
Attempts to move **Exposure Points** will display the following message: -



Attempts to remove **Exposure Points** will display the following message: -



Display Tab



Display Options

Chart Line Width:

Move the slider to determine the line width used for graphing.

Criteria Tab

The screenshot shows a 'Settings' dialog box with the 'Criteria' tab selected. The dialog is organized into four sections:

- Units:** 'Display Units' is set to 'Metric' and 'dB Reference Value' is set to 'e*10^-5'.
- Hand Arm Vibration:** 'Action Value' is 2.5 and 'Limit Value' is 5.
- Whole Body Vibration:** 'RMS Action Value' is 0.5, 'RMS Limit Value' is 1.15, 'VDV Action Value' is 9.1, and 'VDV Limit Value' is 21.
- Custom:** 'RMS Action Value' is 0.5, 'RMS Limit Value' is 1.15, 'VDV Action Value' is 9.1, and 'VDV Limit Value' is 21.

'OK' and 'Cancel' buttons are located at the bottom of the dialog.

Use the Criteria tab to change the Action and Limit values as required.

In the UK, The Control of Vibration at Work Regulations 2005 stipulates the following Action and Limit Values: -

Vibration Type	Action Value (m/s ²)	Limit Value (m/s ²)
Hand Arm	2.5	5.0
WBV	0.5	1.15

Chapter 5

Downloading, Opening and Saving Data

Downloading Data

Please ensure the required drivers have been installed during installation, see '**Chapter 1, Installing VibdataPro**' for more information.

Downloading data from your instrument is achieved by connecting your instrument to your PC or laptop via the supplied USB cable, see '**Chapter 3, Connectivity**' for more information.


To download the data from your Castle vibration meter, follow the procedure below for your instrument type: -

Vexo

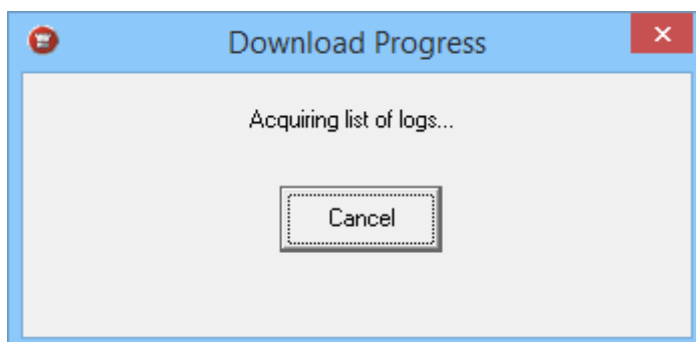
1. Ensure that the vibration meter is **OFF**.

Connect the USB lead to the instrument and to the PC.

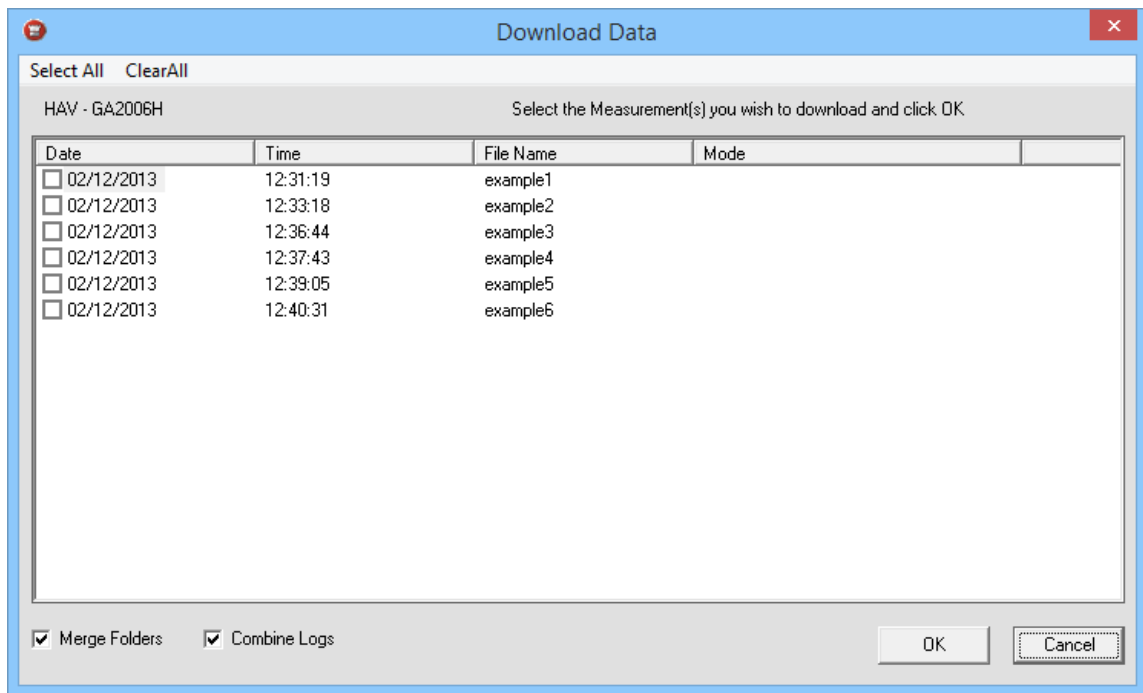
Turn the vibration meter **ON** and wait until the measuring screen is displayed.

2. Select '**Download**' from the File menu or click on the Download icon  and VibdataPro will attempt communication with your Vibration Meter.

Once the instrument is identified the acquisition of available logs will begin.



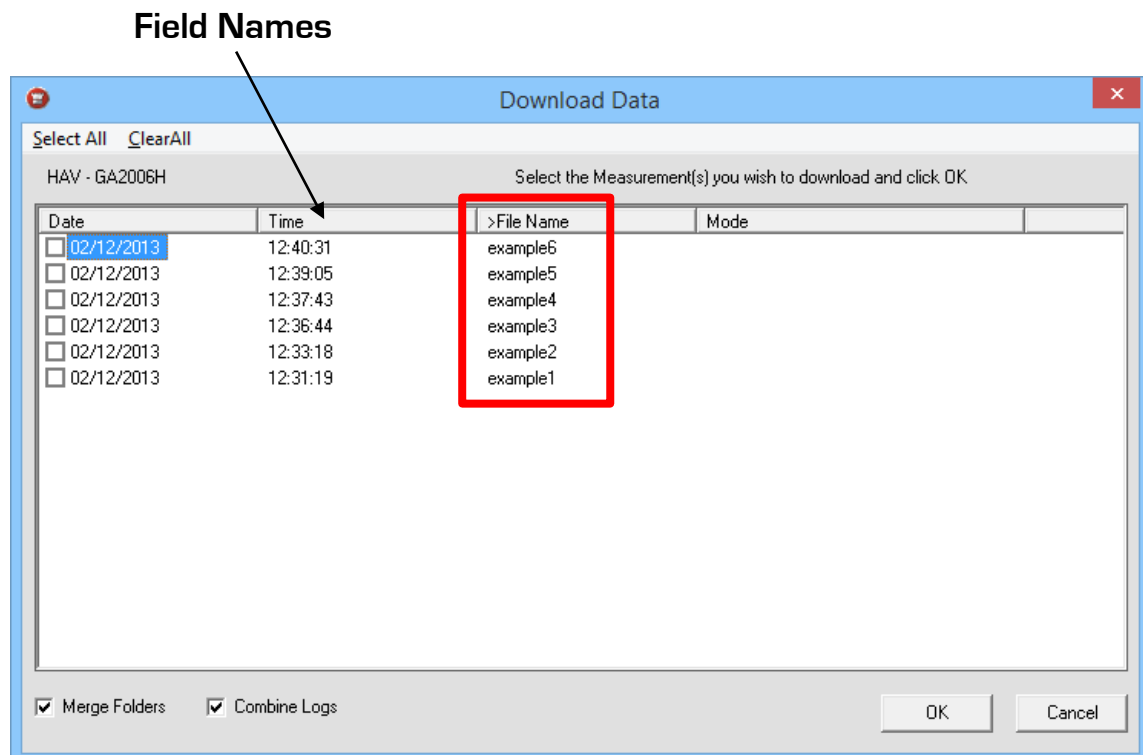
3. With acquisition complete a list of all available measurements is displayed.



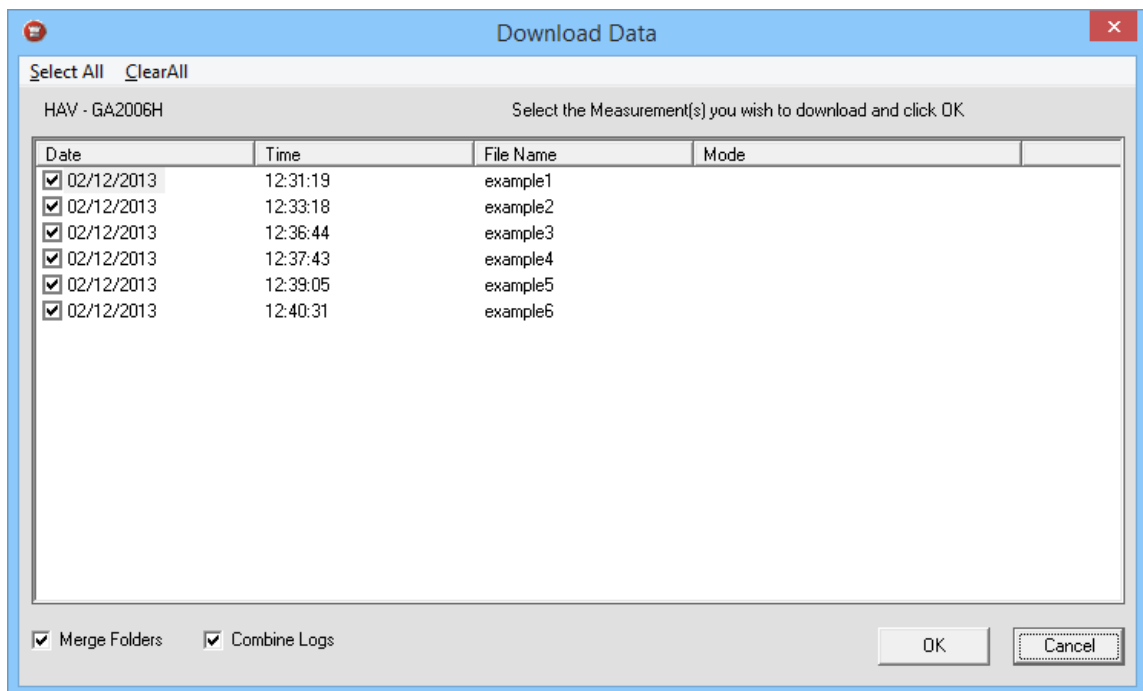
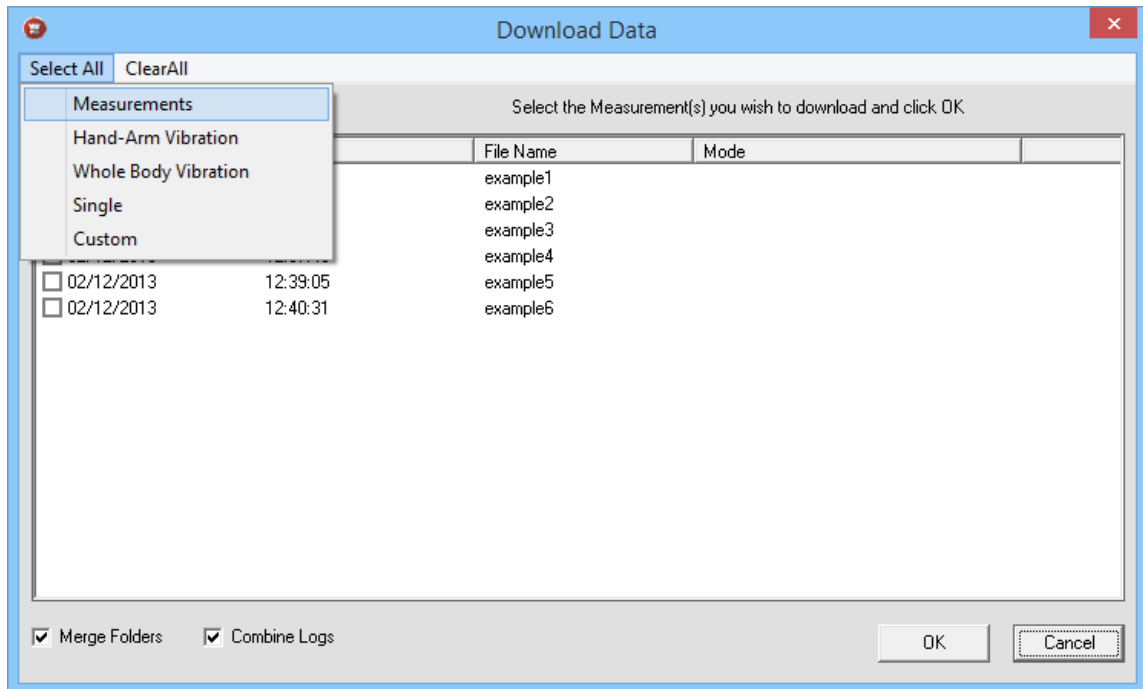
Available measurements can be sorted by clicking on the field name.

Sorted fields are identified by having the symbol '>' at the left of the field name. Reverse the order by clicking on the field name again.

The image below shows reverse sorting by **File Name**.



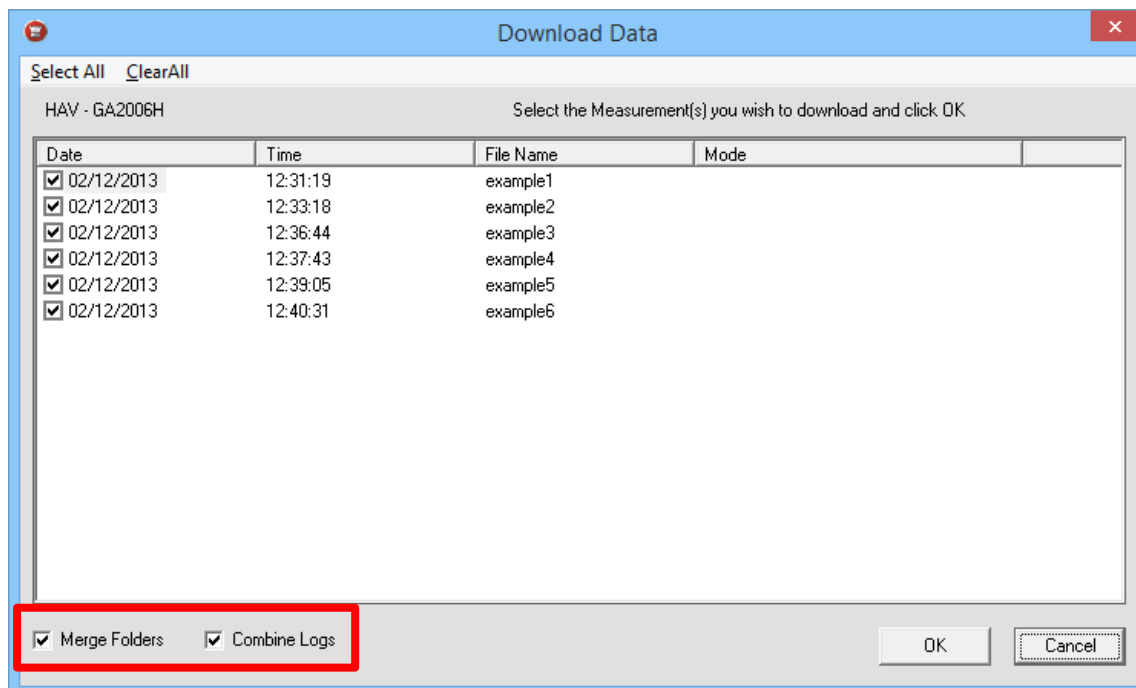
4. Select which measurements are required by clicking in individual tick boxes or by selecting **'Select All'** and then choosing **Measurements**.



5. Select or Deselect **Merge Folder** and / or **Combine Logs** using the tick boxes.

Selecting **Merge Folders** will place the data to be downloaded into the active folder that is open in VibdataPro. If no folder exists or if this option is not selected then the data will be downloaded into a new folder.


Selecting **Combine Logs** will combine each measurement of the same name and of the same type into one measurement.

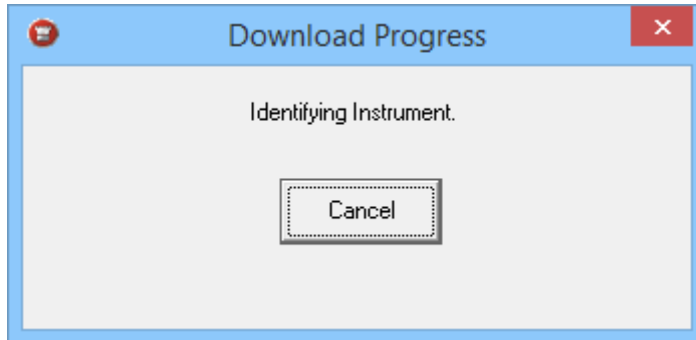


6. Once all preferences have been selected, press the **OK** button to start the data download from the instrument to VibdataPro.

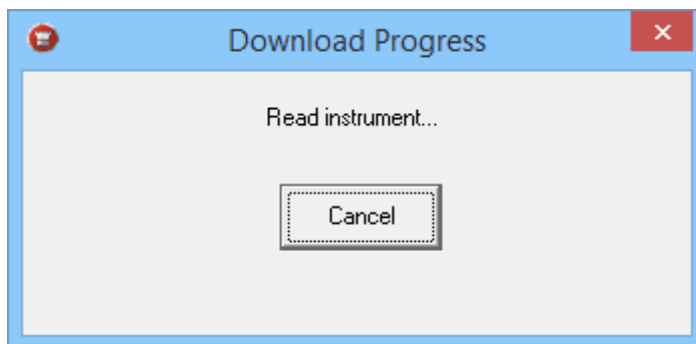
1. Ensure that the vibration meter is **ON**.

Connect the USB lead to the instrument and to the PC.

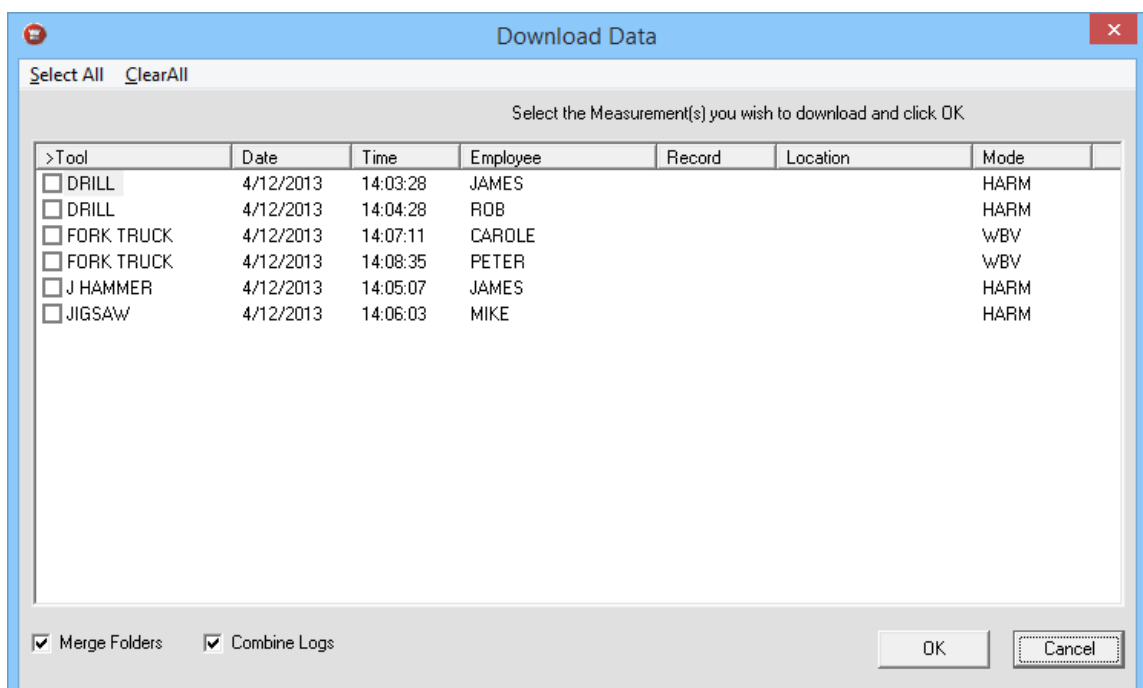
2. Select '**Download**' from the File menu or click on the Download icon  and VibdataPro will attempt communication with your Vibration Meter.



3. Once the instrument is identified the acquisition of available logs will begin.



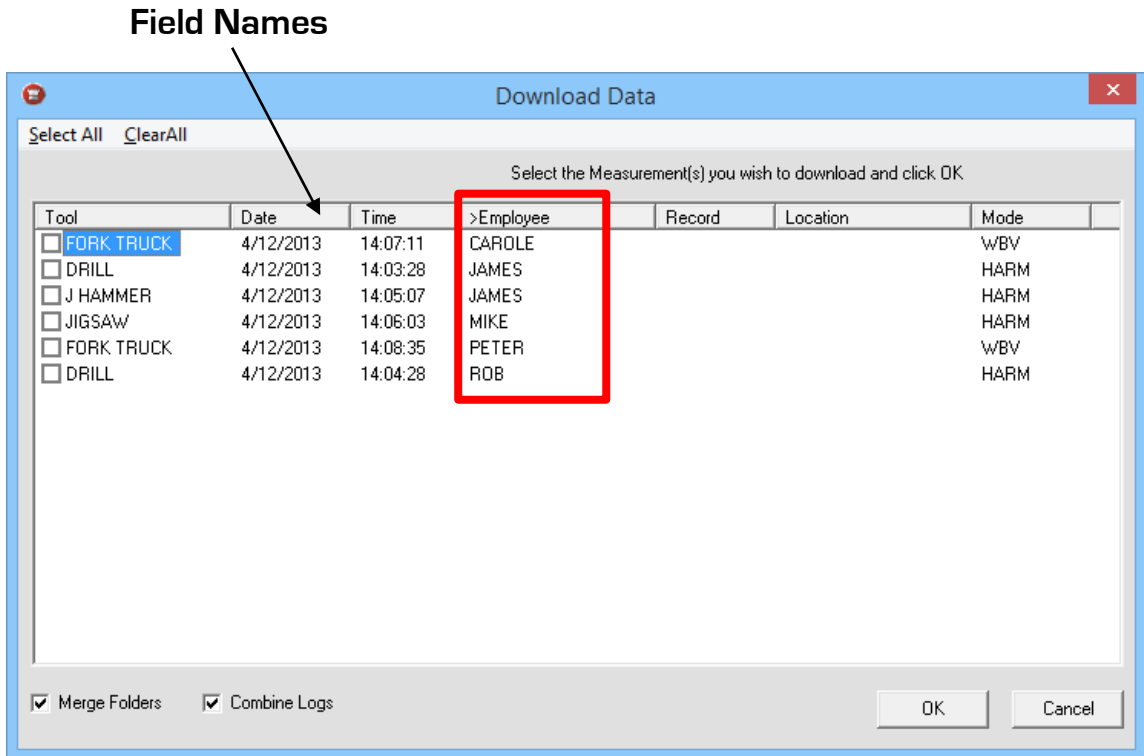
4. With acquisition complete a list of all available measurements is displayed.



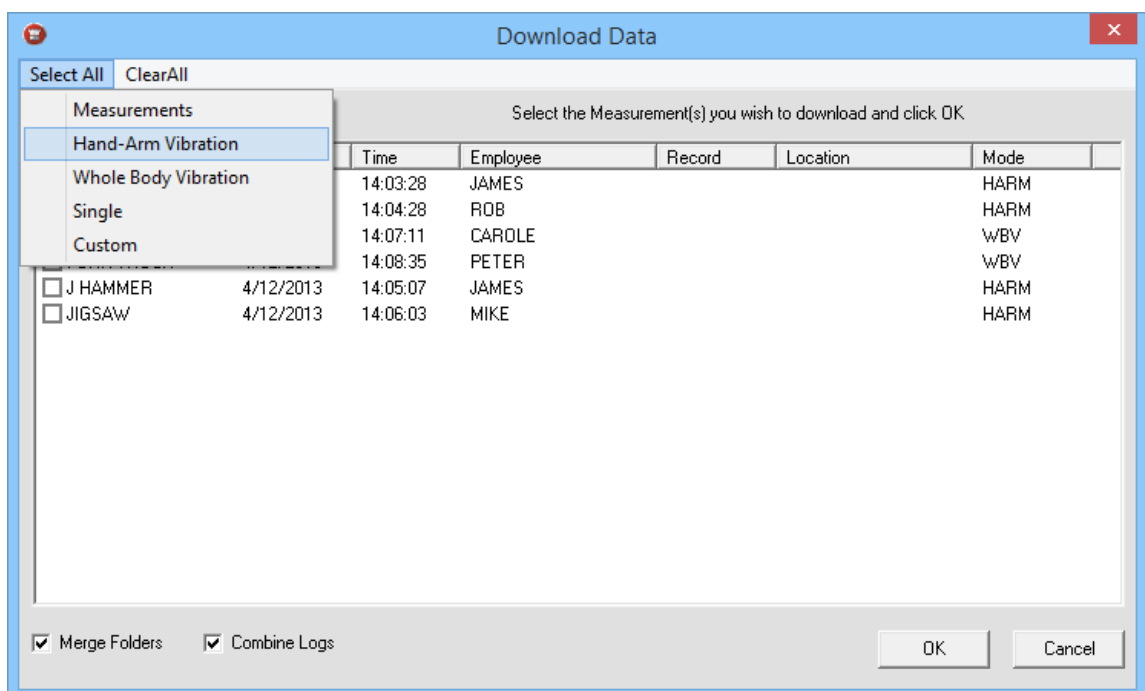
Available measurements can be sorted by clicking on the field name.

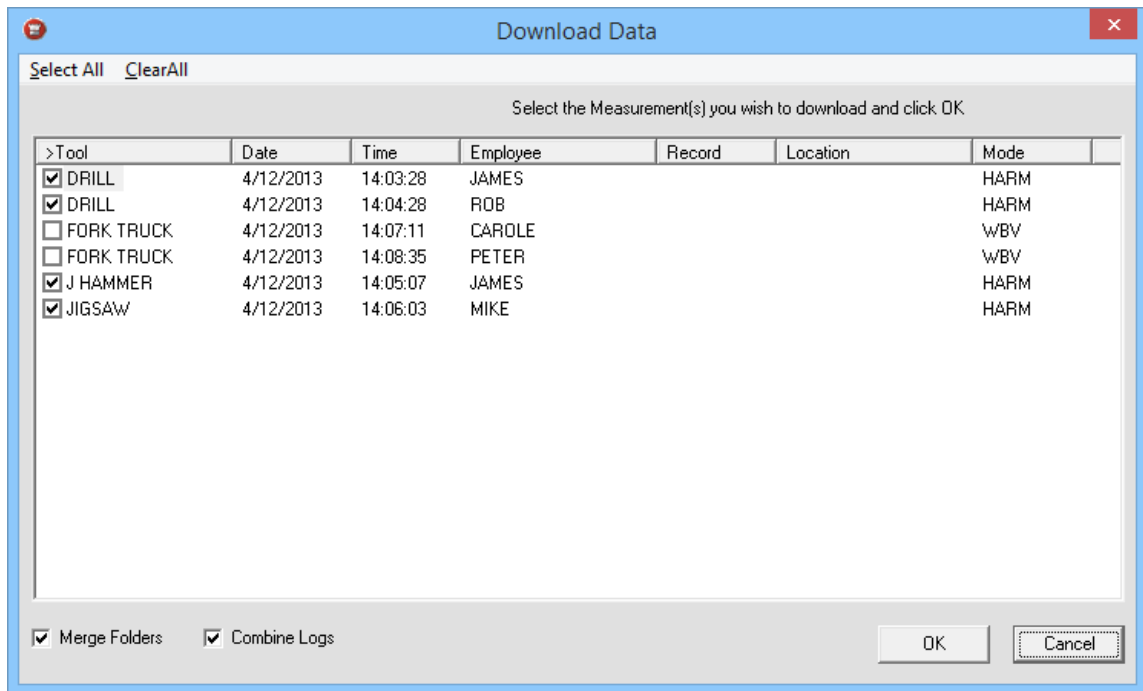
Sorted fields are identified by having the symbol '>' at the left of the field name. Reverse the order by clicking on the field name again.

The image below shows sorting by **Employee**.



5. Select which measurements are required by clicking in individual tick boxes or by selecting '**Select All**' and then choosing which measurement types you wish to download.

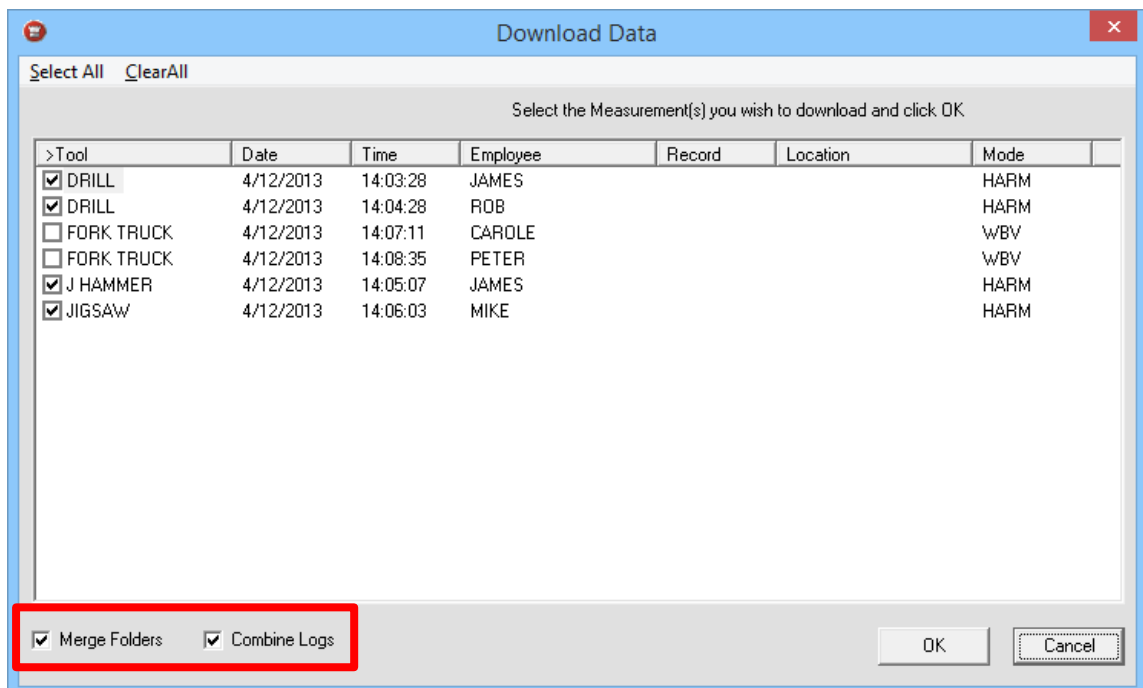




6. Select or Deselect **Merge Folder** and / or **Combine Logs** using the tick boxes.

Selecting **Merge Folders** will place the data to be downloaded into the active folder that is open in VibdataPro. If no folder exists or if this option is not selected then the data will be downloaded into a new folder.

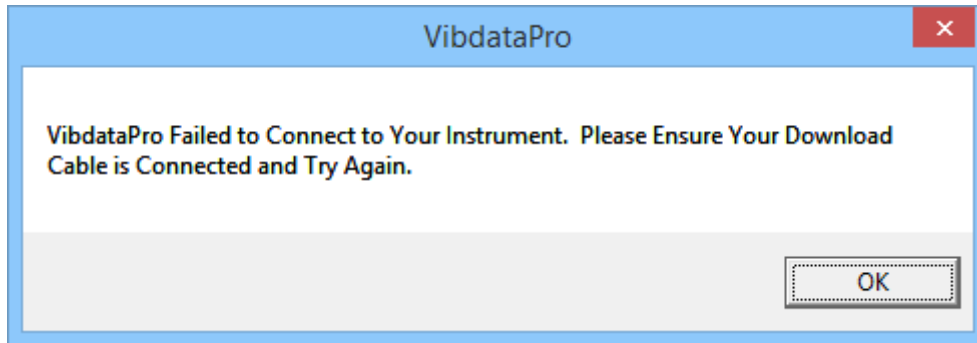
Selecting **Combine Logs** will combine each measurement of the same name and of the same type into one measurement.



7. Once all preferences have been selected, press the **OK** button to start the data download from the instrument to VibdataPro.

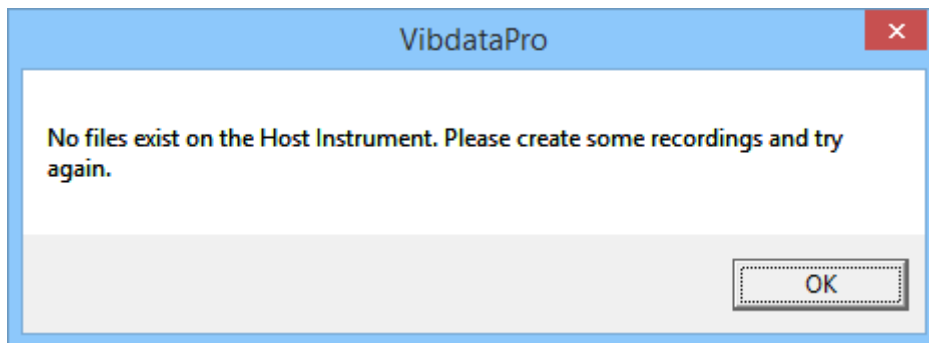
Error Messages

If VibdataPro does not receive a response from your instrument then you will be shown the following error messages: -



If this occurs please see '**Chapter 3, Connectivity**' for instructions on connecting your instrument.

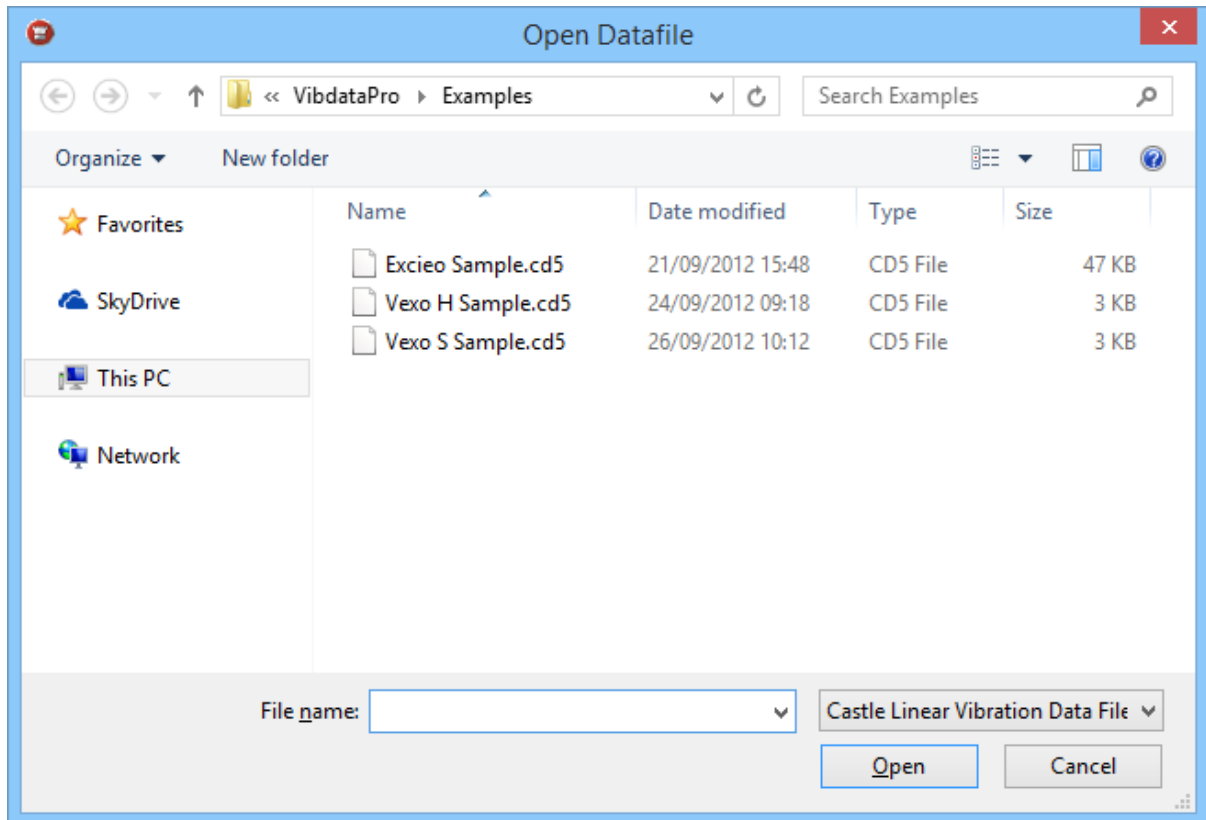
If an instrument is detected but no files have been recorded then the following message is displayed: -



If this occurs please create some recordings on the instrument.

Opening Data


To open a saved data file choose 'File', 'Open' or click the Open File  icon.

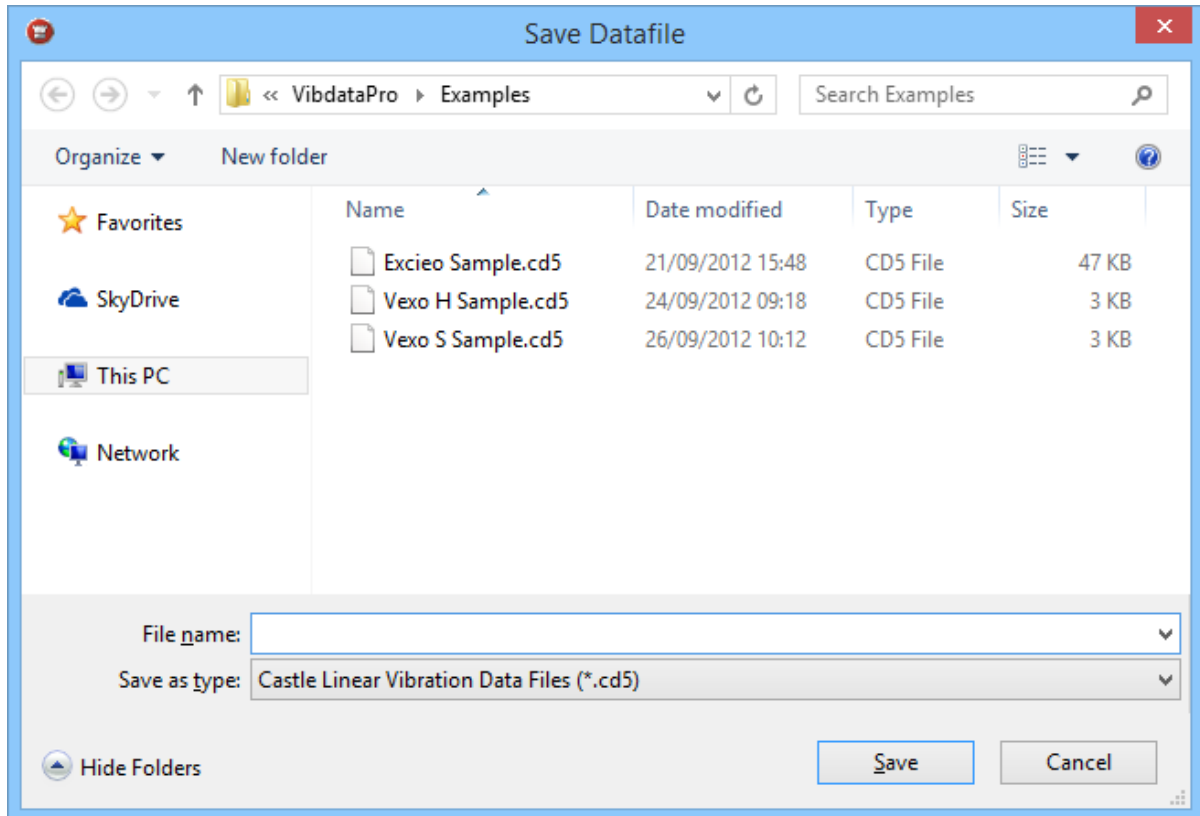


The initial default location for file storage is found under **Working Directories** from the **General tab** of **Settings**, this location can be changed if required, however VibdataPro remembers the last folder location used enabling fast folder access.

To open the selected file double click on it or highlight it by a single click of the mouse button and then click on the 'Open' button.


Saving Data

To save data to a log file choose **'File'**, **'Save As'** or click the Save  icon.



The initial default location for file storage is found under **Working Directories** from the **General tab** of **Settings**, this location can be changed if required, however VibdataPro remembers the last folder location used enabling fast folder access.

Enter a file name and then click on the **'Save'** button.

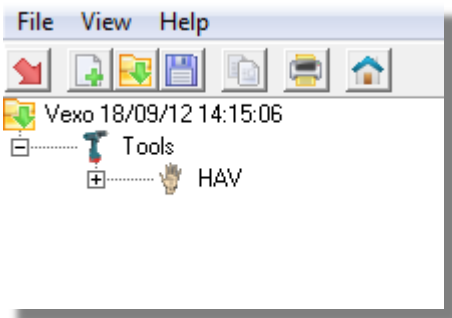
Once a file name has been specified quick saves are possible using the Save  or **'File'**, **'Save'**. To specify a new name, where required, use **'File'**, **'Save As'** again.

File Browser

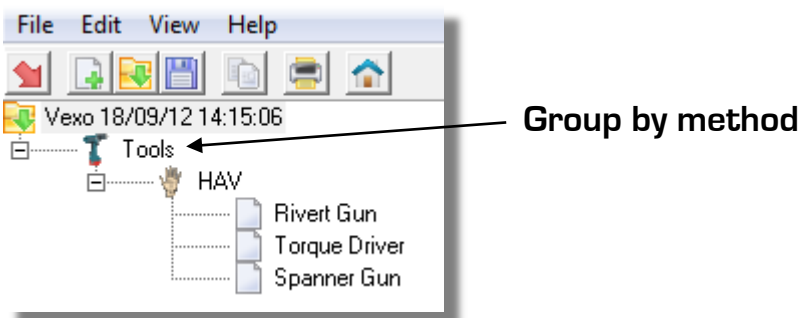
The File Browser is located at the left hand side of the screen. It is used to select which information is displayed in the Data Viewing screen.

The example below describes how to use File Browser: -

- i. Open or download a file.

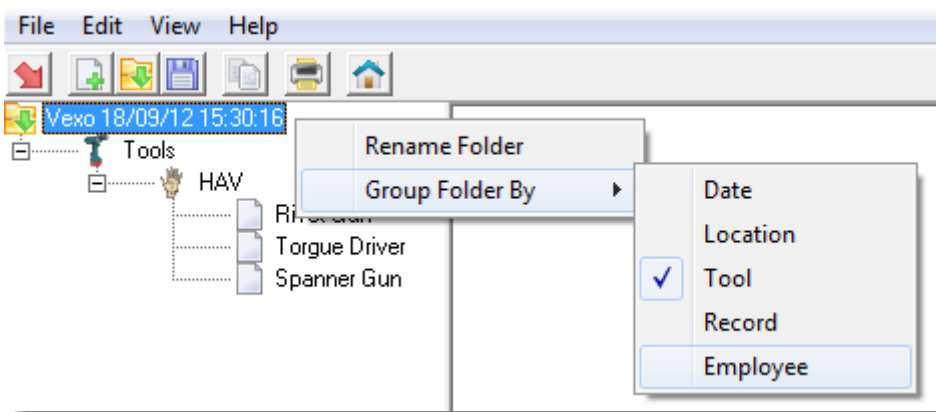


- ii. Click on the '+' to the left of the vibration type icon to display the downloaded or saved file information.

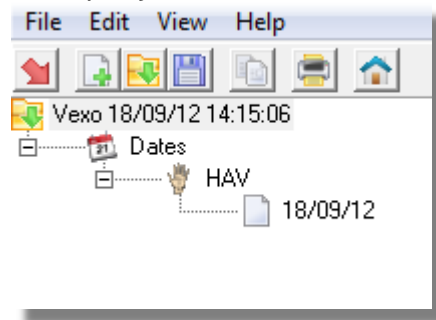


Click on the file you wish to view which will then appear in the Data Viewing Screen. By default all files are grouped by Tools, this can be changed under Settings.

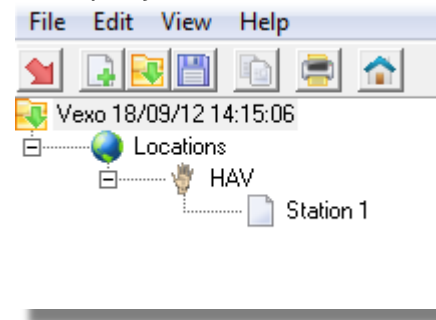
To regroup an open file, right click on the folder name and choose 'Group Folder By': -



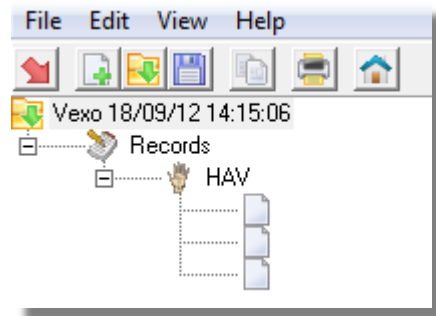
Group By Date:-



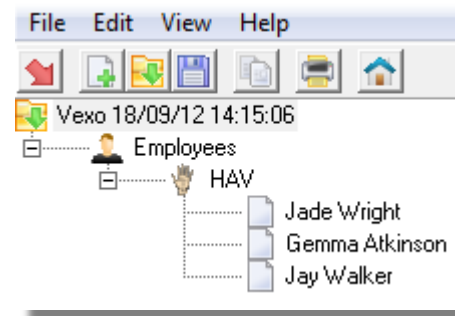
Group By Location:-



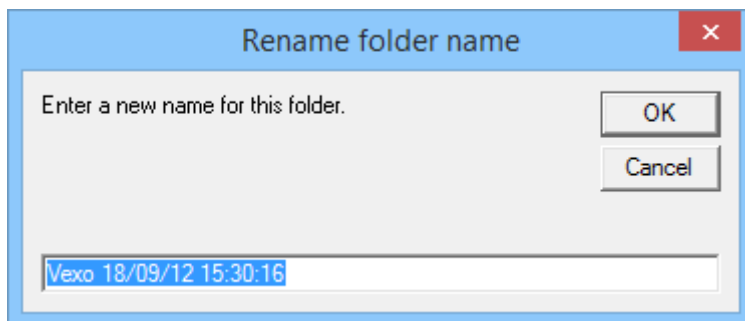
Group By Record:-



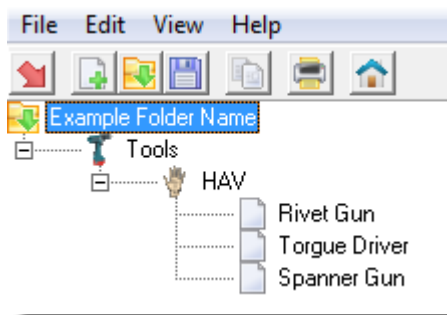
Group By Employee:-



It is also possible to rename folder names by right clicking on the folder name and selecting '**Rename Folder**'.



Enter the new name and press Ok. The renamed folder will be now be displayed:-



Chapter 6

Using VibdataPro

Data Viewing Screen

The Data Viewing Screen is the main area at the right hand side of the screen which shows the recorded data for the chosen file in the tree view.

The screenshot shows the VibdataPro software interface. The main window title is "VibdataPro - C:\Program Files (x86)\Castle Group Ltd\VibdataPro\Examples\test.cd5". The interface is divided into several sections:

- Tree View:** Located on the left, it shows a hierarchical structure with "Example" and "Employees" folders. Under "Employees", there are sub-folders for "T. Smith", "S. Jones", "R. Simms", and "J. Peters".
- Data Viewing Screen:** The central area displays a table of recorded data. The table has columns for No, Time, Date, Duration, Note, X, Y, Z, D.L., Vector Sum, Max Dur(AV)(ms), Max Dur(LV)(ms), Exp, A(8), Inc, and Exposure Points. The data is as follows:

No	Time	Date	Duration	Note	X	Y	Z	D.L.	Vector Sum	Max Dur(AV)(ms)	Max Dur(LV)(ms)	Exp	A(8)	Inc	Exposure Points
1	10:52	21/09/12	00:01:00		1.90	8.92	1.82		1.53	19.43	24.11	00:30	1.83	Yes	31
2	10:45	21/09/12	00:01:00		16.91	3.50	4.73		17.90	00:09	00:37	00:30	4.48	Yes	321
3	10:52	21/09/12	00:00:30		4.16	16.22	6.16		17.84	00:09	00:38	00:30	4.46	Yes	319
4	10:57	21/09/12	00:01:00		3.09	3.48	2.28		5.18	01:52	07:26	01:00	1.83	Yes	54
													6.72		725
- Tab Buttons:** Located at the bottom of the data viewing screen, they include "Calculator", "Cumulative Data", "History (Table)", "History (Graph)", and "Trend Analysis".
- Log Information:** A panel at the bottom of the window containing:
 - Instrument Details:** Mode: HandArm Vibration, Range: 0.20 - 1000 ms⁻², Accelerometer: 10 mV/g, Integrator: Acceleration.
 - File Information:** Record: Employee: R. Simms, Tool: Drill, Location: Workshop.
 - File Image:** A small image of a drill bit.
 - Other Info:** Start Time: 10:25, Start Date: 21/09/12, Log Duration: 00:01:00, Units: Metric, Instrument: Excitec, Serial Number: 065237, Factory Calibration Due: 01/10/13, Firmware Version Number: 2.25.

Depending on the type of file open you will have the following selectable tab buttons at the bottom of the viewing screen: -

- Calculator
- VDV Calculator
- Cumulative Data
- History (Table)
- History (Graph)
- Trend Analysis

Click these to change the display in the data viewing screen.

Calculator

The **Calculator** tab displays the calculated variables selected under 'Options', 'Fields' for the recording selected and is always available for any recording.

Where multiple entries exist, click on the entry to highlight it. The relevant instrument details, file image and file information will be shown. The data for the selected file will also be shown when viewing different screens in the data viewing area.

No	Time	Date	Duration	Note	X	Y	Z	OL	Vector Sum	Max Dur(AV)(rms)	Max Dur(LV)(rms)	Exp	A(8)	Inc	Exposure Points
1	10:25	21/09/12	00:01:00		1.00	0.92	0.82		1.59	19.49	>24 hrs	06:00	1.38	Yes	31
2	10:45	21/09/12	00:01:00		16.91	1.50	4.72		17.50	00:05	00:30	00:30	4.46	Yes	321
3	10:52	21/09/12	00:00:30		4.16	16.22	6.16		17.84	00:09	00:30	00:30	4.46	Yes	319
4	10:57	21/09/12	00:01:00		3.09	3.48	2.28		5.18	01:52	07:26	01:00	1.93	Yes	54
													6.72		725

Log Information:

Mode: Hand/Arm Vibration	Record:	Start Time: 10:45
Range: 0.20 - 1000 ms ⁻²	Employee: R. Simms	Start Date: 21/09/12
Accelerometer: 10 mV/g	Tool: Jigsaw	Log Duration: 00:01:00
Integration: Acceleration	Location: Workshop	Units: Metric
<hr/>		
Instrument: Exciteo	Factory Calibration Due: 01/10/13	
Serial Number: 065237	Firmware Version Number: 2.25	

Exposure Points

The vibration exposure point system is based on the UK's Health & Safety Executive's system where vibration magnitude and exposure time are given in exposure points rather than ms^{-2} .

Partial exposure points of merged recordings are added together to produce a total points exposure for a working day.

Partial points are displayed by default, Points(1hr) and Points(15m) will need selecting in order to be displayed, copied or printed. See **User Preferences and VibdataPro Settings** under **Chapter 4** for more information.

No	Time	Date	Duration	Note	X	Y	Z	OL	Vector Sum	Max DuL(V)(ms)	Max DuL(V)(hrs)	Exp	A(0)	Inc	Exposure Points
1	10:25	21/09/12	00:01:00		1.00	0.92	0.82		1.53	18.43	>24hrs	06:00	1.38	Yes	31
2	10:48	21/09/12	00:01:00		16.51	1.51	4.11		17.24	00:03	00:30	00:30	4.46	Yes	221
3	10:52	21/09/12	00:00:30		4.16	16.22	6.16		17.84	00:09	00:30	00:30	4.46	Yes	219
4	10:57	21/09/12	00:01:00		3.09	3.48	2.29		5.18	01:52	07:26	01:00	1.93	Yes	54
													6.72		725

Vibration exposure points are only available for recordings made in Hand Arm or WBV mode with Metric units.

Each recording and the total exposure points are colour coded using the following criteria: -

Hand Arm

>0 & <100	GREEN
>=100 & <400	ORANGE
>= 400	RED

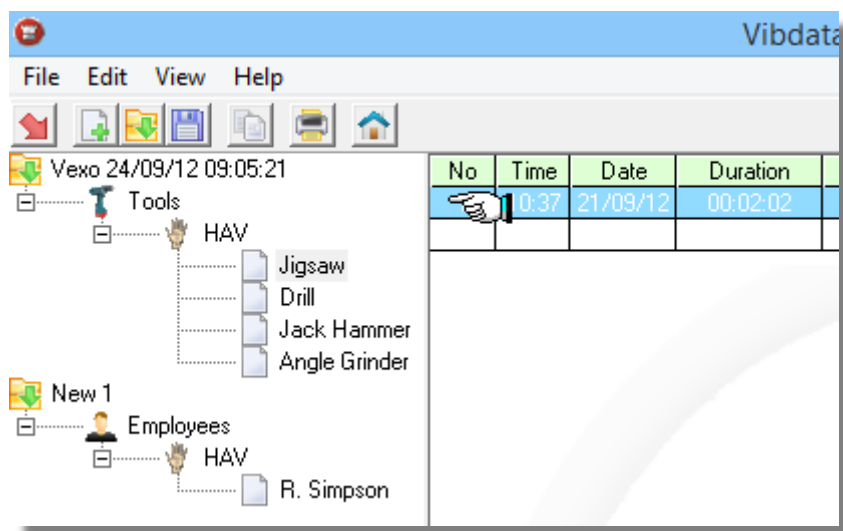
WBV

>0 & <100	GREEN
>=100 & <529	ORANGE
>= 529	RED

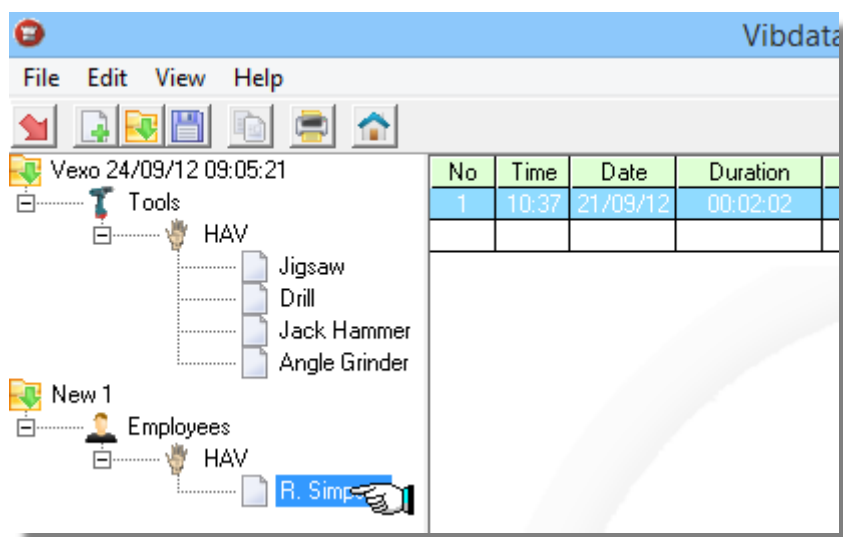
Drag & Combine Data

Whilst on the Calculator screen it is possible to use the extremely powerful drag and combine feature of VibdataPro.

Click and hold the left mouse button on the data you wish to drag, the mouse will switch from an Arrow to a Pointed Hand.



Keep the mouse button down and move the Hand over the area on the Tree View where you wish the data to be placed then release the mouse button.



Data items such as Integration, Units, Type or Date must match to perform the requested operation.

If the drag is not possible then VibdataPro will automatically place the data in the correct location, creating folders as and where required.

The overall combined A(8) and Exposure Points are then calculated on each recording that is in the calculator screen.

VDV Calculator

Where recordings have VDV results then a **VDV Calculator** tab becomes available.

The **VDV Calculator** tab displays the calculated variables selected under 'Options', 'Fields' for the recording selected.

It is also possible to drag and combine recordings of the same mode and unit into the calculator screen. The overall combined VDV is then calculated on each recording that is in the calculator screen.

To drag and combine files place the mouse cursor over the relevant file in the VDV Calculator View, hold down CTRL and then press and hold the right mouse key. The cursor changes to a Hand. Drag the Hand to a new file or folder and then release the key and mouse button.

Where multiple entries exist, click on the entry to highlight it. The relevant instrument details, file image and file information will be shown. The data for the selected file will also be shown when viewing different screens in the data viewing area.

No	Time	Date	Duration	Note	X [vdv]	Y [vdv]	Z [vdv]	OL	Max Dur[AV][vdv]	Max Dur[LV][vdv]	Exp	Shift VDV	Inc	Dominant
1	11:13	21/09/12	00:05:00		28.16	30.03	20.92		00.00	00.01	02.00	66.47	Yes	30.03

Log Information:

Mode: Whole Body Vibration	Record:	Start Time: 11:13
Range: 0.02 - 100 ms ⁻²	Employee: P. Giles	Start Date: 21/09/12
Accelerometer: 100 mV/g	Tool: Tractor	Log Duration: 00:05:00
Integration: Acceleration	Location: Sector A	Units: Metric
Instrument: Excio	Factory Calibration Due: 01/10/13	
Serial Number: 065237	Firmware Version Number: 2.25	

Cumulative Data

To view cumulative data use the **Cumulative Data** tab.

The cumulative data is a single overall figure calculated or measured over the measurement period for each available axis.

Individual data for recordings that have been combined can be viewed but are selected at the calculator screen. The information from the **Calculator** screen for the selected log is displayed at the top of the **Cumulative Data** screen to easily identify which recording is selected.

No	Time	Date	Duration	Note	X	Y	Z	OL	Vector Sum	Max Dur(AV)(rms)	Max Dur(LV)(rms)	Exp	A(0)	Inc	Exposure Points
1	10:25	21/09/12	00:01:00		1.00	0.92	0.82		1.59	19.49	>24 hrs	06:00	1.38	Yes	31

Parameter	X	Y	Z
Filter	Wh	Wh	Wh
Aeq	1.00	0.92	0.82
Amax	1.87	1.47	1.14
Pmax	6.71	5.04	3.64

Log Information:

Mode: Hand/Arm Vibration	Record:	Start Time: 10:25
Range: 0.20 - 1000 ms ⁻²	Employee: R. Simms	Start Date: 21/09/12
Accelerometer: 10 mV/g	Tool: Drill	Log Duration: 00:01:00
Integration: Acceleration	Location: Workshop	Units: Metric
Instrument: Exciteo	Factory Calibration Due: 01/10/13	
Serial Number: 065237	Firmware Version Number: 2.25	

History (Table)

Where Interval data has been recorded with the log it is possible to view individual data points at each time history interval for each axis.

To view the data in tabular format use the tab **History(Table)**.

To change the viewable data, select the required parameter from the drop down **Display** box.

Individual data for recordings that have been combined can be viewed but are selected at the calculator screen. The information from the **Calculator** screen for the selected log is displayed at the top of the **History(Table)** screen to easily identify which recording is selected.

If a recording has been recorded without time intervals then the tabs **History(Table)** and **History(Graph)** will not be available.

Calculator Cumulative Data **History (Table)** History (Graph) Trend Analysis

Log Information:

Mode: Hand/Arm Vibration	Record:	Start Time: 10:25
Range: 0.20 - 1000 ms ⁻²	Employee: R. Simms	Start Date: 21/09/12
Accelerometer: 10 mV/g	Tool: Drill	Log Duration: 00:01:00
Integration: Acceleration	Location: Workshop	Units: Metric

Instrument: Excico	Factory Calibration Due: 01/10/13
Serial Number: 065237	Firmware Version Number: 2.25

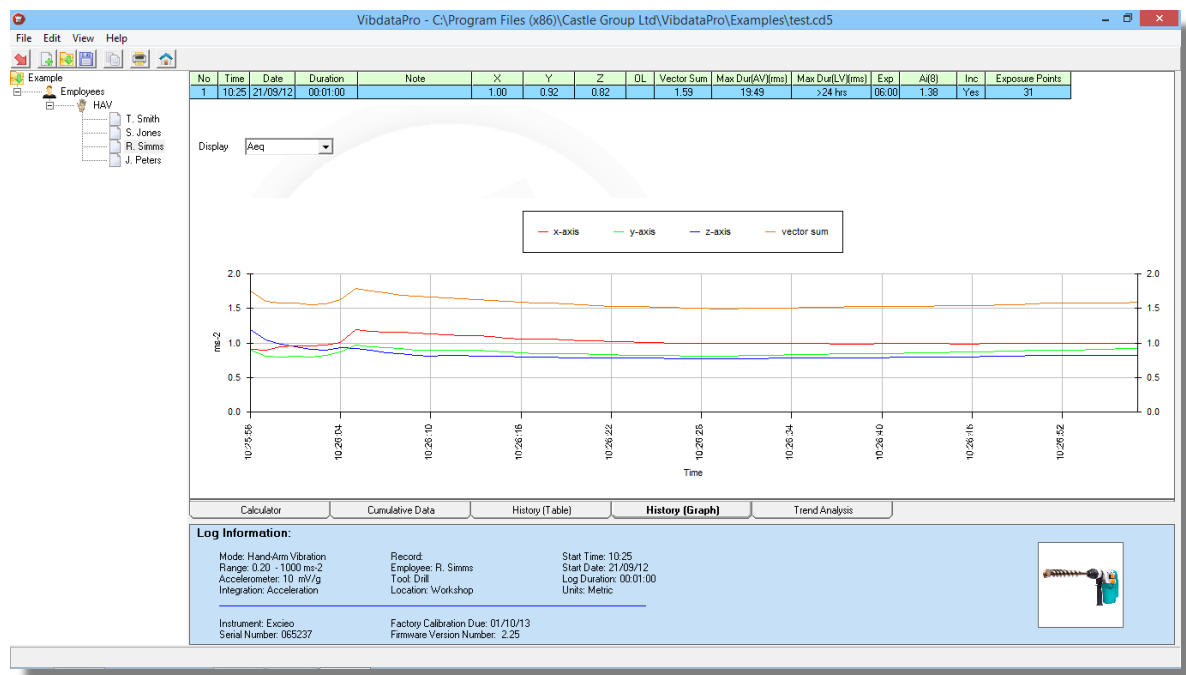
History (Graph)

Where time history data has been recorded it is possible to view the history interval data in graphical format using the tab **History(Graph)**.

To change the viewable data, select the required parameter from the drop down **Display** box.

Individual data for recordings that have been combined can be viewed but are selected at the calculator screen. The information from the **Calculator** screen for the selected log is displayed at the top of the **History(Graph)** screen to easily identify which recording is selected.

If a recording has been recorded without time history then the tabs **History(Table)** and **History(Graph)** will not be available.

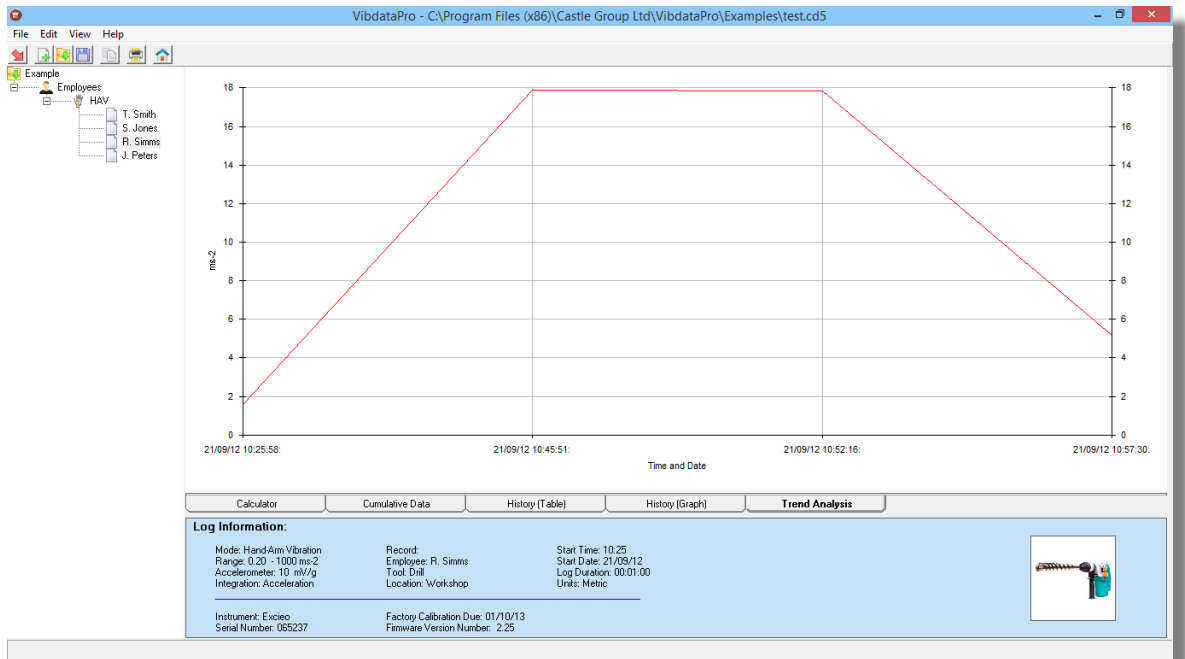


Trend Analysis

Combined **Single Axis** or **HARM** recordings allow a **Trend Analysis** tab to become available.

Use this tab to plot graphically the cumulative average for each individual recording within the combined set.

The plot is graphed in the order the list is displayed in the **Calculator** screen (Time and Date) and is extremely useful for machine monitoring.



Chapter 7

Customer Support

Warranty and After Sales Service

In the event of a fault or problem occurring with your software during the warranty period, the software should be returned to Castle Group Ltd in its original packaging or to an authorized agent. Please enclose a clear description of the fault or symptom.

Details of the warranty cover are available from Castle Group Ltd or an authorized agent.

Should you have any queries regarding the use of the software or wish to suggest future improvements or additions then please feel free to contact technical support on techsupport@castlegroup.co.uk

For warranty return to: -

The Service Department

Castle Group Ltd
Salter Road
Cayton Low Road Industrial Estate
Scarborough
North Yorkshire
YO11 3UZ
United Kingdom

Telephone: +44 (0)1723 584250
Fax: +44 (0)1723 583728
Email: techsupport@castlegroup.co.uk
Web: www.castlegroup.co.uk

During the one year warranty period of your software, upgrades or bug fixes will be issued free of charge whenever they become available.

Disclaimer

Whilst every effort is made to ensure the accuracy and reliability of both the software described and the associated documentation, Castle Group Ltd makes no representation or warranties as to the completeness or accuracy of this information.

Castle Group Ltd assumes no responsibility or liability for any injury, loss or damage incurred as a result of misinterpreted or inaccurate information.

Any documentation supplied with your product is subject to change without notice.

Software Details

For your records and for future correspondence with Castle Group Ltd regarding your instrument, please complete the following details: -

Software Version

Serial Number

Purchase Date