



VisualSoft Suite User Manual

VisualReview 11.0



Published: 20 February 2023

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1 VisualReview

1.1 VisualReview Introduction

VisualReview is a video and data viewer that you can use to review survey results. It includes display windows for video playback, text views for survey data and inspection observations, and graphical or map views for position and depth data. The layout of those video and data windows can be configured as required, with up to four video windows, and with combinations of text and graphical displays of survey data.

VisualReview is available in two different editions; **VisualReview** and **VisualReview Professional**, with increasing levels of functionality

Features of VisualReview

- Synchronized Video, Audio and Data playback
- Plan view, Side view, Cross-Profile view, 3D view, Pipesheet view
- Grab and Export stills and video clips from video
- Grab and export graphical survey data views
- Filter and search tools
- Offline Overlay display

Additional features of VisualReview Professional

VisualReview Professional is an upgrade to **VisualReview** to which you may subscribe on a yearly basis. This upgrade gives you some extra features that are not available in the free version:

- Email and telephone support with regular software upgrades available from VisualSoft.
- Offline Overlay configuration
- Export data to CSV and other file formats
- "History view" for year on year comparisons of inspection data
- Programmable Interface via open API

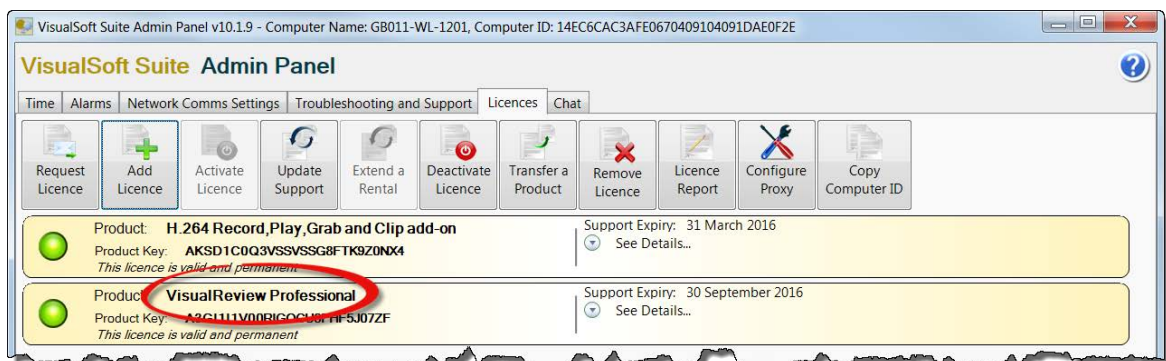
1.2 Which Edition do I have?

There are two places where you can check which edition of **VisualReview** is on your PC.

When VisualReview is running, the edition is shown very clearly in the top right corner of the main window. If you have the Professional edition this will be shown below the large VisualReview text.



In the VisualSoft Admin Panel you can see the available licences in the Licences tab. Note that the free edition doesn't need or use a licence, so there may be nothing to see in the Licences tab if you only have the free edition and no other VisualSoft products.



1.3 VisualReview Redistribution

VisualReview is free for use with data that has been logged or processed using the **VisualSoft Suite**.

When you create a VisualSoft Report using VisualEdit, or when you Auto-Copy video data from VisualDVR to an external disk drive a copy of the VisualReview application software can be included automatically. This application can be distributed on CD, DVD, USB disk or any other storage device.

Your client can use **VisualReview** to view the clips and images in a VisualSoft Report format, or if you choose give your client all of the original data files and video they can view that too.

1.4 Definitions used in the VisualSoft Suite

Definitions of words and terms used in VisualSoft Suite applications	
Data Table	A Data Table is used in VisualEdit and VisualReview to display survey positioning or sensor data in a readable text format. Data Tables may contain information from individual survey sensors or positioning systems logged by VisualDataLogger , or they may contain information from multiple sensors or positioning systems. A Data Table may also contain event or observation records logged online using VisualDVR or in VisualEventing or logged and edited offline using VisualEdit Eventing . Each row of a Data Table has a unique time stamp, with a timing resolution of just one millisecond. Data Tables typically have multiple columns showing a range of information all applicable at the same time.
Dataset	A Dataset is simply group of video and associated survey data files which all cover the same time period. Datasets are displayed in the VisualSoft Project Tree in VisualArchive , VisualEdit and VisualReview where they are shown with a start time and a duration for the video recordings. If you have pipeline data the Project Tree will also show the KP limits of each dataset. On the hard disk each Dataset is a single folder which contains a group of individual but related files such as one or more video files from different cameras, one or more files of position data, a file of observed events, and possibly various files containing other data types like multibeam or profiler data.

Definitions of words and terms used in VisualSoft Suite applications

Events	The Events list in VisualEdit and VisualReview is a special data table used to hold information relating to what can be seen in the video. The Events list is used for inspection tasks and similar surveys to record the time, position and status of components on pipelines or structures. Other companies may have different words for what we call Events. For example Shell use the word "incident" and Equinor use "observation". Whether you call it an Event or an incident or an observation it describes something that has been seen at a specific time and place during an inspection or other survey.
H.264	A video compression standard, usually stored in MPEG-4 container files, so a VisualSoft .mp4 file contains video compressed using the H.264 standard.
MPEG	A series of video (and audio) standards developed by the Motion Picture Experts Group. The VisualSoft Suite has always included support for MPEG-2 video files, and more recently has also added support for MPEG-1 and MPEG-4.
Processed PT	The Processed PT Data Table is a pre-defined data table used to hold cleaned and corrected pipetracker data and also the position data for the Top of Pipe derived from the pipetracker data.
Processed Survey	The Processed Survey Data Table is a special data table used to hold a simple collection of processed and cleaned position data and other survey data such as pitch, roll, heading and depth. For relatively simple jobs the Processed Survey data table and the Video Position table might be all that you need to provide the data that a client needs. For more complex operations you may also need to add one or more User Defined data tables (see below).
Project	A Project is used in the VisualSoft Suite to group together all related data. This may be for a single pipeline, a single structure, a single survey task or a single client. A Project may or may not contain Sub-Projects (see below), and after a survey has been completed a Project will usually contain multiple Datasets. Projects are usually created in advance before survey work and video recording begins, and will initially be empty. As a survey or inspection task is carried out, more and more data and video will be added to the Project as a sequence of Datasets.

Definitions of words and terms used in VisualSoft Suite applications	
Project Tree	The Project Tree is used to display and manage the hierarchic structure of data and video files used by all applications of the VisualSoft Suite. The Project Tree is made up of one or more Projects, Sub-Projects and Datasets (see below).
Raw Survey	The Raw Survey Data Table is a special data table used to hold the time, position and other survey data recorded by VisualDVR during video recording. VisualDVR can be interfaced to a navigation system and can receive a simple ASCII data string containing survey position and sensor information. The data in this data string are logged to a file and are displayed in the Raw Survey data table in VisualEdit and VisualReview . This Raw survey information can be processed offline to clean or smooth the positioning data, and to apply corrections and offsets.
Sub-Project	A Sub-Project is used to divide the data of a large Project into logical groupings. For example a Project might represent all of the pipelines in one oil or gas field, with Sub-Projects for each individual pipeline. Alternatively a Project may represent one offshore structure with individual Sub-Projects for different parts of that structure.
Time Sync or Time Synchronisation	Time Synchronisation is the process of applying the Timestamp information (see above) so that differing data types logged on different computers or to different data files can be linked together.
Timestamp	Each data record or row in each individual data table has a precise time and date associated with it. This timestamp is created at the time of logging and is preserved through all data processing operations. The timestamp allows different types of data to be linked together so that relevant information from different survey sensors or video cameras can be joined accurately and appropriately.
User Defined Table or UDT	User Defined Tables can be used to hold any data of any type you want. Typically they allow the data from individual sensors to be retained at the native time interval and resolution of the relevant logging system so that data is not lost by combining it with other sensors that have a lower timing resolution.
Video Position	The Video Position Data Table is a pre-defined data table used to hold the Easting, Northing, Depth and KP information relating to the position displayed in the video windows. This data table is filled during the data processing operations carried out using VisualEdit Professional , and is usually the source for the position, depth and KP information in the Events table.

Definitions of words and terms used in VisualSoft Suite applications

WMV

Windows Media Video. A Microsoft video file format based on the MPEG-4 standard. The WMV standard has had a number of versions over time. Most WMV files used by the VisualSoft Suite are either WMV version 8 or WMV version 9.

X-Profiles

The **X-Profiles** Data Table is a pre-defined data table used to hold the beam information and position data from either mechanical or multibeam profiling systems. The data is logged by **VisualDataLogger** from either Tritech SeaKing, Reson or Imagenex systems. Other hardware such as R2Sonic will be added soon.

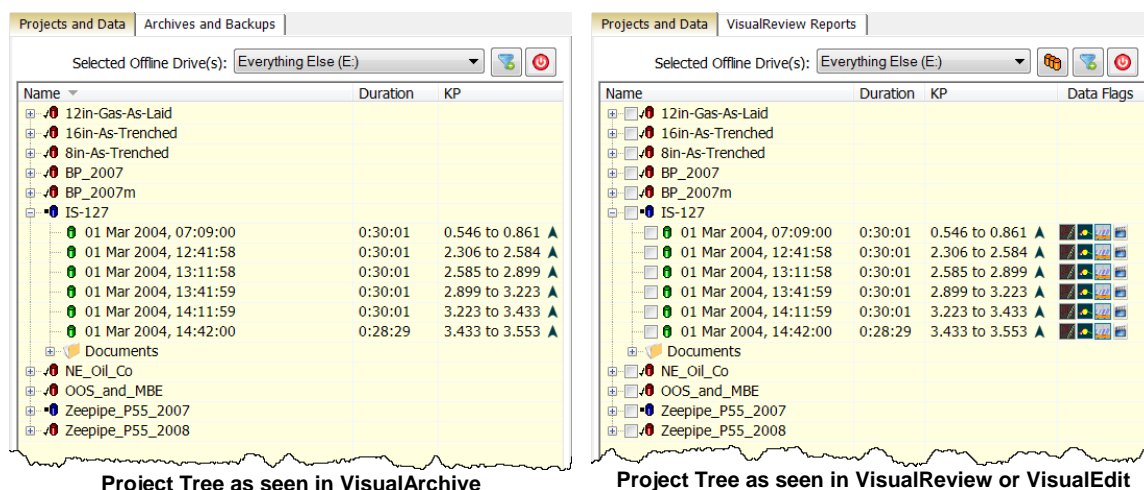
1.5 Projects and Datasets

The VisualSoft Suite groups all data into Projects, Sub-Projects and Datasets in a hierarchy or “Tree” structure just like the folder structure in Windows Explorer. This “Project Tree” hierarchy is saved using folders and individual files on the disk drive, but it is displayed in a more user-friendly way in the VisualSoft Suite programs. To see how the data and video files are saved on your hard disk see [VisualSoft Files on your Disk](#)^[35].

A Project will usually represent one client, one survey or one inspection task, or perhaps just one particular pipeline or structure. Each of these Projects can, if you want, have one or more Sub-Projects inside it to group data and video recordings into smaller sections. For example a “Client” Project for Shell or BP may contain video and data for many different pipelines, each of which will have its own Sub-Project. A “Structure” Project for one jacket inspection might contain different Sub-Projects for different faces or levels of the jacket. It is also possible for Sub-Projects to have other Sub-Projects inside them.

Within each [Project](#)^[15] or [Sub-Project](#)^[23] the video and associated data for the same time period is grouped in [Datasets](#)^[23]. In the online recording and logging software a new Dataset is created automatically at regular time intervals, typically every 15 or 30 minutes.

The Project and Data structure is the same in **VisualArchive**, **VisualReview** and all editions of **VisualEdit** but the default display options are slightly different in **VisualArchive** compared with the others. In **VisualEdit** and **VisualReview** there are columns of “Data Flags” to the right of the KP limits. These Data Flags indicate the current status of the data, showing you what does or does not exist, and what has or has not been processed. These status flags are explained in the topic Data Status Flags. The Data Flags are not normally shown in **VisualArchive**.



The Project Tree shows the VisualSoft data that is stored on the selected Offline disk drive. The disk drive can be chosen using the drop-down list at the top of the Project Tree.

Many data management functions can be accessed by right-clicking in the Project Tree window.

Each [Project](#)^[15], [Sub-Project](#)^[23] and [Dataset](#)^[23] has status information which is shown using the icons in the Project Tree.

Each Dataset shows the following information:

- Local date and time when the video and data files were recorded.
- The duration of the video and data recorded in the Dataset.
- The KP limits of the data in the Dataset, with an arrow indicating whether the survey ran in ascending or descending KP direction.

Each Project or Sub-Project can have Comments added to its properties. These are used to save any extra information that you think might be useful for your colleagues or clients.

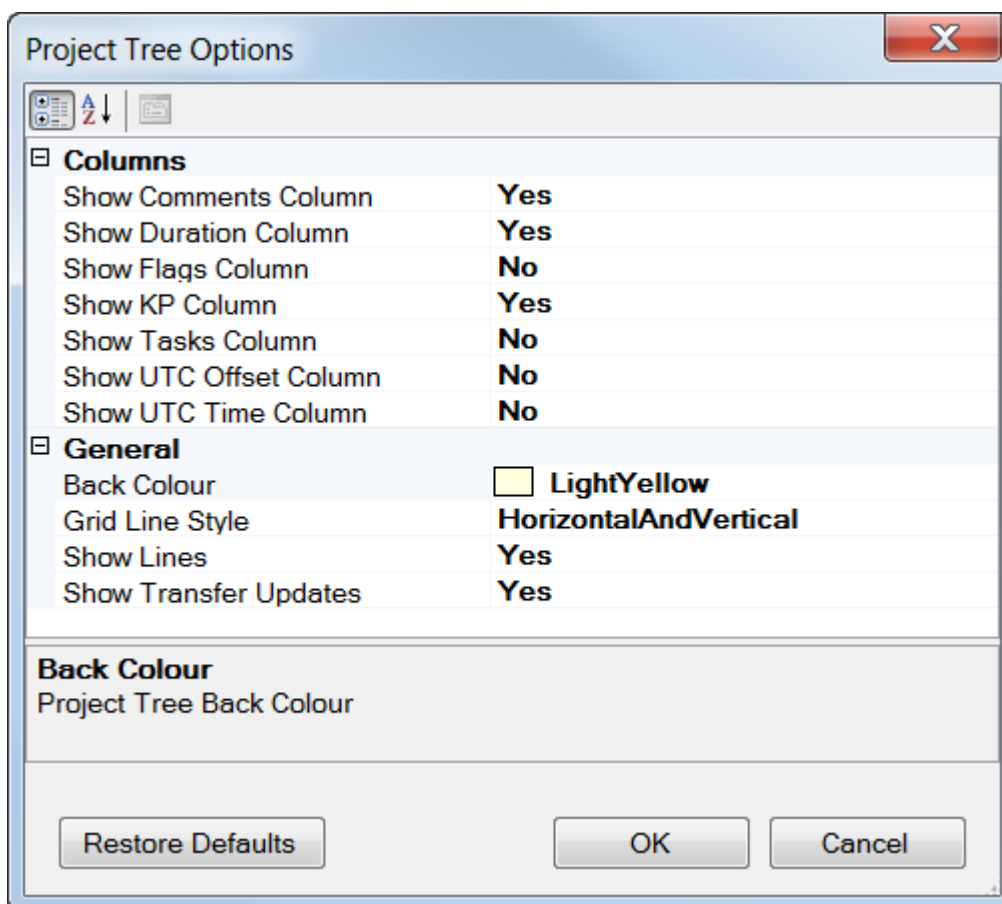
Project Tree Status Bar

The Status Bar at the bottom of the Project Tree shows you whether or not the filter is turned on, and also shows the progress if the Project Tree is being refreshed.

1.5.1 Project Tree Display Options

The Project Tree usually has a pale yellow background, and faint grey lines separating the rows and columns. You can change these colours or hide the grid lines completely, and you can turn individual columns such as "KP" on or off. To do this, right-click in the background area of the Project Tree (not on a Project or Dataset), and select Options from the pop-up menu.

This will open the window shown below. You can click on each setting to make changes. Which columns are shown as defaults is slightly different in VisualEdit, VisualReview and VisualArchive. To return to the default settings for the current application, click the Restore Defaults button at the bottom of the window.






1.5.2 Projects

Projects are at the top level of the tree structure and can be used for either an individual pipeline or for a wider survey area which will contain a number of pipe surveys or structural surveys. The Project root directory also defines a Backup Media Set: this indicates that all surveys within a root Project will be archived to the same Backup Media Set i.e. a series of tapes with a common tape name prefix e.g. Project1....the first tape of this set will be numbered Project1001A, the second tape Project1002A etc. You can always view the Backup Media Sets and the individual contents of a tape in the Archives and Backups tab.

Project Status Icons

The status of each Project (or Sub-Project) is indicated by one of the following icons:

	Online: Logging & Editing	This project may be selected for logging by VisualDVR .
	Offline: Editing Only	This project cannot be selected for logging.
	Closed: Read Only	<p>This project cannot be selected for logging. The Project has been marked by the users as closed.</p> <p>Note that the data may still be edited – the Read Only status is advisory, and is not enforced by the software.</p>

Project Properties

VisualSoft Projects have many properties that allow you to configure where the raw data should come from, where and how things are backed up, and for structural inspection – how data should be linked to a 3D drawing.

In the image below you can click to find information about specific properties, or you can look through the list below the image.

Project Properties

Project Name: 16in-As-Trenched
 Unique ID: CC2E46E8-A078-4E38-BC1A-EFDDA88A7016
 Created: 09 Mar 2007, 12:41:16
 Survey ID:
 Comments:
 Status: ☒ Closed: read only
☒ Maintain Log of Processing Operations
☐ Use SITRAS Convention to Broadcast DataSet ID's

Linked Drawing Settings
 Linked Drawing:
 Page:
 Linked View: ☐
 Component Type:
 Component ID:
 Task List:
 Event Linking Project Linking

Alternative Path for Video:
 Survey Data Source
 Source: VisualDataLogger file ☒ Apply root project Survey Data Source settings to all sub projects.
 Database:
 Backups
☒ Backup To:-
☐ Do not backup
☐ 48 hr black-box

Backup Device ID	Media No	Start Time	End Time
<input checked="" type="checkbox"/> A	1		
<input checked="" type="checkbox"/> B	1		

Media Label Prefix: 1022-03-
 Default Units... OK Cancel Apply

Project Name

A Project name is used to describe and identify the Project. It will typically include a Project number and the name of the pipeline or structure being surveyed. It should be kept as brief as possible.

Allowable characters are [0–9], [a–z], [A–Z], and hyphens or underscores. Spaces, quotation marks and other punctuation are not allowed.

Examples:

1234_12in_Gas_Export

5379-123_Platform_A3

Keep it brief:

Each VisualSoft Project exists as a folder on a hard disk. That folder has the same name as the Project. The Project folder lives inside X:\VisualWorks\Projects\ where X can be any disk drive.

Each Sub-Project is a also a folder on a hard disk. That folder has the same name as the Sub-Project.

Inside Projects and Sub-Projects there will be datasets. Each dataset folder has a name in the form DATA_YYYYMMDDhhmmsssttt (i.e. the date and time of logging).

Inside each dataset folder there will be video and data files, e.g.:
YYYYMMDDhhmmsssttt@PortCamera.asf

Windows allows a total of 255 characters all the way from the drive letter to the suffix of a file name, so you need to make sure that there are not too many levels of Sub-Project and that the names are kept short. If the Project name is "Inspection" then you don't need to specify Inspection in its Sub-Projects. If the whole Project has the pipeline name, then you don't need the pipeline name in the Sub-Projects... and so on.

Unique ID

Each Project that you create is automatically given a "Unique ID". This cannot be changed.

The Unique ID is a way for the software to link backup tapes and disks to the Project they came from – even if the Project Name is changed for some reason. They are also used by VisualArchive to tell whether or not two Projects that have the same name are or are not actually the same thing, for example if two different ships each work on different 10 inch Gas Pipelines and both send their data to the same office.

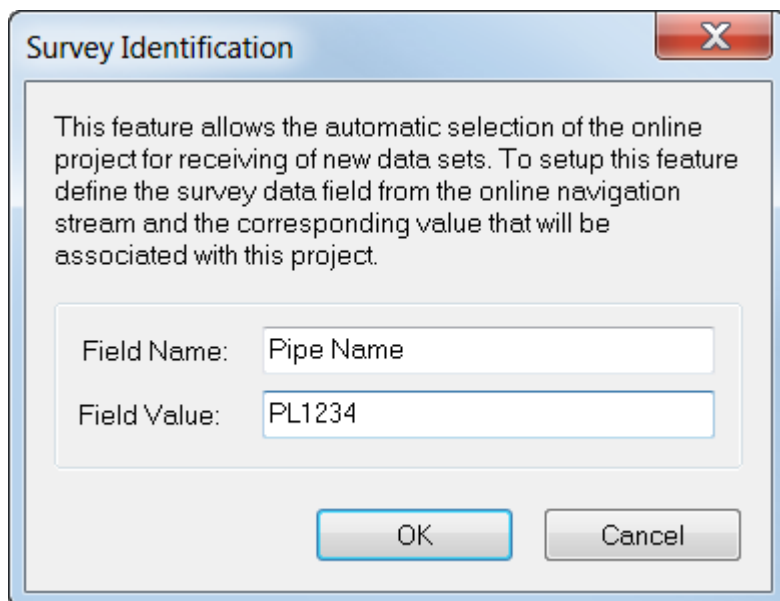
Creation Time

Each Project that you create is automatically tagged with the date and time of its creation. This cannot be changed.

It can be used to help you identify data if the Project name is not sufficient or has been changed.

Survey ID

The Survey ID is not often used, but is available if you want an automated way of sending video and data to a particular project. In VisualDVR you can receive a data string from your online navigation software. Typically this includes the position information for the ROV so that it can be used in the overlay. If you also include a column for "Pipe Name", or "Route File Name" (or something similar) you can then use the data in that column to match to the Survey ID of a Project so that it is the data itself that "tells" VisualArchive which Project to use. In the example below if the text "PL1234" appears in the column named "Pipe Name" of the survey data received by VisualDVR, then VisualArchive will place the video and associated data into this Project.






Comments

The Comments allows you to add any notes that you think might be useful. You may want to add a note for colleagues in the office to help them understand what the data is, or you may want to put a more detailed version of the pipeline or project name than is possible in the short space available for the Project Name.

Project Status

The Status of each Project (or Sub-Project) is indicated by one of the following icons:

	Online: Logging & Editing	This project can be selected for logging by VisualDVR . Only the Online Projects are sent to VisualDVR when the user presses F5 in VisualDVR to "Get Projects from VisualArchive".
	Offline: Editing Only	This project cannot be selected for logging.
	Closed: Read Only	This Project cannot be selected for logging. The Project has been marked by the users as closed. This is usually done by the Data Processing team when they have finished their work. (Note that the data may still be edited – the Read Only status is for information purposes only and is not enforced by the software.)

Alternative Path for Video

Most companies, in most circumstances, should not need to use this setting, and SHOULD LEAVE IT BLANK.

The "Alternative Path for Video" is designed for use by very big companies like Shell which have extremely large archives of data and wish to separate the video files from all other types of data. If you are required to do this you will need to have two separate disk drives with identical directory trees – one of them containing video files inside the dataset folders and one of them with the other survey data files. After you have put your data and video into these two separate but identical folder structures you should select the path for the video here, and select the disk with the survey data in the normal Project Tree disk selector.

Automated Data Import

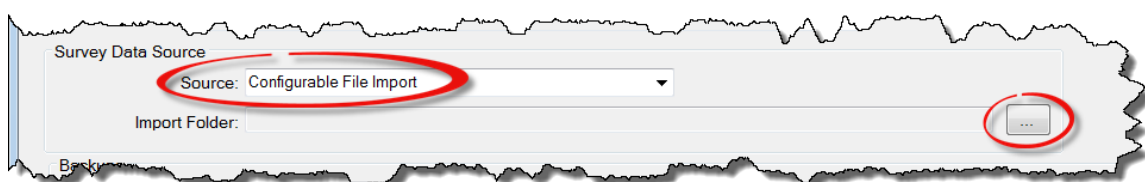
A VisualSoft Project can use survey data logged by VisualSoft's own VisualDataLogger application, or it can use data imported from other logging and processing systems.

In VisualArchive you can configure a Project to use data from any one of the following **Survey Data Sources**:

- **VisualDataLogger files**
- **Configurable File Import** of data files exported from QPS's QINSy. For more details see [Configurable File Import](#)^[19].
- **Configurable File Import** of Equinor's SITRAS data files which can be exported from many processing systems including Eiva's NaviModel or NaviEdit, and QPS's QINSy. For more details see [Configurable File Import](#)^[19].
- **Database** import from 3rd Party relational databases. This has been used in the past and may be used in the future, but is currently disabled. If you would like to use this option, please contact our [sales](#)^[107] or [support](#)^[106] teams to discuss this.


Configurable File Import

The Configurable File Import in VisualArchive currently supports data files from QPS's QINSy or Equinor's SITRAS data files. In the Project properties you can specify a data format and a location for that data. When VisualSoft Datasets are loaded in VisualEdit, the files in the Configurable Import Location are then searched to see if they contain data with times matching the Datasets being loaded. Matching data will be imported automatically, converting it to a VisualSoft format.



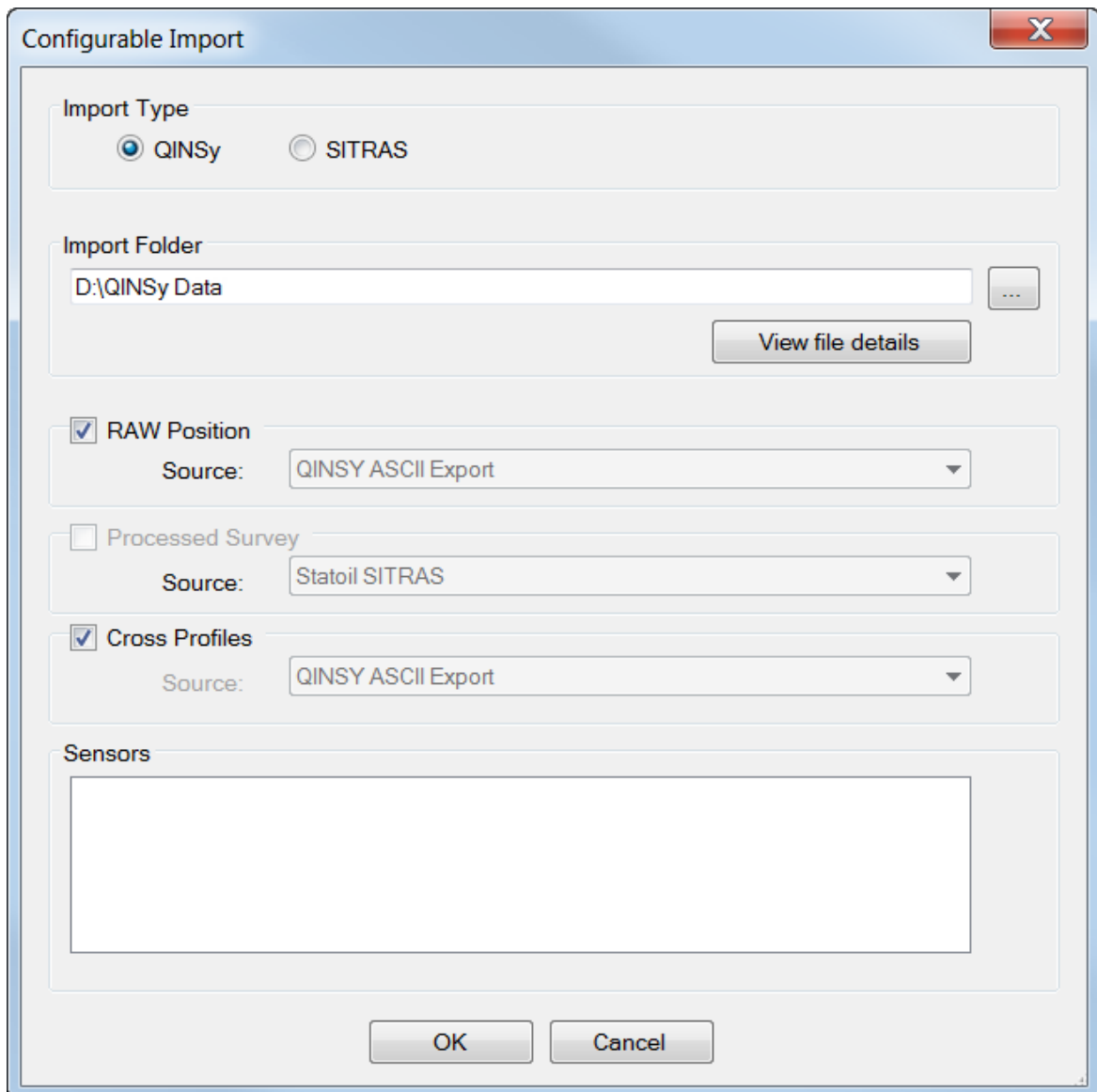
To use the Configurable File Import for a VisualSoft Project, open that Project's properties and then select Configurable File Import in the drop down list of supported Survey Data Sources.

Next, click on the browse button  to open the more detailed configuration window.

Select either QINSy or SITRAS as the type of file to be imported, and then use the small browse button  to locate the folder where these files will be placed. VisualArchive will then monitor this folder for any new files. To view the details of any files already in the selected folder, click on the button labelled "View file details".

If the selected data type is QINSy, you can import Raw Position data and/or Cross-Profiles (which may be mechanical profiler data or multibeam echo-sounder data), and/or Sensor data from equipment such as motion sensors or pipe-trackers. Choose which types you want to import by selecting from the displayed options.

If the selected data type is SITRAS, you can import Processed position data and/or Cross-Profiles, and/or Sensor data from equipment such pipe-trackers. Choose which types you want to import by selecting from the displayed options.



The image shows a 'Configurable Import' dialog box with a title bar containing a close button (X). The dialog is divided into several sections:

- Import Type:** Two radio buttons are present: 'QINSy' (selected) and 'SITRAS'.
- Import Folder:** A text field contains 'D:\QINSy Data'. To the right is a button with three dots (...). Below the text field is a 'View file details' button.
- RAW Position:** A checked checkbox is followed by a 'Source:' label and a dropdown menu showing 'QINSY ASCII Export'.
- Processed Survey:** An unchecked checkbox is followed by a 'Source:' label and a dropdown menu showing 'Statoil SITRAS'.
- Cross Profiles:** A checked checkbox is followed by a 'Source:' label and a dropdown menu showing 'QINSY ASCII Export'.
- Sensors:** A large, empty rectangular text area.

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

Project Backup Options

Each VisualSoft Project has its own specific backup settings. It is up to you whether or not you want all Projects to backup in the same way to the same devices, or to each use different devices and different options.

There are three main backup options:

1. **Backup to** a list of devices that you select. This is the option that we recommend! It is explained in detail in the help and User Manual for VisualArchive.
2. **Do not backup** at all. We do NOT recommend this. It might occasionally be the right thing to do, but please be careful: If you are not 100% sure what to do, make a backup.




3. **48 Hour Black-Box.** This keeps the files on the offline disk drive for 48 hours, and then automatically deletes them. This might be useful if you don't really expect to need the data, but would like a bit of time to decide. Remember that you can always change the Project to use a normal backup and time during the first 48 hours, before anything gets deleted.

1.5.3 Sub-Projects

Projects can contain one or more Sub-Projects. All Sub-Projects are archived to the same backup media set as the root project. Therefore, if you require a Project to have its own set of backups it must be created as a top level, or "root" Project, and not as a Sub-Project. However, if you have a job consisting of several small tasks then it may be more efficient to group the small project tasks under one main Project representing the whole job. This can make data administration much simpler.

Sub-Project Status Icons

The status of each Sub-Project is inherited from its parent Project and can only be changed by changing the status of the parent Project. The status is indicated by one of the following icons:



	Online: Logging & Editing	This project may be selected for logging by VisualDVR .
	Offline: Editing Only	This project cannot be selected for logging.
	Closed: Read Only	<p>This project cannot be selected for logging. The Project has been marked by the users as closed.</p> <p>Note that the data may still be edited – the Read Only status is advisory, and is not enforced by the software.</p>

1.5.4 Datasets

Datasets are groups of files logged over one continuous, unbroken time period. A Dataset usually has video files and other survey data such as position and sensor data. All of these files will cover the same time period. The video recording and data logging applications are designed to create a new Dataset at a fixed time interval, usually every 30 minutes but you can change to shorter times if you wish. If you do not stop recording before this time limit is reached the recording and logging will automatically switch to new files at the time limit. In this case there will be no gap between the end of one the files in one Dataset and the start of the files in the next Dataset. In other cases where you manually stop recording and logging, and then start again later there can be gaps between Datasets.

Dataset Limits

Each Dataset shows the following information in the Project Tree:

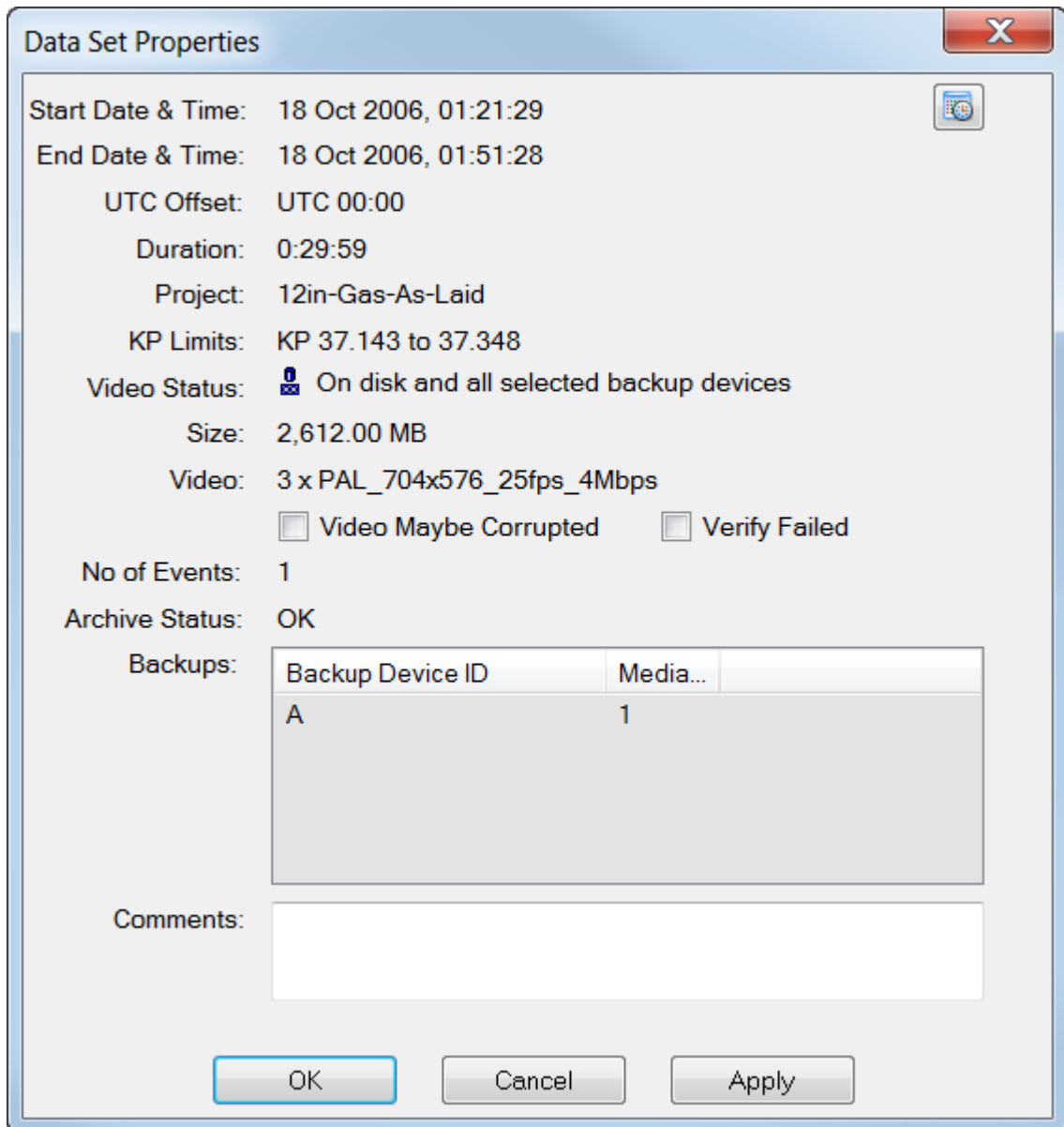
- Local date and time when the video and data files were recorded.
- The duration of the video and data recorded in the Dataset.
- The KP limits of the data in the Dataset, with an arrow indicating whether the survey ran in ascending  or descending  KP direction.

See also: [Dataset Properties](#) ²⁴.


Dataset Properties

To display the properties of a Dataset right-click on the Dataset and select Properties from the pop-up menu.

To change the Start Date & Time, UTC Offset or Duration of a dataset click on the  button to the right of the Start Date & Time



The 'Data Set Properties' dialog box displays the following information:


- Start Date & Time:** 18 Oct 2006, 01:21:29 (with a clock icon button to the right)
- End Date & Time:** 18 Oct 2006, 01:51:28
- UTC Offset:** UTC 00:00
- Duration:** 0:29:59
- Project:** 12in-Gas-As-Laid
- KP Limits:** KP 37.143 to 37.348
- Video Status:**  On disk and all selected backup devices
- Size:** 2,612.00 MB
- Video:** 3 x PAL_704x576_25fps_4Mbps
- ☐ Video Maybe Corrupted ☐ Verify Failed
- No of Events:** 1
- Archive Status:** OK
- Backups:**

Backup Device ID	Media...
A	1
- Comments:**

Buttons at the bottom: OK, Cancel, Apply.

Dataset Start Time

The start time of the Dataset is displayed in this window as local time.

To change the time or to adjust the time offset between UTC and local time, click on the  button to the right of the time and date.

The time can be set manually, or you can use the option to make it match the logged Raw Survey data (which is the Survey Data sent from your navigation software to the


VisualDVR video recorder during the recording). In normal circumstances the time and date in the Raw Survey data should already match the video and dataset start time, but occasionally things go wrong with the online setup, so you may need to reset the dataset start time.

Dataset End Time

The end time of the dataset is displayed in this window as local time. The end time of the dataset is calculated from the start time plus the duration of the video files.

Dataset Duration

The duration of the dataset is displayed in seconds. When the dataset is created by **VisualArchive**, the duration is set to match the length of the first video file.


To change the duration manually, click on the  button to the right of the time and date.

Dataset UTC Offset

The file and folder names used on the disk drive have the data and time of the saved as a UTC timestamp, but the dates and times that you see in VisualArchive, VisualReview and VisualEdit are usually displayed as "Local Time" so that times are adjusted around the world and as daylight saving settings are applied.

The offset from UTC to the applicable Local Time at the location and season where the data was logged and the video was recorded is saved inside each dataset as part of its properties. This setting is taken from the PCs used to record the data.

Occasionally the PCs used for recording and logging might be set to the wrong timezone, or they might not have the correct daylight saving settings. This can cause the data to be saved with the wrong UTC offset.

The UTC offset of each Dataset is displayed in the [Dataset Properties](#)^[24], and it can be adjusted by clicking on the  button to the right of the time and date in the [Dataset Properties](#)^[24].

The UTC offset can also be displayed in the Project Tree as an extra column by turning it on in the [Project Tree Display Options](#)^[14].

Dataset KPs

The KP limits of the dataset are updated automatically from the **Video Position** data table.






If the **Video Position** table does not exist or is empty, the KP limits will be updated from the **Processed Survey** table.

If **Processed Survey** is also unavailable or empty, the **Raw Survey** data table will be used.

If **Raw Survey** is also unavailable or empty, the KP limits will remain as zero.

Dataset Video Status

The status of the video files within each dataset is indicated as follows:







Icon	Status	Description
	Dataset Locked	While VisualArchive is transferring (i.e. copying) a video from VisualDVR to the offline disk drive it places a lock file to stop VisualEdit and other parts of VisualArchive accessing the dataset too early. When the transfer is complete and checked the lock is removed. If the transfer is interrupted or something goes wrong the lock might be left in place. See Managing Lock Files for more information.
	Video on Disk only	Video files are on VisualArchive 's hard disk. These files have not yet been written to a backup device.
	Video on Disk & Tape	Video files are on VisualArchive 's hard disk, and have also been written to a backup device. Note: These files might still exist on the online hard disk also.
	Video on Tape only	Video files have been written to a backup device, but no longer exist on VisualArchive 's hard disk. Note: These files might still exist on the online hard disk.
	Video missing	Video files are not on VisualArchive 's hard disk, and have not been written to a backup device. Note: These files might still exist on the online hard disk.

To view more detail about a Dataset, see [Dataset Properties](#)^[24].

Data Status Flags

The Data Status flags are usually only displayed in VisualEdit and not in VisualArchive, but you can turn them on using the [Project Tree Display Options](#)¹⁴ if you wish.

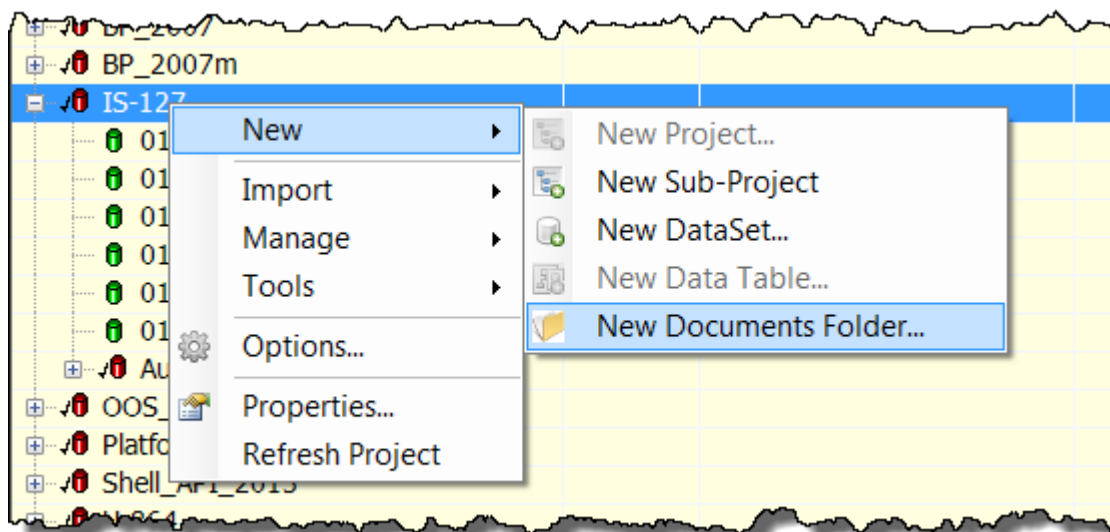
The “Flags” column of the Project Tree displays icons to indicate the status of certain data files in each Dataset.

Icon	Status	Description
	Raw position data	There is data in the Raw Survey data table of this Dataset, but not in the Processed Survey data table.
	Raw profiler / MBE / sensor data	There is raw data from VisualDataLogger in this Dataset, but there are no processed cross-profiles.
	Raw (online) event data	There are events in this dataset which were logged online. None of them has been edited, deleted, moved or added offline.
	Processed position data	There is data in the Processed Survey data table of this Dataset.
	Processed profiler / MBE data	Some or all of the cross-profiles in this Dataset have been processed.
	Processed (offline) event data	Some or all of the events in this dataset have been edited, moved, deleted or added offline.

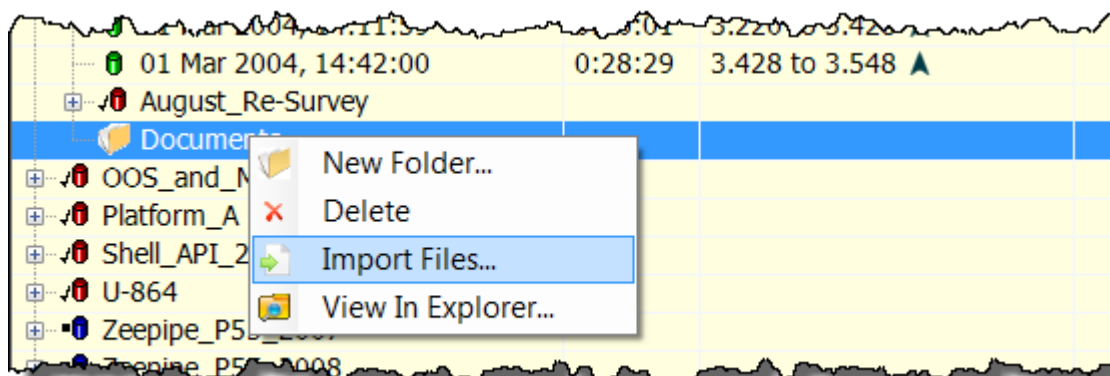
1.5.5 Documents

A VisualSoft Project or Sub-Project can include a Documents folder which you can use to store any type of file that you like. You can use it to store drawings, procedures, or reports inside your VisualSoft Projects. If you right-click or double-click on a file in the Documents folder it will behave exactly the same as if you right-click or double-click on it in Windows Explorer.

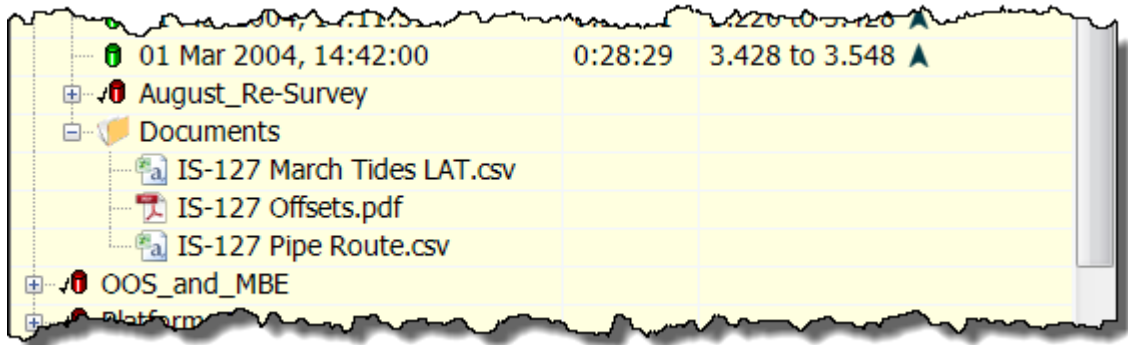
You can create a Documents folder inside any Project or Sub-Project using the right-click menu as shown below.



After you have created a Documents folder you can add files to it, by right-clicking on it to use the Import tool:



The imported files will be shown with the same icons as in Windows Explorer and will behave in the same way when you double-click or right-click on them.

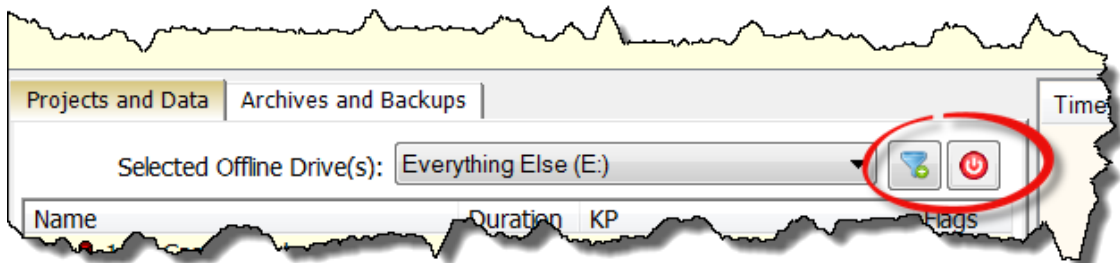


1.5.6 Project Tree Filter

The Project Tree Filter allows you to control which Projects, Sub-Projects or even which Datasets are displayed in the Project Tree. By adjusting the filter settings you can show or hide data based on its start date and time, its recording duration, its KP limits, its online or offline status, or a variety of other properties such as the backup status.

The filter can be configured, with options to save and reload a collection of Named Filters with different settings, and it can be turned on or off.

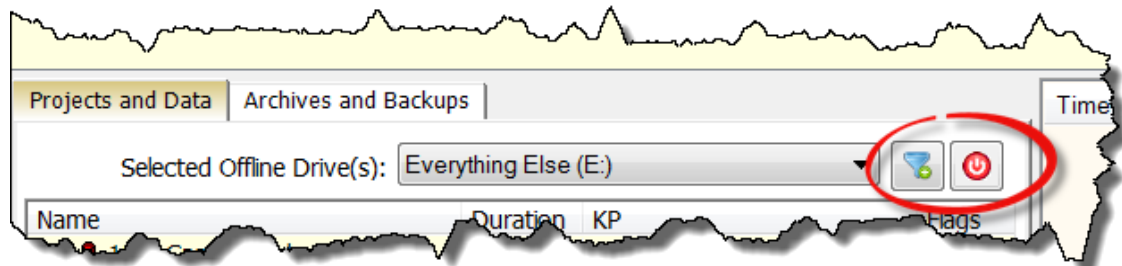
The buttons to [configure the filter](#)^[33], or to [turn it on or off](#)^[34] are shown just to the right of the disk selector at the top of the Project Tree.





Configure Filters

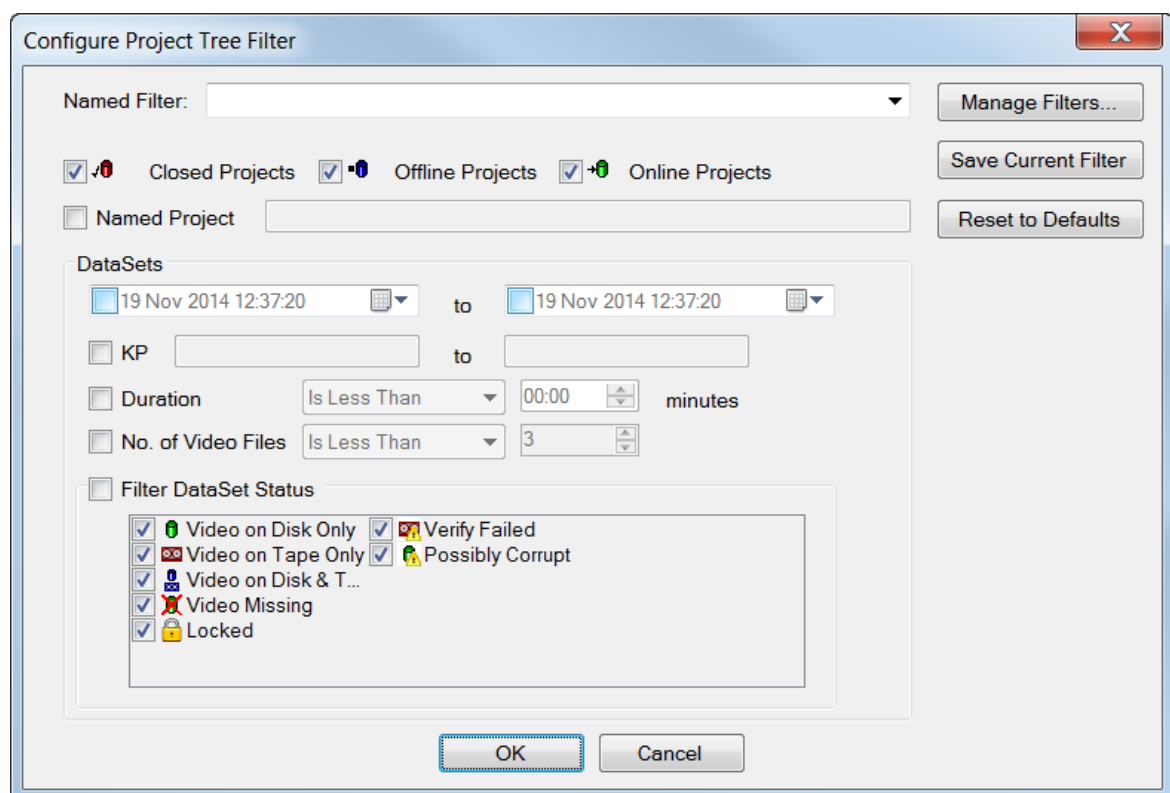
To configure the Project Tree Filters, click on the button at the top of the Project Tree.



This opens a window where you can configure many different types of filter.

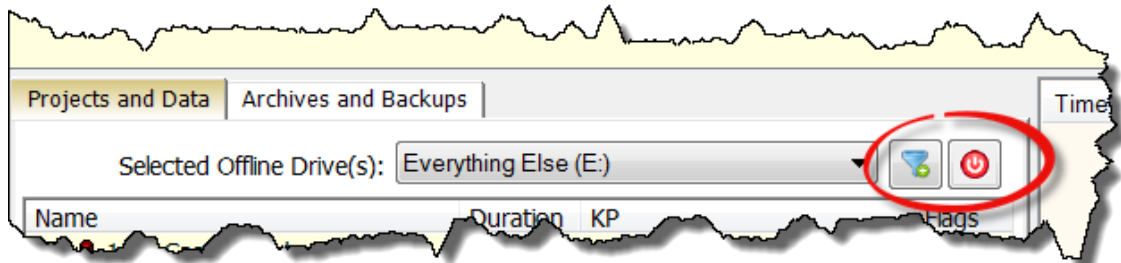
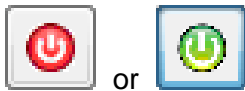
You can filter by Project Status; Closed, Offline or Online, by Project Name, by date and time limits, KP and so on in any combination that you like.


You can save a configured filter so that you can re-use it later. Saved filters can be selected using the drop down list at the top of the window. If you want to delete a saved filter you can do so using "Manage Filters".




Turning Filters On or Off

To turn the Project Tree Filters on or off, click on the button at the top of the Project Tree.



When the filter is Off the button is red , and the text **FILTER:OFF** is shown at the bottom of the Project Tree.

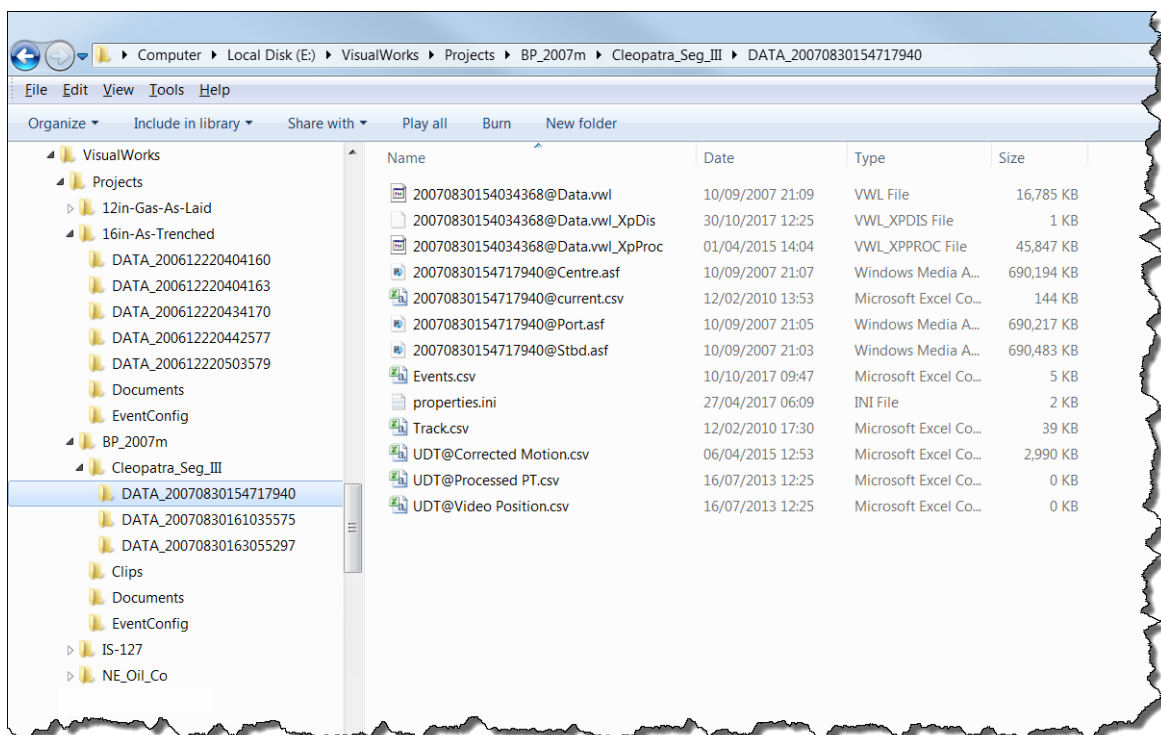
When the filter is On the button is green , and the text **FILTER:ON** is shown at the bottom of the Project Tree.

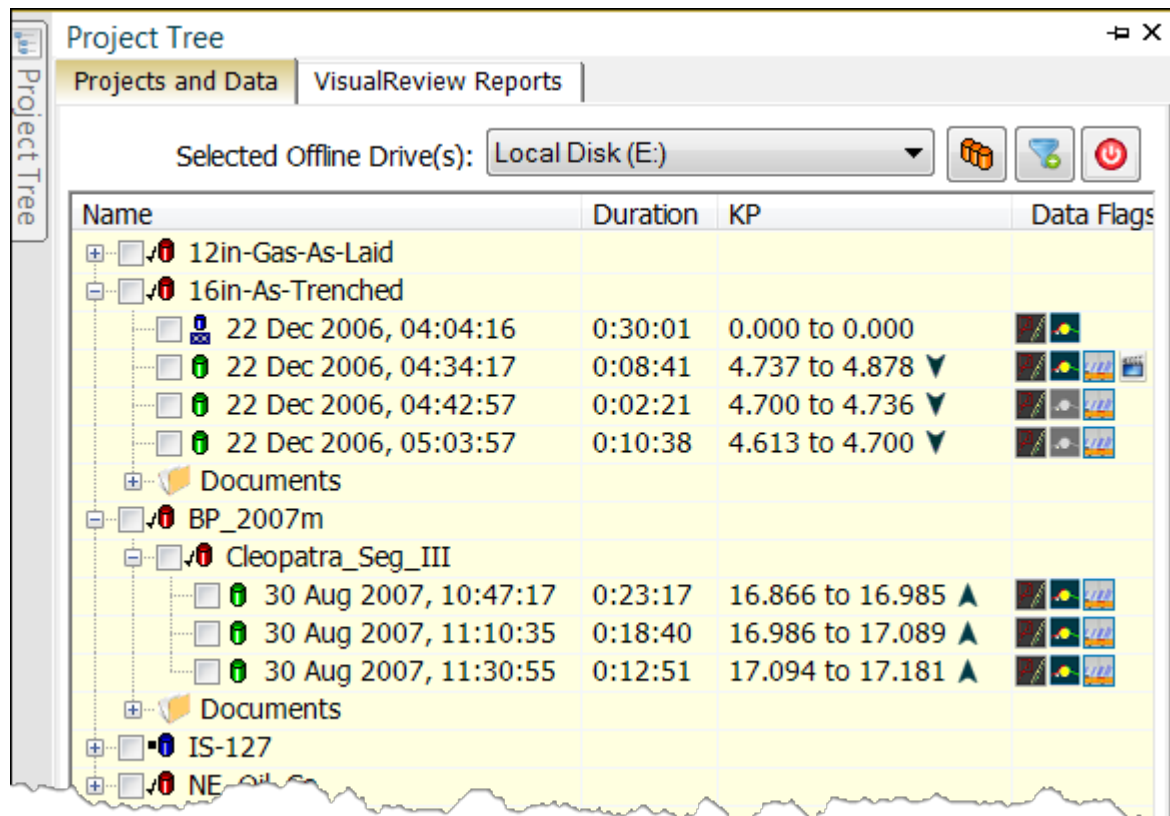
1.6 VisualSoft Files on your Disk

At the top of the Project Tree in VisualEdit, VisualReview and VisualArchive is a drop-down list of available disk drives. When you select one of these drives, the Project Tree will automatically show any data that is inside the \VisualWorks\Projects folder on that disk. For example if you select the D:\ drive, the Project Tree will show any data that is inside D:\VisualWorks\Projects.

Any folders inside the \VisualWorks\Projects folder will be displayed as VisualSoft Projects, and folders inside those, at lower levels, will be shown as Sub-Projects or Datasets. Dataset folders are identified by having names that begin "DATA_" followed by year, month, day, hours, minutes and decimal seconds in the format YYYYMMDDhhmmssttt.

In the images below the same folders are shown as they appear in Explorer and then in VisualEdit. Notice that the folders named EventConfig and Clips are hidden in VisualEdit, and how the Documents folders are shown differently from the Project folders like "12in-Gas-As-Laid". The Project Tree display will work which folders contain data and which are for configuration settings or saved video stills and clips and then display them or hide them accordingly.





1.7 The Ribbon Toolbars

Both editions of **VisualReview** use a Ribbon Toolbar to allow you to access most of the tools and functions of the application. The picture below shows the Layout ribbon for **VisualReview**, with other tabs available to the right with tools for data Import, and application Options and Help.



If you have a licence for **VisualReview Professional**, there will also be ribbons for Export and Reports, allowing you to create listings and other reports of the data that you load into VisualReview Professional.



1.7.1 Button Styles and their Meanings



Button Names

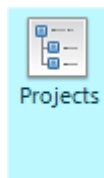
Each button has a name underneath it to help describe what it does. Most buttons have fixed names, representing particular functions or view windows. The Video window buttons have names which change as data is loaded.

Open or Closed View Windows

Some of the buttons on the Layout ribbon are used to open and close the various display windows available in VisualEdit. The buttons show which windows are open or closed, by changing the background colour of the button:



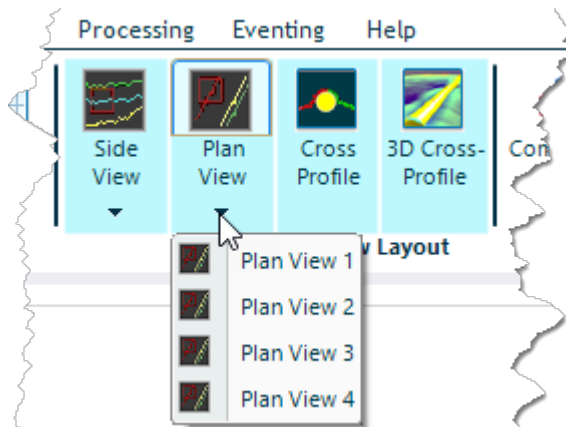
Buttons with a white background indicate a closed window. Click the button to open the window.



Buttons with a blue background indicate an open window. Click the button to close the window.

Buttons with Sub-Buttons

Some buttons have extra sub-buttons available, which are indicated by small arrows pointing downwards at the bottom edge of the button. These extra sub-buttons pop up when you click in the lower half of the main button, i.e. on the text not the picture. If you click on the top half of the button, the main picture icon, this performs the main action. In the example below the top half of the button opens or closes the main Plan View window, and the lower half pops-up buttons to open or close extra pop-up plan view windows.



Text-Only Buttons

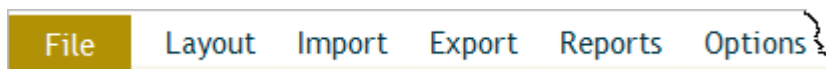
Some of the buttons, especially on the Import and Export ribbons do not have picture icons, only text. These work in exactly the same way as other buttons. They are used instead of more traditional menus because they make it easier for you to see what functions and options are available. There may be features that you didn't know about and which you would probably never find if they were hidden away in traditional menus.

1.7.2 Show or Hide the Ribbon Toolbars

To hide the ribbon, and the application name, click on the small up arrow in the circle at the top right corner.



If the ribbon is hidden and you want to show it briefly to access a specific item, click on the name of the ribbon that you want.



If the ribbon is hidden and you want to show it permanently, click on the small down arrow in the circle at the top right corner.



1.7.3 The Layout Ribbon

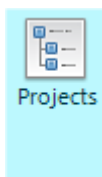


A "Layout" controls which of the display windows are open or closed, where they are positioned on the screen, and how they are configured. A Layout controls **how** the data is displayed, not **what** data is displayed. The buttons on the Layout Ribbon are used to open and close the many different types of display window. The Layout configuration can be saved to a VEDX file, and you can save different Layout files for different purposes, each with different windows open or closed and each with different sizes and positions for the windows.




Projects


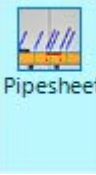

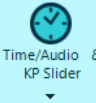



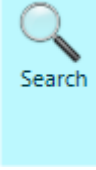
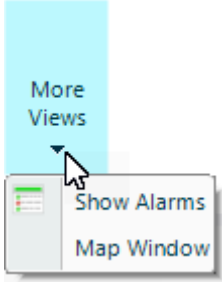
Buttons with a white background indicate a closed window. Click the button to open the window.



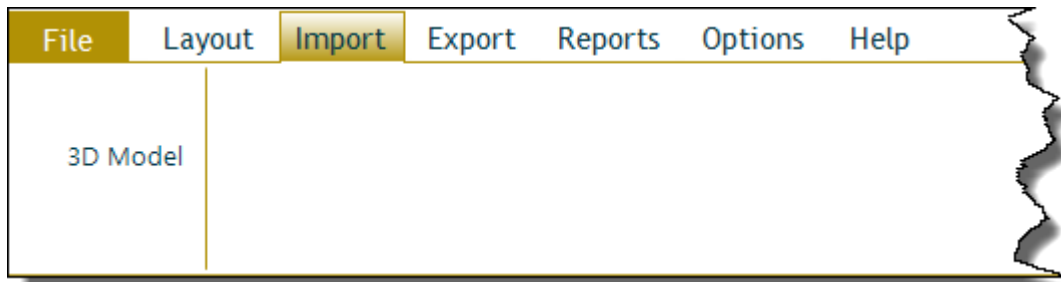
Buttons with a yellow background indicate an open window. Click the button to close the window.

Buttons	Function
  Save  Save As  Default ▼	At the left of the Layout Ribbon you will find a group of buttons to open and save Layout ^[95] files, and also a drop-down list of pre-defined default Layouts designed for different purposes.
 Video Panel  Video Panel	Open or close the Video Panel ^[53]
 Projects  Projects	Open or close the Project Tree ^[12]
 Survey Data  Survey Data	Open or close the Survey Data Lists ^[75]
 Events  Events	Open or close the Event List ^[79]
 QC  QC	Open or close the QC Table ^[81]

Buttons		Function
 Side View ⁸³	 Side View ⁸³	Open or close the Side View ⁸³
 Plan View ⁸³	 Plan View ⁸³	Open or close the Plan View ⁸³
 Cross Profile	 Cross Profile	Open or close the Cross-Profile View ⁸⁵
 3D Cross-Profile	 3D Cross-Profile	Open or close the 3D Cross-Profile View ⁸⁵
 Components	 Components List	Open or close the Components List ⁹⁰
 Linked Document	 Linked Document	Open or close the Linked Document View ⁹⁰
 Drawings List	 Drawings List	Open or close the Drawings List ⁹⁰

Buttons		Function
 Pipesheet	 Pipesheet	Open or close the Pipesheet View ⁸⁶
 Time/Audio & KP Slider	 Time/Audio & KP Slider	Open or close the Time and KP Slider Bar
 Time Control	 Time Control	Open or close the Time Control (HH:MM:SS clock)
 Search	 Search	Open or close the Search Tool
 More Views Show Alarms Map Window		Open or close the Alarm Window or the Map Window

1.7.4 The Import Ribbon



The Import ribbon in **VisualReview** has only one option, which allows you to import a 3D structure drawing (model) in **AutoCAD 3D DWF** file format into a VisualSoft Project. Other data types can be imported using **VisualEdit** which has many more options on the Import Ribbon.

1.7.5 The Export Ribbon

This ribbon is only displayed if you have a licence for **VisualReview Professional**, or **VisualEdit Eventing/Professional**.



Group	Button	Function
ASCII	ASCII	Configure, save and run a powerful ASCII export allowing you to create a listing combining data columns from one or more data tables, sorted by time or KP, with options for data interval and formatting. See Configurable ASCII Export ⁹⁹ .
Cross-Profiles	Exxon Mobil Depths	Export cross-profile data in a format specified by ExxonMobil. See ExxonMobil Depths.
Cross-Profiles	Saipem Depths	Export cross-profile data in a format specified by Saipem. See Saipem Depths.
Cross-Profiles	Pisys	This button has two options, V1 and Processed each exporting a different file format specified by Pisys. See Pisys Format V1 and Pisys Processed (TPDS).
Cross-Profiles	CSV	Export data in the VisualSoft Cross-Profile CSV File Format
Cross-Profiles	DXF	Export Cross-Profile data to a series of AutoCAD DXF files. See Cross-Profile DXF.
Track	CSV	Export the Processed Survey data table to a CSV file, maintaining the same formatting and columns that are seen in VisualEdit .
Track	UKOOA P5/94	Export the Processed Survey data table in the P5/94 format as defined by UKOOA (United

Group	Button	Function
		Kingdom Offshore Operators Association) and now available via the International Association of Oil & Gas Producers (IOGP).
Track	GPS Exchange (GPX)	Export the Processed Survey data table in GPS Exchange (GPX) format. The GPX file can be displayed in GIS or other applications and it can be used as a source for adding position data to the EXIF header of JPEG image grabs.
Events	CSV	Export the Events data table to a CSV file, maintaining the same formatting and columns that are seen in VisualEdit .
Summaries	Snamprogetti Index	Export a list of videos in a format defined by Snamprogetti. Used for TMPC and some other pipeline inspection jobs.
Summaries	SeaGIS Index	Export a list of videos in a format defined by Snamprogetti for use in their GIS. Used for inspection of pipelines between Sicily and mainland Italy – i.e. the Messina Straits extensions of the TMPC pipelines.
Summaries	Video File Index	A configurable list of video files and their locations.
Summaries	Project	A list of all datasets with information about backup status.
Summaries	Project QC	A list of all datasets with information about any gaps (time or distance) in each of the main data tables.
Video	JPG EXIF Geotagging	Add EXIF position and time data to previously exported JPEG files.

1.7.6 The Reports Ribbon

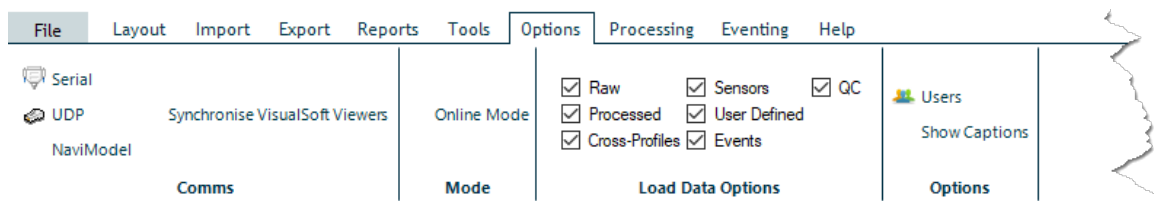
This ribbon is only displayed if you have a **VisualReview Professional** licence.

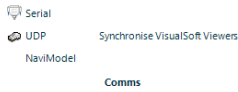
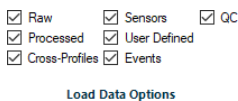
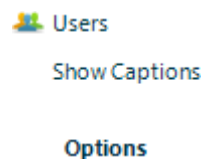


Most report types are only available in VisualEdit. The only exception is Shell Video Metadata which is available in VisualEdit Professional.

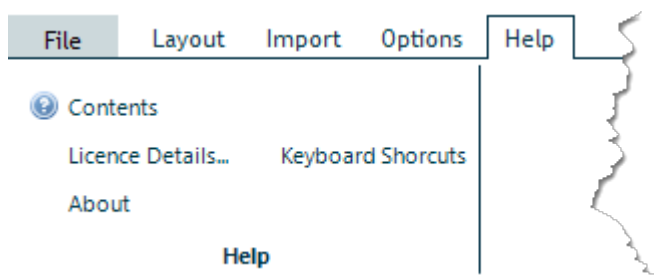
The "Shell Video Metadata" report provides information about video files of pipeline and structure surveys and is used internally by Shell to generate a CSV with data which is then used in a spreadsheet.

1.7.7 The Options Ribbon



Buttons	Function
	<p>At the left of the Options Ribbon you will find buttons to setup communication with other applications.</p> <p>The UDP option will configure a port to which API commands may be sent.</p> <p>The NaviModel option allows you to synchronise the 3D display of Eiva's NaviModel to the video playback in VisualEdit.</p> <p>You can also synchronise the displays of more than one VisualSoft Viewer (VisualEdit and/or VisualReview).</p>
<p>Online Mode</p> <p>Mode</p>	<p>Online mode allows the display of video streamed live from the online recorders.</p> <p>This should be used with caution because the online streaming in current versions of VisualDVR can cause problems for the online recording.</p>
	<p>The Load Data Options ⁵² let you control which types of data should be loaded when you select a dataset for loading using the Project Tree. If you have large amounts of data that you do not need for your current task, you can turn it off so that the remaining data loads faster.</p>
	<p>Users let's you keep track of who edited what data in VisualEdit Eventing and VisualEdit Professional.</p> <p>Show Captions will turn on (or off) the title bars of each window. These title bars can be used to drag and drop the windows if you want to rearrange them. See Moving a Window ⁹⁶.</p>

1.7.8 The Help Ribbon



Select Contents to open the Help file, which has details of all VisualSoft applications.

Select Licence Details to open the Licences tab of the VisualSoft Admin Panel.

Select About to see details of this software application and its version number.

Select Keyboard Shortcuts to see a list of useful shortcuts for video playback and other commonly used operations.

1.8 Loading Video & Data

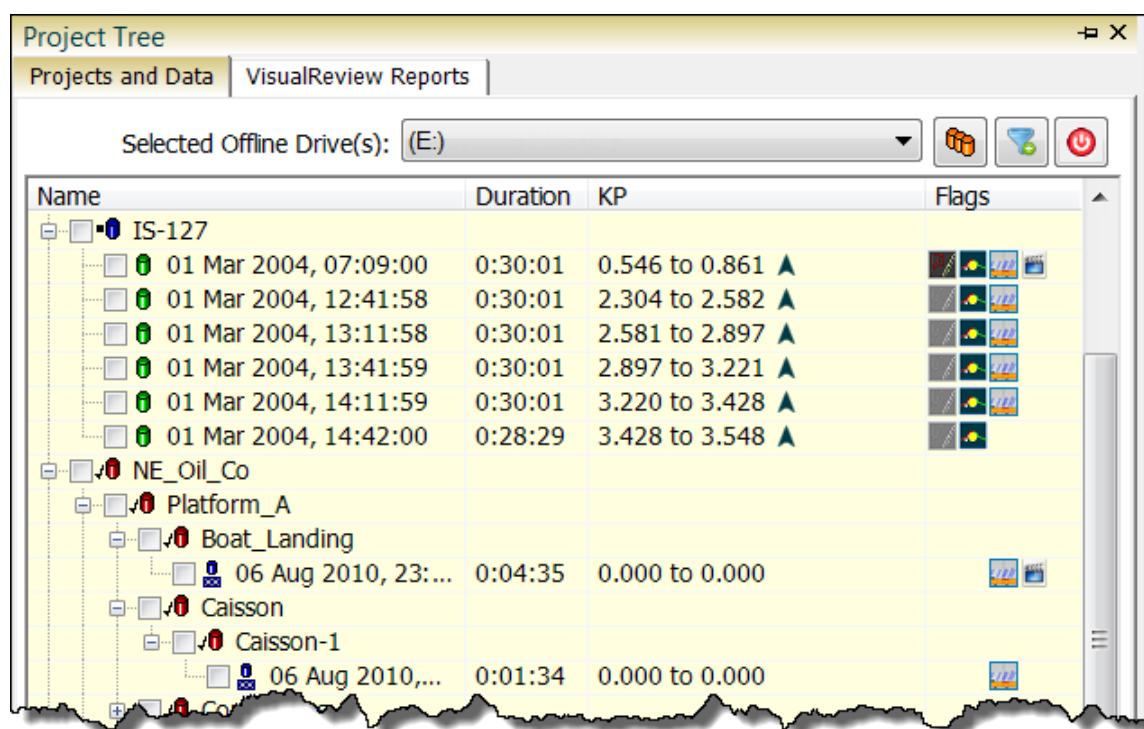
Video files and other data types can be loaded for display in **VisualEdit** or **VisualReview** using the Project Tree.



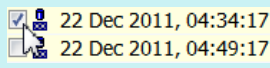
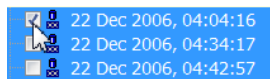
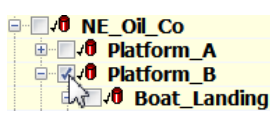
Place the mouse cursor over the Project Tree tab on the top left edge of the screen, and the Project Tree window will slide out from the edge of the screen.

To select and load data for playback, click in the boxes of the Project Tree. You can select one or more datasets, or entire Projects or Sub-Projects depending where you click.

If you do not want to load all of the different data types within each dataset, you can select what should or should not be loaded by using the [Load Data Options](#) ⁵² which can be opened using the Tools section of the Project Tree's right-click menu.



Branches of the tree may be expanded using the + signs shown beside each Project or Sub-Project. Data is then loaded by clicking the mouse in one or more “check box” to the left of a Dataset, Sub-Project or Project as described below.

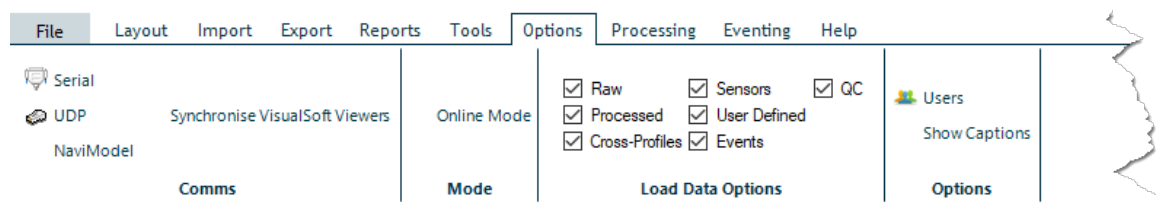
One Dataset		To load video and survey data from just one Dataset, simply click the mouse in the “check box” to the left of the Dataset.
Multiple Datasets		To load more than one Dataset, left click on the first dataset, then hold down the Shift button and click on last required Dataset. This will highlight the selected Datasets in blue. You can then click on any <u>one</u> of the highlighted check-boxes to load <u>all</u> of the selected data.
Entire Projects or Sub-Projects		To load an entire Project or Sub-Project click on the check-box for that Project or Sub-Project. This will load the video and data for all lower levels of the hierarchy contained within the selected Project or Sub-Project.

If the window is blank or does not show the Projects that you expect, check that the window is showing the correct disk drive at the top, and change it if necessary.

The Project Tree window will auto-hide after a project is selected and data is loaded. This can be changed if you want the Project Tree to remain visible at all times. To do so, go to the Options tab on the main ribbon, and enable Captions. Then click the small pin at the top right corner of the Project Tree.

1.8.1 Load Data Options

The different options for loading data are shown on the Options ribbon. These choices will remain in force until you close and re-start the application.



Each Dataset in a VisualSoft Project can contain many different types of data in addition to the video files.

These data types are as follows:

Data Type	Data Table Name	Description
Raw	Raw Survey	"Survey Data" as logged by VisualDVR. Typically holds raw position data for an ROV or other survey platform.
Processed	Processed Survey	The Processed Survey table is created during data processing using VisualEdit Professional or it can be used to hold imported data from another processing system.
Cross-Profiles	X-Profiles	Raw or processed cross-profiles from from Multi-Beam Echo-sounders like Reson or R2Sonic, or from mechanical profilers like Tritech SeaKing.
Sensors	(Varies)	These tables hold raw data logged by VisualData Logger. They are not normally displayed in VisualReview but can be enabled here if needed.
User Defined	(Varies)	Tables created by the data processors to hold specific types of edited data or data for specific offset locations. Also includes the pre-defined "Video Position" and "Processed PT" (pipetracker) data tables.
Events	Events	Event data logged online, or logged and/or edited offline.
QC Data	QC	A list of QC warnings and suggestions generated by various QC scripts in VisualEdit Eventing or VisualEdit

		Professional.
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1.9 The Video Panel



The Video Panel is a special window which can contain one or more video playback windows. It is opened and closed using the Video Panel button on the Layout ribbon. The Video Panel has its own toolbars to control the playback and display of the videos. Each of the individual video windows also has its own toolbar which you can use to control video display settings, to make video clips and still images, and to turn audio playback on or off. The function of the Video Window toolbar buttons are described in the section called [Playing Videos](#)^[53].

1.10 Playing Videos

Before you can play video files you must first [load them](#)^[50] into the application. The video files are contained in Datasets, along with their associated position data, events and other survey or inspection information. To load Datasets see [Loading Video & Data](#)^[50].













After the video and data has been loaded you will usually see the start of each video file displayed in the video windows. Each camera has its own window which is usually docked or tiled inside a "Video Panel".



If none of the video windows is visible, turn on the Video Panel using the button on the main Layout Ribbon at the top of the screen.

1.10.1 Video Playback: Buttons

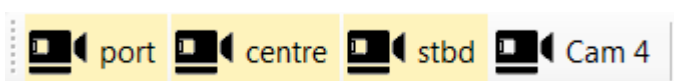
Button	Function
	Grab a still image
	Start and end a video clip
	Audio is currently on or off. Click the button to toggle on or off.
	Return to the start of the current video and Play.
	Step Back by a fixed time. (Configured in Video Settings ^[64] .)
	Rewind. (Speed configured in Video Settings ^[64] .)
	Play (at currently selected speed).
	Pause. Displayed only when video is playing.
	Fast Forward. (Speed configured in Video Settings ^[64] .)
	Step Forward by a fixed time. (Configured in Video Settings ^[64] .)

1.10.2 Video Playback: Keyboard Short-Cuts

Key	Function
Space Bar, Tab, or End	Toggle between Play and Pause
1, 2, 3, ..., 9, 0 at top of keyboard	Play or Fast Forward at speed indicated by selected number. Use 0 for 10x.

Key	Function
1, 2, 3, ..., 9, 0 on numeric keypad	Rewind at speed indicated by selected number. Use 0 for 10x.
Left arrow Down arrow	Slowdown during playback, or step back if paused. (Configured in Videos Settings ⁵⁶¹ .)
Right arrow Up arrow	Speed up during playback, or step forward if paused. (Configured in Videos Settings ⁵⁶¹ .)
Enter	Stop playback

1.10.3 Camera Selection Buttons



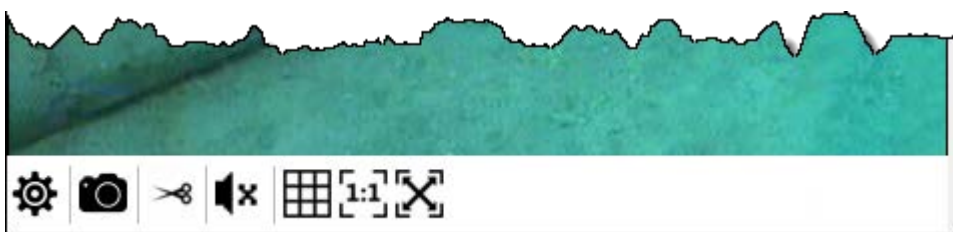
Before you load data into VisualEdit the buttons for the four available Video Windows are labelled simply as Cam 1 to Cam 4, but after you have loaded data and video these buttons will be renamed to show the actual names of video files in the selected dataset. For example you might see port, centre and stbd, as shown above.


While data is loaded, the number of enabled Video Window buttons changes to match the number of video files (cameras) available in the loaded dataset. If your dataset has three cameras recorded in three video files, you will see three Video Window buttons with the yellow background indicating an opened window.

























Video Windows that are not open have a white background like "Cam 4" above.

1.10.4 Video and Audio Settings

Each of the open Video Windows has its own toolbar to adjust settings and to create video clips and still image grabs. This toolbar is usually configured to pop-up automatically when the mouse cursor is near the top or bottom edges of a Video Window.



Buttons on the Video Window toolbars may be turned on or off using the [Video Settings](#) .


Button	Function
	Open the Video Settings  .
	Grab still images, using the current Video Settings  .
	Mark the start point of a video clip, using the current Video Settings  .
	Mark the end point of a video clip. (Shown if clip start point is already set.)
 or 	Toggle the audio on or off for this individual Video Window. Button shows current state.
	Tile the Video Windows within the Video Panel using the current Video Settings  .
	Display the selected Video Window in 1:1 ("as-recorded") resolution with one video pixel mapped to one screen pixel.
	Display the selected Video Window Full Screen.
 or  or 	Toggle the Playback Lock status of this Video Window. Button shows current state.
Time Offset: <input type="text" value="0.1"/> 	Change the Time Offset of this Video Window.
     	The Playback Controls  ⁵⁵ can be included on the Video Window toolbar.


1.10.5 Camera Layout and Order

The layout and order of the video camera windows can be changed by dragging and dropping individual Video Windows within the Video Panel. Any two windows can be swapped by dragging one on top of the other.

Use the Camera name tabs at the top of the window to drag and drop: Place the mouse cursor on the camera name tab at the top of a video window, and then keep the left button pressed down while you drag the window onto the one that you want to swap it with.


1.11 Grabbing a Still Image

Using **VisualReview** or **VisualEdit** you can grab any frame of video as a still image and save it to a file. Play the video to the place you want to grab as an image. You can make fine adjustments using the [Video Control Buttons](#)  for Step Forward and Step Back.

When you have the video window showing the picture that you want, press the Grab Image button  on the Video Window Toolbar.

You will see the normal "Save As" window, where you can change the file name, change the location for it to be saved, and change the file type if you want to. The image can be saved as JPEG, BMP, GIF, PNG, TIFF, or TGA. Note that the GIF format has a lot of compression, and is "lossy". It should only be used if the images are to be displayed at a low resolution. JPEG also has a lossy compression, but the effect is minimal in most cases.


1.12 Grabbing a Video Clip


Using **VisualReview** or **VisualEdit** you can cut (i.e. copy) a section of video as a video clip and save it to a separate file. Play the normal video to the start of the section that you want to cut as a clip. You can make fine adjustments using the [Video Control Buttons](#)  for Step Forward and Step Back.

When the video is at the start of what you want in your clip, press **Mark Video Clip Start**




You then have a choice of three different ways to define the end point of the video clip:

1. Manually select the end by playing the video forwards until you reach the required end time. To do this choose "*Pick end time later from the video*", then press the Close button. Play the video to the point you want, then press **Mark Video Clip End** .
2. Specify the **end time**, and then press the Close button.
3. Specify a **duration** for the clip in minutes and seconds, then press the Close button.

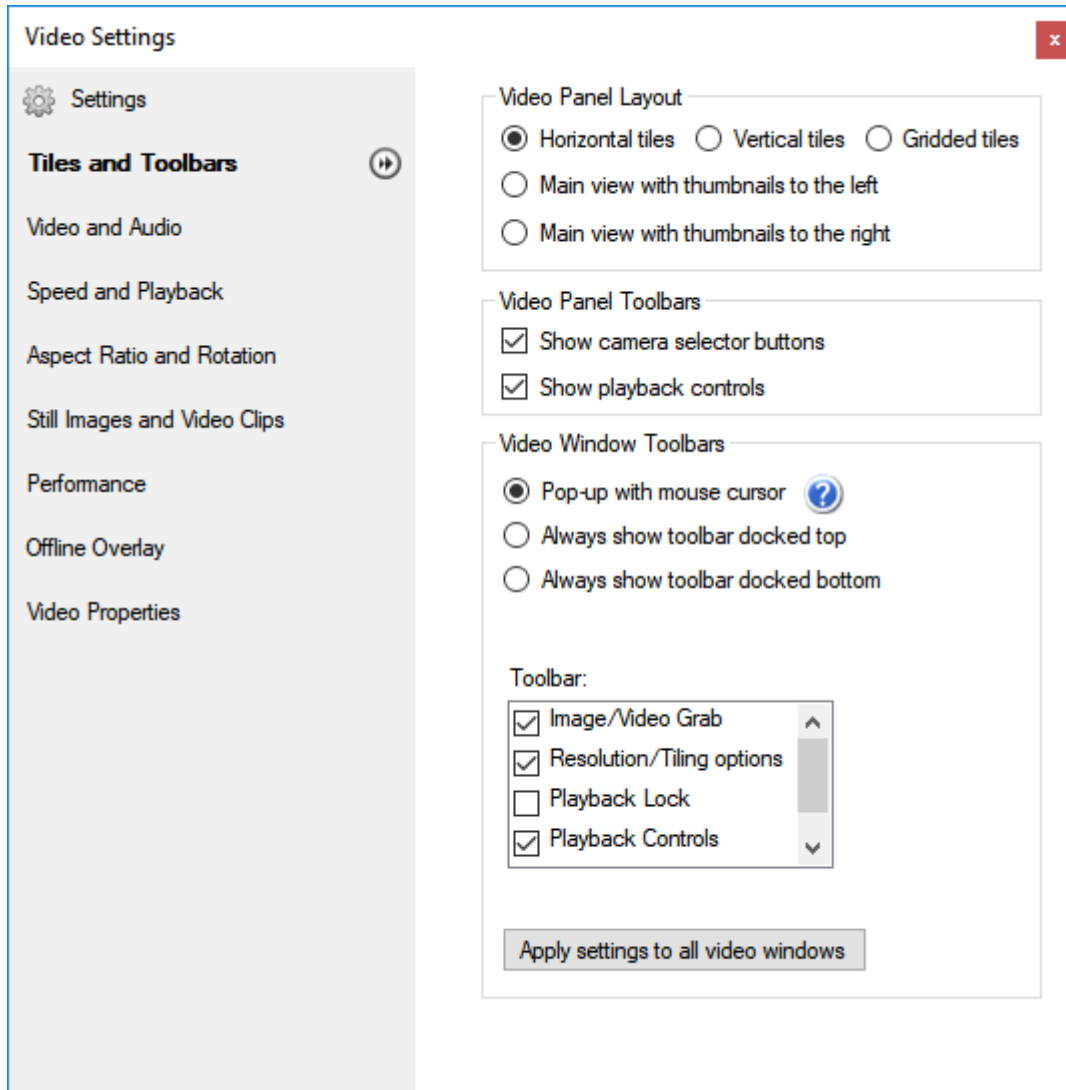
Whichever of the three methods you used, you will then see a confirmation window, where you can change the file name or the location where it will be saved by pressing the browse button with the three dots  to open the "Save As" window.

You cannot change the file type, which will automatically match the type of the source video.





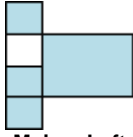
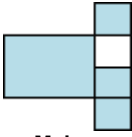
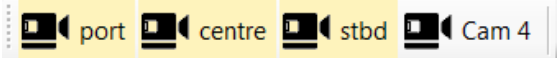

1.13 Video Settings


The Video Settings can be opened by clicking on the settings button  on the [Video Window Toolbar](#) ⁵⁶. (To open the Video Window toolbar move the mouse cursor to the top or bottom edge of the video window.)

The settings are divided into different groups. You can move from one group of settings to another using the grey menu panel on the left and the settings themselves can be configured using the white panel on the right.



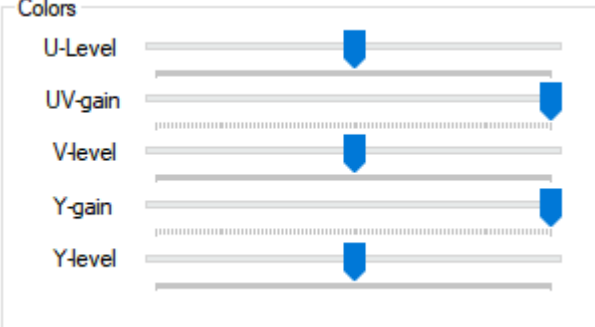
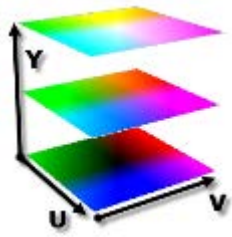
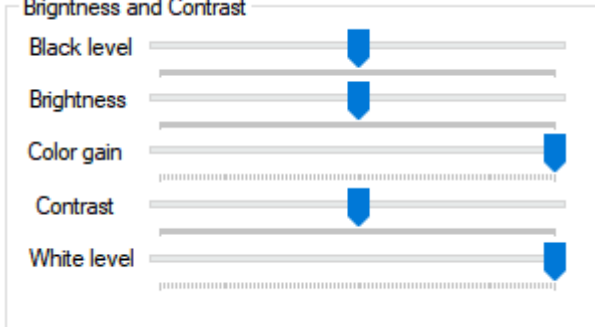

1.13.1 Video Settings: General

Settings	Description
<p>Video Panel Layout</p> <p> <input checked="" type="radio"/> Horizontal tiles <input type="radio"/> Vertical tiles <input type="radio"/> Gridded tiles </p> <p> <input type="radio"/> Main view with thumbnails to the left <input type="radio"/> Main view with thumbnails to the right </p>	<p>Select how to arrange and fit Videos Windows in the Video Panel when using Tiled Layout ⁵⁷ .</p> <p>   </p> <p>Horizontal tiles Vertical tiles</p> <p>    </p> <p>Gridded tiles Main + Left Main + Right</p>
<p>Video Panel Toolbars</p> <p> <input checked="" type="checkbox"/> Show camera selector buttons <input checked="" type="checkbox"/> Show playback controls </p>	<p>Select toolbars to show on the Video Panel.</p> <p>  </p> <p>Camera selector buttons</p> <p>  </p> <p>Playback Controls</p>

Settings	Description
<p>Video Window Toolbars</p> <p> <input checked="" type="radio"/> Pop-up with mouse cursor  </p> <p> <input type="radio"/> Always show toolbar docked top </p> <p> <input type="radio"/> Always show toolbar docked bottom </p> <p>Toolbar:</p> <div> <input checked="" type="checkbox"/> Image/Video Grab <input checked="" type="checkbox"/> Resolution/Tiling Options <input type="checkbox"/> Playback Lock <input type="checkbox"/> Time Offset <input type="checkbox"/> Playback Controls </div> <p> <input type="button" value="Apply settings to all video windows"/> </p>	<p>Select how and when the Video Window toolbars should appear. They can pop-up when you move the mouse cursor close to the top or bottom edges of a Video Window, or they can be permanently displayed, docked to the top or bottom edge.</p> <p>Select which buttons you want on the Video Window toolbars.</p> <p>You can apply your chosen settings to all Video Windows using the button at the bottom of this section.</p>

See also: [Grabbing a Still Image](#)^[59] and [Grabbing a Video Clip](#)^[59], [Resolution and Tiling options](#)^[57], Video Playback Lock, and Video Playback Time Offset.

1.13.2 Video Settings: Video and Audio

Settings	Description
<p>Colors</p> 	<p>Adjust the YUV colour levels for this video channel. The adjustments are illustrated by the displayed colour cube:</p> 
<p>Brightness and Contrast</p> 	<p>Adjust the Brightness, Contrast, and Black and White levels for this video channel.</p>
<input checked="" type="checkbox"/> Audio 	<p>Turn audio playback on or off for this video channel.</p>
<input type="checkbox"/> Deinterlace <input type="checkbox"/> Show All Frames	<p>Enable deinterlacing for video playback of this video channel.</p> <p>Show all frames, or skip frames to preserve requested playback speed.</p>
<p>Reset Apply settings to all video windows</p>	<p>Reset the settings above to default values, or apply the settings of this Video Window to all other Video Windows.</p>
<p>Advanced Interlacing</p>	<p>Opens a new window with many different options for interlacing so that you can find one that works best for you. In most cases the default is</p>

Settings	Description
	ideal, but if you are using very old video files, or you are using imported video files that were not recorded by a VisualSoft DVR, you may need to adjust the interlacing setting. You may need to try a few different options to see what works best for your current video files. When you find the right setting, there are options to apply it to all open video windows, and/or to all currently loaded datasets. Note that you cannot apply the setting to datasets that are not currently loaded.

1.13.3 Video Settings: Speed and Playback

Settings	Description
<div> <div>Play: 1x ▼</div> <div>Rewind: 10x ▼</div> <div>Fast Forward: 10x ▼</div> <div>Step Back: 0.1 secs ▼</div> <div>Step Forward: 0.1 secs ▼</div> </div>	Select how fast the video should Play, Rewind or Fast Forward (relative to normal playback speed), and select how many seconds the Video Window should move forward or back using the Step Back and Step Forward buttons.
<div> <input checked="" type="checkbox"/> Enable Wheel Control <div> <input checked="" type="checkbox"/> Use Mouse Wheel Scroll Down to Step Back through frames, otherwise it will be used to control playback speed. </div> </div>	Switch "Wheel Control" on or off. When Wheel Control is on, the playback speed can be increased or decreased by rotating the

Settings	Description
	<p>mouse wheel. Rotate the wheel away from you to increase speed, or towards you to reduce speed.</p> <p>If you do not want the wheel to reduce playback speed, it can instead be set to step backwards through a paused video when rotated towards you.</p>
<p>Playback Lock: centre video</p> <div><input type="checkbox"/> Lock: Do not play this video channel</div> <div><input type="radio"/> Re-sync with other channels at Pause or Stop</div> <div><input type="radio"/> Do not re-sync with other channels</div>	<p>Turn Playback Lock on or off for this Video Window, and select how it should behave if turned on. "Re-sync" will mean that this window will not play while other Video Windows are playing, but as soon as the other windows stop or pause, this one will jump to the matching time. With re-sync turned off, this Video Window will not update or change regardless of what happens in other Video Windows.</p>

1.13.4 Video Settings: Aspect Ratio

Settings	Description
<div> <input type="checkbox"/> Override 5:4 read from data, as 4:3 </div> <div> Aspect Ratio: centre video <div> <input checked="" type="radio"/> Read from dataset or video (Uses previously saved "Enforced" settings if present in dataset, otherwise reads from video.) </div> <div> <input type="radio"/> Enforce 4:3 and save in dataset properties </div> <div> <input type="radio"/> Enforce 16:9 and save in dataset properties </div> <div> <input checked="" type="checkbox"/> Apply to all loaded datasets </div> <div> <input type="checkbox"/> Apply to all open video windows </div> <div>Apply</div> </div> <div> Reset previously saved "Enforced" settings <div> <input checked="" type="checkbox"/> Apply to all loaded datasets </div> <div> <input type="checkbox"/> Apply to all open video windows </div> <div>Reset</div> </div>	<p>In most cases the aspect ratio (Width:Height) will be read from the video file of each Video Window and it will be displayed here. If you want to override the setting inside the video file, you can do so here by selecting either 4:3 or 16:9.</p> <p>Sometimes a video will have 5:4 in the properties, but should display as 4:3. You can override that saved 5:4 setting if you want.</p> <p>The chosen setting can be applied to all loaded datasets and/or Video Windows.</p> <p>Settings can be removed to reset defaults.</p>

Settings	Description
<div><p>Video Rotation: centre video</p><p><input checked="" type="radio"/> Read from dataset or video (Uses previously saved "Enforced" settings if present in dataset, otherwise reads from video.)</p><p><input type="radio"/> Enforce 90° Left Rotation</p><p><input type="radio"/> Enforce 90° Right Rotation</p><p><input type="radio"/> Enforce 180° Rotation</p><p><input checked="" type="checkbox"/> Apply to all loaded datasets</p><p><input type="checkbox"/> Apply to all open video windows</p><p>Apply</p></div> <div><p>Reset previously saved "Enforced" settings</p><p><input checked="" type="checkbox"/> Apply to all loaded datasets</p><p><input type="checkbox"/> Apply to all open video windows</p><p>Reset</p></div>	<p>In most cases the rotation will be read from the video file of each Video Window. If you want to override the setting that is saved inside the video file, you can do so here by selecting to rotate 90° left or right, or a full 180°.</p> <p>The chosen setting can be applied to all loaded datasets and/or Video Windows.</p> <p>Settings can be removed to reset defaults.</p>

1.13.5 Video Settings: Still Images and Video Clips

Save Settings

All of the settings that you configure for where and how to save still images and video clips can be saved to a file so that you can re-use them another time. Click on "File" in the grey menu bar at the top of the page.

File

Location to save stills and clips

You can choose to have still image grabs, and video clips saved to a "Clips" folder inside the current Project, or you can save them to any location that you select. If you select the Project Clips folder, it will be created if it doesn't already exist.

File naming

You can build the file names using text that you type and/or using text from the Project Tree, the timestamp of the image or the camera name. The following pre-defined fields are available:

Field name	Stills	Clips	Description
[Project]	✓	✓	Insert the name of the top level Project containing the current data
[SubProject]	✓	✓	Insert the name of the lowest level Sub-Project containing the current data
[Timestamp]	✓	✗	Insert the time of recording of the current frame of video. Format is YYYYMMDDhhmmsssttt.
[StartTime]	✗	✓	Insert the time of recording of the first video frame of this clip. Format is YYYYMMDDhhmmsssttt.
[EndTime]	✗	✓	Insert the time of recording of the last video frame of this clip. Format is YYYYMMDDhhmmsssttt.
[Camera]	✓	✓	Insert the camera name of the video file in this still or clip

Example:

If you have loaded data from D:\VisualWorks\Projects**Inspection 2017**\Pipelines**PL1234**\, then the [Project] is "Inspection 2017" and [SubProject] is "PL1234".

Type the file name format using text, spaces and the pre-defined fields:
 IMAGE - [SubProject] - [Timestamp] - [Camera] will give a file name of "IMAGE - PL1234 - 20170608132652541 - Port" if you grab a still from the Port camera for the video frame at just after 13:26:52 on 8 June 2017.

File Formats

Still images can be grabbed in one of five formats: JPEG, BMP, GIF, PNG, TIFF, or TGA. Note that the GIF format has a lot of compression, and is "lossy". It should only be used if the images are to be displayed at a low resolution. JPEG also has a lossy compression, but the effect is minimal in most cases.

The file format of a video clip will always match the file format of the source video.

Sequential Numbering

For both still images and video clips, you can add sequential numbering to the file names, and you can specify a starting number.

One Window or All Windows

For both still images and video clips, you can choose whether to grab only the window where you click on the Image Grab or Video Clip button, or to grab from all open Video Windows.

1.13.6 Video Settings: Offline Overlay

☒ Display Offline Overlay

You can turn on Offline Overlay for the current Video Window by selecting the check box at the top.

Configure Offline Overlay

The overlay itself is [configured](#)⁷⁰ by clicking the button in the middle.

Apply settings to all video windows

If you want to show the same overlay on all open Video Windows, click the button at the bottom.

1.13.7 Video Settings: Video Properties

The Video Properties page displays detailed information about the current video file, including duration, aspect ration, encoding and file container formats, bit-rate, frame-rate, and resolution, plus information about the audio track.

1.14 Video Overlay

A video overlay is a display of text and/or graphics shown over the top of a video picture. For offshore survey a video overlay is used to identify the video image: where and when was it recorded, for what purpose and by what company. It will usually include the position and depth of the ROV, the name of the pipeline or structure being surveyed or inspected, and the details of both the client company and the survey or inspection company.

The video overlay can be applied "online" during the initial recording, or "offline" during video playback. If the overlay is recorded online then it forms an integral and fixed part of the video picture and cannot be changed in any way after the recording is made. If the overlay is applied offline then it is drawn on the display screen and is not a part of the recorded picture. This means that you can use the offline overlay to blank out and replace the online overlay.

In the VisualSoft Suite, the following options are available:

Online Overlay

An online overlay can be configured, created and recorded by the **VisualOverlay** tools that are part of **VisualDVR**, or it can be configured and created by other software such as a stand-alone version of **VisualOverlay** (or other third-party applications and devices) before the pictures are recorded by **VisualDVR**.

The online overlay in **VisualDVR** and **VisualOverlay** can show data received as an ASCII data string on the **VisualDVR** or **VisualOverlay** PC itself, or data received by **VisualDataLogger** on a different, networked, PC.

Offline Overlay

An offline overlay can be [configured](#)^[70] and [displayed](#)^[73] by **VisualEdit**, **VisualEdit Eventing**, **VisualEdit Professional** or **VisualReview Professional**.

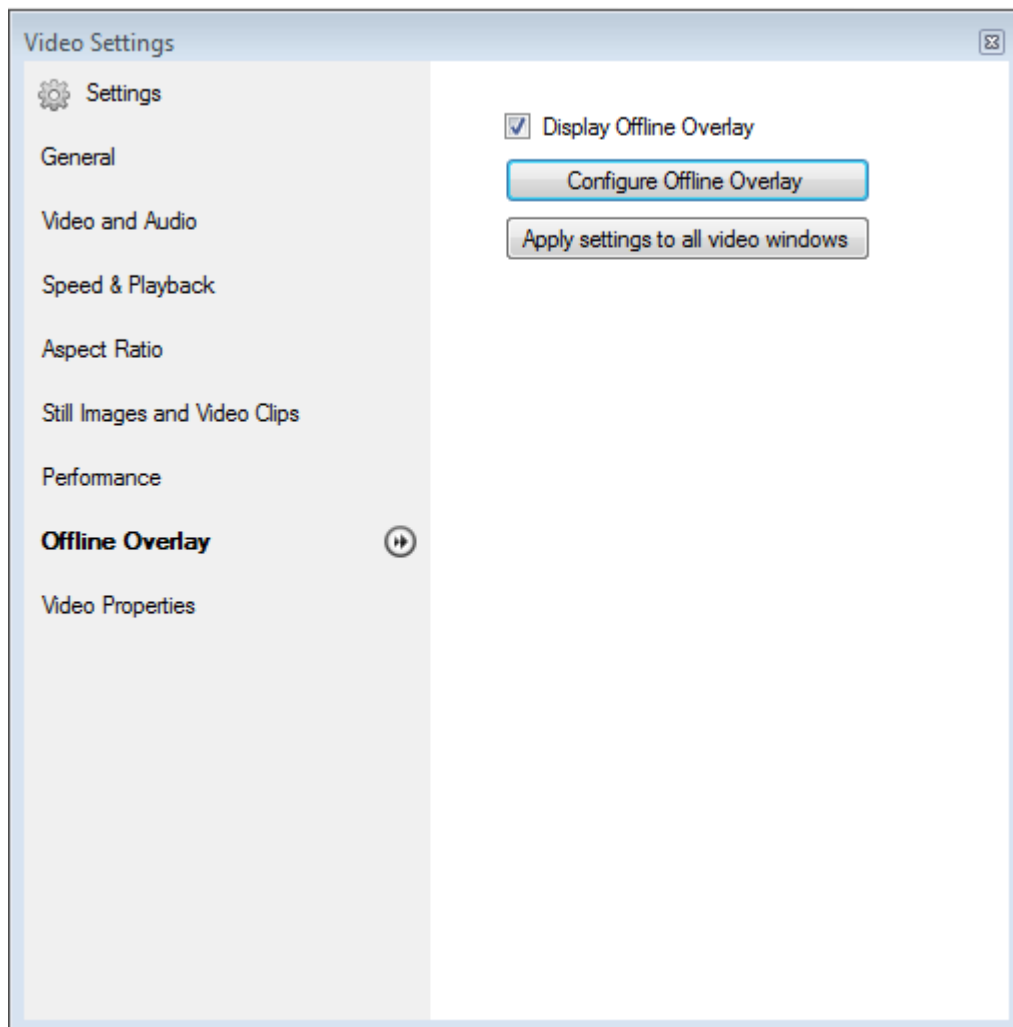
An offline overlay can be [displayed](#)^[73] by **VisualReview**, but it must have been previously [configured](#)^[70] using one of the three **VisualEdit** applications or **VisualReview Professional**.

The offline overlay can be used to display corrected navigation data, corrected KP or Station values, depth of pipeline burial, CP data or other values. It can be displayed on any of the video windows or on the graphical views of survey data.

1.14.1 Configuring an Offline Overlay

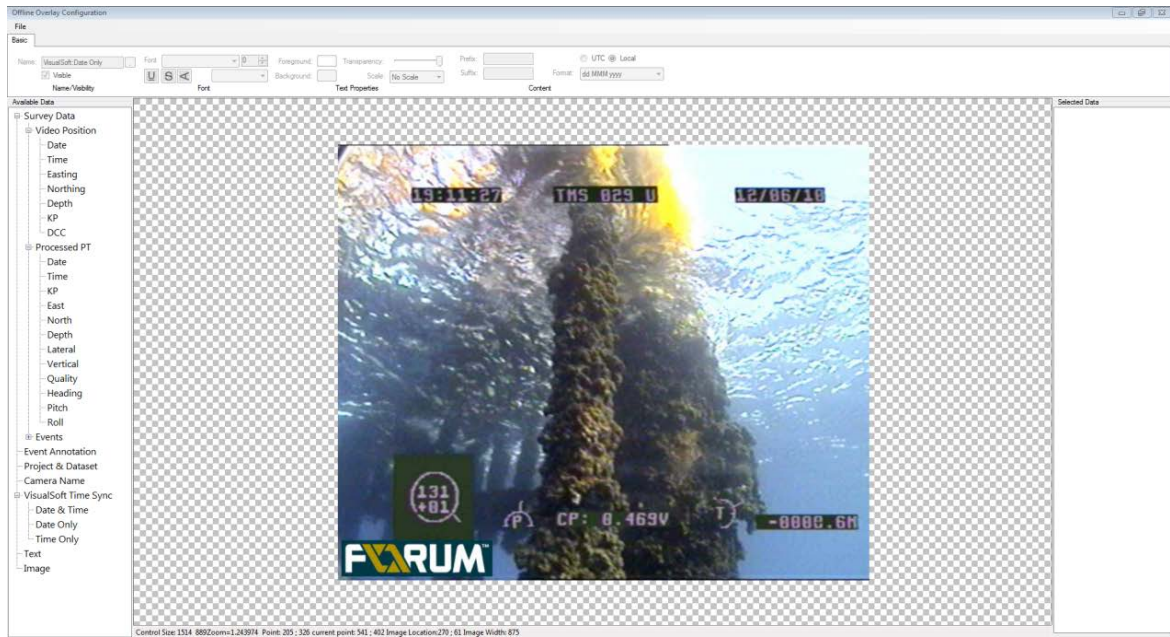
This option is only available if you have a licence for **VisualReview Professional**, or one of **VisualEdit**, **VisualEdit Eventing**, or **VisualEdit Professional**. If you only have the basic edition of **VisualReview**, you can still [Display an Offline Overlay](#)^[73] that has already been configured for you, but you cannot configure a new one.

To configure the Offline Overlay and to select what to display, right-click on the loaded project in the Project Tree and select "Settings..." from pop-up menu. In the window that opens, select "Offline Overlay" from the left-hand side of the window and click "Configure Offline Overlay"



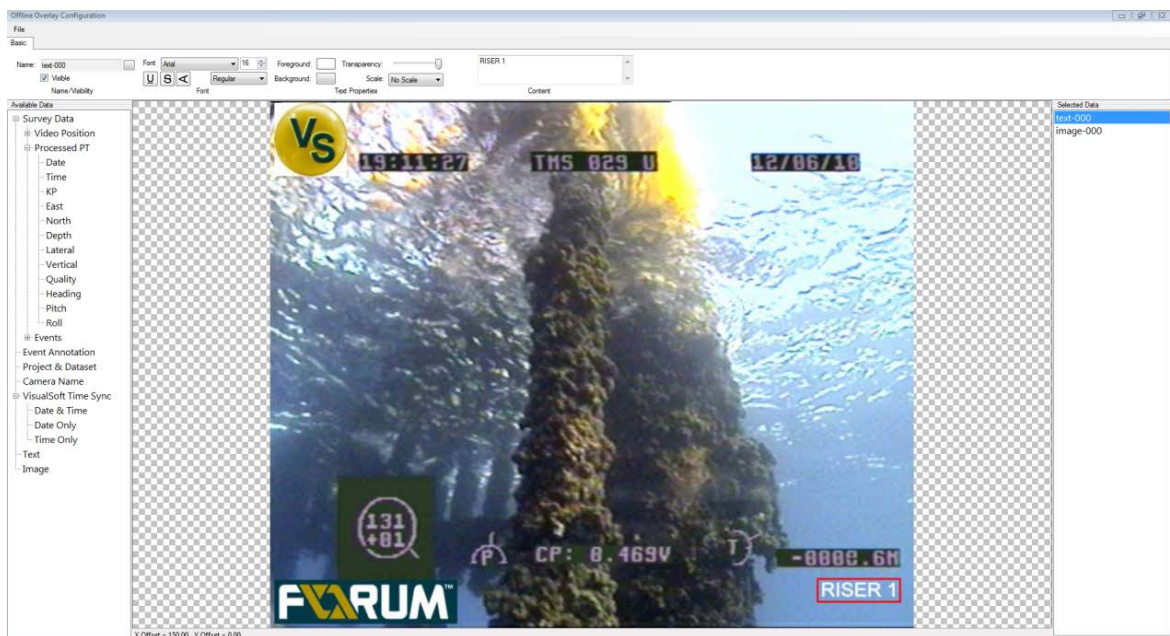
On the left of the VisualOverlay window is a list of Available Data Items, which includes all of the data tables and columns available in the loaded data. At the foot of the Available Data Items are the options for adding Text and Images.

All Available Data Items are drag-and-drop items.



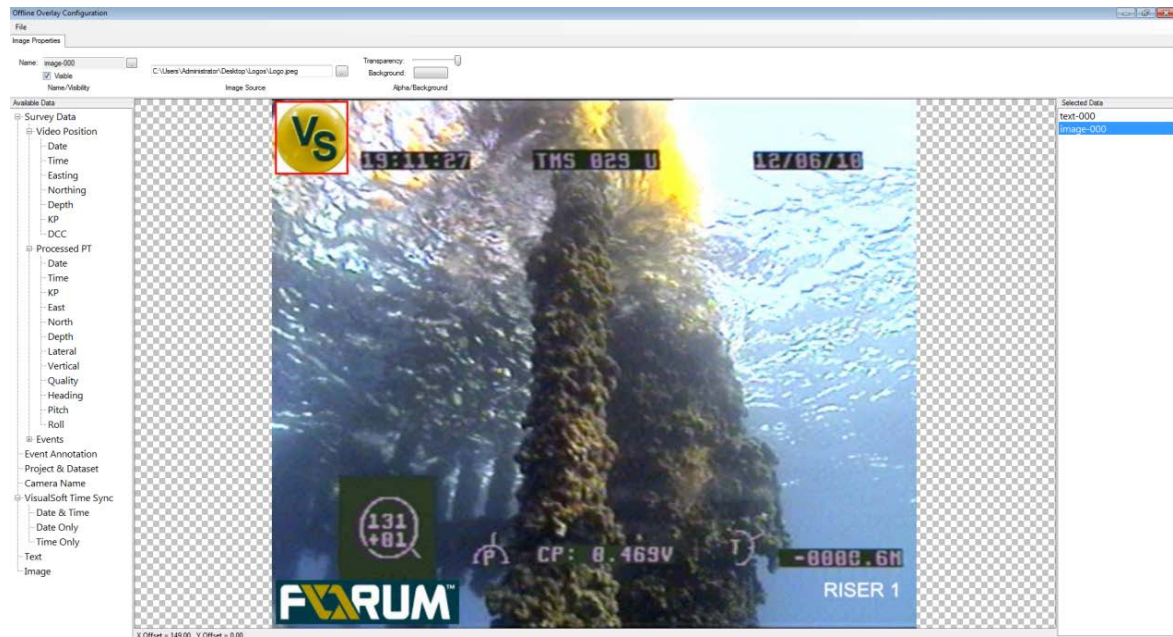
Configuring Text in Offline Overlay

Dragging the data item called Text onto the picture will create a transparent text box highlighted in red. The content of this box, as well as the font and transparency, can be modified from the Basic tab at the top of the page.



Configuring an Image in Offline Overlay

Dragging the data item called Image onto the picture will display a window allowing you to choose an image file. After selecting the file, it will appear highlighted in red on the picture. You can use the Image Properties tab at the top of the page to change the image source, the background colour and transparency.

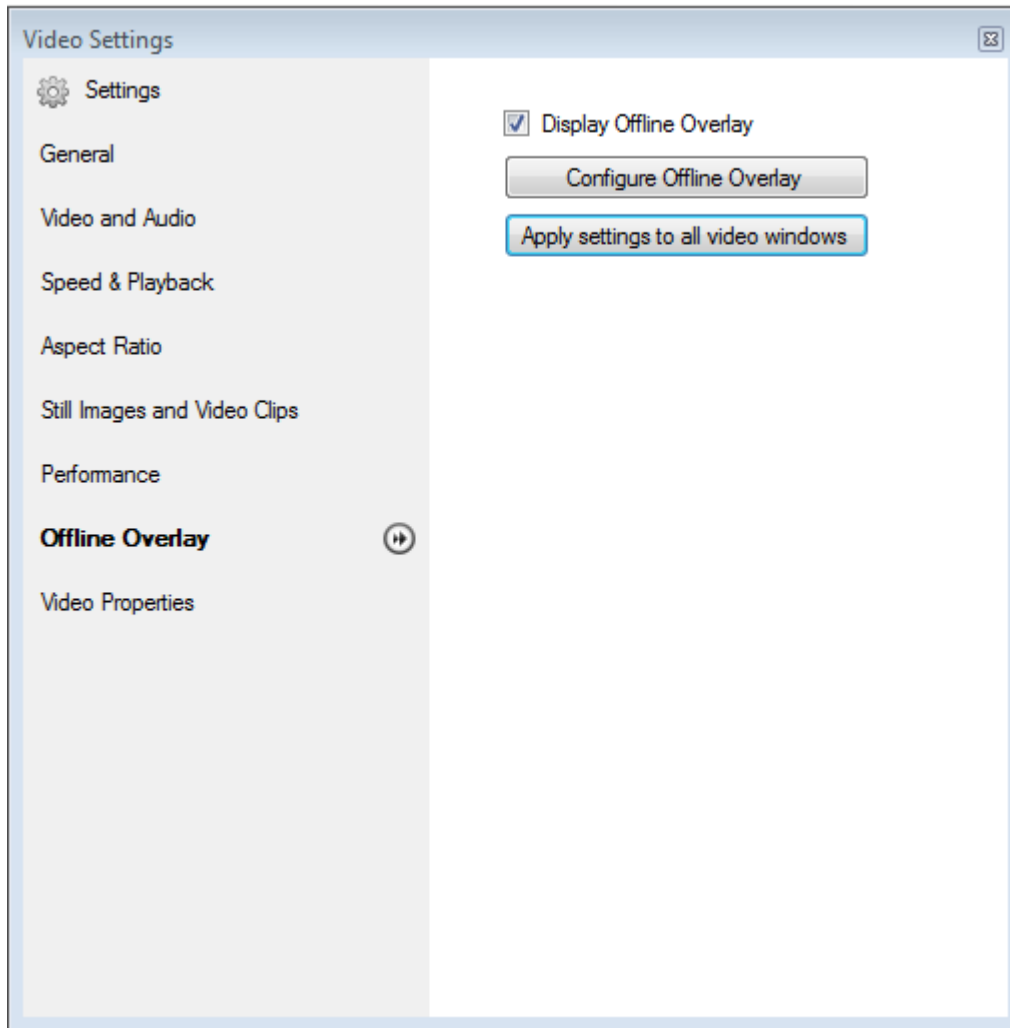


Once you have finished adding overlay to the picture, close the window using the red X.

1.14.2 Displaying an Offline Overlay

To show the Offline Overlay on a video window or one of the graphical windows (Side View, Plan View, Cross-Profiles, or 3D Cross-Profiles), right-click on the video window and select "Settings..." from the pop-up menu. This opens a small configuration window.

Tick the box to enable the overlay for display, and click the "Apply settings to all video windows button".



1.15 The Survey Data Tables

The Survey Data Tables are where data such as ROV position, motion data, depth data and so on is stored. The tables are displayed as a series of text views looking similar to a spreadsheet. Each Data Tables has its own tab with table names shown on the tabs across the top of the view.

Survey Data							
Raw Survey	Processed Survey	X-Profiles	Contact CP	Corrected Altitude	Corrected Motion	DatasetID	Logged CP
Date	Time	Despiked Easting	Despiked Northing	Smoothed Easting	Smoothed Northing	C...	C...
01/03/2019	07:11:02.7	675690.66	2808353.09	675690.71	2808353.42	0.00	0.00
01/03/2019	07:11:03.7	675689.53	2808353.61	675690.54	2808353.47	0.00	0.00
01/03/2019	07:11:04.9	675690.32	2808353.46	675690.33	2808353.52	0.00	0.00
01/03/2019	07:11:05.9	675690.38	2808353.81	675690.16	2808353.57	0.00	0.00
01/03/2019	07:11:07.0	675689.87	2808353.37	675689.97	2808353.62	0.00	0.00
01/03/2019	07:11:08.0	675690.16	2808353.31	675689.80	2808353.67	0.00	0.00
01/03/2019	07:11:09.2	675689.82	2808353.44	675689.60	2808353.72	0.00	0.00
01/03/2019	07:11:10.3	675689.62	2808353.52	675689.42	2808353.77	0.00	0.00

Data Tables can hold raw or processed data, and may be either standard, system tables which always exist, logging tables which are dependent on the configuration of sensors in VisualDataLogger, or User Defined tables which hold processed data and are created to the user's own design during data processing.

1.15.1 Standard Data Tables

There is one Standard Data Table for raw data logging, one which displays both raw and processed data, and three for processed data. These are as follows:

Data Table	Data type	Description and Purpose
Raw Survey	Raw data only	"Survey Data" as logged by VisualDVR. The columns in this table are defined by the setup of the Survey Data decode and logging in VisualDVR.
X-Profiles	Raw and processed data	This table is actually a view of two different data sources, one raw and one processed. It shows the basic time and position data of the logged and processed cross-profiles and is used for both mechanical profiler data such as Tritech SeaKing and for Multi-Beam Echosounder data such as Reson or R2Sonic.
Processed Survey	Processed data only	The Processed Survey table is designed and filled with data during data processing using VisualEdit Professional or it can be used to hold imported data from another processing system. The columns in the Processed Survey table are defined by the user and can be anything you want.
Video Position	Processed data only	The Video Position table is filled with data during data processing using VisualEdit Professional or it can be used to hold imported data from another processing system. The columns of this table are pre-defined and cannot be changed. They are intended to hold the position of the focal point of the video views – i.e. the point being looked at in the video.
Processed PT	Processed data only	This table is filled with data during data processing using VisualEdit Professional or it can be used to hold imported data from another processing system. The columns of this table are pre-defined and cannot be changed. They are intended to hold the position of a pipe or cable tracker, the ranges recorded by that tracker, and the

		resulting pipe or cable position calculated from those positions and ranges.
--	--	--

1.15.2 VisualData's Logging Tables

The VisualData Logging Tables are not loaded and displayed by default in VisualReview or VisualReview Professional. These tables contain raw data and are not usually required by those viewing a final deliverable. If you do need to see these data tables, perhaps for client QC purposes, you must enable them using the Load Data Options.

Each sensor or data string that you interface to VisualDataLogger is recorded to its own individual Data Table. The name of that table is the name that was used in the logging configuration window online when setting up VisualDataLogger. For some sensors (such as Octans or TSS440) in VisualDataLogger the names are pre-defined, but for others (such as ASCII input) they need to be typed by the user.

Each of the Data Tables created by VisualDataLogger is shown with its own tab across the top of the Survey Data Tables window. In the example below, the Data Tables Valeport Bathy, Octans and DVL are each raw data logging tables created by VisualDataLogger.

These raw Data Tables cannot be updated and saved. If you need to make changes to the raw, logged data this must be done using copies of the data in a processed table: Processed Survey, Processed PT or a User Defined Table.

Survey Data								
Raw Survey	Processed Survey	X-Profiles	Contact CP	Corrected Altitude	Corrected Motion	DatasetID	Logged CP	Pro
Date	Time	Despiked Easting	Despiked Northing	Smoothed Easting	Smoothed Northing	C...	C...	
01/03/2019	07:11:02.7	675690.66	2808353.09	675690.71	2808353.42	0.00	0.00	
01/03/2019	07:11:03.7	675689.53	2808353.61	675690.54	2808353.47	0.00	0.00	
01/03/2019	07:11:04.9	675690.32	2808353.46	675690.33	2808353.52	0.00	0.00	
01/03/2019	07:11:05.9	675690.38	2808353.81	675690.16	2808353.57	0.00	0.00	
01/03/2019	07:11:07.0	675689.87	2808353.37	675689.97	2808353.62	0.00	0.00	
01/03/2019	07:11:08.0	675690.16	2808353.31	675689.80	2808353.67	0.00	0.00	
01/03/2019	07:11:09.2	675689.82	2808353.44	675689.60	2808353.72	0.00	0.00	
01/03/2019	07:11:10.3	675689.62	2808353.52	675689.42	2808353.77	0.00	0.00	

1.15.3 User Defined Tables (UDTs)

VisualEdit Professional allows you to create extra data tables in addition to the Standard Data Tables. The tables that you create yourself are called User-Defined Tables (or UDTs). A UDT can have any number of data columns and you can specify the time interval for the data records (or rows) in the table. That time interval can be a fixed number of seconds or it can be set to match the timing interval of another data table. By matching the interval of another table you can avoid unnecessary interpolation of data which will preserve data integrity and may make it easier to perform tasks such as detecting and removing data spikes.

After a UDT has been created in one dataset of a Project it will be automatically created in other datasets the next time that they are loaded in **VisualEdit**. The UDT will not be automatically filled with data, but it will be created with the correct columns and formatting so that it can be quickly and easily filled with data using the data processing

scripts in **VisualEdit Professional's** Batch Processing or by importing data directly into the UDT.

1.16 The Event List Data Table

The Events Data Table shows a list of the events or observations logged online using VisualEventLogger and also any events logged or changed using the event editing tools of VisualEdit Eventing or VisualEdit Professional.

These "Events" are any items of interest seen on or near a pipeline or structure, or in route corridors or site survey areas during an inspection or other survey. Other software and other companies may refer to these events using other terms such as "Observations", "Incidents" or "Features".

The columns of the Events table and the types, descriptions and properties of the features listed are defined in the eventing configuration (sometimes known as the Client configuration because each end-user client or pipeline operator may have their own preferred and pre-defined configuration).

The main Events table is always shown in time order.

Events								
Events		Field Joints						
Uni...	Date	Time	Description	Code	KP	Comments	Condition	Le
▶ 102	01/03/2019	07:09:01	Field Joint - Good Condition	FJ.OK	0.54645	-	-	0.0
▶ 103	01/03/2019	07:09:52	Anode - Bracelet - Good Condition	AN.BR.GC	0.55028	-	-	0.0
▶ 104	01/03/2019	07:11:05	Field Joint - Good Condition	FJ.OK	0.55679	-	-	0.0
▶ 123	01/03/2019	07:11:40	Fre-span - Start	FS.S	0.56297	-	-	0.0
▶ 105	01/03/2019	07:12:15	Field Joint - Good Condition (10th)	FJ.GC	0.56947	-	-	0.0
▶ 124	01/03/2019	07:12:49	Fre-span - End	FS.E	0.57568	-	-	0.0
▶ 107	01/03/2019	07:14:32	Field Joint - Good Condition	FJ.OK	0.59401	-	-	0.0
▶ 132	01/03/2019	07:15:04	Damage - Bare Metal Exposed	DA.ME	0.59940	-	-	0.0
▶ 133	01/03/2019	07:15:20	Damage - Bare Metal Exposed	DA.ME	0.60214	-	-	0.0

You can create filtered [Event Subset Views](#) ⁸⁰ of the data in the Events table, showing features of a specific type, or matching various other criteria such as Anomalies, or perhaps Freespans above a certain length. These Subsets can be sorted by time, KP or any other column you choose.

When you click on a row in the Events table or one of its Subsets, the video and all other windows will immediately display the data that corresponds to the time of the event that you clicked. For example, if you click on an Anode event then you should immediately see that Anode in the video windows. If you click on a Freespan event you should see it in the videos and also in the 2D and 3D cross-profile or multibeam views.

See also Editing and Managing Inspection Events

1.16.1 Event Subset Views

Event Subsets show different selections of the data in the main Events table. You can use them to show events of one particular type, for example only the Anodes, only the Freespan events, or as shown below, only the Field Joints. You could also use a subset to show events that match particular rules, for example items of Debris that have a length, width or height of over half a metre, Freespans greater than a certain length, or perhaps all features flagged as Anomalies.

The Subset views make it easy to carry out QC and can make it easy to generate listings for use in reports. It is possible to export Subset views directly to Excel spreadsheets.

The subset views update automatically if events are added, modified or deleted, so if you move a Freespan start during video review, and you update the span length that span may suddenly appear in a subset list of long Freespans – or it may disappear from the list if it became too short.

Events											
Field Joints											
Uni...	Date	Time	Description	Code	KP	Comme...	C..	Le...	W...	H...	Cl...
▶ 104	01/03/2019	07:11:05	Field Joint - Good Condition	FJ.OK	0.55679	-	-	0.00	0.00	0.00	N/A
▶ 105	01/03/2019	07:12:15	Field Joint - Good Condition (10th)	FJ.GC	0.56947	-	-	0.00	0.00	0.00	N/A
▶ 107	01/03/2019	07:14:32	Field Joint - Good Condition	FJ.OK	0.59401	-	-	0.00	0.00	0.00	N/A
▶ 120	01/03/2019	07:15:41	Field Joint - Good Condition	FJ.OK	0.60589	-	-	0.00	0.00	0.00	N/A
▶ 110	01/03/2019	07:17:19	Field Joint - Good Condition	FJ.OK	0.61800	-	-	0.00	0.00	0.00	N/A
▶ 111	01/03/2019	07:18:19	Field Joint - Good Condition	FJ.OK	0.63020	-	-	0.00	0.00	0.00	N/A
▶ 112	01/03/2019	07:19:15	Field Joint - Good Condition	FJ.OK	0.64330	-	-	0.00	0.00	0.00	N/A
▶ 113	01/03/2019	07:20:16	Field Joint - Good Condition	FJ.OK	0.65576	-	-	0.00	0.00	0.00	N/A
▶ 114	01/03/2019	07:21:53	Field Joint - Good Condition	FJ.OK	0.67344	-	-	0.00	0.00	0.00	N/A

1.17 The QC Data Table

The QC Data Table is mainly for use in VisualEdit Eventing and VisualEdit Professional, where the various QC scripts will write to the list displayed in this table. The QC Data Table can be displayed in VisualReview, but the scripts are not available to write to it.

The entries in the QC Data Table have a time stamp corresponding to an item of data such as an event or other data record, and a description of the problem or suggestion associated with that data. Clicking on a row of the QC Data Table will cause all other display windows including the video windows to jump to the time indicated in the QC record.

Some entries in the QC table describe errors detected by the QC scripts, and others provide suggested solutions for these errors. Examples include:

- Event spacing errors such as Field Joints that are too close together or too far apart
- The expected locations of "missing" Field Joints where a gap has been found that is long enough to suggest that one or more joints was not logged.
- "Illogical" events such as the start of a Freespan within an area where the pipe is buried.

Over time more QC scripts are being added to VisualEdit Eventing and VisualEdit Professional, so the list of things that you might find in the QC table may get larger with each new software version.

For more information, see the individual data processing scripts in VisualEdit Eventing and VisualEdit Professional.

1.18 Using the Graphical Views

VisualReview and VisualEdit have various windows that display data graphically. This might mean a map type view showing where an ROV travelled or where a pipeline is laid, or a three-dimensional view of that pipeline on the seabed, or indeed any number of other views of different data types.

Each of the Graphical Views is configurable, giving you control over what data is shown, and also how it is shown. You can display most data columns from most of the data tables, in a variety of ways and in a variety of windows. Each of the Graphical Views is also fully synchronised with the video and with other Graphical Views and text lists so that you can view the same data simultaneously in multiple different ways.

For more details, take a look at what you can do with each of the following different Graphical View windows:

[The Plan View](#)  83

[The Side View](#)  83

[The Cross-Profile View](#)  85

[The 3D Cross-Profile View](#)  85

[The Pipesheet View](#)  86

[The Pipesheet History View](#)  87

1.18.1 The Plan View

The Plan View is designed to be used as a traditional map-like view with the data seen from directly above. It is useful for viewing the track of an ROV, or a sensor, or for viewing the route of a pipeline. You can display data from any of the data tables, in any combination.

Examples of different uses include:

- Compare the raw logging position with an edited and smoothed position.
- Compare the position of one sensor or offset with another to assist with QC.
- Compare the as-found or as-laid position of a pipeline with the theoretical route.

All three of the examples above would plot Easting and Northing grid coordinates, but the window can also be used for time-series plots, such as:

- Pitch or Roll changes over time
- DVL velocities (X, Y or Z) over time
- Heading changes over time

1.18.2 The Side View

The Side View is designed to be used as a longitudinal profile view, typically plotting depth against KP. It is useful for viewing the depth profile of a pipeline or seabed, or for examining the relationship between a pipeline and the seabed. You can display data from any of the data tables, in any combination.

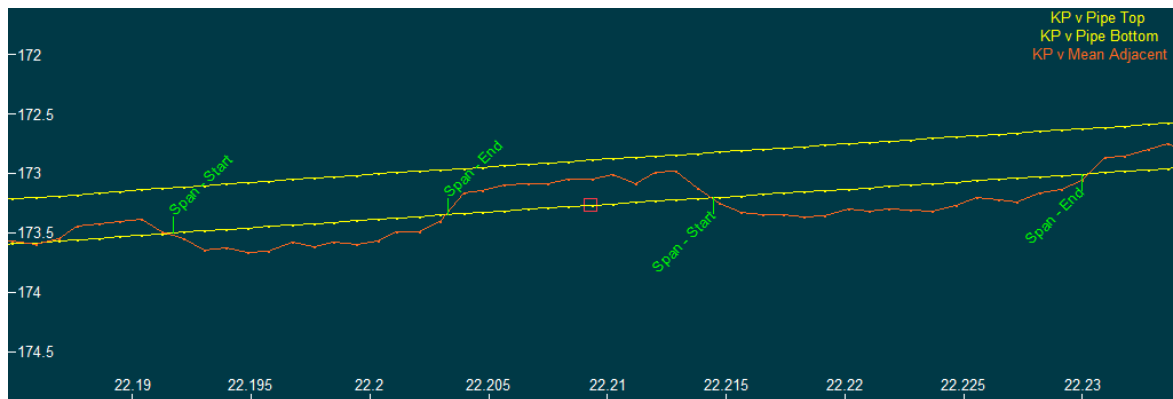
Examples of different uses include:

- Compare the raw depth data with tidally reduced and corrected depth data.
- Compare the depth of one sensor or offset with another to assist with QC.
- Compare the position of a pipeline with the seabed to assess areas of freespan or burial.

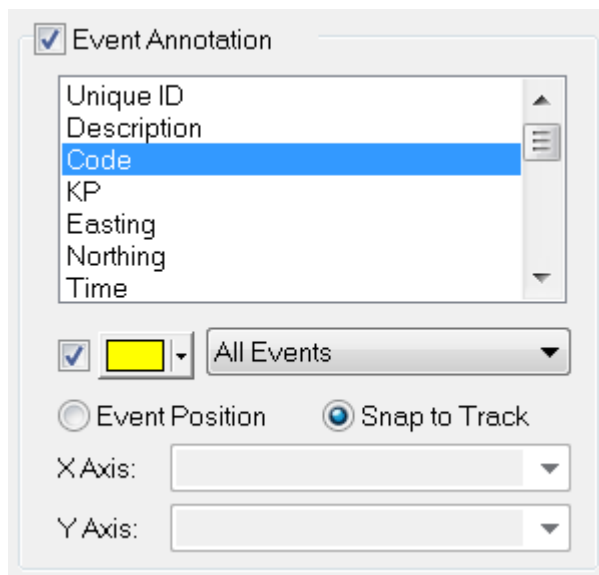
All three of the examples above would usually plot depth against KP.

1.18.3 Event Annotation in 2D Graphics

You can plot text "annotation" labels for logged Event data in either the Plan View or Side View windows.



To configure these event labels, right-click in the graphics window and select Options. At the top right of the graphics Options window, you will see a section called "Event Annotation" with a check-box to turn that annotation on or off. With the annotation turned on, you can then select one or more columns from the Events table to use as text labels in the graphics view. In the example above, the Description column is being used. To select more than one column, hold down the shift key and left click on the names of the columns that you want to use.

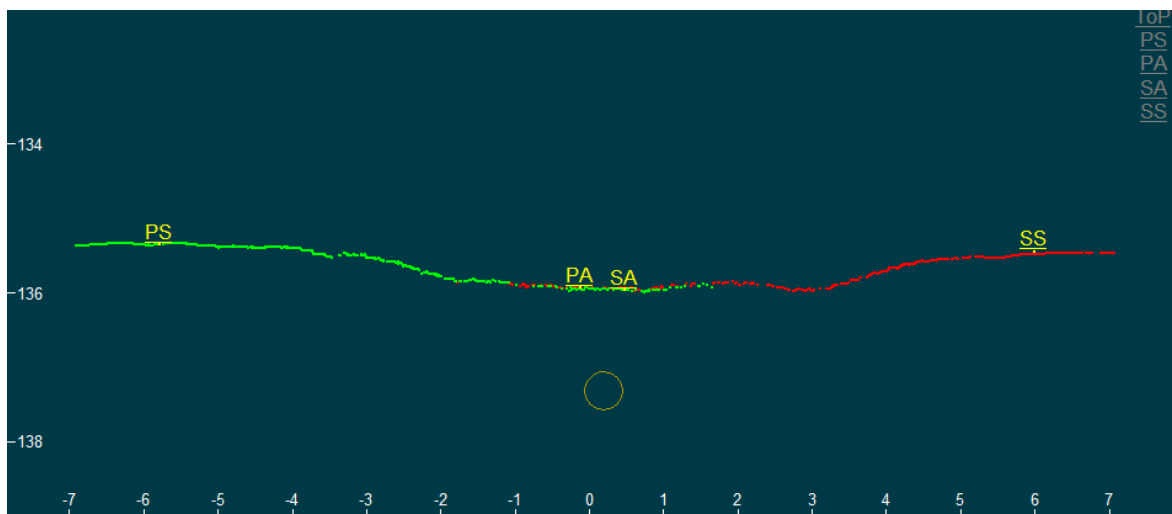


The annotation labels are drawn with short arrow lines that can either snap to a track plot in the graphics window (using the event time to link to the times of the plotted points), or they can be drawn from a specified coordinate using a pair of columns in the Events table. Typically this would be Easting and Northing for a Plan View window, or KP and Depth for a Side View window.

<input checked="" type="radio"/> Event Position <input type="radio"/> Snap to Track	<input checked="" type="radio"/> Event Position <input type="radio"/> Snap to Track
X Axis: Easting ▼	X Axis: KP ▼
Y Axis: Northing ▼	Y Axis: Depth ▼

1.18.4 The Cross-Profile View

The Cross-Profile View displays one paired scan at a time. It can show or hide data points that have been disabled by the scan cleaning tools. It can show the pipeline and seabed feature markers if these have been assigned during scan processing. In the example below there is a shallow, backfilled trench with a buried pipeline below it.



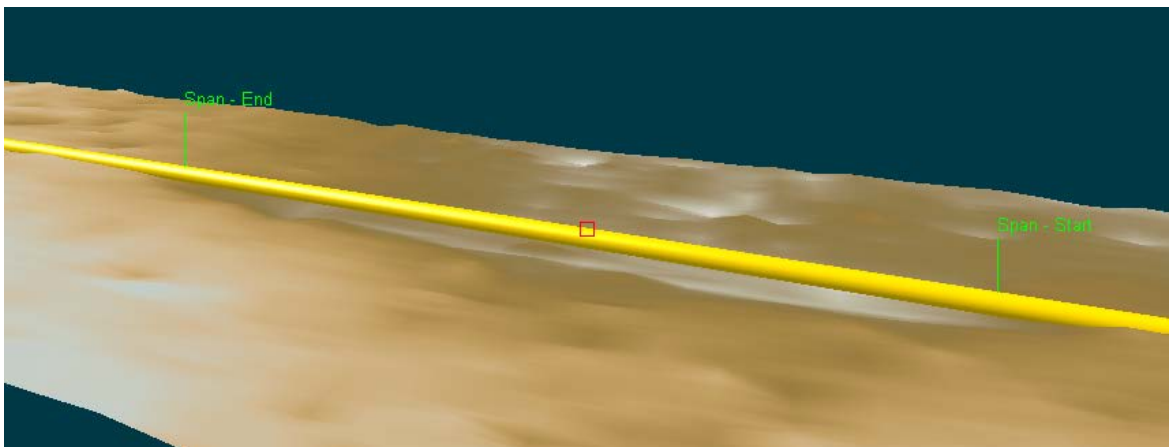
1.18.5 The 3D Cross-Profile View

The 3D Cross-Profile View is built up from multiple paired scans. It shows only the data points that have not been disabled by the scan cleaning tools. It shows the pipeline if it has been assigned during scan processing. In the example below there is a shallow, backfilled trench with a buried pipeline below it. The view can be rotated using the scroll bars on the right and bottom edges of the window.



1.18.6 Event Annotation in 3D Graphics

You can plot text "annotation" labels for logged Event data in the 3D Cross-Profile View.



To configure these event labels, right-click in the graphics window and select Options. At the top right of the graphics Options window, you will see a section called "Event Annotation" with a check-box to turn that annotation on or off. With the annotation turned on, you can then select one or more columns from the Events table to use as text labels in the graphics view.

The annotation labels are drawn with short arrow lines that snap to the pipeline using KP.

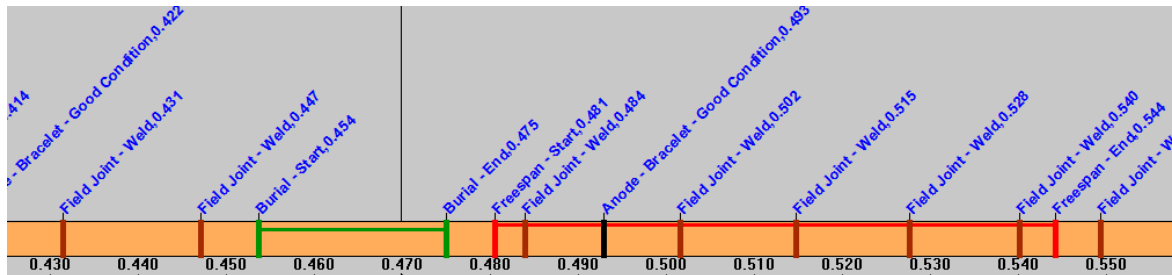
1.18.7 The Pipesheet View

The pipesheet view lets you show event data on a simplified plot with KP increasing across the width of the window.

You can display text labels for all events, or just for selected subsets of events.

You can highlight specific event types using vertical coloured bars for different types. The example below has burial start and end as green vertical bars, and freespan starts and ends as red vertical bars. An anode is shown in black, and field-joints in brown

You can highlighted paired events (start to end) using coloured horizontal bars. The example below uses green for the buried area and red for the freespan.

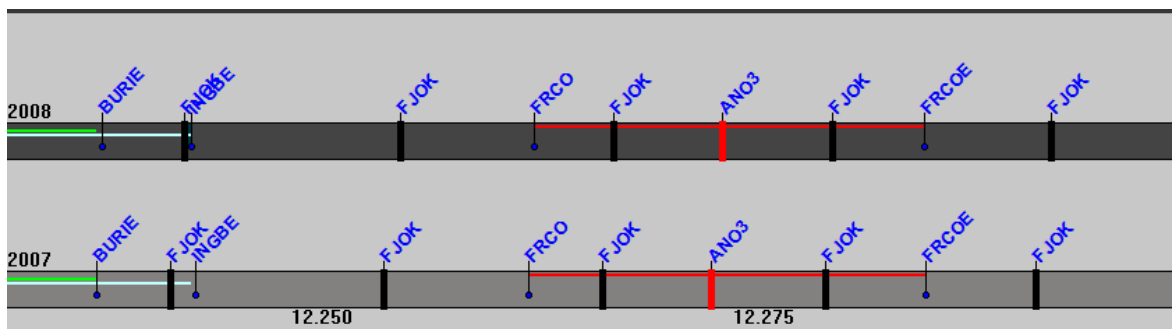


To open the Pipesheet view, click the Pipesheet button on the layout ribbon:

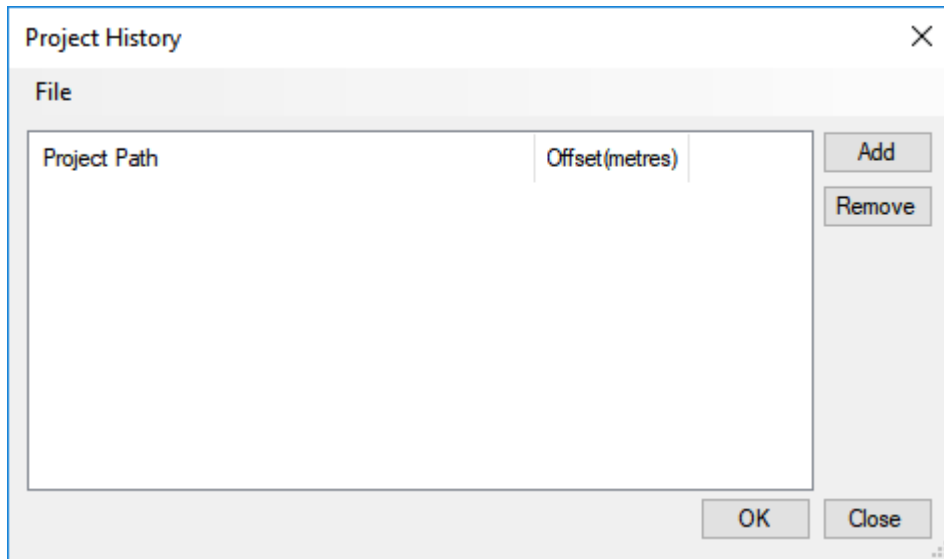


1.18.8 The Pipesheet History View

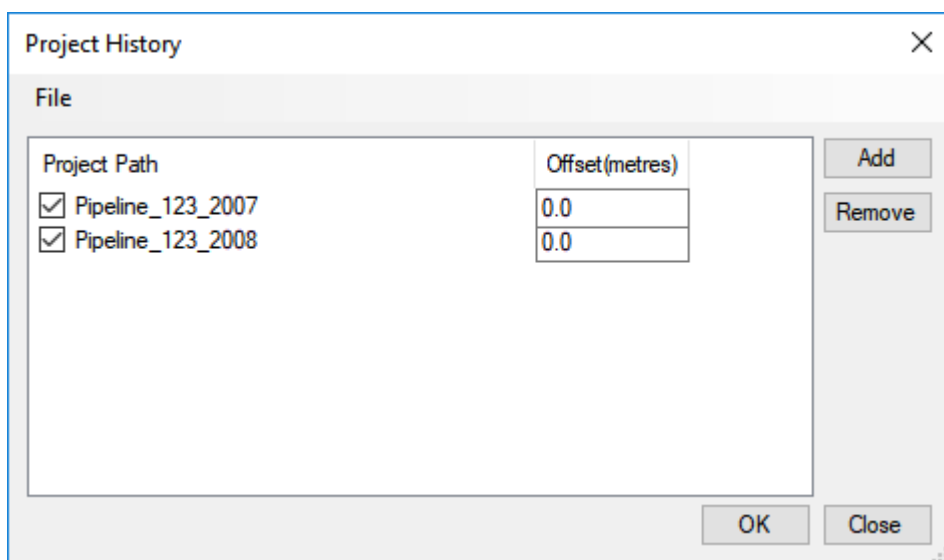
When History mode is enabled, the Pipesheet View can be used to compare data from two or more different inspections of the same pipeline at different times. In the example below there is data from 2007 at the bottom and from 2008 at the top and you can see that there are slight differences in the data from one year to the next. Some differences might be real, for example Freespans may change over time, but Anodes or Field Joints should never move so you can use this history view to QC your data. (Do not assume that the old data is always correct; it could be that the new data is more accurate!)



To use the History view, right-click in the Project Tree and select Tools, then History, or open the Pipesheet view, then right-click in that view and select History. Both of these methods open the Project History set-up window.



Click on the Add button and select two Project, representing inspections of the same Pipeline in two different years, or surveys at two different phases of the same construction job such as As-Laid and As-Trenched.



Sometimes the KPs logged one year may be slightly different from the earlier year. You can use a positive or negative offset to apply a shift to the data to correct for this difference. This does not change any of the data, it only adjusts the way that it is displayed in the Project History View in the Pipesheet. To use an offset, click in the Offset box of the set-up window and type a value in metres.

If you want to add more than two years' or phases of data, just select more projects in the History set-up window.

When the History view is turned on the pipe will be shown in different colours for the different Projects – a "Master pipe" and "Compare Pipe(s)". If you click on one of the pipes it will become the Master Pipe and the video display, the event list and all other windows will change to show the video and data associated with that year. If you want to look at the Anode marked with the red bar in the above example, you can click on it in the

top pipe to see the video from 2008 and then click on the red bar in the lower pipe to see the video of the same anode one year earlier.

To change the colours of the different pipe displays, right-click in the Pipesheet to open the Pipesheet View Options.

1.18.9 Linked Drawings

VisualEdit and **VisualReview** use the same **Drawing View** as **Visual3D-Inspector**, but here it is called a "Linked Document" because you can use it for more than just the inspection drawings used by Visual3D-Inspector. In VisualEdit you might also use this same window for ROV offset diagrams, specification documents or notes.

Video and other data can be linked to drawings. This could be drawings of structures such as jackets and wellheads shown in that video and data, or it might be documents relating to the specification or reporting of the project.

Three different types of "**Linked Drawing**" can be used:

- **Adobe PDF Files**, with one or more pages. Logged data is linked to the PDF using a page number, or even a specific zoomed-in area of a page. Select the page you want and zoom to the full page or a smaller part of it, then save that as a "**Linked view**".
- **Autodesk 3D DWF CAD files** using **Linked views**. These are usually drawings of whole jackets, platforms or other structures, or they may be field layout drawings showing multiple pipelines. Logged data can be linked to the 3D drawing in the same way as for 2D PDF drawings. You can zoom and rotate the 3D drawing to the relevant place (a view of an Anode, or other component) and then save that as a "**Linked view**".
- **Autodesk 3D DWF CAD files**, using **embedded Component ID** data. These are usually drawings of whole jackets, platforms or other structures, or they may be field layout drawings showing multiple pipelines. Logged data is linked to the 3D drawing using individual Component IDs to identify a specific anode, bracing, weld, flange etc. These Component ID tags are added to the different parts of the drawing before it is exported from AutoCAD to the DWF file format. The Component IDs in the drawing can be mapped to the Project and its Sub-Projects. This can be done automatically if the names of sub-projects match the names of Component IDs, or you can map them manually selecting which IDs link to which Sub-Projects.

For an inspection project you can load video and other data in the normal way using the Project Tree, and then import and display the Linked Drawing. Alternatively, if you are working with DWF files with Component IDs, then after the Linked Drawing has been imported into the Project you can right-click on the different components in the drawing to load video and data.

Display the Linked Document view



Linked
Document

Use the Linked Document button to open or close a window to display PDF or DWF drawings. This is the same as the one in **Visual3D-Inspector**, except for the menus which will show "offline" operations instead of "online" operations.

Display a list of DWF and PDF documents



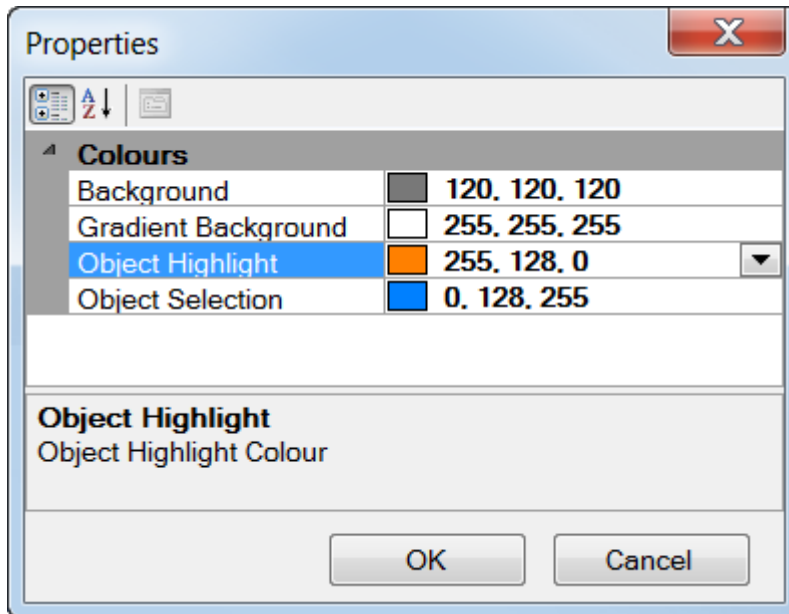
Drawings
List

Use the Drawings List button to open or close a list of all DWF and PDF documents in the VisualSoft area of the current offline disk drive.

Colour in the Linked Drawing View

When working with DWF files, some of the colours used in the Linked Document view can be changed. The colours of the actual Components shown in a 3D DWF drawing are set using **AutoCAD** before the drawing is exported as a DWF file but the background of the viewer and the colours used when you move and click the mouse in the window can be changed in **Visual3D-Inspector**.

To change the colours, right-click in the Linked Document window and select Options.



Object Highlight & Object Selection Colours

When you click to select an object in the 3D DWF or click on an item in the Project or Work Scope task list you will see that component change to the **Object Selection** colour.

As you move the mouse cursor around a 3D DWF drawing you will notice that the component under the cursor changes colour. This colour is the **Object Highlight** colour and you can change it using the buttons on the ribbon bar.

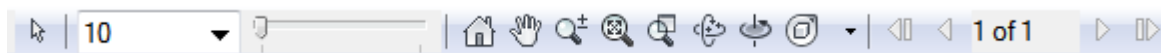
You should try to set the Highlight and Selection colours to something which is not already used in the 3D drawing.



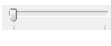








Background Colours

The 3D DWF view has a two-tone background colour. The **Background** colour is used at the top of the window and is shaded gradually into the **Gradient Background** colour used at the bottom of the window.

Moving Around the Linked Drawing View

The Linked Drawing view has a toolbar and keyboard shortcuts which allow you to pan and zoom. In the case of 3D DWF drawings you can also tilt and rotate the drawing.



Tool	Name	Shortcut	Description and usage
	Select	A	Enables the Select tool. When using DWF drawings, click in the drawing to select a component.
	Zoom Scale 1:XX		Select larger numbers to zoom out
	Zoom Slider		Slide to the right to zoom out
	Home	Home	Restore the default “Home” view & scale
	Pan	H	Click and drag to move the drawing
	Zoom	Q	Click in the drawing and slide the mouse up to zoom in, down to zoom out
	Fit to Window	F	Keeps the current view angle and zooms in or out to fit the whole drawing
	Zoom Rectangle	R	Click and drag a rectangle in the drawing to zoom in
	Orbit	B	Click and move to rotate in three dimensions. (DWF mode only.)
	Turntable	E	Click and move sideways to rotate, up or down to tilt. (DWF mode only.)
	Navigation Wheels	Ctrl+Shift+I	(DWF mode only.) See the Autodesk Design Review Help

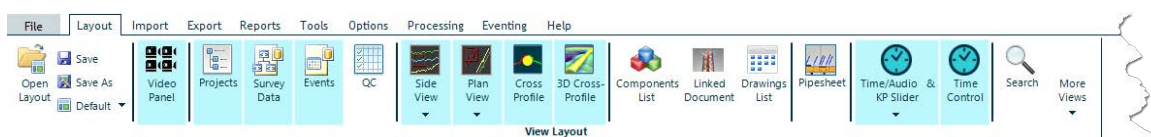
Tool	Name	Shortcut	Description and usage
TIP:	If you find the Orbit control difficult to use, try the Turntable instead.		
TIP:	You can also zoom in and out by rotating your mouse wheel.		
TIP:	With Windows 7 these buttons may occasionally disappear. If this happens, go to the Windows Control Panel and open the System settings. Click on Advanced System Settings in the list on the left, and then select the Advanced tab. In the Performance section of the window click the Settings button and then select the Visual Effects tab. Disable the top item “Animate controls and elements inside windows”.		

Many other tool and options are available in the Linked Drawing view, and full details of these can be found in Autodesk’s own Design Review documentation. You will be able to find this installed on your PC by going to Start, Programs, Autodesk.

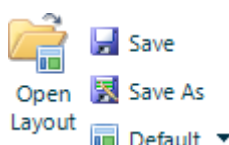
1.19 Window Layouts

You can arrange the windows in **VisualReview** and **VisualEdit** in any way you like. Each graphics view, data list or toolbar can be dragged wherever you like: You can open it in its own [separate window](#)^[97], snap it [side by side](#)^[96] with another window, snap it [above or below](#)^[97] another window or make it [appear as a tab](#)^[97] sharing the same space as another window.

To open and close individual windows, just click the buttons in [The Layout Ribbon](#)^[40].



The window layout can be saved and then reopened later, so you can configure different layouts for different types of task, or just different layouts to suit the personal preferences of different operators. To restore the default layout of the windows just click the arrow on the “Default” button and select from one of the options: the Pipeline Layout with three video windows, or Structure Layout with just one.

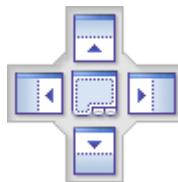


1.20 Moving a Window

To pick up a window, left-click at the top of it and hold down the left mouse button. Move the mouse around the screen while holding down the left mouse button. As you move around the screen you will see a blue box appear on screen indicating a preview of how your window will appear if you drop it at this location.

When the cursor is away from the centre of any other window you will see a blue square showing how the window would be placed as a free-floating window. As you move the cursor over the central area of any other window you will see a **Drop-Target** appear. The Drop-Target has five possible drop areas:

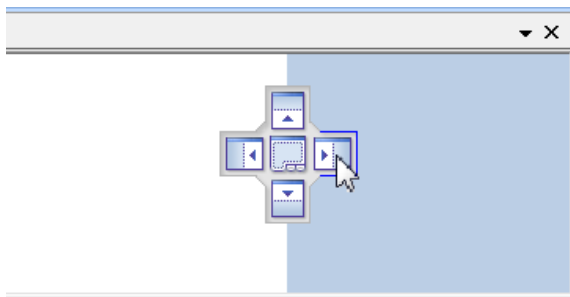
The Drop Target



If you release the mouse button while over the central area of the **Drop-Target** your window will be added as an extra tab, sharing the same space as the target window.

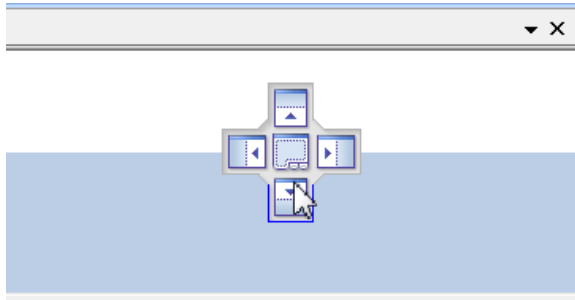
If you release the button while over one of the four arrowed areas of the **Drop-Target**, your window will be placed beside, above or below the target window, with the original space of the target window being divided equally between them. A blue rectangle will show a preview of the area which will be used for the window that you are moving.

Dock side by side with another window



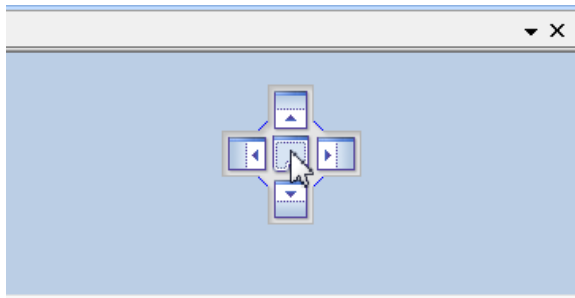
To arrange two windows side by side, click and drag one window over another until the Drop-Target appears. As you move the mouse over the left and right targets, you will see a rectangle covering one half (left or right) of the window that you are dragging over. Release the mouse when the blue rectangle is in the half where you want your window to be placed.

Dock above or below another window



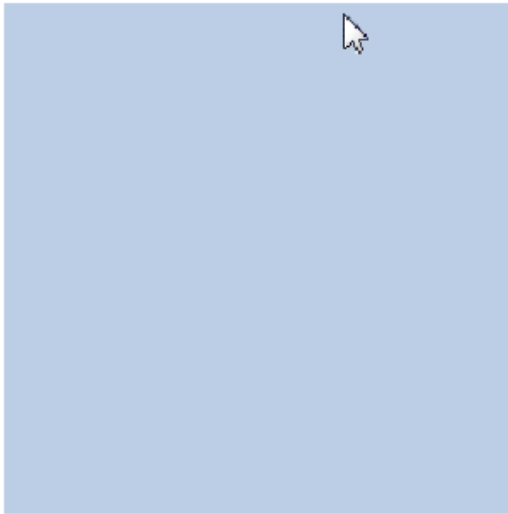
To arrange two one above the other, click and drag one window over another until the Drop-Target appears. As you move the mouse over the upper and lower targets, you will see a rectangle covering one half (top or bottom) of the window that you are dragging over. Release the mouse when the blue rectangle is in the half where you want your window to be placed.

Dock over another window as a tabbed view

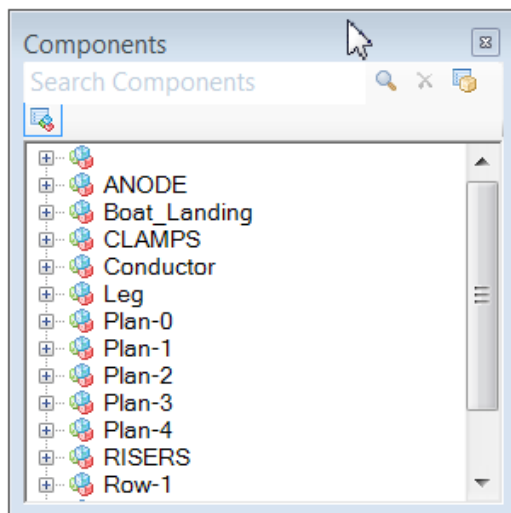


To arrange two or more windows to share the same space, creating a tabbed view, drag over another window until the pop-up Drop-Target appears, and release the mouse over the central square.

Move to a Floating Window



To open a list or other view in its own window, click on its title bar or tab and drag it until you see a blue square appear on the screen as shown in the example on the left below. When the rectangle appears release the mouse and you will see the view that you were moving will now have its own window (with the normal title bar and close button) that you can move around and place as you want.



Resizing a Window



To resize a window hold down the left mouse button over one of the edges of the window. When you see the Resize Handle appear, keep the button held down and drag the window edge to where you want it, then let go.

1.21 Configurable ASCII Export

This option allows you to create configurable export, using data columns from one or more data tables.

The export can be at a fixed interval of either time or distance, or it can match the interval of the records in an existing data table.

To use the ASCII export first load some or all of the required data so that VisualEdit (or VisualReview) has a list of the available tables and column names. Then right-click in the Project Tree, clicking on a Project a Sub-Project or on one or more highlighted and selected Datasets. (Where you click will determine what data is exported: If you right-click on a Project then the whole Project will be exported even if only a little bit of it is loaded.) From the pop-up menu, select Export, ASCII, and then configure and save the export using the steps described on the following pages.

1.21.1 Export ASCII Step 1 Main


The ASCII export is configured using the windows shown below on on the following pages.

The settings may be saved and re-loaded using the File menu on the ASCII Export window.

The screenshot shows the 'ASCII Export' dialog box. It has a title bar with the text 'ASCII Export' and a close button. The main area is divided into several sections. At the top, there's a 'File' tab. Below it, the 'Data Limits' section contains two date-time pickers (16 May 2007 09:27:21 to 16 May 2007 09:37:50) and two numeric input fields (12.415 to 12.452). There's a checkbox for 'and KP' and a 'Reset Limits' button. To the right of these are 'Configure', 'Run', and 'View Output' buttons. Below the 'Data Limits' is a 'Summary' section with five text input fields labeled 'Input Fields:', 'Output Fields:', 'Output Interval:', 'Output File:', and 'Restrict Limits To:'. At the bottom, there are two radio buttons: 'Overwrite File' (selected) and 'Append To File'. A 'Close' button is located at the bottom right.

The main page allows you to specify start and end limits using Time, KP or both. The default values represent all currently loaded data.

At the bottom there is an option to either create a new file each time the export is run (Overwrite) or add to the end of an existing file with the same name (Append).

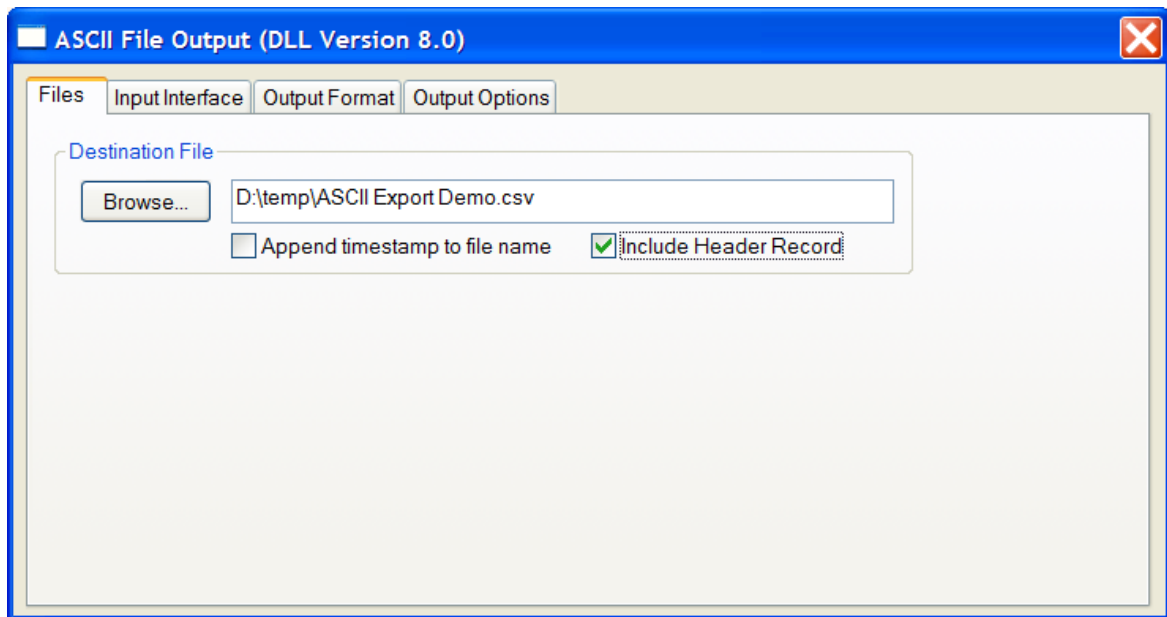
- Click  to choose what data you want to export and how you want it to look.

1.21.2 Export ASCII Step 2 Files

Select the Files tab to specify the destination for the exported data.

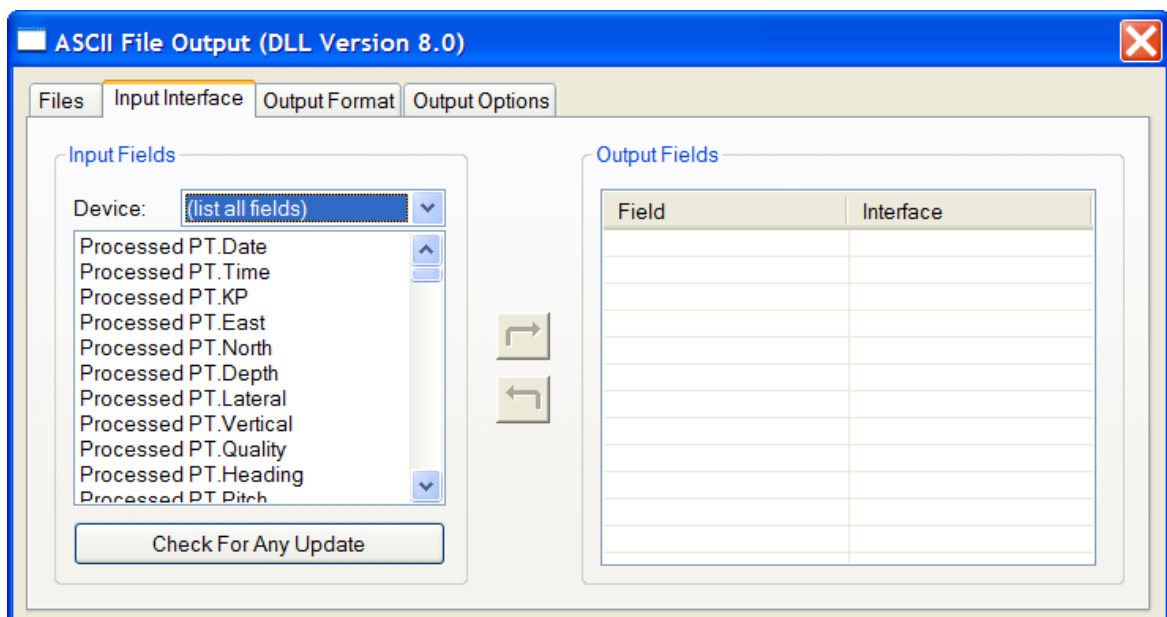
Click on the Browse button to select a folder and type a file name.

If you want to have column headings in the exported file select the option to "Include Header Record".



1.21.3 Export ASCII Step 3 Data Selection

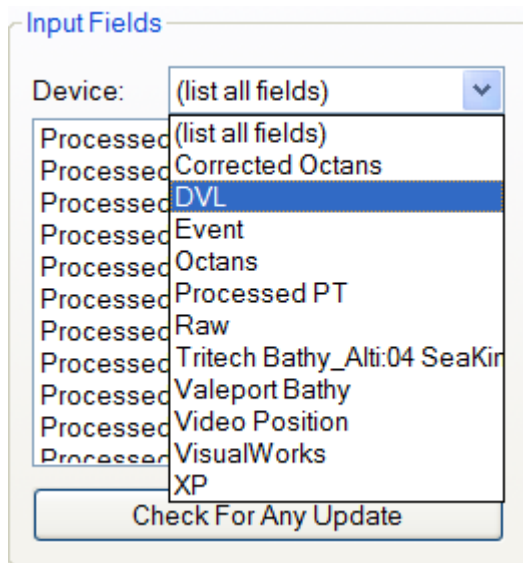
Select the Input Interface tab to select what data you want to export.



The Device drop-down list allows you to filter the data list to limit it to only one data table at a time.

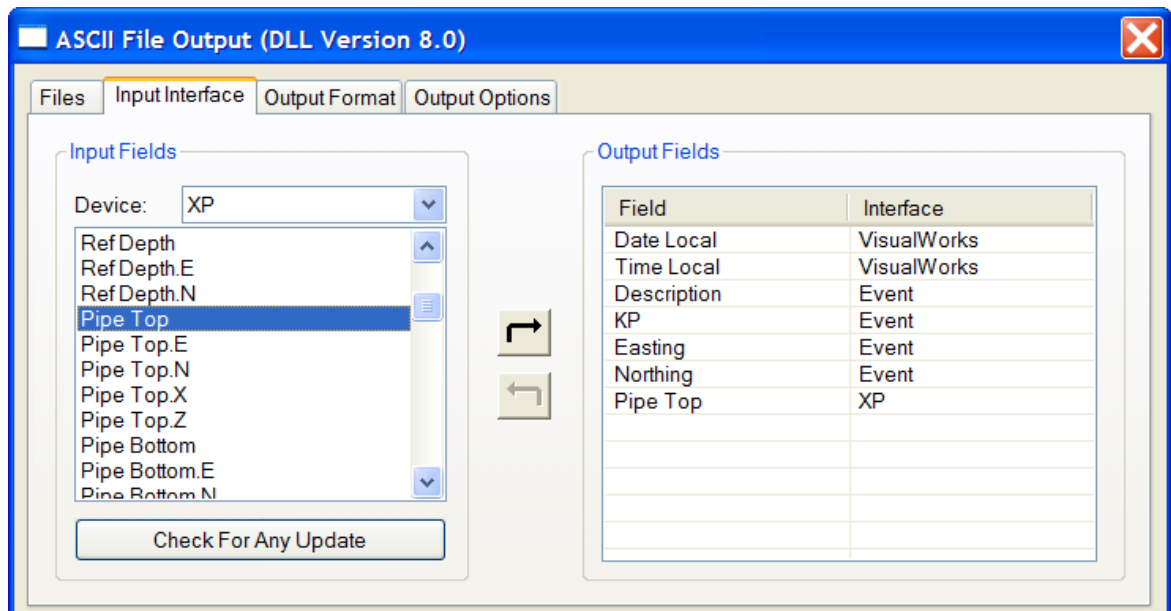
The VisualWorks section includes time and date in either UTC or local time offsets. It is recommended that you use these rather than the date or time columns in

individual tables. This will ensure that all exported dates and times accurately match those of the video displays.



To add data to your export, highlight the chosen entry in the list on the left, and then click the right-pointing arrow in the middle. This will add the item to the "Output Fields" list on the right.

To remove an item from the "Output Fields" list, highlight it in the list on the right, and click the left-pointing arrow.



1.21.4 Export ASCII Step 4 Output Format

The screenshot shows the 'ASCII File Output (DLL Version 8.0)' dialog box with the 'Output Format' tab selected. The 'Record Header' is set to '(none)' and the 'Record Terminator' is set to '<CR><LF>'. A table lists fields and their formats. The 'Time Local' row is highlighted. Below the table, the 'Use Field Separator' checkbox is checked, and the 'Include Separator After Last Field' checkbox is unchecked. A preview shows the output: '10/12/2009,13:58:38.7,0.000,0.00,0.00,0.0<CR><LF>'.

Field	Interface	Format	Field Pr...	Field Suffix
Date Local	VisualWorks	date-time		
Time Local	VisualWorks	date-time		
Description	Event	text		
KP	Event	decimal: 3 dcml-pts		
Easting	Event	decimal: 2 dcml-pts		
Northing	Event	decimal: 2 dcml-pts		
Pipe Top	XP	decimal: 1 dcml-pts		

Preview: 10/12/2009,13:58:38.7,0.000,0.00,0.00,0.0<CR><LF>

To change the formatting of the data that you will be exporting, double click in the row that you want to change.

This will open a window like the one shown below. Change the "Field Data Type" using the drop-down list and then edit the Format to match what you want.

Available formats are: Integer, Decimal, Text or Date-Time.

You can also add text as a prefix before the exported value, or as a suffix after the exported value, so you can specify the units or label the data if you want.

The screenshot shows the 'Output Field Format' dialog box. The 'Field Data Type' is set to 'date-time' and the 'Format' is 'DD/MM/YYYY hh:mm:ss.tt'. There are checkboxes for 'Field Prefix' and 'Field Suffix', both of which are unchecked. The 'OK' and 'Cancel' buttons are at the bottom right.

VisualWorks.Date Local

Field Data Type: date-time

Format: DD/MM/YYYY hh:mm:ss.tt

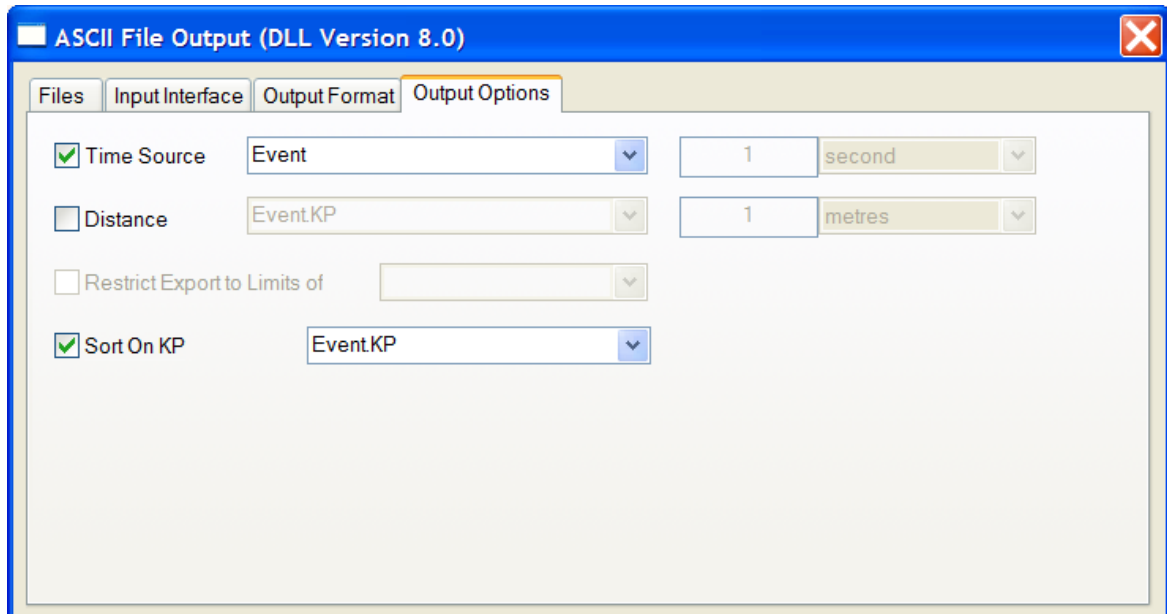
Field Prefix: ☐

Field Suffix: ☐

OK Cancel

1.21.5 Export ASCII Step 5 Output Interval

Select the "Output Options" tab to specify the interval for the exported data. When you have made all configuration choices, click the red close button.




Data can be output at an interval matching an existing data table, as shown in the example above. Any data columns being exported from other tables will be interpolated to match.

If any of the data is Text such as in the columns of an event list, then you must export at the interval of that source table – it is not possible to interpolate text.

Alternatively (if there are no text fields) data can be exported at a fixed interval of time or KP distance.

If you want to sort the listing using KP instead of time use the "Sort on KP" option at the bottom of the window.

When you have made all configuration choices, click the red [close](#)  button.

1.21.6 Export ASCII Step 6 Main

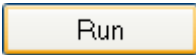
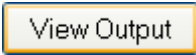
The screenshot shows the 'ASCII Export' dialog box. The 'File' section contains the 'Data Limits' group, which includes two date-time pickers (16 May 2007 09:27:21 to 16 May 2007 09:37:50) and two numeric input fields (12.415 to 12.452). There is a checkbox for 'and KP' and a 'Reset Limits' button. The 'Summary' section has five text input fields for 'Input Fields:', 'Output Fields:', 'Output Interval:', 'Output File:', and 'Restrict Limits To:'. On the right side, there are buttons for 'Configure', 'Run', 'View Output', and 'Close'. At the bottom, there are radio buttons for 'Overwrite File' (selected) and 'Append To File'.

After the configuration choices have been made, the settings will be shown in the Summary section of the window.

These settings may be saved and re-loaded using the File menu on the ASCII Export window.

The main page allows you to specify start and end limits using Time, KP or both. The default values represent all currently loaded data.

At the bottom there is an option to either create a new file each time the export is run (Overwrite) or add to the end of an existing file with the same name (Append).

- Click  to export the data using the chosen settings.
- Click  to open the newly created file in Notepad.

2 Contact Details

Forum Subsea Technologies has offices in many parts of the world. The VisualSoft team is mostly based in Aberdeen in the UK, but we also have regional sales staff and some support services in other parts of the world.

The following pages have details of how to contact either our sales team or our support team, by telephone, email or by post.

2.1 Contact Details – Support



Website: f-e-t.com/visualsoft

Most support questions are most easily answered by email:

Using email gives our support team time to think about your problem before they reply, and time to test the software if necessary. If your question is urgent, do not hesitate to telephone us, but even then it may be best to send an email before you call, even if only a few minutes before you call. Sending us an email will allow you to include screen captures, data files and other things that may make it easier for us to quickly and accurately understand your problems.

Support Email (recommended)	visualsoft.support@f-e-t.com
Phone: UK & Global, during UK office hours	+44 (0) 1224 744 000
Phone: UK & Global, outside UK office hours Available for clients with a valid support contract. Operates from 17:00 until 08:30 UK time each night Monday to Thursday, and all through the weekend from 17:00 Friday evening until 08:30 Monday morning.	+44 (0) 1224 363 999
Phone: USA, 24/7 During Houston office hours this will connect you to our US team. At other times, or if the US team is busy, it diverts to the UK team.	+1 713 454 7091

2.2 Contact Details – Sales



Website: f-e-t.com/visualsoft

For address and telephone/fax details, please select the appropriate office for your region:

Aberdeen, UK	FET – VisualSoft Cumberland House Endeavour Drive Arnhall Business Park Westhill Aberdeenshire AB32 6UF UK
Sales and rental enquiries:	visualsoft.sales@f-e-t.com
Telephone:	+44 (0) 1224 744 000

Houston, USA	FET – VisualSoft 10344 Sam Houston Park Drive, Suite 300 Houston TX 77064 USA
Telephone:	+1 713 329 8273

Singapore	FET – VisualSoft Asia Pacific Rental Service
Email	visualsoft.sales@f-e-t.com
Telephone:	+65 9643 7433 / +65 9230 8138

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