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## QuickStart Manual

Version 9.1.x



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## Introduction

Welcome to the ShockLog Quick Start manual and thank for purchasing one of our ShockLog products. This manual has been written to get you started and provide a basic understanding of the ShockLog products and software. By working through this manual a user should be able to operate their ShockLog unit, create a set up and download a data file.

This manual has been written for the generic ShockLog range although some of the features within the software will only be applicable to 298 range of ShockLog and for more detailed information on the operation of your ShockLog please refer to more detailed manuals included on the Software CD.

## Declaration of Conformity

Hereby, Lamerholm Electronics Ltd declares that this ShockLog product is in compliance with the essential requirements and other relevant provisions of directives, ESTI EN 301 489, EN 61326, FCC Rules CFR47 Parts 15 and RTCA/DO160D. Copies of all of these Declarations of Conformity can be found on the enclosed Software CD and at [www.lamerholm.com/declaration\\_of\\_conformity/](http://www.lamerholm.com/declaration_of_conformity/)

## Identifying Current Hardware/Software Versions

Please note this manual applies to ShockLog software version 9.0.101 and is to be used in conjunction with all next generation ShockLog units (298, 248 and 208 ranges). Additionally, it is compatible with most legacy ShockLog ranges including the RD298 ShockLog with embedded code version 103 or higher and RD317 Micro ShockLog units with embedded code version 103 or higher. Although other combinations of the software and embedded code versions of a lower number should function in a similar manner, there may be some differences.

## Identifying Software Versions

To find out which version of the ShockLog software is installed on your PC, start the software, and look under the "Help" menu option at the top of the screen and select "About". In this case, the version is V9.0.8.0 release 2010.



## Identifying Hardware Versions

The hardware version of your ShockLog is displayed in the “Communication” dockable window. The communication information is only updated when a ShockLog is connected to your PC. This one is code version 9.



## Getting Started

The first section of this training manual is intended to introduce new users of the ShockLog systems to the product and software and to ensure that you are familiar with the instrument and accessories that you have received.

## The ShockLog Kit & Software Installation

New users of the ShockLog range will be required to purchase a kit in order to get all of the necessary communication cables and software licenses to correctly operate the ShockLog unit.

All ShockLog kits will be housed within a handy rugged plastic carry case that can be used for storing and transportation of your ShockLog while not in use.

Removing the carry case from its cardboard outer protective sleeve and opening your kit will display the following items:

- 1 x ShockLog Unit (either 298, 248 or 208 Variant)
- 1 x CD (Containing software and user manuals)
- 1 x Quick Start User Manual
- 1 x USB Communication Cable
- 1 x iButton Set (includes; 1 x start, 1 x stop, 1 x download, 1 x set-up and 1 x clock buttons)
- 1 x iButton USB Connection BUS and Cable
- 1 x Mounting Kit
- 2 x AA Lithium Batteries

In the unlikely event that you should find any of the above items to be missing when you receive your kit, please immediately inform your local distributor or representative who will arrange for a replacement to be provided as quickly as possible.

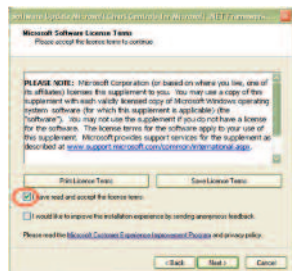
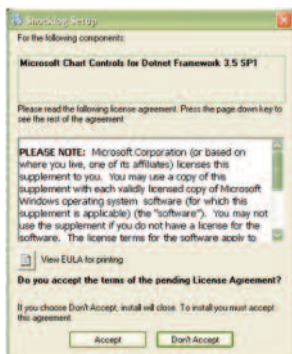
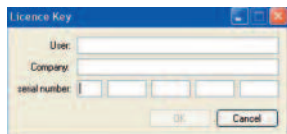
Once you are happy that you have received everything with your kit you will need to get the software loaded onto your PC. Please note that many I.T. systems are set-up to prevent individual users installing software on their own machines or you may have restricted rights. Therefore, it is essential that you consult with your I.T. department to ensure you have sufficient rights to install the software. Please note that this ShockLog software has been designed to run on a standard PC under Windows XP, Vista or 7, all of which require you to have administration rights to install the software.

Insert the CD into the CD/DVD player on your PC. The setup menu should automatically run within a few seconds and present you with the a License key entry screen. If for any reason the set-up program doesn't automatically run then go to the start menu and in Run, enter V:\ ShockLogsetup.exe (where V:\ is the CD/DVD driver on the PC) and open the program from here.

Enter your name, company name and the unique serial code supplied with the ShockLog CD. Once the appropriate information and a valid code have been entered, click on OK and a new window will appear displaying the Microsoft Chart Controls License Screen, click on 'Accept'.

The installation will continue and the system will then start to copy files from the CD and will present you with another window updating the Microsoft Chart Controls, and again it will be necessary to click on the next button to continue.

The user is then presented with the Microsoft Software License terms. These need to be checked and when you are happy tick the check box next to "I have read and accept the license terms", this will then highlight the Next button which will need to be pressed to continue.





The system will then finish the installation of the Microsoft Charts software, click 'Finish' to continue.

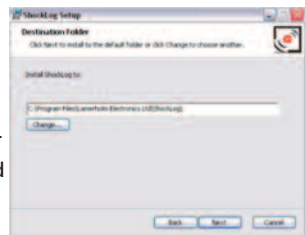
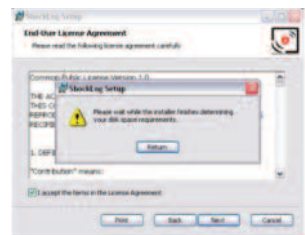
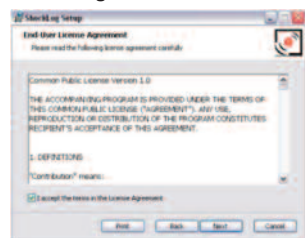
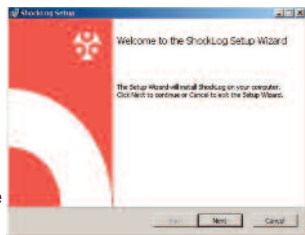
The system will now automatically start the installation of the actual ShockLog software. At this stage you will be presented with a ShockLog Set up window, stating that the Set up wizard will install the ShockLog software onto the machine. Click on the 'Next' button to start the installation. You will then be presented with a new window setting out the end user licence agreement required to utilise the software.

The user needs to tick the box next to 'I accept the terms in the Licence Agreement'. And click on 'Next', to continue.

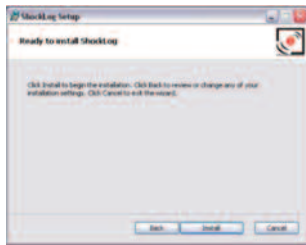
Next the user will be presented with another ShockLog set up window indicating that the system is checking for disk space. This should clear automatically, but should it fail to, just click on the 'Return' button and the system will move to the next point.

Users are now provided with the opportunity to change the location of the software installation, although it is recommended that you utilise the default settings.

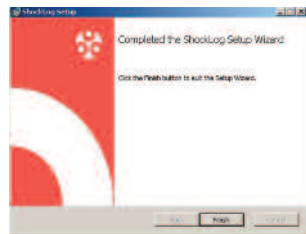
To change the directory address it is possible to either over type the information in the box or to browse for the desired directory by selecting the 'Change' button. Once you have selected your desired directory, click on the 'Next' button.



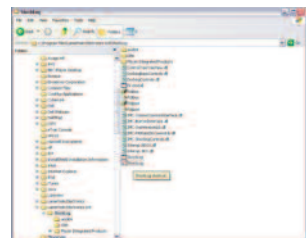
Users are then presented with a window stating that the system is ready to install the ShockLog Software, click 'Install' to continue.



The system will now start the installation of the ShockLog software. At this stage you will be presented with a number of progress bar windows with various pieces of information flashing up. This will then be interrupted by a Microsoft software installation warning stating that the software has not been verified for compatibility to windows XP. Click on the 'Continue anyway' button. You will then be presented with the same window and again you need to click on the 'Continue anyway' button. Once the system has fully installed, you will be presented with the following window. Click on the 'Finish' button to complete the installation.



Your software will now have been loaded and the computer should be back at your desktop view. In order to create a short cut onto your desk top, right hand mouse click on the "Start" menu and select the 'Explore' option.



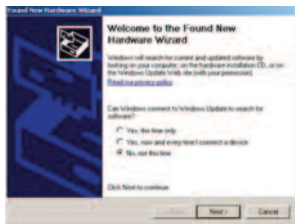
The ShockLog programs will have been copied into the following directory:

*C:\Program Files\ShockLog Software*

In here you will see the ShockLog program file. Right hand mouse click on the ShockLog program icon and select 'Create Shortcut'. Once you have created the short cut this can be dragged onto your desk top.

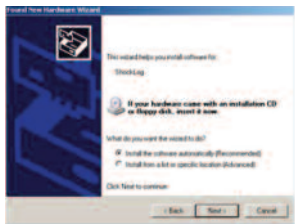
To open the ShockLog software, double click on the short cut icon from your desk top.

When first attaching your ShockLog unit to the PC you will be asked to install new USB drivers in order to enable your PC to communicate correctly with the ShockLog device. Upon connection you will be presented with the following 'Found New Hardware Wizard' window:



It is essential that the user clicks the 'No, not this time' button to stop the system going to the Microsoft website to find the drivers.

Then click on the Next button and a second found new hardware wizard window will be presented.



Select the 'Install the software automatically (Recommended)' button and then click on the Next button. You will then see a window with a Microsoft software installation warning stating that the software has not been verified for compatibility to windows XP. Click on the 'Continue anyway' button.

This should now load the appropriate drivers onto your PC to allow the ShockLog device to communicate with your ShockLog Software.

If for any reason the drivers do not load correctly it may be necessary to come back to this window and select 'Install from a list or specific location (Advanced)' and then browse your PC to find the appropriate drivers within your ShockLog directory.

**Note:** If your ShockLog does not connect up after loading the drivers successfully, please check your communication ports are correct, which can be found in the Tools menu under Communication Properties. This only applies for the RD317, RD278 & RD398 Shocklog systems.

## Batteries

All ShockLog units operate with AA size batteries (298 requires 2 and the 248 & 208

require 1) and are capable of operating with both 1.5V Alkaline and 3.6V Lithium cells. (Please note it is not possible to run with a mixture of Alkaline and Lithium).

You will find 2 x AA size Lithium batteries are supplied with a kit and we highly recommend that wherever possible Lithium batteries are used as they will provide the user with a greater service life across a much wider temperature range. The use of Alkaline batteries is only recommended for use on very Short Journey/experiments where the ambient temperature is fairly constant.

### **Hints and Tips:**

- *Always use Lithium batteries for Journeys where the temperature may vary greater than -5 and +50 C*
- *The capacity of an alkaline battery drop dramatically when exposed to temperatures below 10 C*
- *The ShockLog uses 100 times more power when awake compared to when it is asleep!*
- *If using a lithium battery and your ShockLog will be going by air make sure it is a battery approved for air cargo.*
- *If you accidentally fit the battery the wrong way around, the ShockLog will not be damaged; however the life of the battery may have been severely affected.*

### **Fitting the Batteries**

- The battery compartment is located on the underside of the ShockLog units. (Picture shows 298 variant).
- Remove the four securing screws and lift the battery cover clear.
- Ensure the orientation of the batteries is correct and insert batteries into the ShockLog unit.
- Ensure the rubber seal is correctly positioned, replace the battery cover and insert the 4 screws. Care should be taken when screwing down the lid ensuring they are tightened evenly in a diagonal rotation and tightened to 25cNm Torque.

**Note:** All ShockLog units are rated to IP67. The battery



compartment has been isolated from the main body of the ShockLog unit and poor fitment of the battery cover will not detrimentally affect the IP rating of the main unit. However, if water ingrain into the battery compartment you are likely to suffer shorting of the batteries as well as corrosion of the battery terminals resulting in the ShockLog stopping functionally and the ShockLog needing to be returned to the factory for repair.

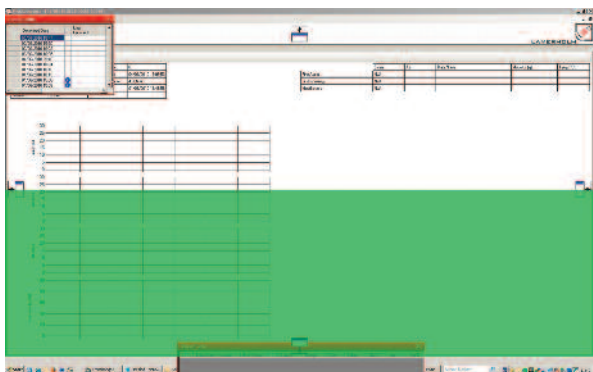
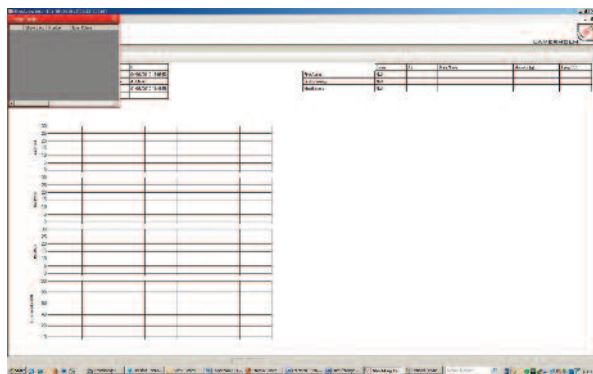
## Opening the Software & Initial Layout Set-up

Now that you have installed the software and got your ShockLog unit operational, the next stage is to open up the ShockLog software and to set the “Dockable” tables into the desired location.

The software can either be opened by double clicking the shortcut icon or selecting the program from the start menu.

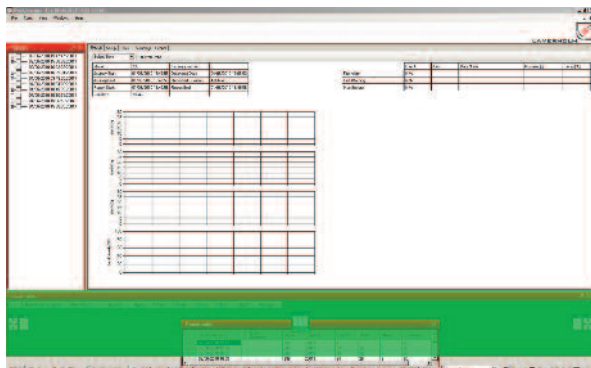
When the software first opens you will be presented with a blank “File Viewer” screen and in the top left hand corner you will see that there are three “Dockable” windows that need to be positioned.

You can pick each Dockable window up by clicking and holding the left hand mouse button. You can then drag the window around and you notice that little window icons will appear at the



left, right, top and bottom of the screen and as you move the window nearer to one of these icons it will highlight in green where the window will sit.

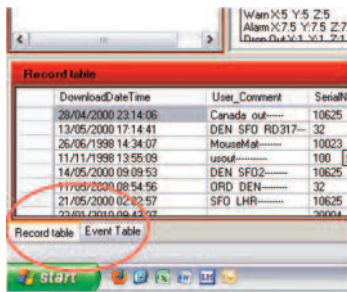
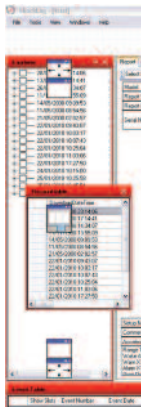
All of the Dockable windows will work in any of the positions, however the Explorer View generally works better in either of the left/right vertical positions where as the Record and Event tables are better suited to the top/bottom horizontal positions.



If you want to Dock more than one window in the same position this is possible and the software will offer you an additional icon showing a series of tabs.

By dropping the Window on this icon you will create a series of windows that you can change between via the tabs.

Alternatively, you will notice when trying to dock in the same position as another window you are offered icons either left and right of top and bottom of the current window.



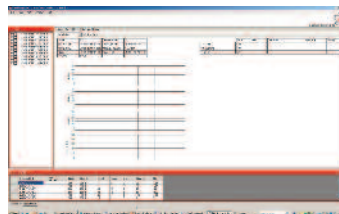
If you select one of these options it will leave both windows displayed side by side. Please note that this is only possible for a maximum of 2 windows in any one position and if you try to insert additional windows you will only be able to utilise the tab system.

Once you have all of the Dockable windows in the correct position you are able to adjust the size of each window area by dragging the border of each window area, in order to maximise the available screen area for the "File Viewer". It should be noted that you can move and adjust these windows at any time.

The position of these docked windows can be saved so you find them as you left them when exiting and entering the ShockLog system. This is done via the Tools menu located at the top of the screen by selecting the 'Save Current Settings' option. Once this has been done a confirmation window will then appear.



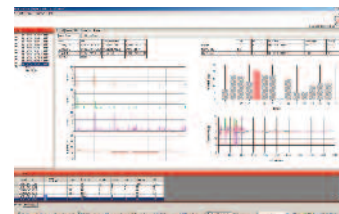
You will notice in the explorer and Record view that there are already a number of files in your database. These have been inserted with the software to provide you with some useable data to get you started and can be deleted if required. If you click on one of the available files you will see the summary report display within the file viewer.



Now that you have a file open you are able to explore the information available to you from the "File Viewer" screen.

You will notice that there are four tabs along the top of the viewer that will take you to more detailed information relating to the file record you have opened covering:

- Report
- Slots
- Summary
- Events



For more detailed information in these tabs, please refer to the full manuals.

## Desk Top Test

Now that you have the software set-up how you want it, let's enter a basic set-up into your ShockLog and run a few Desk Top Drops so that you are able to View your own downloaded data.

**NOTE:** *The principle of this section is to quickly get you up and running with your ShockLog and it is not intended to give you a detailed understand of the set-up or download process as we will cover that in detail later in this manual.*

## Connecting the ShockLog to your PC

On all ShockLog units the USB communication port is secured behind a threaded protective cap that also acts as an IP67 seal for the USB Communication Port. To access the USB Communication Port carefully unscrew the protective cap to expose the USB Connector.

Plug in the USB cable supplied into the ShockLog and then connect the other end to your PC USB Port.



## Communications Window

In order to be able to communicate with the ShockLog units and to monitor their current status it is necessary to open an additional Dockable window called "communications". From the 'View' menu at the top of the screen, select "Communications".



You will then get a new "Communications" window appear on the top left hand side of the screen





which can be positioned as previously described.

You should now be able to view the current status of your new ShockLog in the various fields of the communication window.

## Send Default Set-up

To get your ShockLog operating we need to send it a set-up and to simplify this process we have installed a “default” set-up with the ShockLog software. Therefore, from the Communications window click on the “send setup” button and you will be presented with a file selection window. The system will automatically take you to the appropriate directory and you will see a file called default.setup413.

Select the default file and click “open”.

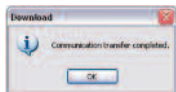
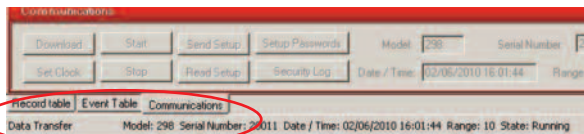
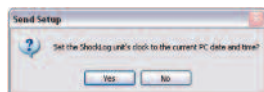
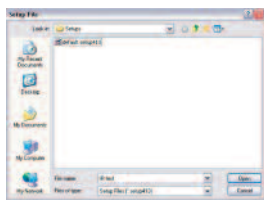
A new window will now appear asking “set the ShockLog units clock to the current PC data and time?” select Yes.

The information bar at the bottom of the screen will come up with a connecting status and then change to OK and a confirmation window will appear once the set-up has been successfully sent to the attached ShockLog unit.

When you click on the OK button, you will notice that the communication window grey's out and after a few seconds

comes back but with only a number of the boxes completed. At this stage the ShockLog unit is clearing its memory and resetting itself ready for the new recording period.

This process can take several seconds to complete, but once completed the ‘Status’ field will come backing saying ‘Running’ and you are then ready to disconnect the ShockLog from your PC and commence the drop test.



## Drop Test

Your ShockLog is now recording and you will notice that the green Event Alarm LED is flashing every 5 seconds indicating it is recording.

Now we need to create a few events by dropping the unit on the desk. Ideally if you have a mouse mat drop the ShockLog onto it, alternatively a magazine or note pad will suffice to help dampen the impact. It should only be necessary to drop the ShockLog from approximately 25mm (1" inch) to create an 8 to 10 g shock event.

Repeat this process a number of times and try to get the unit to land on different faces to induce the shock through different axis.

## Download the Data

Now that you have run your ShockLog for a Short period of time and hopefully generated a

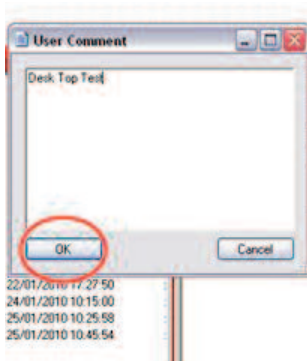
number of events. If you reconnect your ShockLog to your PC via the USB cable and either re-open or go back to the communication window you will be able to view the status of your ShockLog and see that a number of events have been recorded.



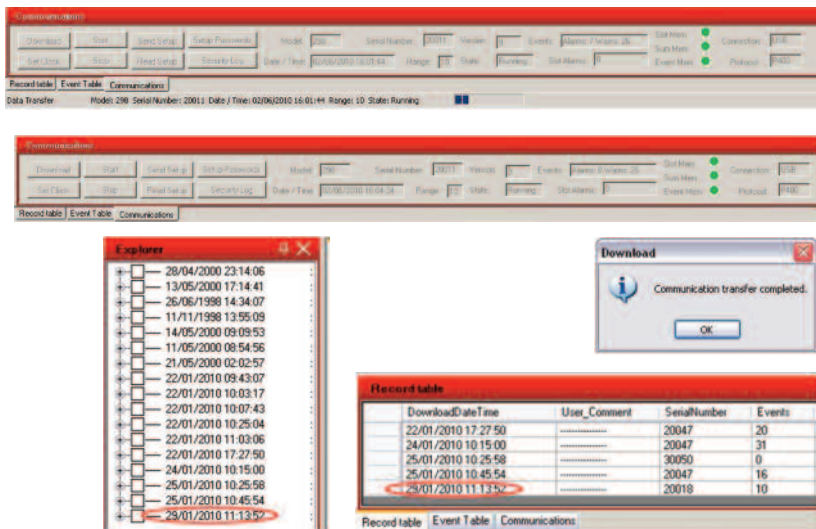
Once you have gathered some event data you need to download the file to look at the data.

Click on the "Download" button on the communication window and you will be presented with an option to enter comment on the Journey/Data that has been recorded, for an example just enter "DESK TOP TEST", then click "O.K.".

The status bar at the bottom of the screen will change through "connecting", "data transfer" to finally being presented with a separate alert window indicating that the file download has been completed.



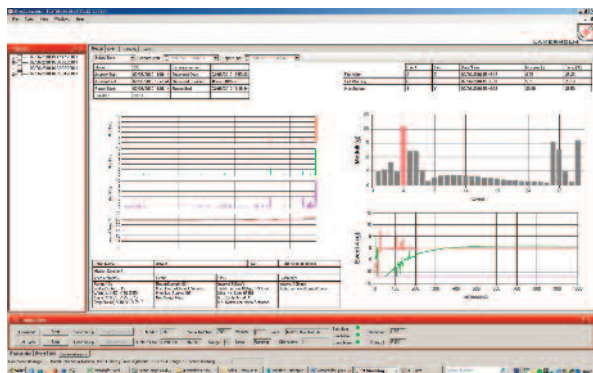
Shortly after the OK status, the new file will appear in your Explorer and Records Table windows.



## View File

Your first ShockLog data file is now ready to be viewed and the file can either be viewed by clicking on the file within the explorer window or double clicking the file within the Record Table.

Within the file viewer you will then be presented with Report data from your file.



You are now able to explore your new data file and can select the various screen options of Report, Slots, Summary and Events, all of which will be covered in more detail in the next section.

## Record Table

For users that have experience of the old ShockLog software this view will be familiar to you as the old “Examine Data” screen display.

This screen view provides an alternative view of the data files within the database and provides the user with an overview of the number of Events, Warnings, Alarms, Summaries and Slots.

Additionally this screen view provides users with the ability to re-sort the database by the columns of data and we will look into this in more detail in the full training manual.

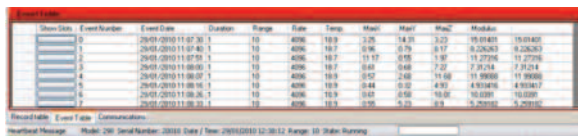


DownloadDateTime	User Comment	SerialNumber	Events	Warnings	Alarms	Summaries	Slots
22/01/2010 17:27:50		20047	20	0	20	0	136
24/01/2010 10:15:00		20047	31	0	31	243	14942
25/01/2010 10:25:58		30500	0	0	0	0	6780
25/01/2010 10:40:54		20047	16	0	16	143	6553
26/01/2010 11:13:52		20018	10	0	10	6	37

Record Table | Event Table | Communications  
Heartbeat Message Model: 298 Serial Number: 20018 Date / Time: 26/01/2010 12:32:52 Range: 10 Status: Running

## Event Table

When you have selected a data file with Events in, the Event Table will refresh to display details of all the events associated with the highlighted data file and will display the following information: Event No. Event Data, Duration (measured in seconds), Rate (No. of samples recorded per second), Temperature, Max X,Y,Z (highest g Force Value seen in each axis during the event) and the Modulus value of the event.



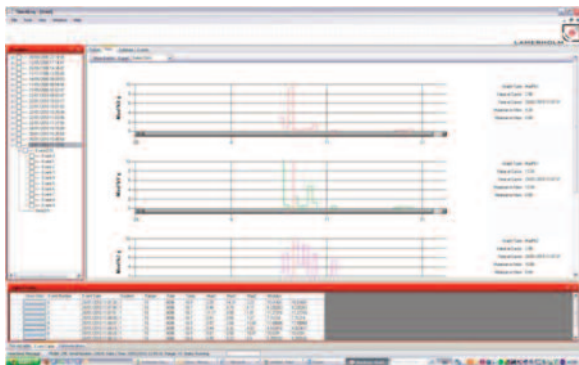
Show Data	Event Number	Event Date	Duration	Range	Rate	Temp	Max1	Max2	Max3	Modulus
Event 0	0	26/01/2010 11:07:30	1	10	4096	10.9	1.25	14.75	3.23	19.01401
Event 1	1	26/01/2010 11:07:40	1	10	4096	10.7	0.96	0.79	0.17	9.226263
Event 2	2	26/01/2010 11:07:51	1	10	4096	10.7	11.17	0.95	1.97	11.27795
Event 3	3	26/01/2010 11:08:01	1	10	4096	10.7	0.43	0.68	7.37	7.39114
Event 4	4	26/01/2010 11:08:07	1	10	4096	10.9	0.57	2.48	11.68	11.99988
Event 5	5	26/01/2010 11:08:16	1	10	4096	10.9	0.44	0.12	4.93	4.918116
Event 6	6	26/01/2010 11:08:36	1	10	4096	10.9	0.67	0.58	10.02	10.0209
Event 7	7	26/01/2010 11:08:39	1	10	4096	10.9	0.09	0.13	0.9	10.400102

Record Table | Event Table | Communications  
Heartbeat Message Model: 298 Serial Number: 20018 Date / Time: 26/01/2010 12:30:12 Range: 10 Status: Running

By double clicking on the Event number the file viewer will change to display the detailed Event Curve for the selected Event.

Additionally, it is possible to jump straight from the Event Table to the relevant

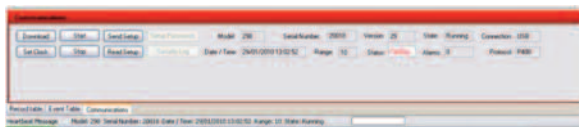
section of the Slot graphs by clicking the button under Show Slots next to the desired event.



## Communications Table

As you will have seen while working through your desk top test, the communications table displays live data from a connected ShockLog and provides buttons to allow you to perform tasks while you are connected to a ShockLog.

The displayed information from an attached ShockLog unit will be:  
Model (type of ShockLog Connected), Serial



Number (please note this will not be available on many of the Legacy devices), Version (this is the firmware version of the unit), State (running or stopped), connection (USB or Serial), Date/Time (as per the units clock), Range (g force range set in the unit), 3 memory status buttons (informs you when your memory is nearing full or is full), Events (No. of recorded alarms and warnings so far) and finally Protocol (communication Protocol being used by the attached unit).

The buttons will allow you to perform the following functions:

**Download** – Creates a download file from the ShockLog.

**Start** – Where a ShockLog is in a stopped state, this will re-start the unit.

Send Set-up – Allows you to send a new set-up to a unit.

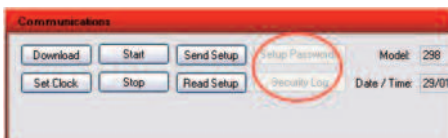
Set Clock – Allows you to re-set the clock to match your PC.

Stop – Where a ShockLog is in a running state, this will stop the unit.

Read set-up – Provides the user with the ability to read the set-up data and save as a separate set-up file for future use.

**Note:** In the unlikely event you return to the communication window, while your ShockLog has been connected and the ShockLog information is not updating, disconnect and then reconnect the ShockLog device to re-activate the window.

In addition to the above buttons you will notice two others that are greyed out and for specialist functions and these two options (set-up passwords and security log) will be explained in detail within the essentials manual.



## File Viewer

The file viewer window is the main section of the window and displays all of the information in relation to a selected file.

## Report

When you first select a file you will be presented with the “Report View” which for any users familiar with the old ShockLog software will recognise it as the old one page report. The report provides an overview of the whole file (Journey/Storage Period/Experiment, etc.) giving detailed text information as well as graphical presentation of what has happened.

The text data is broken down into 3 separate tables providing the following data:

1. Data file summary – showing the type of unit used, Journey start/stop dates, downloaded date, displayed report start /stop dates, recorded duration and the serial number of the unit

Model	RD317	Firmware version:	32
Journey Start:	10/05/2000 05:04:33	Download Date	10/05/2000 14:43:35
Journey End:	10/05/2000 14:42:31	Recorded Duration	9Hours 37Min's
Report Start:	10/05/2000 05:04:33	Report End:	10/05/2000 14:42:31
Serial No.	32		

and the report start and end dates.

	Event	Axis	Date/Time	Modulus (g)	Temp (C)
First Alarm	0	Y	29/01/2010 11:07:30	15.01	18.90
First Warning	N/A				
Most Severe	0	Y	29/01/2010 11:07:30	15.01	18.90

2. Summary of Events – Provides details of First Warning and Alarm (Includes, Event No., Axis, Date/Time, Modulus (g) and temperature at time of event), the table then shows the same details for the most severe event.

Setup Name	Ian Test 1		Start	29/01/2010 11:03:17
Comment				
Accelerometers	Event	Slots	Summaries	
Range 10g	Record Length 32K	Interval 10	Interval 60	
Wake Acc.: 1.5	Max. Record Time 1 Seconds	Total run time 10Days 19Hours	Total run time 42Days 16Hours	
Warn X:3 Y:5 Z:5	Max. No. Events 108	Max. No. Slots 93491		
Alarm X:5.5 Y:7.5 Z:7.5	Always Max.	No. Contents set: 4		
Down Out X:1 Y:1 Z:1		No. Alarms set: None Selected		

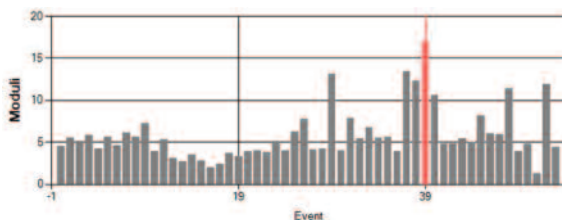
3. Summary of set-up – provides a summary of the set-up within the unit for the data file and shows the event, summary and slot settings used.

In addition to the text data the report provides 3 separate graphs of the data.

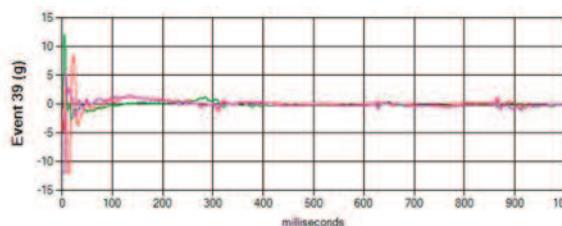
1. Slot Graphs – As standard you will be presented with 4 graphs showing X, Y, Z axis shocks and the internal temperature channel. Users are then able to select different data channels as required (we will cover this in the full manuals)



2. Event Summary Graph –  
Displayed in a bar chart format this shows the modulus value of all events recorded highlighting the most severe in Red.



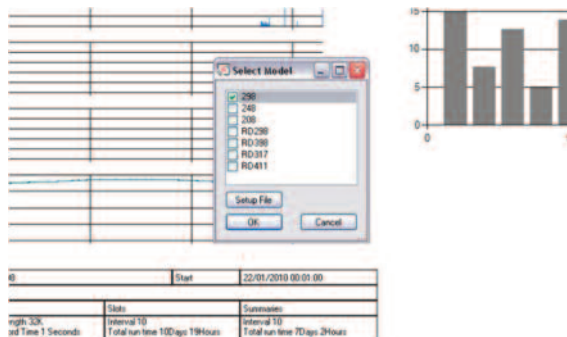
3. Detailed Event Graph –  
Displays the detailed event curve of an event. It will display the most severe event when you first enter the report and you are able to display different events by clicking to them from the Event Summary Graph.



## Creating Set-Up File

### Select model or File

To create or modify a set up file you need to go to the “View” menu at the top of the screen and select “Set up” and a new window will appear giving you a list of the currently available ShockLog ranges.



From this window you have the option to either select the ShockLog range that you would like to create a Load File for or, alternatively, you are able to open an existing file that has been created in the past for modification.

The ShockLog model that you select will affect the options that will be available to

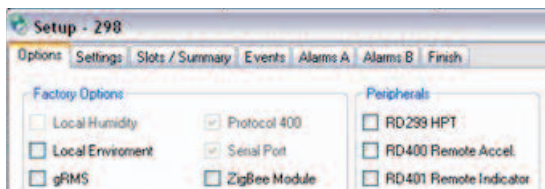


you as you work through the set-up screens with certain features being restricted on the lower model ranges. We will use a 298 for this manual to show the full extent of options.

For future reference, to open an existing file, you need firstly to select the ShockLog model that you are interested in then click on the “Setup File” button and you will be given a list of available setup files (as on page 15) that relate to your selected model to choose from. Highlight the desired file and click on “open”.

## Setup

Once you have selected the appropriate ShockLog model range or opened the desired setup file, you will be presented with a new window, in this case “Setup – 298”:



The setup window has a series of tabs that will step you through all of the options available within the selected ShockLog model and will require you to fill in the appropriate areas. On a new setup, the system will adopt the Default settings and therefore pre-complete some sections that can then be modified, additionally for new setups it will be necessary for the user to step through every window with the “Continue” button ensuring all options are reviewed.

## Options

The first tab is called “Options” and it is looking to see what factory or peripheral accessories you are looking to use with the ShockLog unit you have selected. You will notice that some options are greyed out or greyed out and ticked, this is where options are either not available or they are selected by default and cannot be de-selected.

### **Factory Options:**

Local Humidity – Relates to the Legacy RD317 Micro where they have the factory optional Temperature and Humidity sensor added.

Local Environment – Relates to the new 298, 248 and 208 ranges with the factory optional Temperature and Humidity sensor added.

GRMS – Users have the option to record the g-RMS values within the time slot graphs, allowing users to see the vibration levels throughout a given time slot period.

HPT Slot Alarms – Allows users to create threshold alarms on Humidity, Temperature and Pressure information received when a RD299 HPT sensor is attached.

Auto Threshold – Indicates the user would like the unit to function in Auto threshold mode and allows for modification of the reset times.

DC Accelerometers – This has been included for a future enhancement.

ZigBee Module – Relates to the new 298 and 248 ranges with the factory optional ZigBee radio module being added.

### Peripherals:

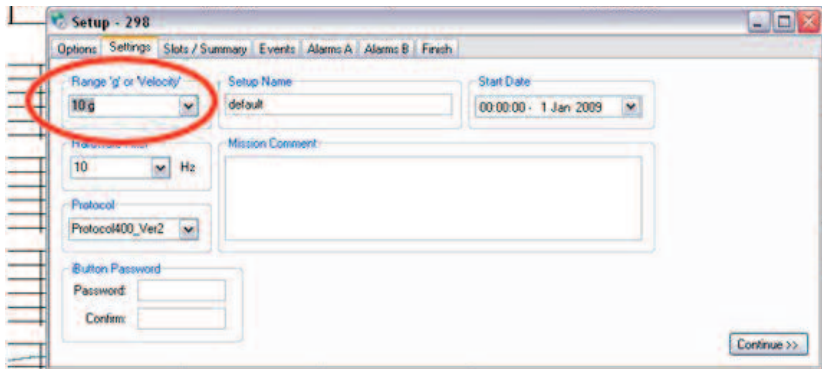
These relate to the Accessories outlined in the essentials manual.

Click in the tick boxes of all the options that you are expecting to utilise with your ShockLog and then click on the “Continue” button.

### Settings

The settings window allows the user to select the ‘g’ range, frequency filter, Protocol, iButton password, create setup name, enter mission comment and set start date.

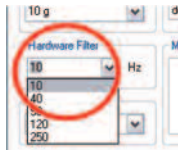
To set the range click on the drop down menu to view all the possible ranges (1, 3, 10, 30, 100 & 200). The 298 will also record in velocity; this will automatically occur if you select a range in cm/s. Generally most users are interested in g.



**Tip:**

- *Selecting the range is a very important part of your set up. You need to be aware of what impact levels you are really interested in. Do not assume that if you set the ShockLog to the 100g range you will just get everything. Firstly the resolution will be compromised, and secondly you may not get low level events being recorded at all. The wake up threshold for a detailed event must be at least 5% of range (and recommended to be no less than 10%), therefore you will not record events lower than 10g with a 10% wake up threshold on a 100g range.*
- *It is impossible to make exact recommendations as to what range a particular shipment should be monitored with, but as a rule of thumb the larger and heavier the object the less g it generally takes to damage due to the amount of mass. Therefore, the 10g range is generally used for large objects (E.g. something weighing tonnes!). The 30g, 100g and 200g ranges being used for smaller shipments.*

Next you are able to select the frequency cut off Hardware Filters to be applied to your event data. These filters enable users to reduce the number of unwanted higher frequency events, where it is known that this type of event will not cause damage to the object being monitored.



The lower the filter the more severe it is with regards to eliminating events. The lower frequency filters are generally used for large heavy objects with a high metallic content, especially where they are prone to high levels of resonance. These resonances will create a bell like ring that a ShockLog can pick up as a high g event if the appropriate filters are not applied. Filters are additionally recommended in environments where a high frequency vibration is probable, such as rail freight applications, and again the correct use of filters can eliminate any unwanted events being recorded.

The *Protocol* settings are for future development of the ShockLog products and at the moment are only available as the "Protocol 400".

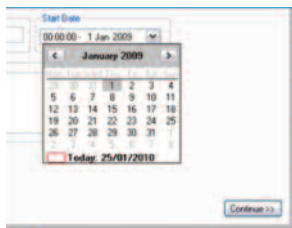
*iButton Password* allows users to create password protection within the iButton system to prevent unauthorised users interfering with the ShockLog through the

iButton interface.

*Setup Name* allows users to name their setup and therefore save as a unique file for future use. On a new set up the word Default will be in this field and the user will be required to change this before they are able to save the setup, send it to a ShockLog units or move onto the next tab of the set-up process.

A *Mission Comment* can be added to the setup program. Any notes added here will be recorded within the ShockLog and will display on the Report screen of a downloaded file along with all of the other setup information.

The last area to be setup on this screen is the *Start Date* and time. If you would like your ShockLog unit to remain in a sleep mode until a future date/time you can click on the right hand arrow to bring up a calendar selector and select the desired date. Additionally, if you want the unit to start on a specific time you are also able to over write the start time as required.

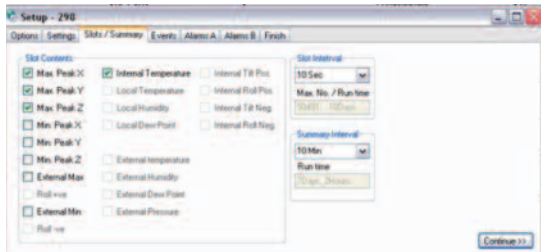


## Tip:

- Use this feature when you the ShockLog is being set up away from the shipment it will ultimately be attached to.
- If you have set a start date, but change your mind and want the recording to start earlier, clicking 'start' on the communications screen will override the delayed start the ShockLog recording immediately.

## Slots/Summary

*Slot Contents*, used to select the parameters to be recorded for the Time Slot graphs. These are the bar graph view of the journey you looked at earlier. Firstly select the parameters you would like to log as time

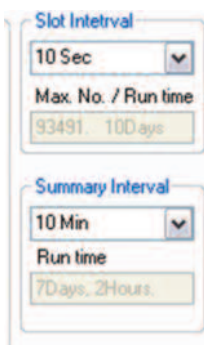


slots by clicking the appropriate boxes. The normal settings are to log the max peaks on x, y, z and the internal temperature.

**Tip:**

• *The more parameters you select the less run time the time slots will last for, so only set the unit to record what you are interested in!*

Once you have selected the parameters to be recorded you need to select the frequency of the recordings. Using the Slot Interval users are able to select a time interval for how often a slot will be recorded. The window below will show how long the time slot graph will run for according to your settings.



The screenshot shows two sections of the ShockLog settings interface. The top section, titled 'Slot Interval', contains a dropdown menu set to '10 Sec', a label 'Max. No. / Run time', and a text box displaying '93491. 10Days'. The bottom section, titled 'Summary Interval', contains a dropdown menu set to '10 Min', a label 'Run time', and a text box displaying '70Days, 2Hours'.

**Tip:**

• *Battery life is not affected by time slot frequency, so it is advisable to always select a time slot interval that will last a bit longer than your proposed journey length plus a bit of insurance time.*

The summaries are a summary of what happened to the ShockLog in the last period of time since the last summary was recorded. The summary records the number of warnings/alarms, max & min impacts in x, y and z, max and min temperatures and the range the ShockLog was set on.

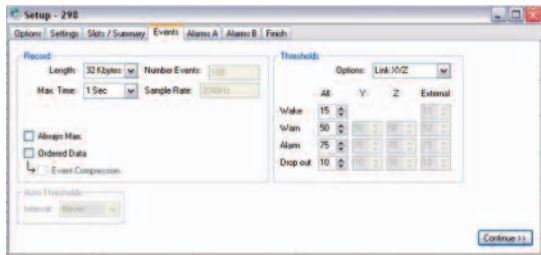
All you can do with this feature is to set the time period between each summary period and this is done in the *Summary Interval* section.

**Tip:**

• *As with time slots the battery life is not affected by summary intervals, so it is advisable to always select a summary interval that will last a bit longer than your proposed journey length plus a bit of insurance time.*

## Events

The information in the Events tab sets how a detailed event will be recorded. These settings will dictate how long the detailed event will be and how many events you can log in a journey.



### Tip:

- *Generally you are looking to log detailed events when damage may have occurred to your product. As with the range, going for settings that allow for the maximum amount of events is not always advisable. You have got to ask yourself – is it useful to have 500 detailed events?*
- *Don't forget you get a time slot graph for the whole journey!*

The Record section allows users to specify the resolution / memory to be allocated to each event and therefore how many events could be recorded. From the “Length” option, the more bytes you allocate to an event the more points the event graph will display. The ShockLog always logs at 4096 samples per second, but according to your event settings the ShockLog will compress the data when saving according to how long the event is.

The peak of an event will not be lost when data is compressed as the ShockLog will always keep the max & min samples of each compressed data section.

Next you must select a “max time”, which will be the maximum length of any recorded event (note, all events must be a minimum of 1 second). Select the max time according to how long any individual event will be allowed to be. Note the longer the event the more the data will be compressed.

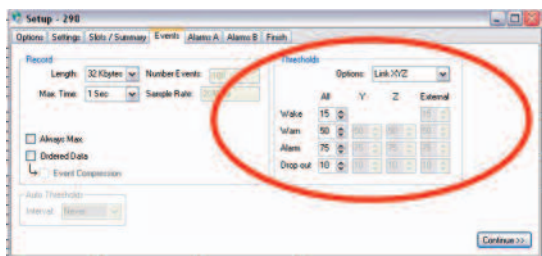
In certain situations, generally while in a test environment, it may be applicable to want the ShockLog to always record the full length of an event, potentially up to 128 seconds, if this is the case then the “Always Max” box will need to be ticked.

New to this generation of ShockLog products, it is now possible to record events in an uncompressed format displaying the full 4096 points per second. If this level of detail is required then the “Ordered Data” needs to be checked.

## Tip:

• Unless you have a specific reason to do so, do not use the always max, let the ShockLog decide when the event has finished by the drop out threshold (covered later).

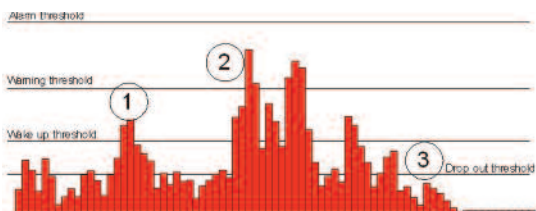
The *Thresholds* section of the Event tab are the settings that determine when your ShockLog wakes up, the levels at which a warning or alarm is created and the drop out level of the event. A simple bar chart can best explain these thresholds.



1. If any accelerometer activity exceeds the wake up threshold the ShockLog will wake up and start recording (The ShockLog takes 1mS to wake up and start recording). If the activity doesn't exceed the warning level, as in this case, the ShockLog will go back to sleep once the activity drops back below the dropout threshold level and not log an event.

2. Once the wake up threshold and the warning level has been breached the ShockLog will now record a detailed event and in this case flag it as a warning.

3. Once the event activity has dropped below the drop out threshold (or reached the event maximum allowed event length). The ShockLog will stop recording and go back to sleep.



Within the “Options” drop down menu you are able to select one of three modes for

the thresholds to work in. The standard mode is “Link XYZ, where all of the axis will operate off of the same thresholds. Alternatively users are able to select “Multiple”, which will allow users to select different thresholds for different axis depending upon the sensitivity / fragility of an object being monitored, and lastly, there is an option with the new ShockLog range to set the Events up on a timed basis, whereby a detailed event will be recorded at the end of every summary period and will not be dependent upon thresholds being breached.

“Wake threshold” - As stated in the battery life section, the ShockLog uses 100 times more power when it is awake compared to when it's asleep. For example, you do not want the ShockLog to be continuously awake due to the low level vibration of the mode of transport that your product is being shipped in. The ShockLog will easily see 0.5 to 1g of activity when being transported in a car on normal roads.

**Tip:**

- *It is not advisable to use a wake up or drop out thresholds of less than 10%, although levels can be set down to 5%.*

“Warn and alarm” - Events are recorded in exactly the same way, except the thresholds distinguish how they are flagged in the ShockLog data file, and how the LED's on the ShockLog unit flash once a threshold has been breached.

**Tip:**

- *Warning and alarm thresholds become more important when the ShockLog LED's are to be used as part of an initial audit upon receiving a shipment. For example, set a warning level to indicate you want the shipment to be quarantined pending further investigation. Set the alarm threshold to be at a level where the shipment must be investigated without delay.*

“Drop Out” – This is the level at which the ShockLog will stop recording an event provided it has exceeded 1 second and the “Always Max” box has not be ticked.

## Alarm A

You have now specified the time slot, summary and event criteria for your setup and the next two tabs allow you to specify special Alarm settings depending upon the



factory options and peripherals that you specified back in the options tab.

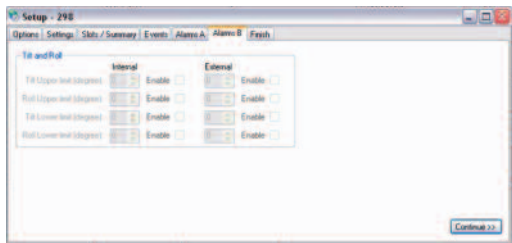
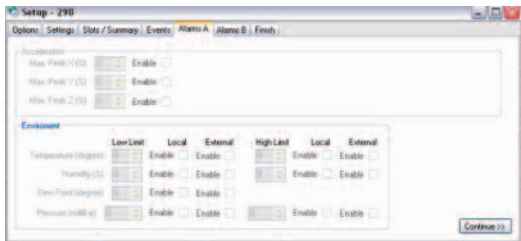
“Acceleration” – This is only applicable for the 208 ShockLog range, where the units do not have the capability of recording detailed event curves but are capable of triggering an Alarm if a shock within a Time slot period exceeds these thresholds.

“Environment” – This area allows users to set up various low and high thresholds for Temperature, Humidity, Dew Point and Pressure depending upon the sensors fitted to the ShockLog. The same section is used whether the sensor is locally fitted or externally fitted.

## Alarm B

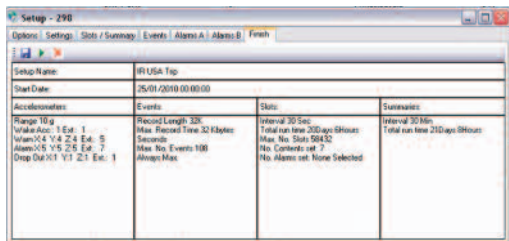
The second Alarms table is for use when a Tilt and Roll accelerometer has been attached to the 298 ShockLog. The table is set up with both upper and lower limits of Tilt and Roll and can be assigned to either the internal accelerometers or the external accelerometers.

**Note:** The Internal options have been included for future development of the ShockLog range and at the moment it is only possible to obtain an external Tilt and Roll accelerometer.



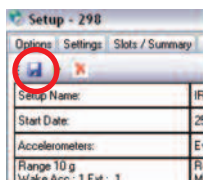
## Finish

You have now created a setup file that can be saved and sent to your ShockLog. The “Finish” tab provides a summary of the settings you’ve made and provides a chance to save the file and send it to a ShockLog device, which we will now work through in the following sections.



## Saving Set-up File

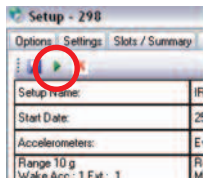
Once a set up has been defined it must be saved before it can be sent to a ShockLog. You should have already defined a unique name in the setup file box under settings and all you need to do now is click disk save icon.



The system will automatically save the file away in the default setup directory and can be retrieved for editing or sending to a ShockLog at anytime.

## Sending Set-up to ShockLog

Now that you have created the setup and saved it you are ready to send the file into the attached ShockLog.



Once the ShockLog is connected, click on the Play icon, the status bar at the bottom of the screen will then change to OK once the file has been successfully sent.

***This is the end of the Quick Start Manual, for more detailed explanation of the ShockLog software please refer to the manuals included on the CD.***

Notes:

Notes: