



Connect Software Operating Manual



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1. Introduction

Valeport Connect has been specifically developed for Valeport's Bluetooth equipped profilers taking advantage of low power Bluetooth in battery operated devices. It replaces DataLog x2 for SWiFT and rapidPro profilers.

- Presently available for windows 10 PC and iOS portable devices, Android will follow.
- Bluetooth line of site ranges expected are:
 - LE \ Classic: 10m (higher ranges have been seen)
 - with an external antenna: 30 to 40mAn antenna will allow the autonomous operation of an instrument on back deck with the controlling PC inside e.g. operation with a winch
- Functionality:
 - Instrument set up and set to work
 - Auto Bluetooth reconnect and last file download
 - display: alpha numeric and graphical including geo-location on Open Street Maps
 - Industry standard data formats export – e mail and cloud services

1.1. Install Connect

PC Software

Run the Valeport Connect Installer (vpConnectSetup.exe). This is available on the flash drive supplied with your SWiFT.

It can also be downloaded from <http://valeport.download>



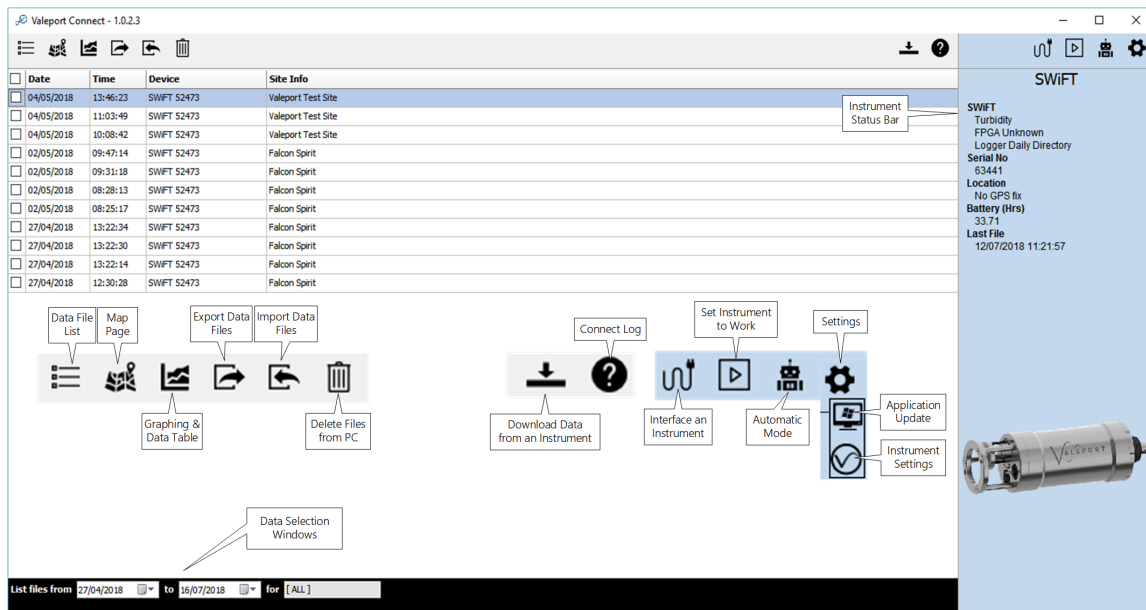
Create a short cut on your desktop

Open Valeport Connect

iOS Software

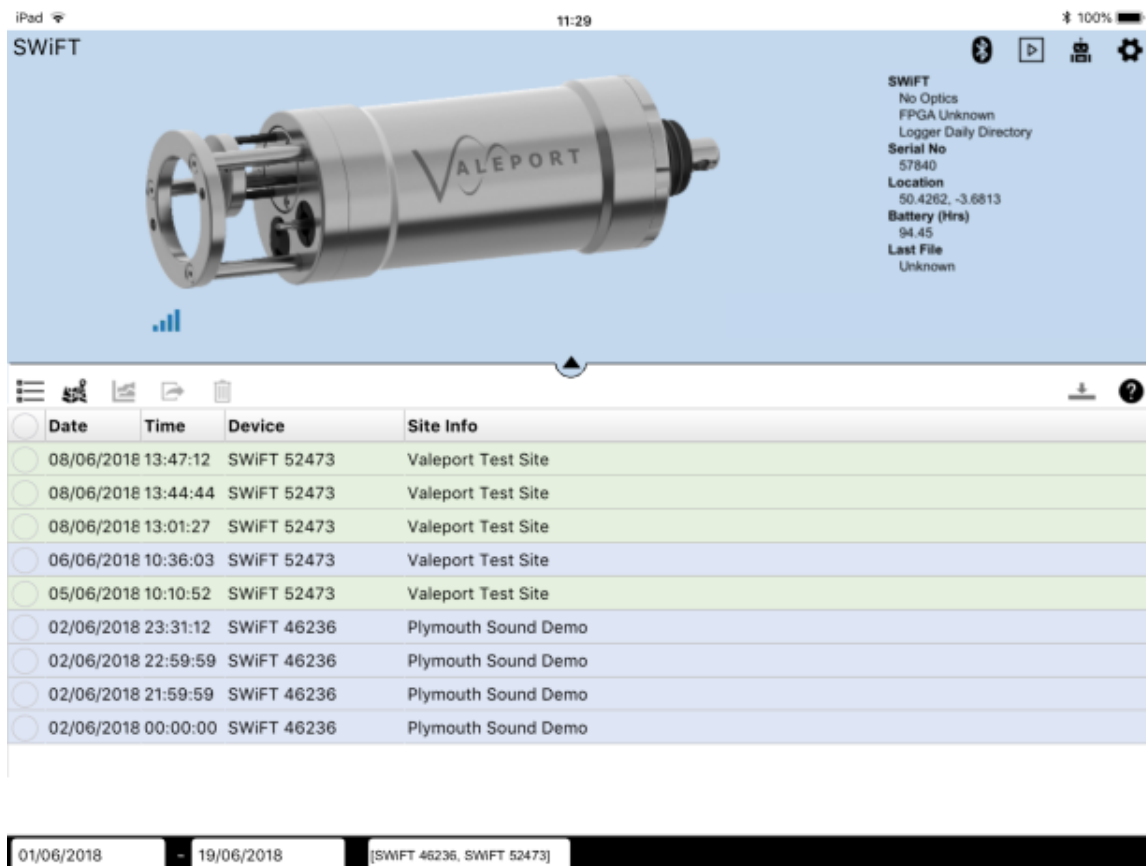
iOS Software is available from the iTunes Store. Search for 'Valeport'.

2. Interface Description - PC Software



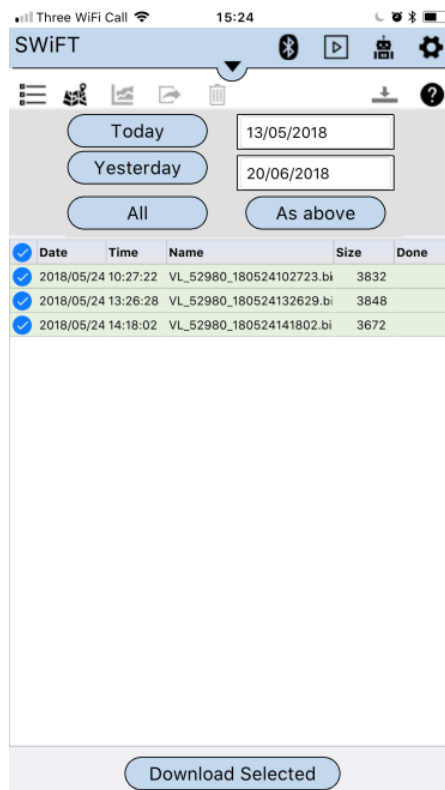
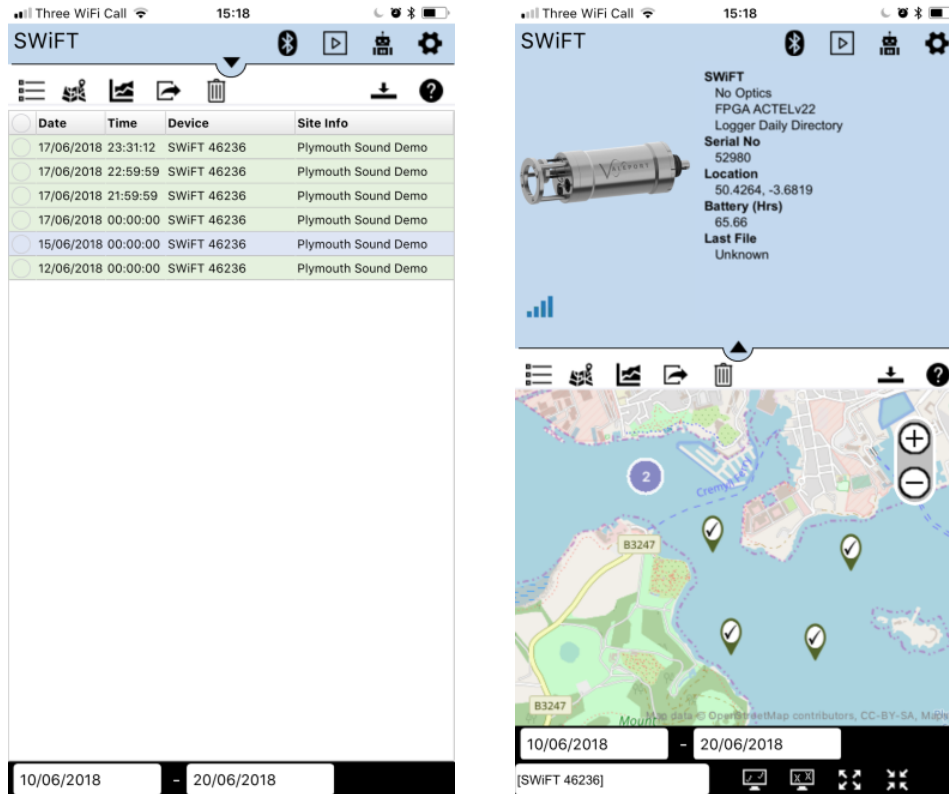
2.1. iOS App - iPad

The iOS App works in a very similar way to the PC software; the interface functionality is the same.




2.2. iOS App - iPhone

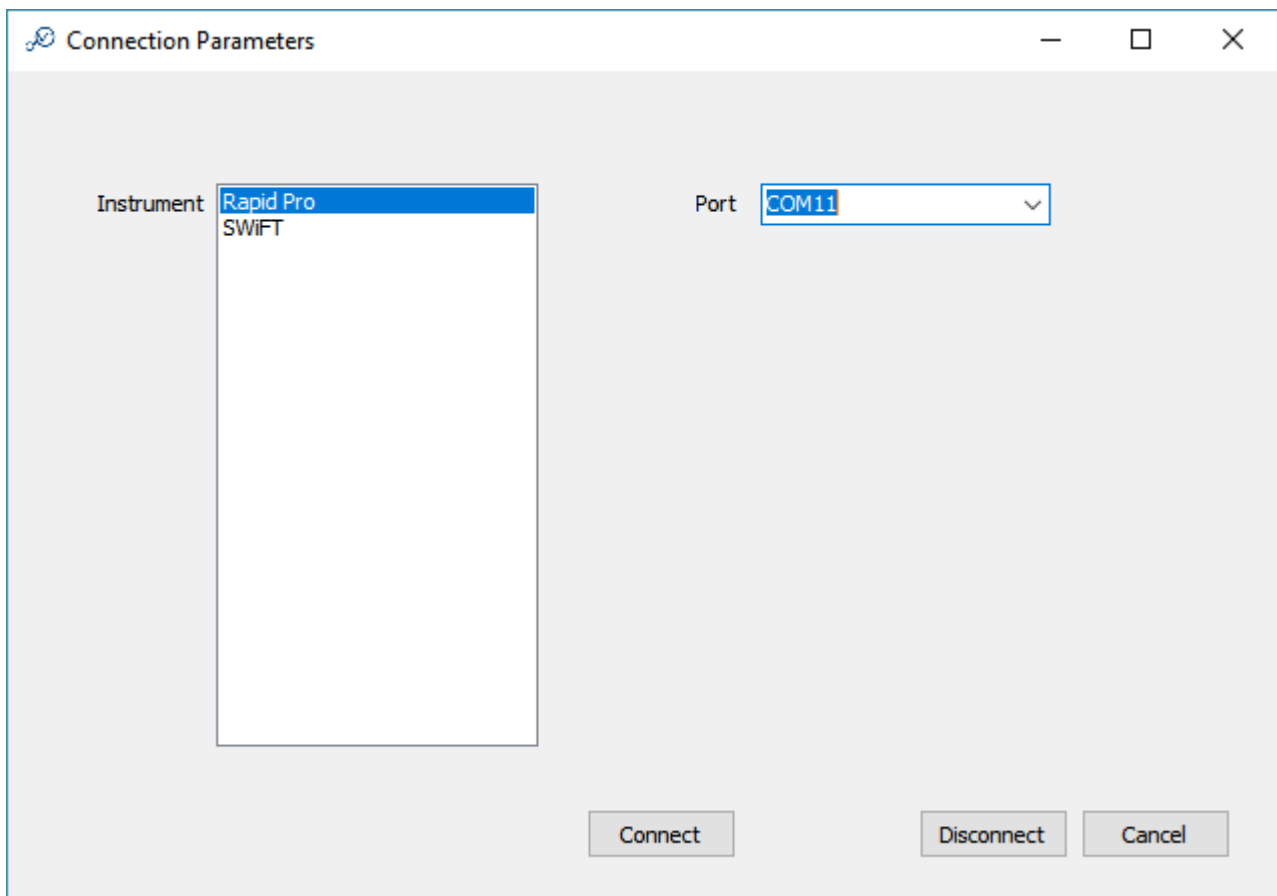
The iPhone App again, follows the PC software as much as possible. The same data off load methods as the iPad are available from an iPhone.



3. Interfacing an Instrument

Connect can communicate with an Instrument via the provided USB or the supplied Bluetooth adapter.

- Ensure the instrument is on
- Interface to the PC using the provided cable or Bluetooth adapter
- Click on the Interfacing Icon: 
- Select the instrument type
- Select the appropriate com port.




On successful connection, the status panel on the right hand side of the main screen should populate with information from the instrument.

4. Application and Instrument Settings

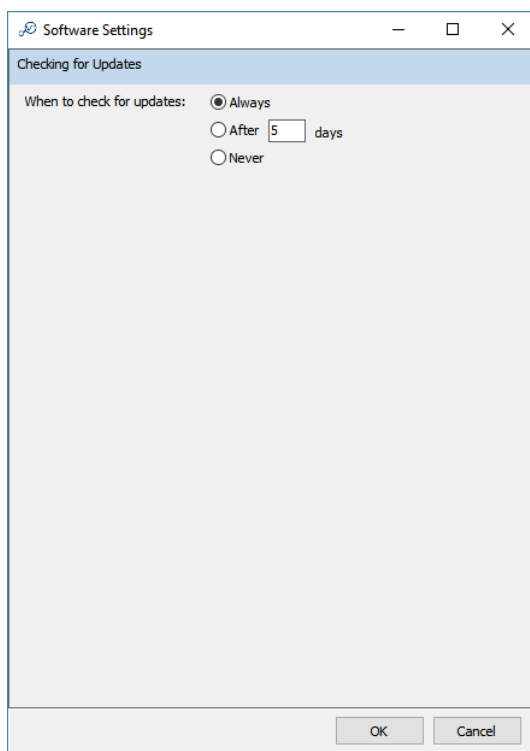
Click on the Settings Icon:



4.1. Application Settings

Click on the Application Settings Icon: 

Set how often you would like to check for Application updates. You will need an internet connection to receive update posts:



4.2. Instrument Settings

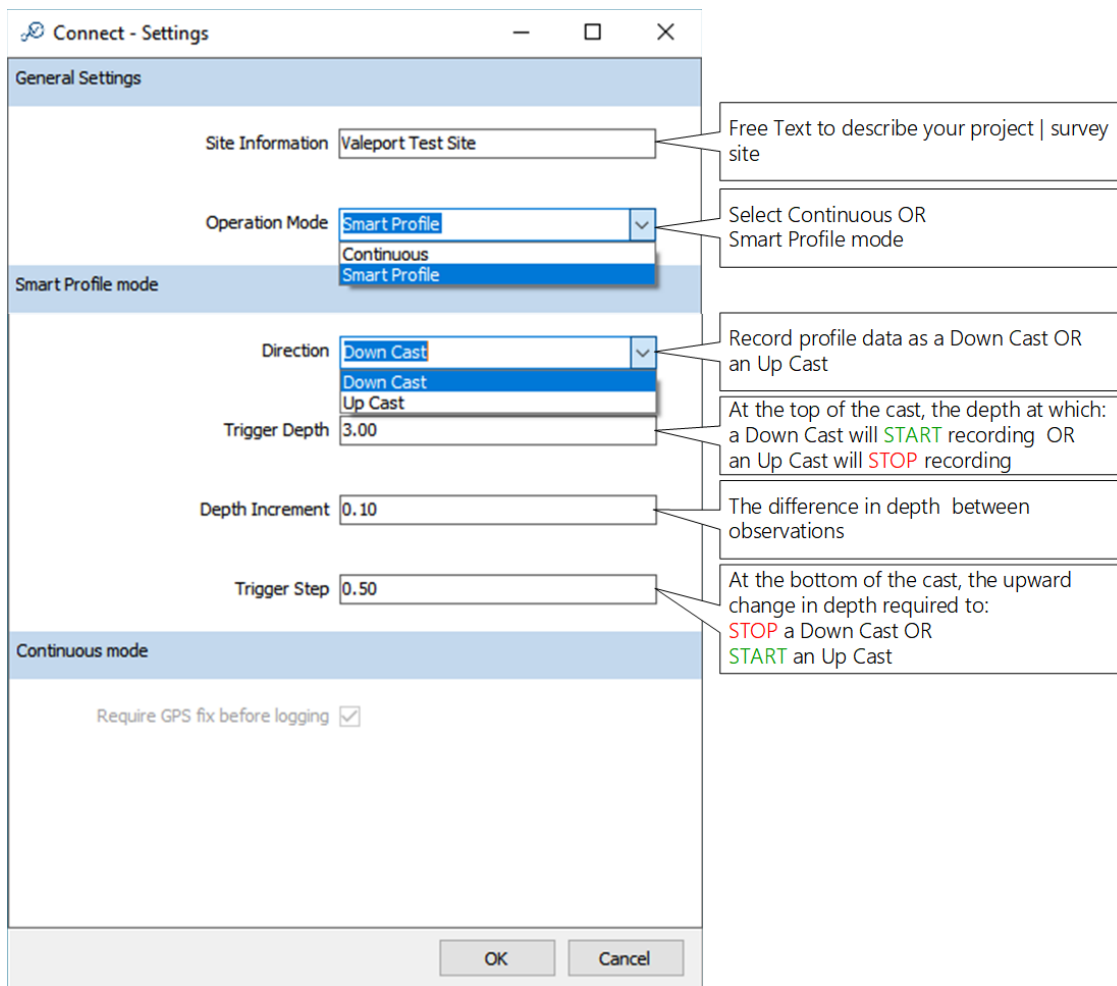
Click on the Instrument Settings Icon: 

The instrument settings allow for the operational mode of the instrument to be set.

Refer to the Instrument manual for further information on the specific modes and their application. Unless a user calibration factor has been programmed into the Instrument the units in the dialogue are metres.

4.2.1. SWiFT and SWiFTplus

SWiFT and SWiFTplus can operate in two modes, Smart Profile or Continuous:



Connect - Settings

General Settings

Site Information: Valeport Test Site

Operation Mode: Smart Profile (dropdown menu showing Continuous and Smart Profile)

Smart Profile mode

Direction: Down Cast (dropdown menu showing Down Cast and Up Cast)

Trigger Depth: 3.00

Depth Increment: 0.10

Trigger Step: 0.50

Continuous mode

Require GPS fix before logging ☒

OK Cancel

Annotations:

- Free Text to describe your project | survey site
- Select Continuous OR Smart Profile mode
- Record profile data as a Down Cast OR an Up Cast
- At the top of the cast, the depth at which: a Down Cast will **START** recording OR an Up Cast will **STOP** recording
- The difference in depth between observations
- At the bottom of the cast, the upward change in depth required to: **STOP** a Down Cast OR **START** an Up Cast

4.2.1.1. Smart Profiling Mode

Smart Profiling allows the operator to specify a change in depth to trigger an observation set to be recorded.

The profile can be recorded either as a Down Cast or an Up Cast with start and stop triggers specified as required using the Settings dialogue.

The Down Cast

The Trigger Depth is the depth, close to the surface, at which the Profile will start and open a new logging file.

The Trigger Step is the change in depth upwards, that will cause the Profile to stop and close the logging file. This should be set to a magnitude greater than the local swell.

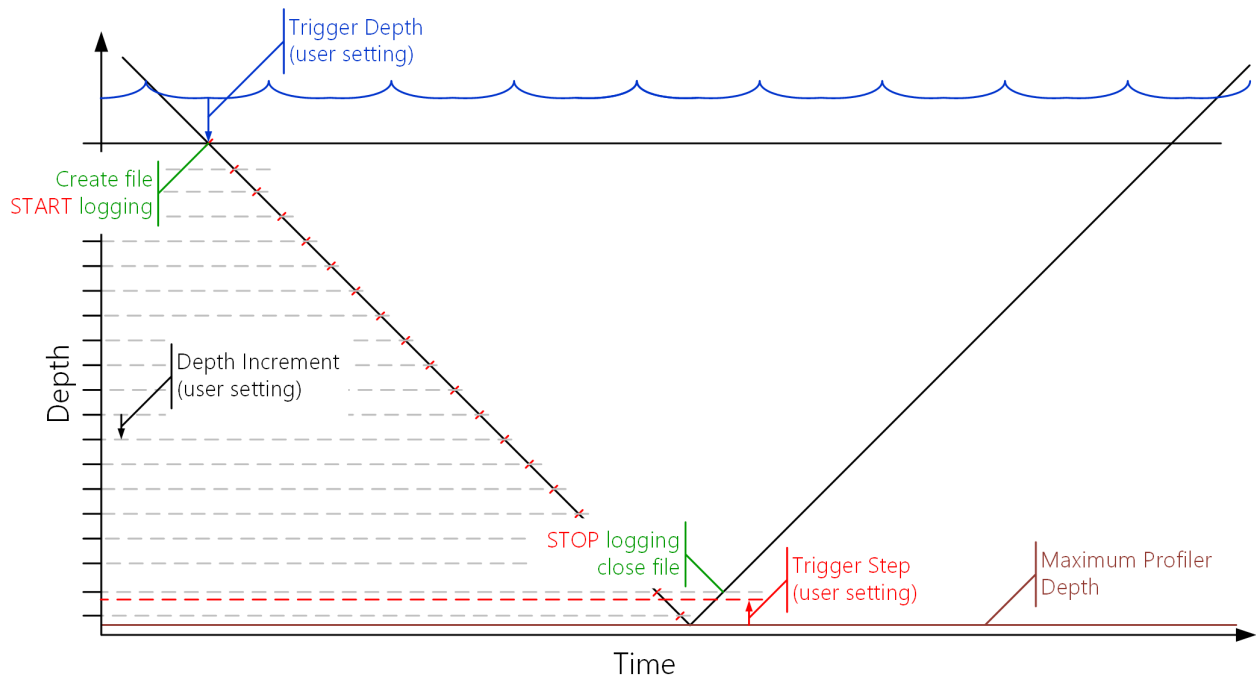
The Up Cast

The Trigger Step is the change in depth upwards, that will cause the Profile to start and open a new logging file. This should be set to a magnitude greater than the local sea and swell.

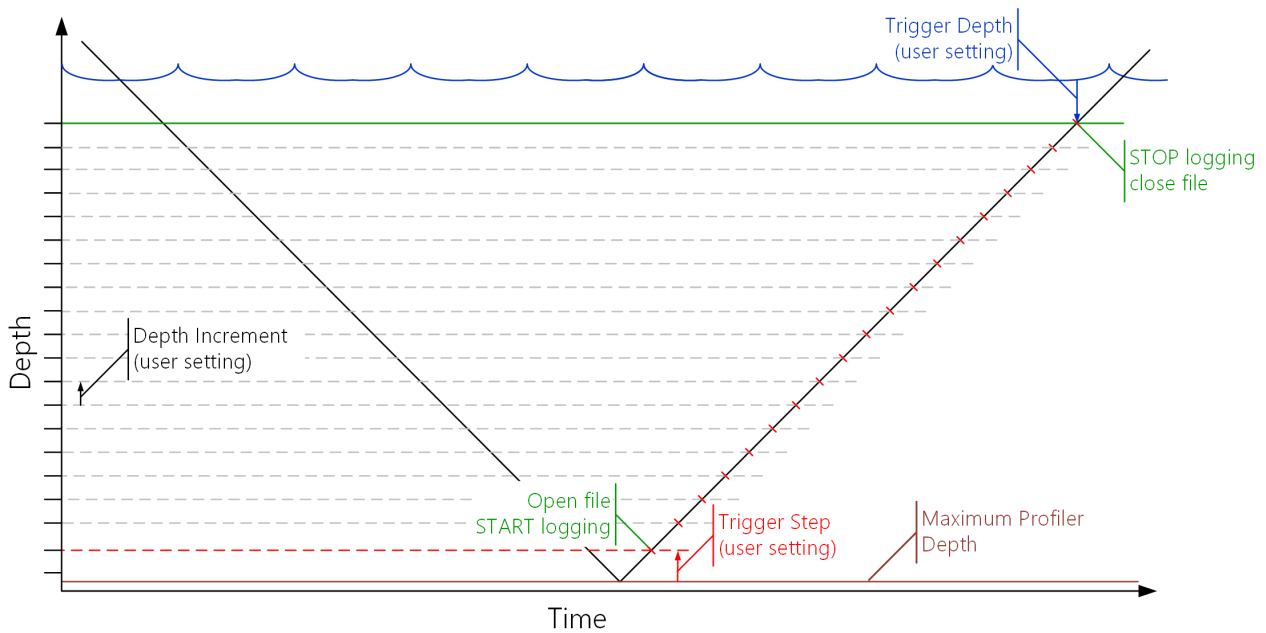
The Trigger Depth is the depth, close to the surface, at which the Profile will stop and close the logging file.

An observation for each sensor - Sound Speed, Temperature, Pressure and Optical in the case of a SWIFTplus, will be recorded at each Depth Increment as defined in the settings dialogue.

4.2.1.1.1 Down Cast



4.2.1.1.2 Up Cast



4.2.2. Continuous Mode

In Continuous mode a set of observations will be recorded at a rate of 1Hz. Data will be recorded from the moment the Instrument is set to work and will continue until the Instrument is interrupted.

SWIFT SVP will record an observation for each sensor every second. That observation will be an average of 32 readings (32Hz observation period).

The SWIFTplus will record an observation for the Optical sensor, Temperature, Pressure and Sound Speed every second.

The screenshot shows the 'Connect - Settings' dialog box with the following sections and controls:

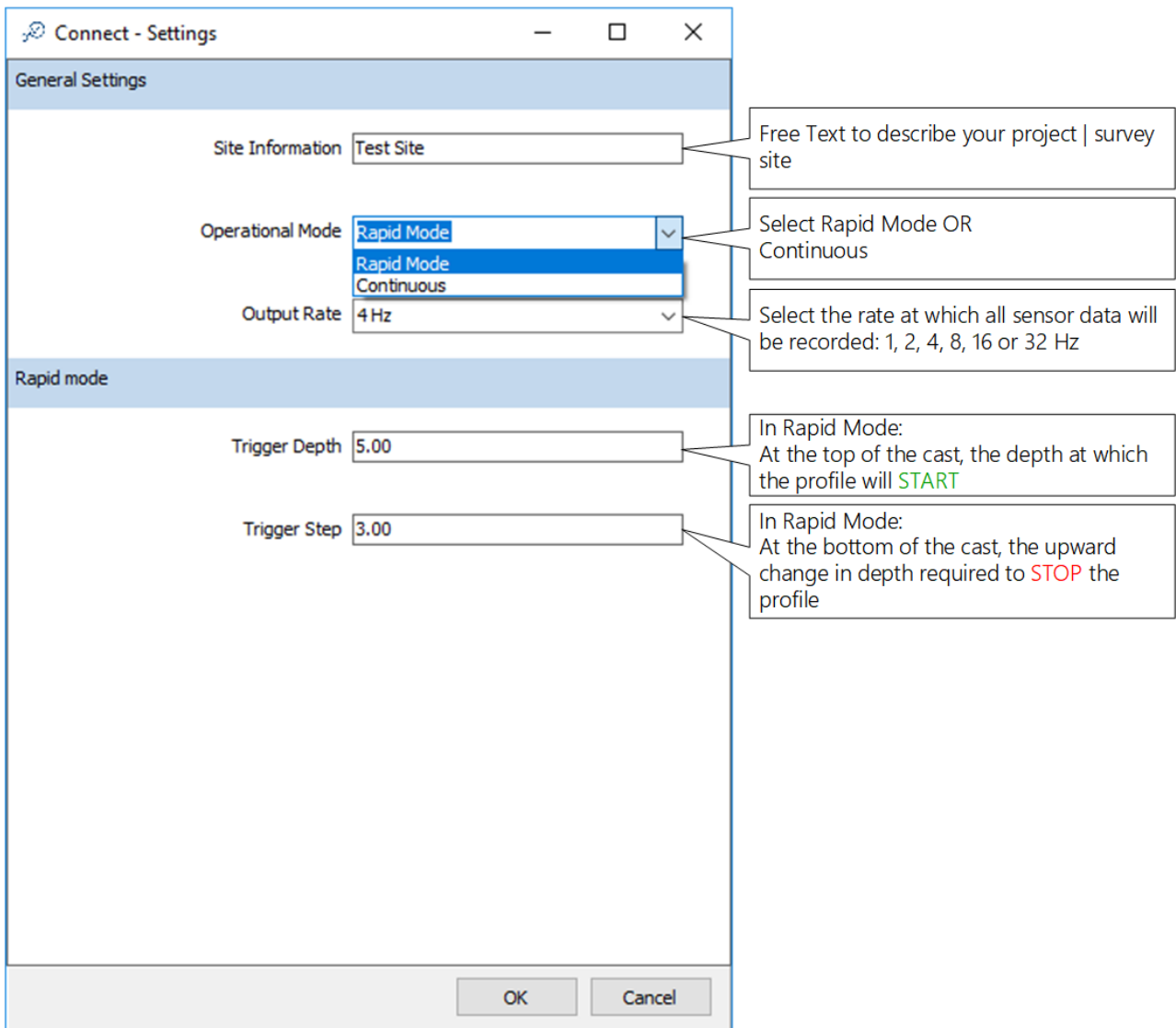
- General Settings**
 - Site Information: Valeport Test Site
 - Operation Mode: Continuous (dropdown menu)
- Smart Profile mode**
 - Start Depth: 0.50
 - Depth Increment: 0.10
 - Stop Step: 2.00
 - Direction: Down Cast (dropdown menu)
- Continuous mode**
 - Require GPS fix before logging: ☒ (checkbox)

A callout box points to the 'Require GPS fix before logging' checkbox with the text: "In Continuous mode – do you require a GPS fix before starting data collection?"

At the bottom of the dialog are 'OK' and 'Cancel' buttons.

4.2.3. rapidPro

a rapidPro profiler can operate in one of two modes, Rapid Mode or Continuous:



The screenshot shows the 'Connect - Settings' dialog box with the 'General Settings' tab selected. The 'Operational Mode' dropdown is set to 'Rapid Mode'. The 'Output Rate' is set to '4 Hz'. The 'Rapid mode' section is expanded, showing 'Trigger Depth' set to '5.00' and 'Trigger Step' set to '3.00'. Callout boxes provide detailed explanations for these settings.

General Settings

Site Information: Test Site

Operational Mode: Rapid Mode

Output Rate: 4 Hz

Rapid mode

Trigger Depth: 5.00

Trigger Step: 3.00

OK Cancel

Free Text to describe your project | survey site

Select Rapid Mode OR Continuous

Select the rate at which all sensor data will be recorded: 1, 2, 4, 8, 16 or 32 Hz

In Rapid Mode:
At the top of the cast, the depth at which the profile will **START**

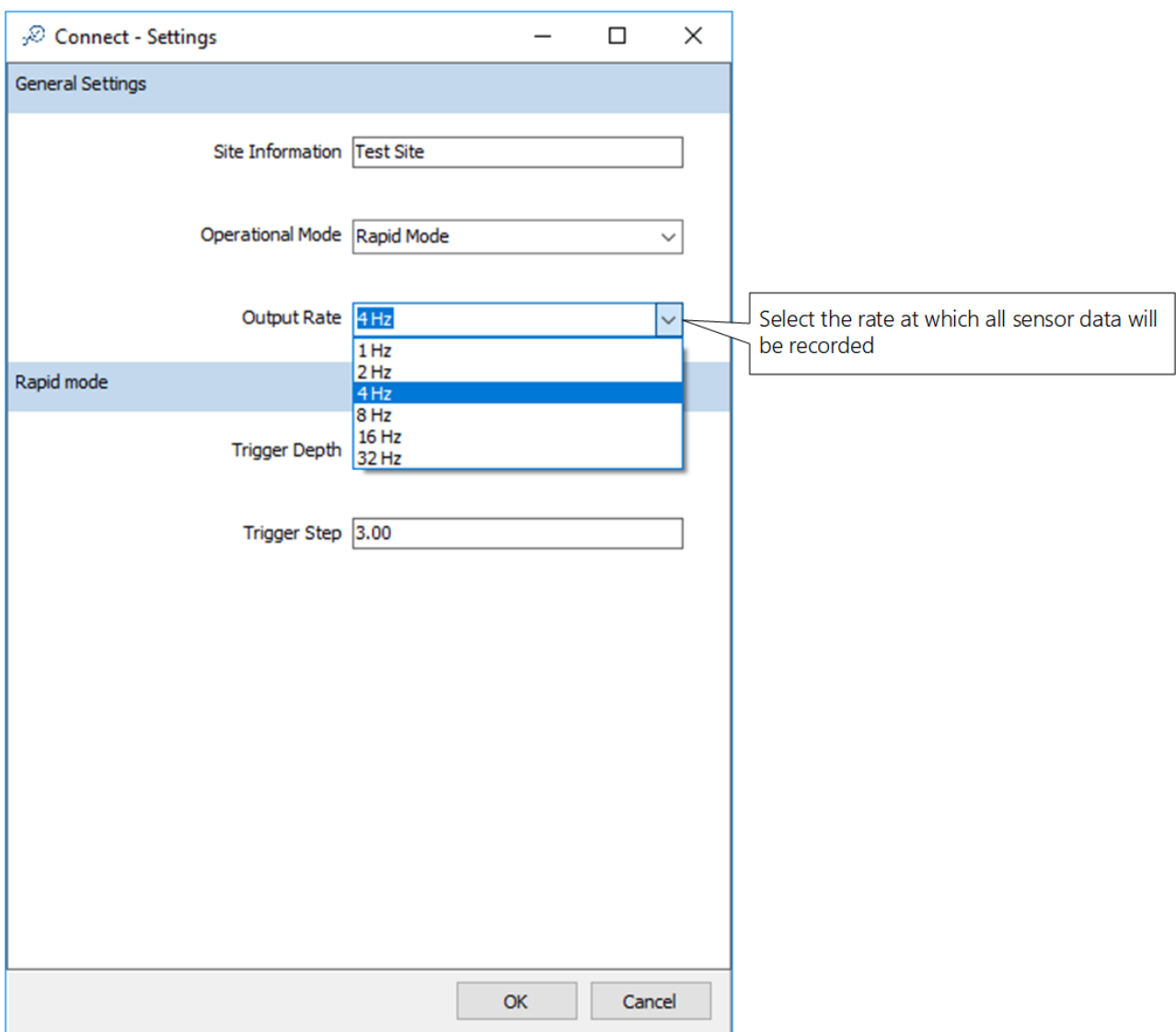
In Rapid Mode:
At the bottom of the cast, the upward change in depth required to **STOP** the profile

4.2.3.1. Rapid Mode

In Rapid mode all sensors are observed and data recorded based on time and is only available as a Down Cast. In the example below all sensors will be observed and recorded 4 times a second - 4Hz. This includes optical sensors, if fitted. If you require a different observation regime please contact Valeport.

The Trigger Depth should be set to the depth that you require the Down Cast profile to start recording.

The Trigger Step should be set to the depth difference, in an upward direction as the rapidPro is recovered, that will cause the data recording process to stop. It should be set to a value greater than the local sea and swell to avoid the profile being stopped prematurely as the vessel pitches and rolls.



Connect - Settings

General Settings

Site Information: Test Site

Operational Mode: Rapid Mode

Output Rate: 4 Hz (selected)
 1 Hz
 2 Hz
 4 Hz
 8 Hz
 16 Hz
 32 Hz

Rapid mode

Trigger Depth:

Trigger Step: 3.00

OK Cancel

Select the rate at which all sensor data will be recorded

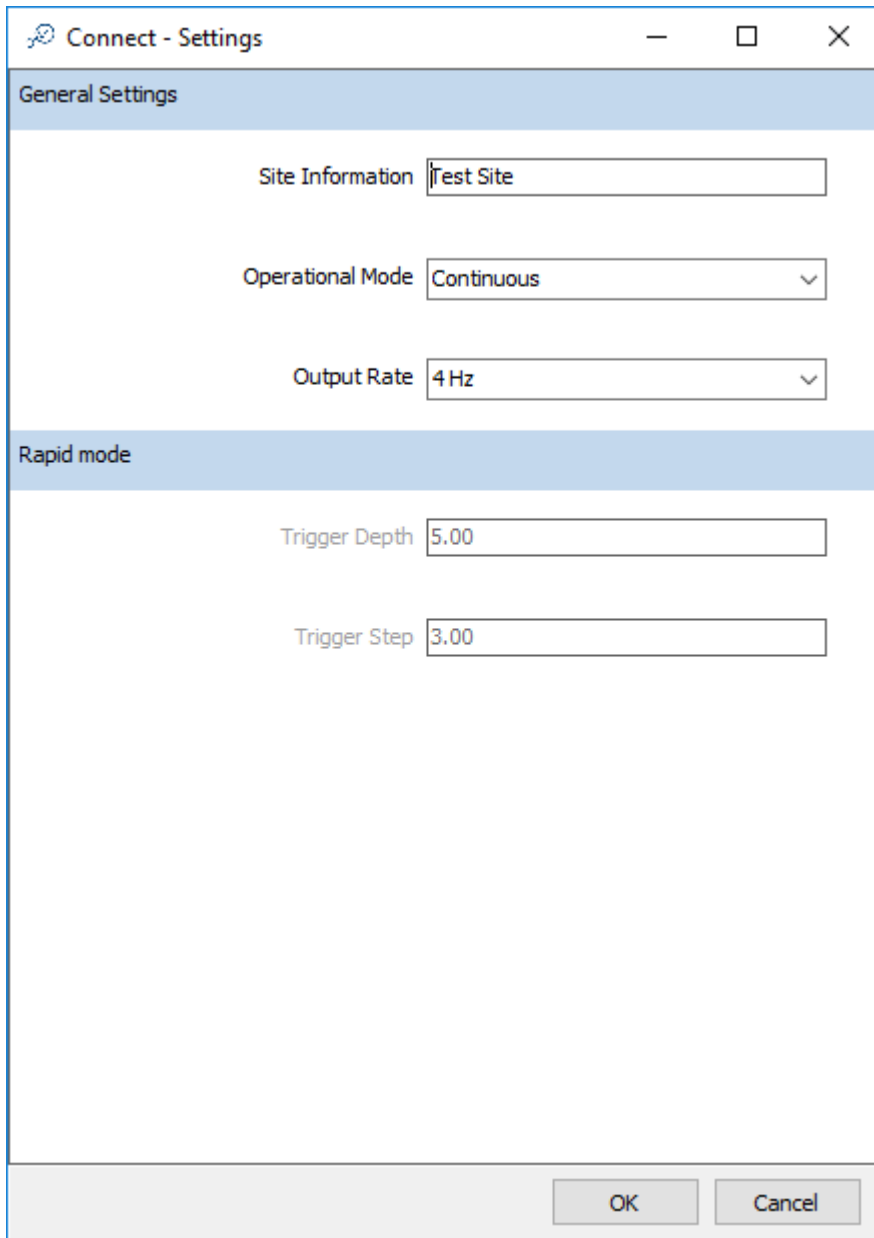
4.2.3.2. Continuous Mode

In Continuous Mode the rapidPro will start recording data as soon as it is put into a Run mode and will record data at the rate selected Output Rate in Hz.

There are no options for either a Trigger Depth or Trigger Step.

In order to record a GPS fix in the header, ensure the rapidPro is in clear view of the sky and has been given sufficient time to calculate a fix. Once you are confident you have a valid GPS fix reset the Profiler.


In continuous mode a file is closed when the instrument is interrupted by an interrogation from Connect. On completion of the interrupt the instrument is placed back in run mode and a new logging file created.



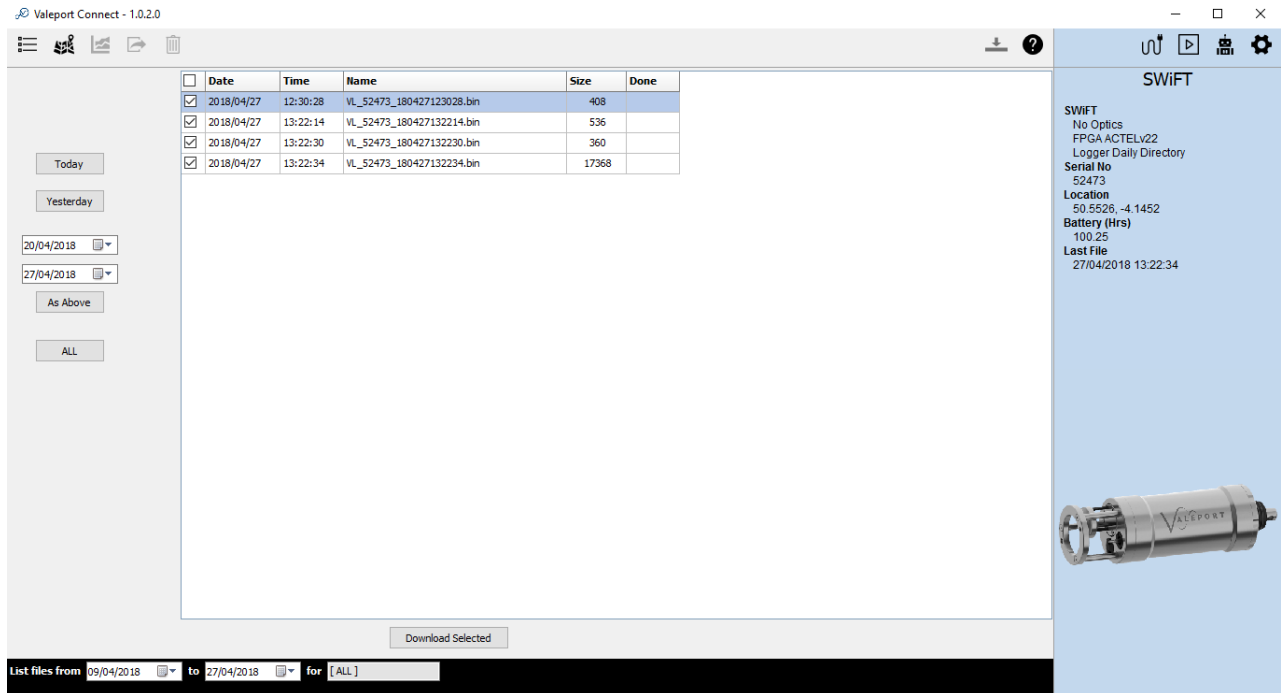
The image shows a screenshot of the 'Connect - Settings' dialog box. The dialog has a title bar with a gear icon, the text 'Connect - Settings', and standard window controls (minimize, maximize, close). The main area is divided into two sections: 'General Settings' and 'Rapid mode'. Under 'General Settings', there are three fields: 'Site Information' with the text 'Test Site', 'Operational Mode' with a dropdown menu showing 'Continuous', and 'Output Rate' with a dropdown menu showing '4 Hz'. Under 'Rapid mode', there are two fields: 'Trigger Depth' with the value '5.00' and 'Trigger Step' with the value '3.00'. At the bottom right, there are 'OK' and 'Cancel' buttons.

Section	Field	Value
General Settings	Site Information	Test Site
	Operational Mode	Continuous
	Output Rate	4 Hz
Rapid mode	Trigger Depth	5.00
	Trigger Step	3.00

5. Download Data Files from an Instrument

Once an instrument is recovered to the surface and interfaced to Connect by either Bluetooth or a cable, to download the data file click on the Download Icon: 

The following screen will be displayed:



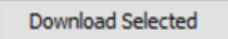
The file download interface interacts with the instrument to download a file listing. Options are to list files from:

- Today
- Yesterday
- Date range
- All files on instrument

§ This may take some time if there a lot of files or some very large files (e.g. Continuous Mode)

It is recommended that this option is only used of a wired connection.

Select the files required (previously downloaded files will not be automatically checked)

and click: 

Files will be downloaded in the native binary format and stored in:

C:\Users\Public\Public Documents\uk.co.valeport\connect\Raw

They will also be automatically converted to vpd (Valeport Data Format) and stored in:


C:\Users\Public\Public Documents\uk.co.valeport\connect


Files should not be deleted or moved from these directories

All Instruments record data using UTC time for both file naming and for any time stamp.

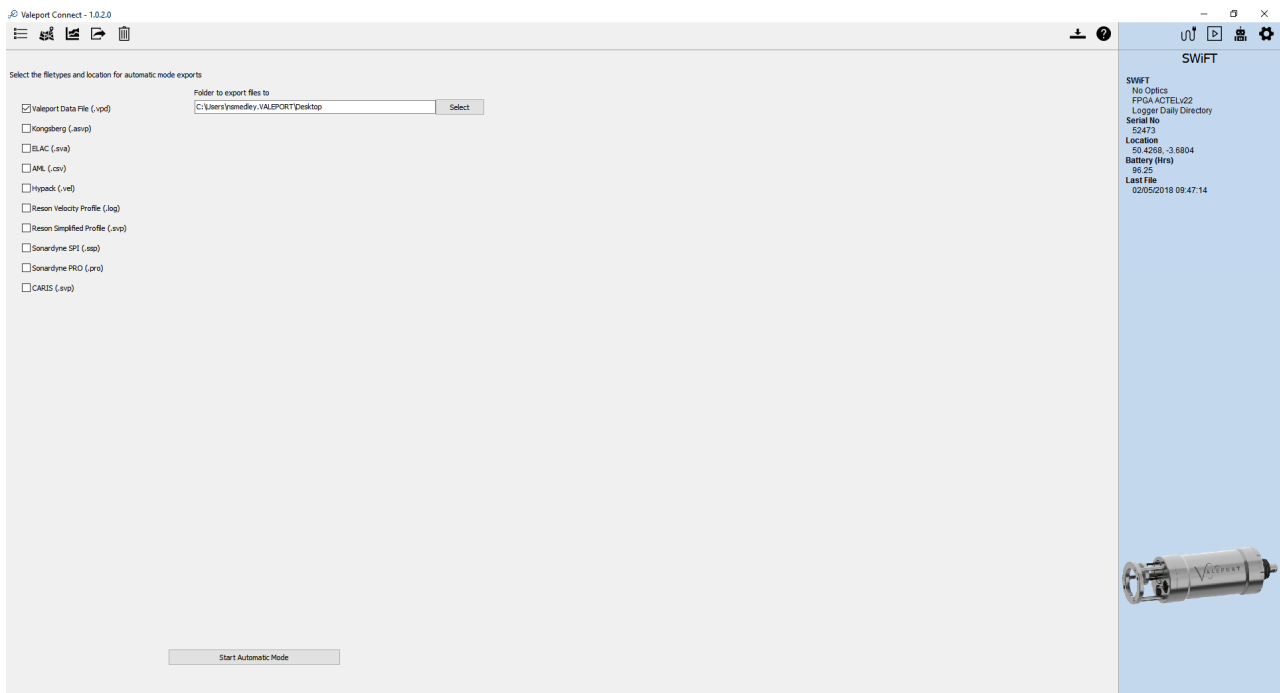
When listing files based on Today and Yesterday the files displayed are selected based on local time to fit with the working day.

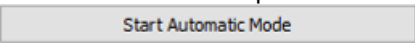
6. Automatic Download Mode

Click on the Auto Mode Icon to select the setup page 

The icon is green when the Mode is enabled 

The auto download mode allows for fully automatic download and conversion of files from an Instrument to Connect.



- File export formats are the same as the standard export protocols.
- File location can be set as any drive Connect has access to.
- Winch control is for specific equipment. Leave this unchecked unless you have the required equipment - contact Valeport for further information.
- Click  to start.

- When automatic mode is activated, a green bar will appear and the Auto Mode (robot) icon will turn green
- The broadcast information from the Instrument (seen in right hand bar) is monitored.
 - This means that once the Instrument is back on the surface and within Bluetooth range it will be automatically reacquired and the broadcast message will be received and processed.
- If the latest file message is detected to have changed, Connect will automatically download the file and convert it to the formats specified.
- After acquisition, the Instrument will be set into run mode ready to be deployed.

Valeport Connect - 1.0.2.0

Auto Mode Active

Date	Time	Device	Site Info
<input checked="" type="checkbox"/>	16/04/2018 12:13:35	SWIFT 52473	Falcon Spirit
<input type="checkbox"/>	16/04/2018 12:06:30	SWIFT 52473	Falcon Spirit
<input type="checkbox"/>	16/04/2018 10:32:22	SWIFT 52473	Falcon Spirit
<input type="checkbox"/>	16/04/2018 09:24:38	SWIFT 52473	Falcon Spirit
<input type="checkbox"/>	16/04/2018 08:57:22	SWIFT 52473	Falcon Spirit
<input type="checkbox"/>	16/04/2018 08:48:00	SWIFT 52473	Falcon Spirit
<input type="checkbox"/>	16/04/2018 08:43:01	SWIFT 52473	Falcon Spirit
<input type="checkbox"/>	05/04/2018 12:18:38	SWIFT 59845	
<input type="checkbox"/>	05/04/2018 11:39:38	SWIFT 59845	
<input type="checkbox"/>	05/04/2018 10:46:22	SWIFT 59845	
<input type="checkbox"/>	05/04/2018 09:46:19	SWIFT 59845	
<input type="checkbox"/>	05/04/2018 09:18:45	SWIFT 59845	
<input type="checkbox"/>	04/04/2018 09:37:12	SWIFT 59845	
<input type="checkbox"/>	01/04/2018 23:31:12	SWIFT 46236	Plymouth Sound Demo
<input type="checkbox"/>	01/04/2018 22:59:59	SWIFT 46236	Plymouth Sound Demo
<input type="checkbox"/>	01/04/2018 21:59:59	SWIFT 46236	Plymouth Sound Demo
<input type="checkbox"/>	01/04/2018 00:00:00	SWIFT 46236	Plymouth Sound Demo
<input type="checkbox"/>	30/03/2018 00:00:00	SWIFT 46236	Plymouth Sound Demo
<input type="checkbox"/>	27/03/2018 07:05:34	SWIFT 59845	
<input type="checkbox"/>	27/03/2018 00:00:00	SWIFT 46236	Plymouth Sound Demo
<input type="checkbox"/>	23/03/2018 09:02:02	SWIFT 59845	
<input type="checkbox"/>	22/03/2018 13:31:32	SWIFT 59845	
<input type="checkbox"/>	22/03/2018 13:07:04	SWIFT 59845	
<input type="checkbox"/>	22/03/2018 12:52:48	SWIFT 59845	
<input type="checkbox"/>	21/03/2018 13:43:05	SWIFT 59845	

SWIFT

No Optics
FPGA ACTELv22
Logger Daily Directory
Serial No
52473
Location
50.5526, -4.1451
Battery (Hrs)
99.55
Last File
27/04/2018 13:22:34
Max Depth in last download
0.066m

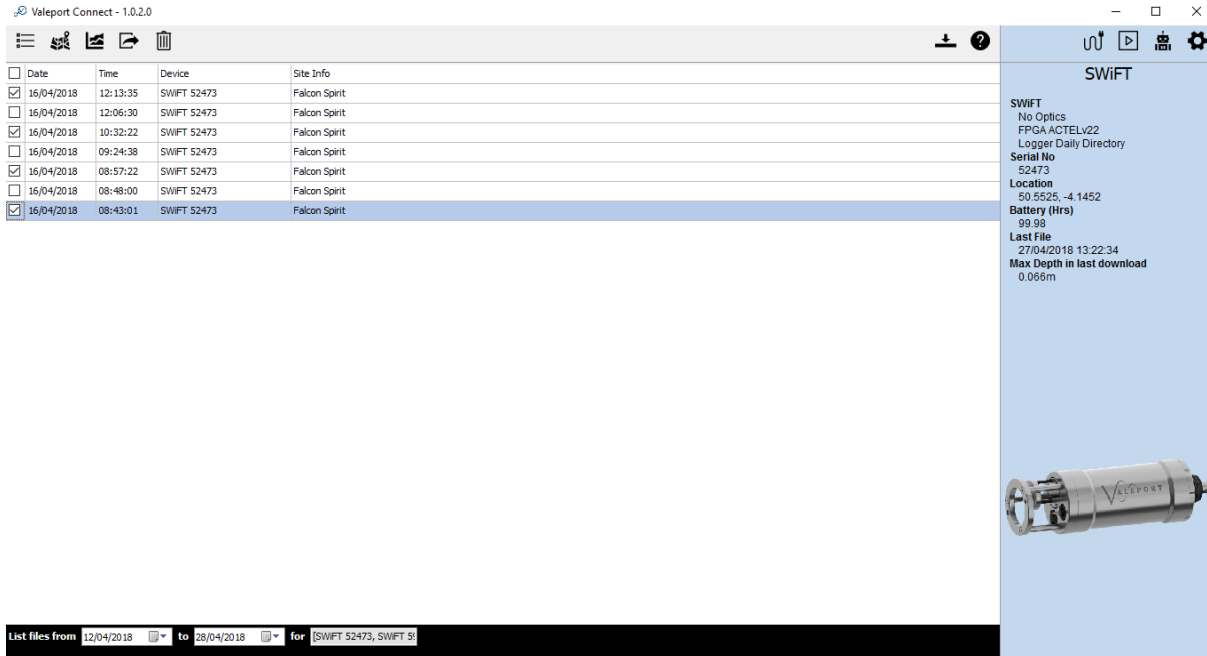
Automatic mode started

List files from 26/02/2018 to 28/04/2018 for [ALL]

7. List View

Click on the File List page: 

This is a listing of all the files downloaded onto the local PC.



Date	Time	Device	Site Info
<input checked="" type="checkbox"/>	16/04/2018	12:13:35	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	12:06:30	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	10:32:22	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	09:24:38	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	08:57:22	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	08:48:00	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	08:43:01	SWIFT 52473

SWIFT

SWIFT
No Optics
FPGA ACTELV22
Logger Daily Directory
Serial No
52473
Location
50 5525, -4.1452
Battery (Hrs)
99.99
Last File
27/04/2018 13:22:34
Max Depth in last download
0.066m

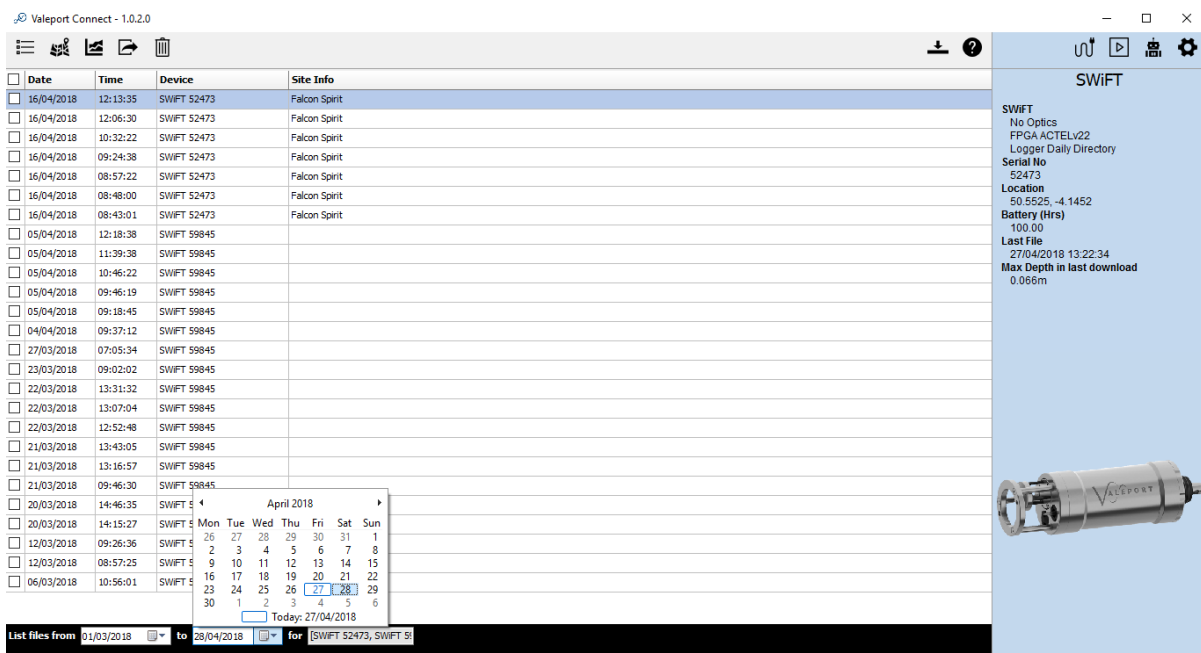
List files from 12/04/2018 to 28/04/2018 for SWIFT 52473, SWIFT 5

The file list can be filtered by date, Instrument or serial number using the controls on the bottom bar.

Files are selected by clicking the selection box on the left hand side of the list.

Selected files are used in the Graph View and Data Export.

7.1. Filtered by Date




Date	Time	Device	Site Info
<input checked="" type="checkbox"/>	16/04/2018	12:13:35	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	12:06:30	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	10:32:22	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	09:24:38	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	08:57:22	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	08:48:00	SWIFT 52473
<input checked="" type="checkbox"/>	16/04/2018	08:43:01	SWIFT 52473
<input type="checkbox"/>	05/04/2018	12:18:38	SWIFT 59845
<input type="checkbox"/>	05/04/2018	11:39:38	SWIFT 59845
<input type="checkbox"/>	05/04/2018	10:46:22	SWIFT 59845
<input type="checkbox"/>	05/04/2018	09:46:19	SWIFT 59845
<input type="checkbox"/>	05/04/2018	09:18:45	SWIFT 59845
<input type="checkbox"/>	04/04/2018	09:37:12	SWIFT 59845
<input type="checkbox"/>	27/03/2018	07:05:34	SWIFT 59845
<input type="checkbox"/>	23/03/2018	09:02:02	SWIFT 59845
<input type="checkbox"/>	22/03/2018	13:31:32	SWIFT 59845
<input type="checkbox"/>	22/03/2018	13:07:04	SWIFT 59845
<input type="checkbox"/>	22/03/2018	12:52:48	SWIFT 59845
<input type="checkbox"/>	21/03/2018	13:43:05	SWIFT 59845
<input type="checkbox"/>	21/03/2018	13:16:57	SWIFT 59845
<input type="checkbox"/>	21/03/2018	09:46:30	SWIFT 59845
<input type="checkbox"/>	20/03/2018	14:46:35	SWIFT 5
<input type="checkbox"/>	20/03/2018	14:15:27	SWIFT 5
<input type="checkbox"/>	12/03/2018	09:26:36	SWIFT 5
<input type="checkbox"/>	12/03/2018	08:57:25	SWIFT 5
<input type="checkbox"/>	06/03/2018	10:56:01	SWIFT 5

SWIFT

SWIFT
No Optics
FPGA ACTELV22
Logger Daily Directory
Serial No
52473
Location
50 5525, -4.1452
Battery (Hrs)
100.00
Last File
27/04/2018 13:22:34
Max Depth in last download
0.066m

List files from 01/03/2018 to 28/04/2018 for SWIFT 52473, SWIFT 5

7.2. Filtered by Instrument

 Filter by instruments

☐ ☐ ☐

Only include files related to the following instruments

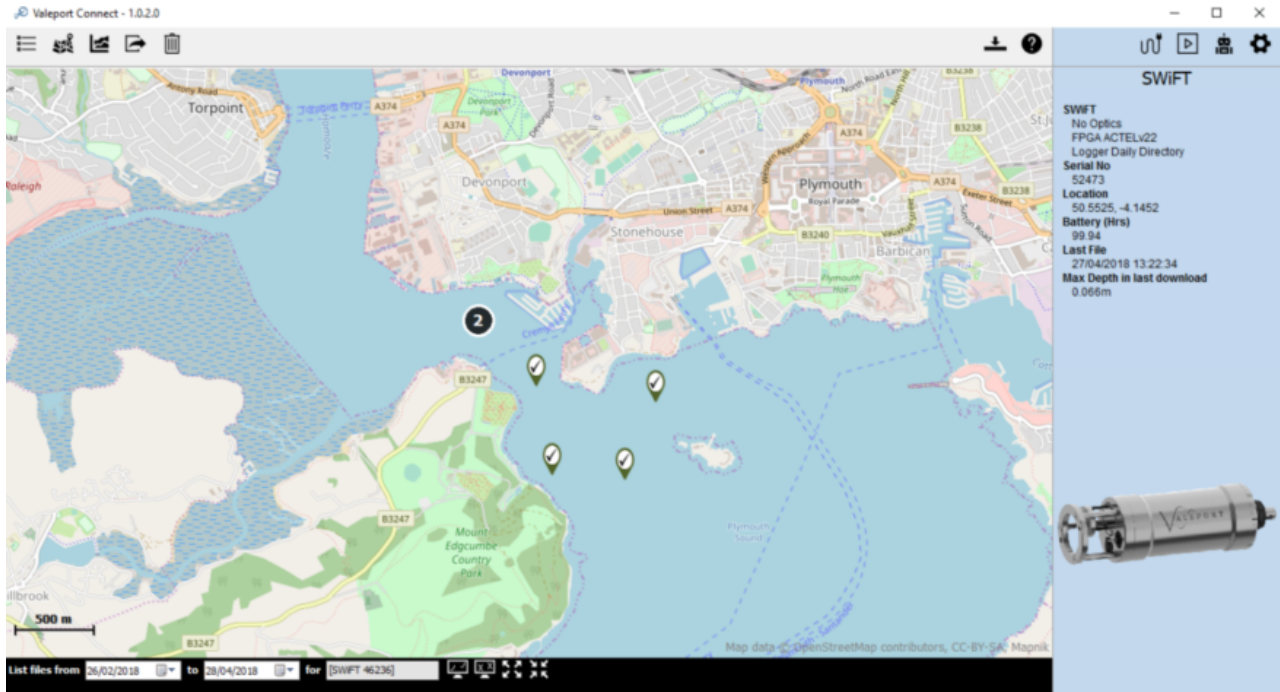
	Instrument
<input checked="" type="checkbox"/>	SWIFT 46236
<input checked="" type="checkbox"/>	SWIFT 52473
<input checked="" type="checkbox"/>	SWIFT 59845

Apply

Cancel

8. Map View

Click on the Map View Icon: 



- Selection status is shown with a green tick or red cross.
- Files can be selected or deselected using the map view.
- Numbered icons indicate multiple profiles in one location. Clicking on the number will zoom into that location.
- Date and instrument filters are also available on the lower bar.

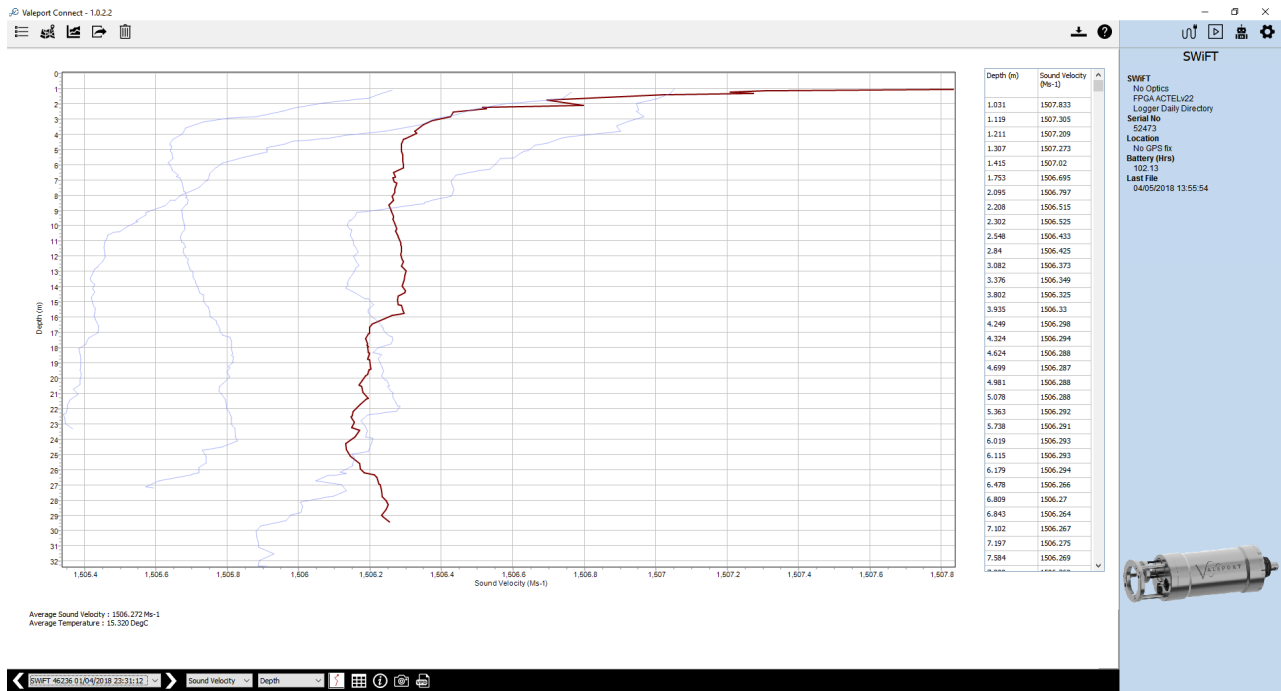
Mapping is provided by OpenStreetMap and is cached i.e. any map tiles downloaded will still be visible if no internet connection is available.

9. Graph View



Click on the Map View Icon:

The graph view allows for graphical visualisation of the files selected either via the file listing or the map view.



- The default view is a graph of Sound Velocity vs Depth. This can be changed using the drop down lists on the bottom selection tool bar.
- The highlighted profile (in red) is the currently selected profile in the bottom selection tool bar, far left drop down window. Use the left and right arrows to select the next or previous profile.
- Icons on the lower bar are:



single plot view toggles to:



multi-plot view and vice versa



Toggles the tabular data to the right of plot on/off



Toggles the Average Data window on and off below the plot. It will display average data for the selected profile




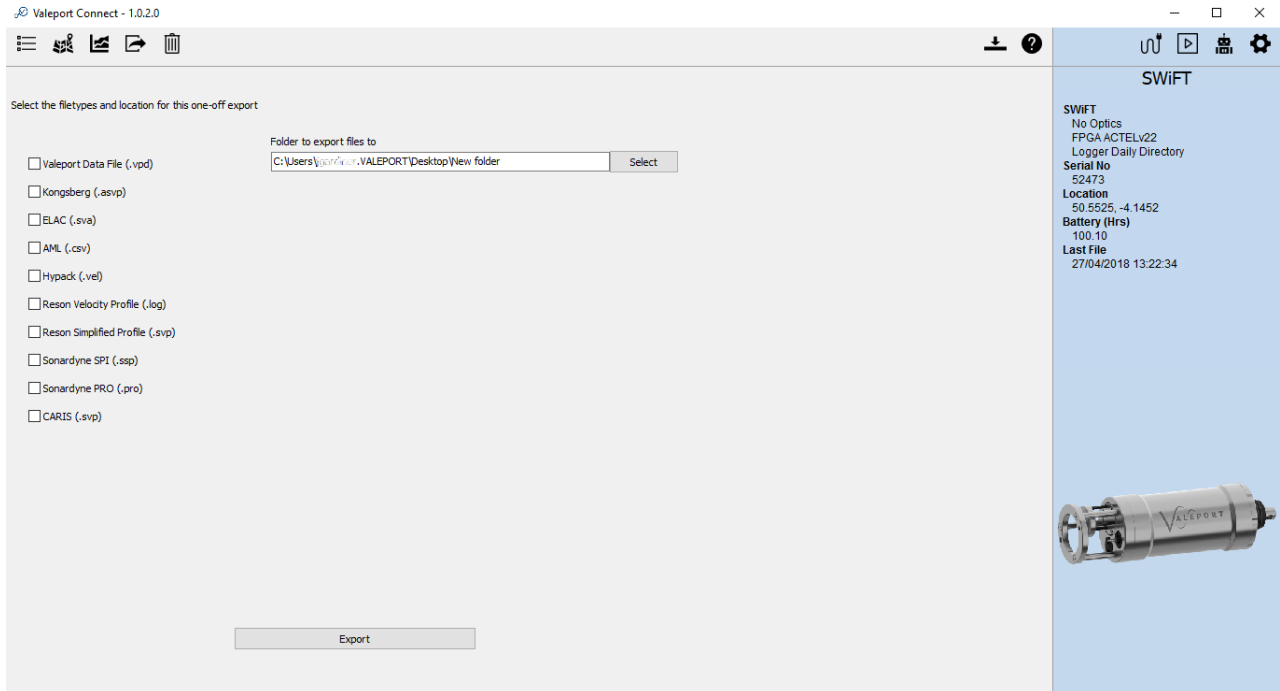
Takes a Snapshot of the graph and copies it to the clipboard



Toggles between the Graph View and the Raw Data table. The Raw Data table can be cut and pasted into another program.

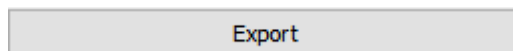
10. Data Export - PC Software

Click on the Data Export Icon: 



Files can be exported in a number of industry formats by selecting them from the list. The Data export function will export the selected files, from the list page, in the formats specified to your selected directory.

click the Export button:



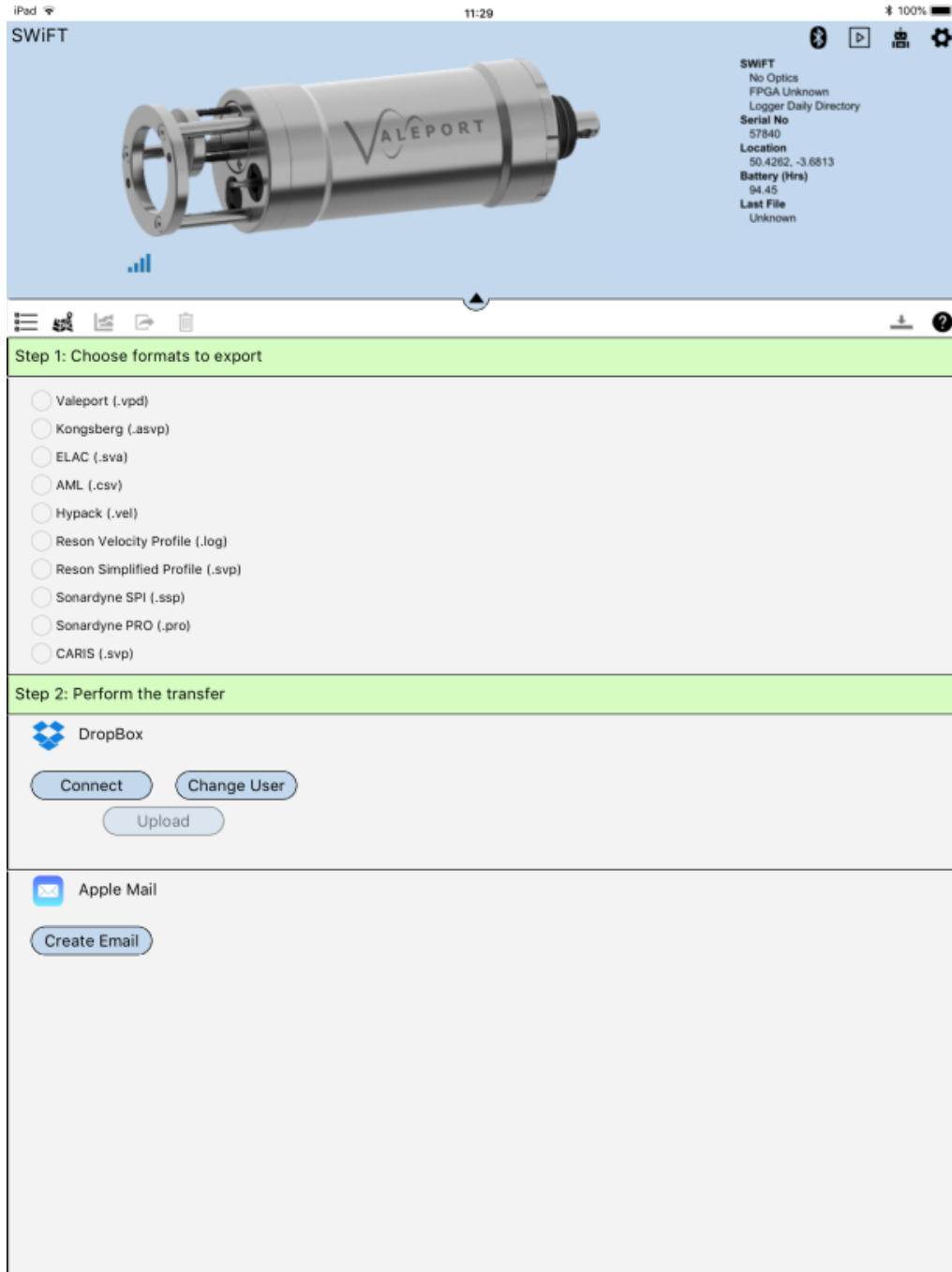
10.1. Export Data from an iOS Portable Device

There are two ways to export data directly from your iOS device:

- Drop Box
- Apple Mail

You must use an existing accounts or set up a new one for either method.

Follow the on screen instructions:



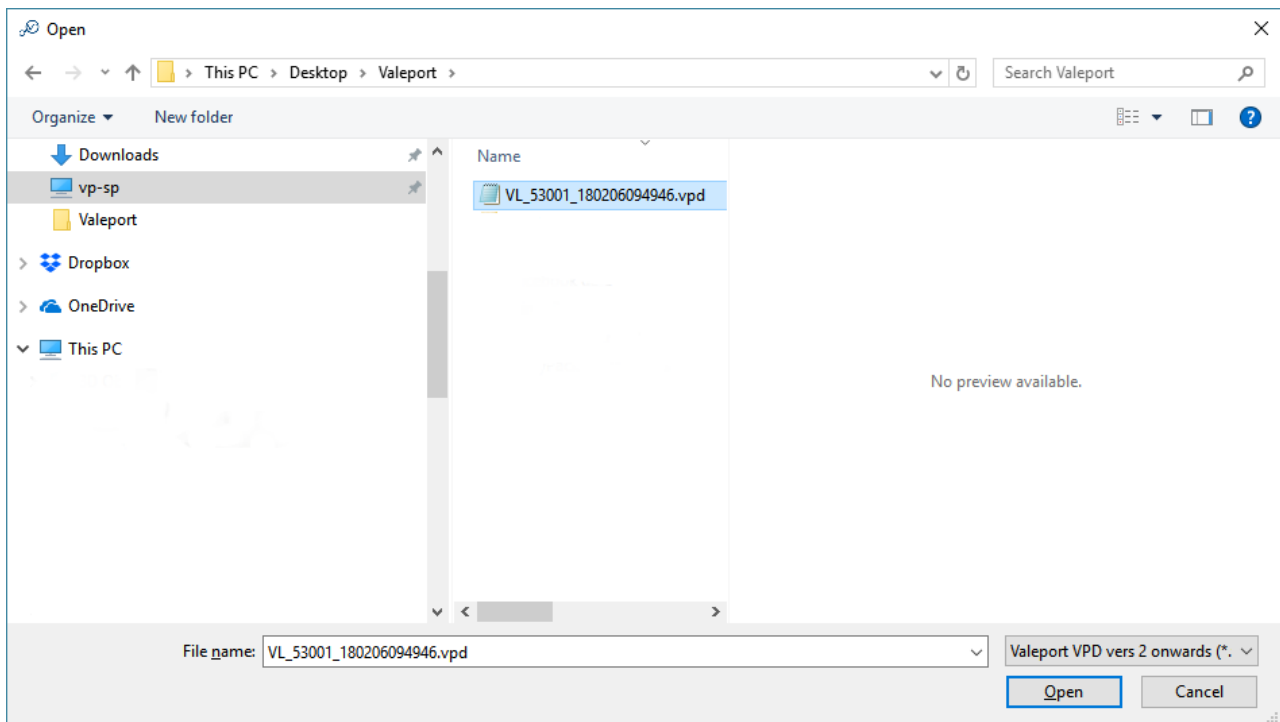
Alternatively, use iTunes on your PC or Mac Computer to connect directly to your device and download .VPD files from the Valeport Connect Shared Files directory.

11. Data Import

Click on the Data Import Icon:



Valeport's .VPD files can be imported into Connect so files downloaded onto different devices can be compared graphically




12. Deleting Files

Click on the Delete Files Icon: 

Delete any selected files from the Connect workspace. The deleted files will no longer appear in the file listing or the map view.

The raw/converted files will remain in the file directory.

They will not be deleted from the instrument.

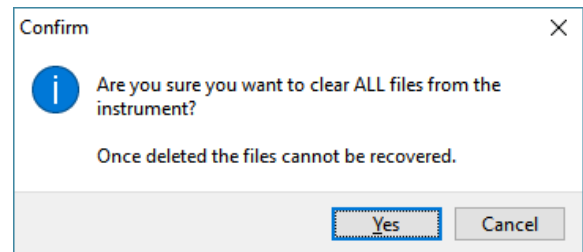
To delete files from the Instrument, click on the Download Icon: 

List the files from the instrument and select those that you want to delete.

Press the  button on the bottom Tool Bar.

You will be given the option to cancel this operation:

Once the files have been deleted there is no way to recover them.

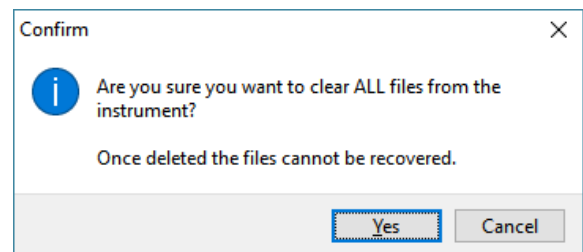


You also have the option to clear all files from the instrument.

Press the  button on the bottom Tool Bar.

You will be given the option to cancel this operation:

Once the files have been deleted there is no way to recover them.



Deleting files from the Instrument is only available when interfaced to a PC.

13. Connect Log

Click on the Data Export Icon: 

The Log keeps a track of all messages that are produced by the program.

You can edit the Log and add textual comments

You can save the Log as a text file

