VisualSoft Suite User Manual

VisualEvent Logger
&
VisualEvent Config Editor
11.0

Table of Contents

1 VisualEventLogger

1.1 VisualEventLogger Introduction

Overview

VisualEventLogger allows you to log what you see "online" in real-time while recording video during a survey.

For logging what you see "offline" during playback and video review, please see VisualEdit Eventing or VisualEdit Professional. This also allows you to make changes to what was already logged online.

VisualEventLogger can be used to record inspection observations or incidents during a platform or pipeline survey, or to record features observed during construction work or other surveys.

VisualEventLogger records the time *when* something is seen and the position *where* it was seen, and then allows other information to be entered to describe *what* was seen. This can be done by selecting from pre-defined buttons, lists or other choices, or perhaps by typing in a description or the size of something.

Methods of entering data with the online **VisualEventLogger** include:

- A **Wizard**, which will guide you through the relevant data entry fields for a specific type of event or feature.

- A **Toolbar**, where you can add buttons for the event types that you see most often. Clicking a button can either open the wizard for more detailed data entry or can use Quick Entry ⁵ to log the event with no more questions.

- A **Tablet**, which works the same as the Toolbar but gives you larger buttons that you can move and resize yourself.

- **Keyboard shortcuts** can be configured to associate individual keys or combinations of keys (such as F7, Ctrl+T or Alt+R) with selected event types.

1.1.1   Terminology & Definitions

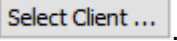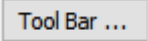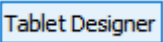|	
Client Configuration	The "Client" configuration defines what types of event or feature can be recorded, what extra information should be noted, and how that information should be coded. This will vary from company to company (or "Client" to "Client"), so that for example BP record an pipeline Anode as code "AN", Shell record it as code "400" and for Equinor it is "ANO".
Event Logging Tablet	A window with large, coloured buttons which you can configure to show the most common event types. The Tablet allows you to log key event types quickly and easily. Each button can be set to use Quick Entry mode or not.
Event Logging Toolbar	A pop-up toolbar with small buttons which you can configure to show selected event types. Like the Tablet, the toolbar allows you to log key event types quickly and easily. Each button can be set to use Quick Entry mode or not.
Event Logging Wizard	The logging wizard is used to prompt the user for information relevant to the type of event being logged. For example it may ask for the wastage status or an Anode, or for the dimensions of an item of debris.
Quick Entry mode	In Quick Entry mode, as soon as you click a button on the logging toolbar or the logging tablet, the appropriate event will be logged with no further input required. This allows for quick and easy online event logging, but the logged event will have default values for all columns except the event type and sub-type and so it will probably require further editing offline during video review.

1.2   Getting Started

Run the **VisualEvent Logger** by going to Start, Programs, VisualSoft Suite and then click on **VisualEvent Logger**. This will open the window shown below.
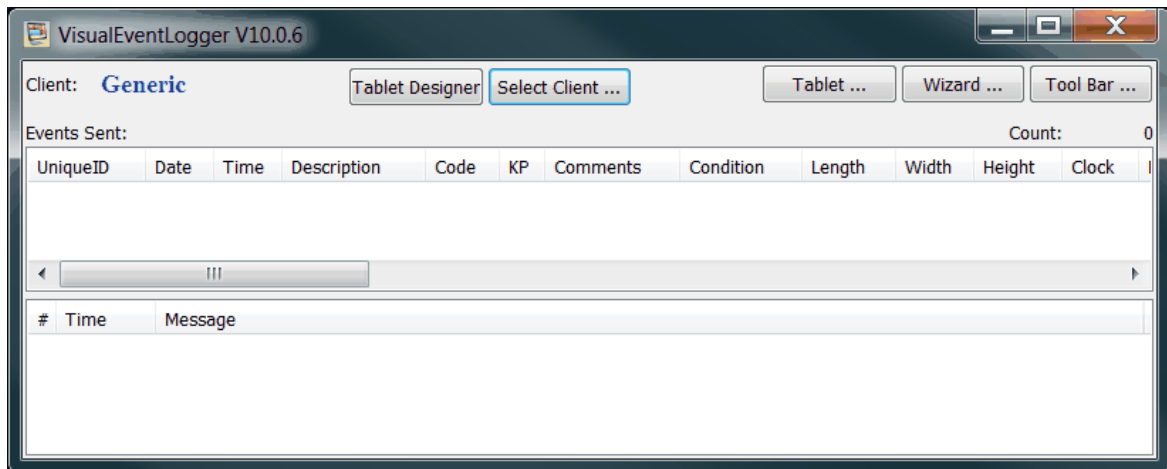

Before you start a survey or inspection you need to configure **VisualEventLogger** so that it will meet the needs of your client and make your own job as quick and simple as possible.

1. You will need to <u>Choose a Client Configuration</u> [6] using Select Client ... .

2. You might want to <u>Design a logging Toolbar</u> [7] using Tool Bar ... .

3. You might want to <u>Design a logging Tablet</u> [10] using Tablet Designer .

1.2.1   Choose a Client Configuration

Before you start event logging you must first select the correct Client Configuration. This defines what should be logged and how it should be encoded to meet company specifications or other requirements for the job. Most pipeline and platform operators have strict and specific guidelines for how inspection data should be recorded. These guidelines can be built into a Client Configuration.

For online logging, click on the "Select Client" button to display a list of the Client Configurations available on your PC. Offline in VisualEdit, click on "Select Client Configuration" on the Eventing Ribbon at the top of the display.
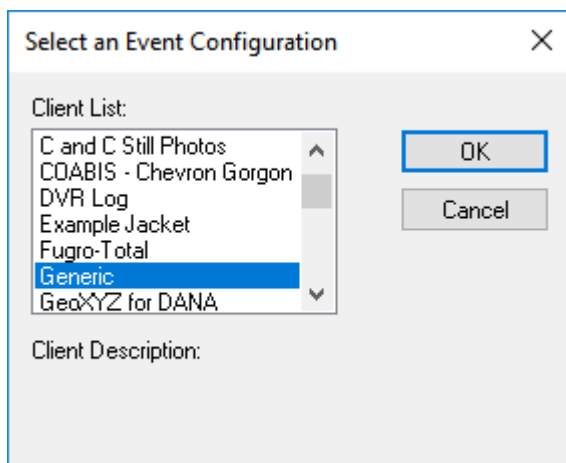
There are some predefined Client Configurations for BP, Shell, Equinor and others and also a "Generic" configuration that we have included in case you do not have a specification from your own client. You may also see other configurations created by other people. Many survey and inspection companies make and maintain their own Client Configurations, so your own colleagues may have added to the list on your PC.

If you do not already have the correct Client Configuration on your PC you will need to create one using the VisualEvent Config Editor 19 or copy one from another PC. (See Publishing a Client Configuration on other PCs 52.)

Before you start logging, make sure that you are using the correct, and up to date, Client configuration. It is not easy to change the Client configuration after you have started logging to a VisualSoft Project.

You MUST use the same Client Configuration for both online eventing with VisualEventLogger and for offline eventing in VisualEdit Eventing. See Publishing Event Configuration On User PCs 52 for details of how to do this.

1.2.2 Design a logging Toolbar

After you have selected a Client Configuration, you can open and configure a toolbar for logging events. The Eventing Toolbar provides a simple way of starting the Eventing Wizard or of logging specific events quickly with a single click on a toolbar button.

The toolbar is opened by clicking on the Toolbar button at the top of the Online Eventing tool window, or by using the right-click menu in VisualEdit Eventing and VisualEdit Professional. The toolbar can be resized, and re-shaped by dragging its edges and initially it displays just three usable buttons.
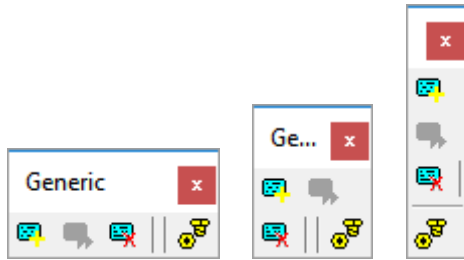
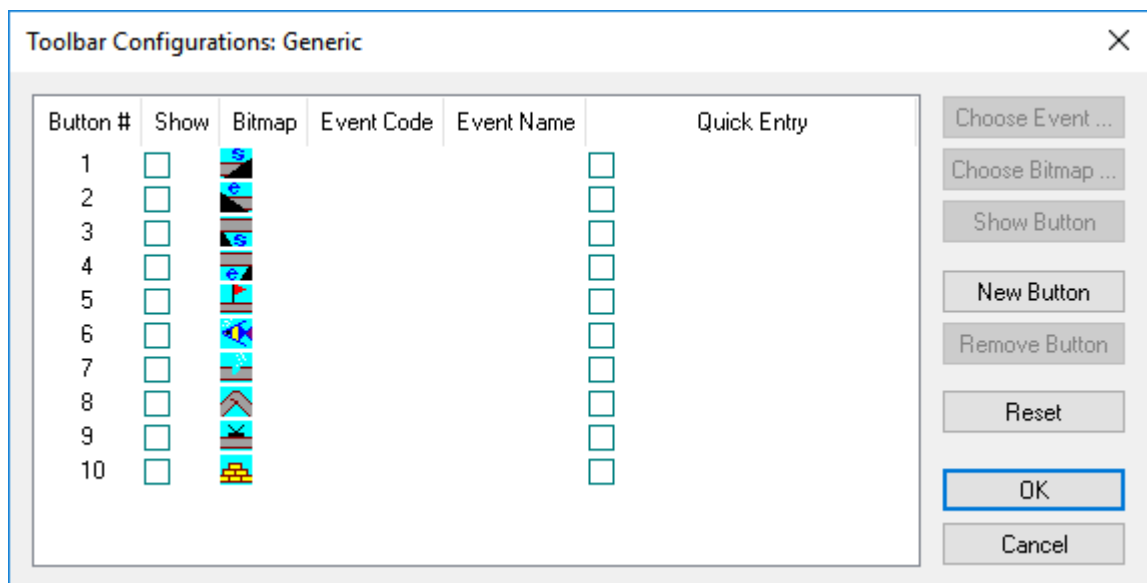   Insert Blank Event – Opens the Eventing Wizard at the initial window for event selection

 Delete Event – not applicable for online eventing for offline editing use only

 Configure – Opens toolbar configuration window shown below.

Show or Hide a button

Click in the boxes in the "Show" column to turn buttons on or off. Ten typical and commonly used buttons are included automatically, and you can turn these on very quickly.

Add an extra button

If you want more than ten buttons you can add to the list by clicking on "New Button".

Change the picture on a button

If you want to change the picture on a button, click on the displayed picture and then on "Choose Bitmap". You can select from a list of pre-installed button images. (You cannot yet use your own images.)
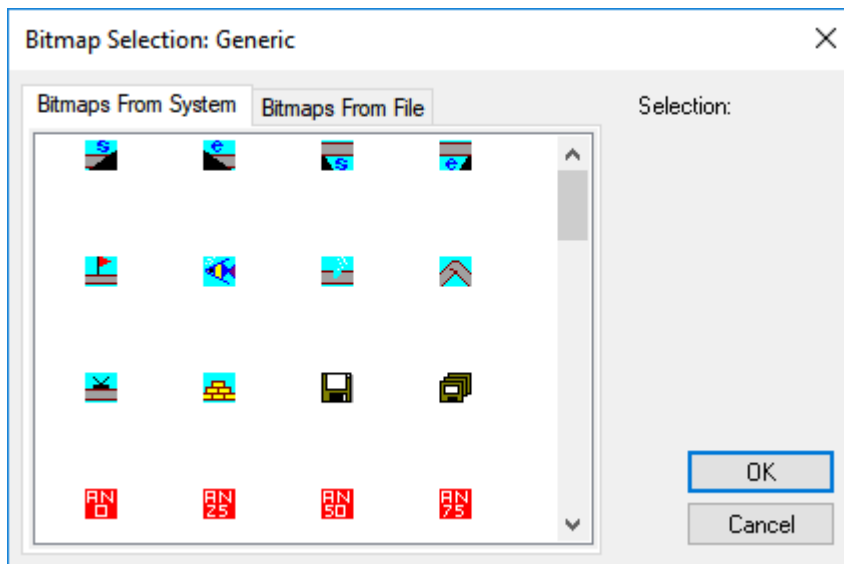
Choose what Event type to log

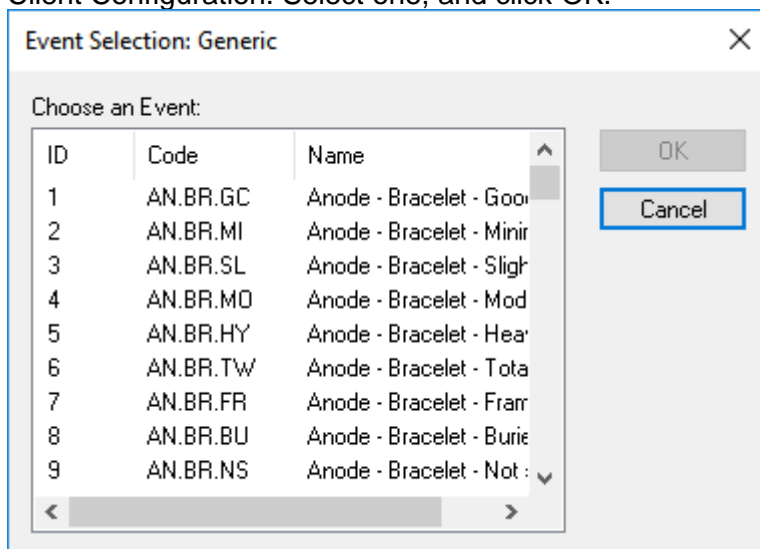Each button can be linked to an Event type which will be logged when that button is clicked. To link an Event type to your button, highlight the row in the list of buttons, and then click "Choose Event". This will display a list of all the Event types available in the Client Configuration. Select one, and click OK.


Quick Entry mode

You can turn Quick Entry mode on or off by clicking the box in the Quick Entry column. If Quick Entry mode is on, an Event will be logged immediately when the button on the toolbar is clicked. If Quick Entry is off, when the button is clicked the logging Wizard will open to allow extra details to by typed in.

1.2.3 **Design a logging Tablet**

The Logging Tablet provides an alternative logging method, with larger buttons than the standard Toolbar. After you have selected a Client Configuration you can design your own Logging Tablet.

Create the New Tablet

Click on Tablet Designer and the Tablet window will open in Designer mode. If you have already used a tablet on this PC, that previous tablet file will be loaded, if not, a blank layout will be displayed as shown below. It has some simple instructions displayed in yellow highlights. First you must save the new blank Tablet with a suitable file name. You might want to save it with the Client Configuration that it matches.
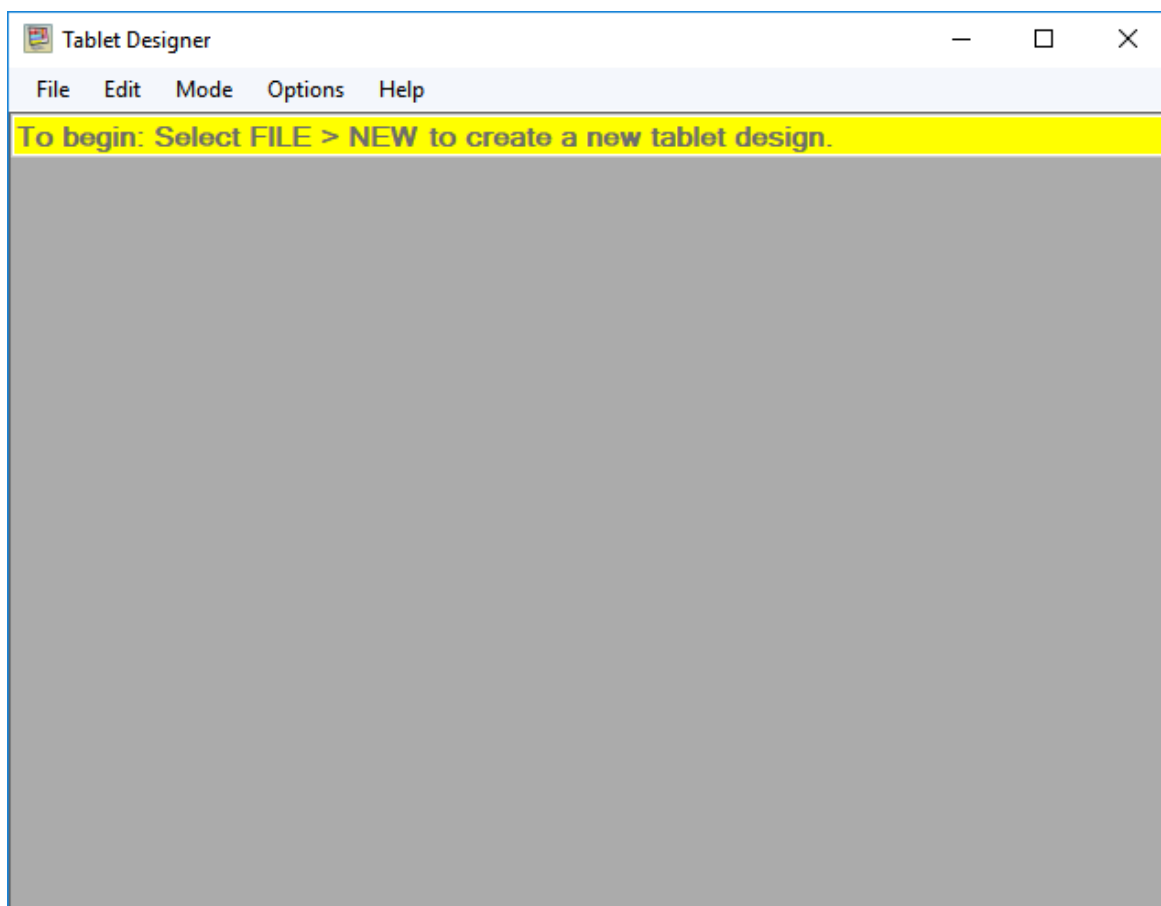

Add a button

New blank buttons can be added by clicking in the layout area, holding down the left mouse button and dragging the mouse to draw a square or rectangle. Button corners and edges will usually snap to the displayed grid. You can turn this off in the Options menu if you want to, but we recommend that you leave it on.
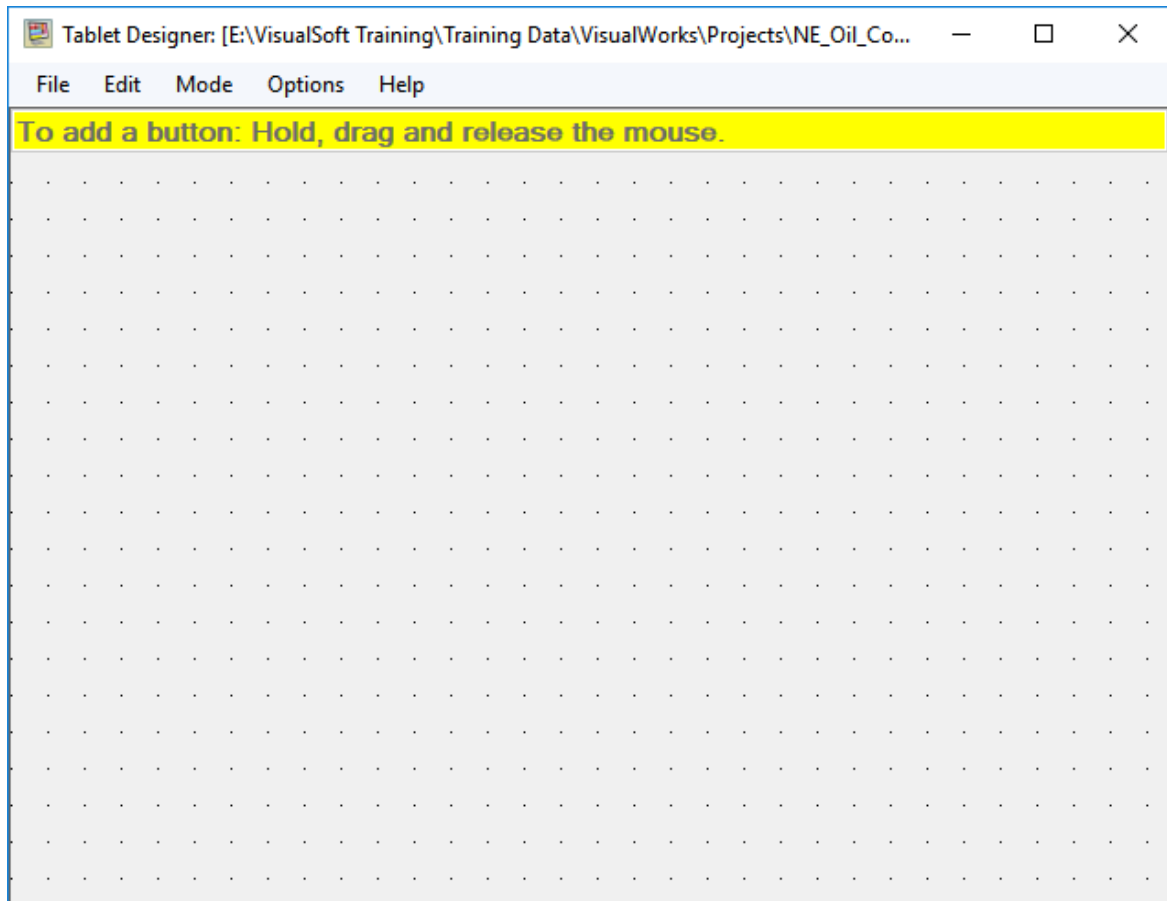
Configure a button

To configure each button, so that it has a label and a colour, and to link it to the event type you want it to log, right-click on the button to open its properties.
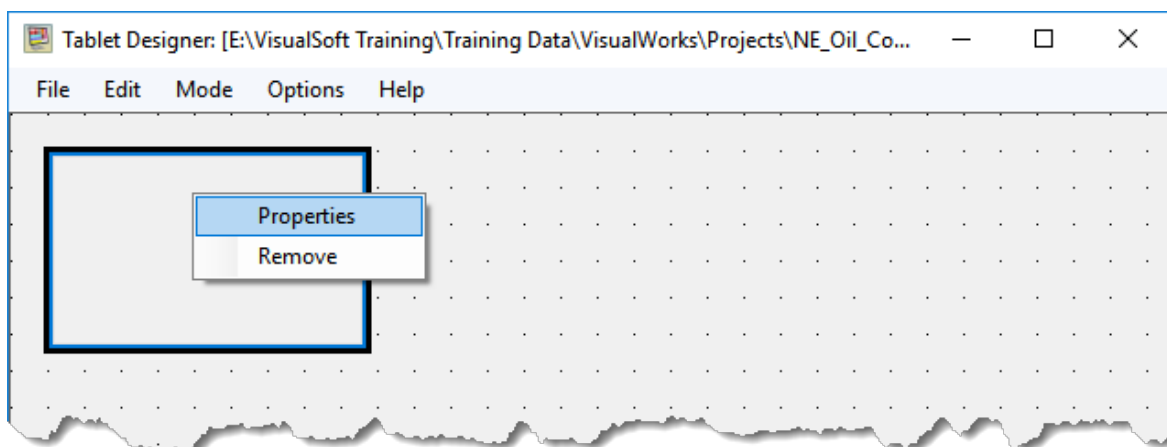
This opens the Button Properties window. Select the Event type that you want this button to log. This will automatically fill in the Button Text to match the chosen Event type, but you can change that text if you want to simplify it. If you want the logging wizard to open when you click this button, so that you could type comments or fill in dimensions etc., turn

off the Quick Entry option. If you leave Quick Entry turned on the button will log an event with just a single click of the button, and any extra data like comments or sizes can be completed offline.

Use the Width and Height to set precise sizes if you want to adjust what you drew on screen.

You can also set the button colour and the font details for the button text.

Move a button

A button can be moved by hovering the cursor over the button to activate the move cursor, and then click and drag to a new location.

Re-Size a button

Change the size of a button by moving the cursor to the edge of the button until you see one of the re-size cursors, then click and drag the edge of the button.

Copy a button

Buttons can also be copied, by clicking on the button to select it, then go to the Edit menu and select Copy (or use Ctrl+C). To paste a new button use the menu again, or use Ctrl+V. Remember to edit the new button after it is pasted – changing it to log a different Event type and have different text on it.

Additional items in the Options menu let you display a grid and use this to align the buttons, or ensure that the tablet designer remains always on top of any other open applications.

1.3   Online Event Logging

The **VisualEventLogger** can be run on the **VisualDVR** if there is enough screen space, or it can be run on any other PC on the same network. It does not require its own licence because it uses **VisualDVR** to write the logging file using the **VisualDVR** licence. If **VisualDVR** is running on a different PC, the event information is sent to it via the network, and is logged by the VisualDVR software on the VisualDVR logging drives.

**VisualEventLogger** is started by clicking on Start, All Programs, VisualSoft Suite, VisualEventLogger.

- If you are running **VisualEventLogger** for the first time, it will show a list of available "Client Configurations 5" and ask you to select one. You should select the configuration that matches the needs and specification of the company for which you are working. See Selecting a Client Configuration 6 for more details.

- If **VisualEventLogger** has been run before, it will open the window shown below.
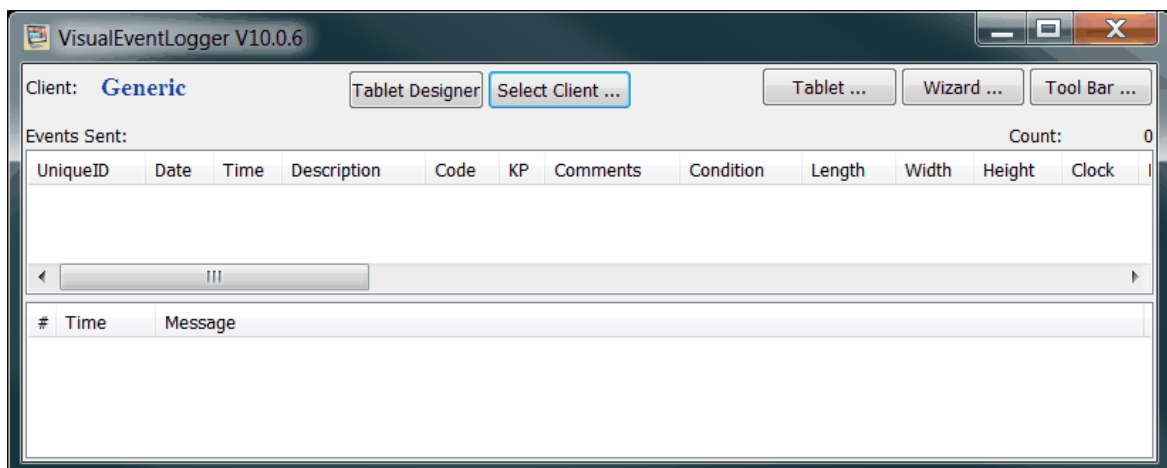
From this screen you can use the buttons at the top to perform various tasks:

- Design a logging Tablet 10 layout
- Select a different Client 6 configuration
- Open a logging Tablet 10
- Open the logging Wizard 15
- Open the logging Toolbar 7

After an event has been logged it will appear in the window below the buttons. By right-clicking in the list of logged events you can change the font size, set the number of events displayed, or clear the list of events.
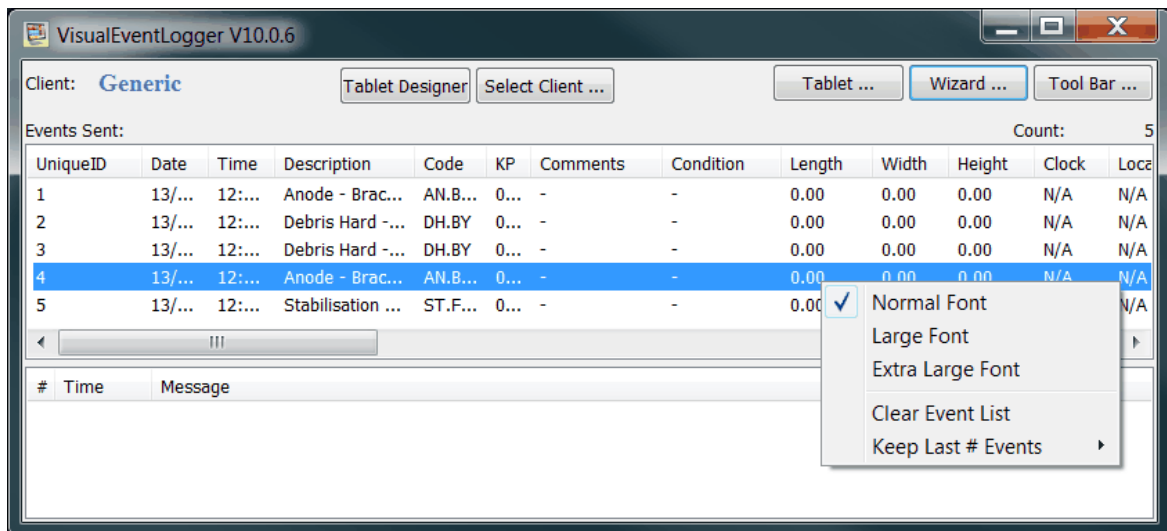
1.3.1   Using the logging Toolbar

The Logging Toolbar has small buttons, and most people use it to log events that won't be seen very often, or for events where you can be sure that the ROV will stop (if using online logging). For more frequent events that the ROV will fly past without stopping you will probably find it easier to use the larger buttons of the Logging Tablet.

Online, the toolbar is opened by clicking the Tool Bar ... button in the main window. Offline, in VisualEdit it is opened using the right-click menu, or the button on the Eventing ribbon at the top of the screen.

You can use the toolbar to open the Logging Wizard by clicking the New Event button .

If the toolbar has extra buttons 7 for specific types of event, you can click those to log the relevant event types.

If a button has Quick Entry mode 7 enabled, no further action is required and the event will be logged immediately.

If a button does not have Quick Entry mode enabled, the Logging Wizard 15 will prompt you for extra details about the new event.

For online logging, the time associated with each logged event is taken from the time that you click the button on the toolbar, not the time when you complete the Wizard. Offline, the time is taken from the currently displayed video frame.

1.3.2   Using an Event Logging Tablet

After you have used the Tablet Designer to design a logging tablet 10 you can open that Logging Tablet online by clicking on the Tablet ... button in the main window. The Tablet button will open whichever tablet was last used in the Tablet Designer. Offline, in

VisualEdit the tablet is opened using the right-click menu, or from the button on the Eventing ribbon at the top of the screen.

Click on the tablet's buttons to log the relevant event types.

If a button has Quick Entry mode 7 enabled, no further action is required and the event will be logged immediately.

If a button does not have Quick Entry mode enabled, the Logging Wizard 15 will prompt you for extra details about the new event.

For online logging, the time associated with each logged event is taken from the time that you click the button on the tablet, not the time when you complete the Wizard. Offline, the time is taken from the currently displayed video frame.
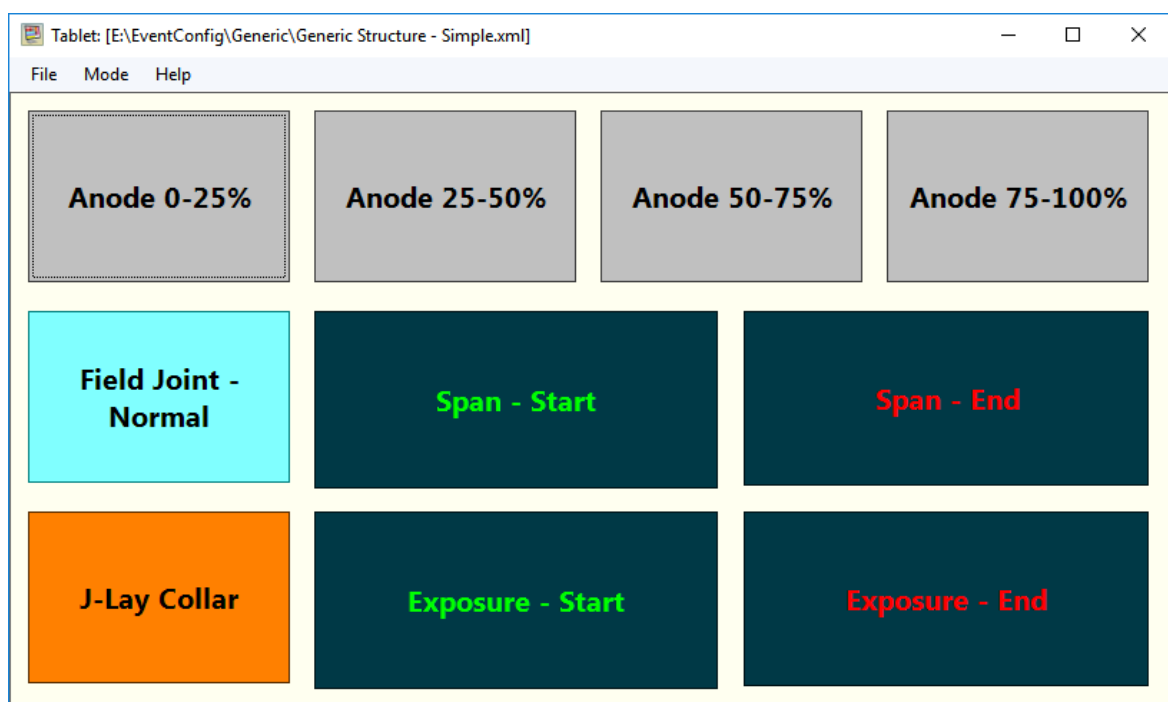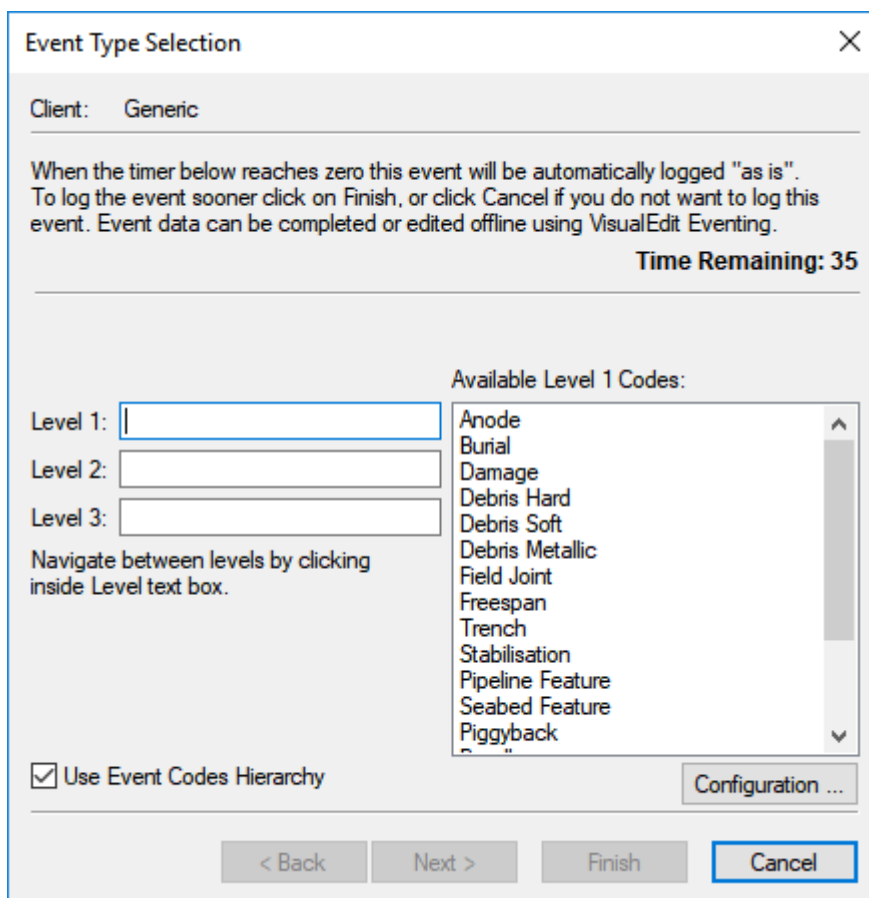

1.3.3 Using the logging Wizard

The Logging Wizard is opened by clicking the New Event button on the toolbar, or by clicking a button on the toolbar or Tablet which does not have Quick Entry Mode enabled, or it can be opened by pressing F12 on your keyboard.

The Wizard will display a list of all available Level 1 event codes in the Client Configuration.

Note that when used online, the wizard only stays open for 60 seconds so that you are not distracted from the moving video for too long. If you have not selected all levels and answered all questions before then the window will close, logging what you have done so far. The rest can be completed offline in VisualEdit Eventing or VisualEdit Professional where the wizard doesn't have a timer and you can take as long as you need. With the

offline version, video playback pauses while the wizard is open, but online the wizard can't tell the ROV so stop and wait for you – so you have to be quick with the wizard.
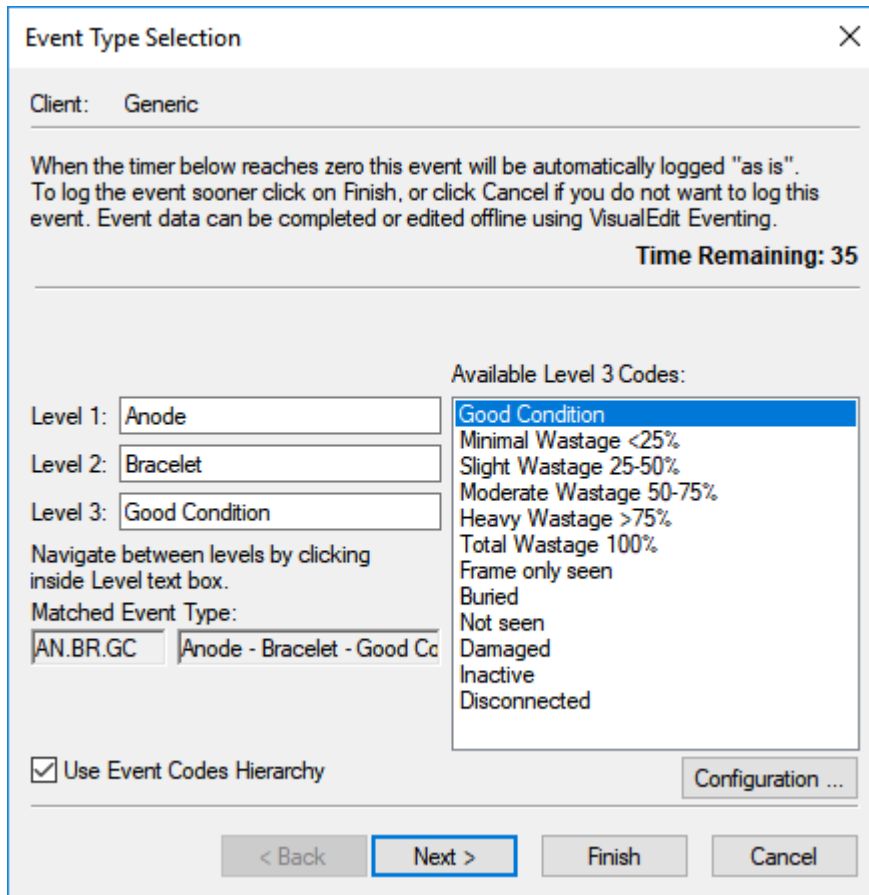
After you select the Level 1 event type for the event that you want to log, you will be shown a list of Level 2 event types, if they are available. After you select the Level 2 event type, you will be shown the Level 3 types if these exist.

When all of the applicable Levels have been chosen the buttons for "Next" (to input additional information) and "Finish" (to save the event) will become available.

Event Type Selection   ✕

Client: Generic

When the timer below reaches zero this event will be automatically logged "as is".
To log the event sooner click on Finish, or click Cancel if you do not want to log this
event. Event data can be completed or edited offline using VisualEdit Eventing.

Time Remaining: 35

Available Level 3 Codes:

Level 1: Anode

Level 2: Bracelet

Level 3: Good Condition

Navigate between levels by clicking
inside Level text box.

Matched Event Type:

AN.BR.GC   Anode - Bracelet - Good Co

| Good Condition |
| Minimal Wastage <25% |
| Slight Wastage 25-50% |
| Moderate Wastage 50-75% |
| Heavy Wastage >75% |
| Total Wastage 100% |
| Frame only seen |
| Buried |
| Not seen |
| Damaged |
| Inactive |
| Disconnected |

☑ Use Event Codes Hierarchy

Configuration ...

< Back   Next >   Finish   Cancel

Using Next will step you through all applicable manual entry fields (such as a "Comment")
 or choice entry fields (such as "Location"). Which fields are displayed for each event
type can be configured using the VisualEvent Config Editor 19.

The Configuration button on the Wizard allows some event types to be hidden, letting
you simplify a long list of event types to show only the ones that you need. It also lets you
set the Quick Entry method for the Eventing Toolbar. Note that the Quick Entry settings
for the Eventing Tablet work independently of this.

1.3.4   Using Keyboard Shortcuts

Using the VisualEvent Config Editor [19] you can setup keyboard short-cuts for logging certain types of event. For example you could use some of the Function keys along the top of the keyboard, of use combinations such as **Alt**+**A** or **Ctrl**+**S**, but in all of these cases you must be careful not to choose keys that are used by other applications.

(If the online **VisualEventLogger** is running on the same PC as **VisualDVR**, then you cannot use **F1** , **F2** , **F3** , **F4** , **F5** , **F6** or **F12** for VisualEventLogger because they are all used by **VisualDVR**.)

1.3.5   Using Auto Repeat to save time

Auto Repeat allows the user to set certain data columns to repeat the same value from one event to the next. This can be applied for all text fields and "choice" fields.

Auto Repeat settings can be configured using the eventing wizard. After they have been set they will be remembered and will apply to all logged events including those logged using the tablet or the toolbar, **even if the tablet or toolbar buttons are set to Quick Entry mode**. The choice for Auto Repeat should be made when the value to be repeated is used for the first time.

TIP: You might find it useful to use a dummy logging project and record one event of each type before you start your survey, so that you can set the Auto Repeat values in advance.

Typical uses for Auto Repeat include setting an Anomaly flag to "Yes" for all Anodes that are Severely Wasted, or for Damage events with "Bare Metal Exposure". In both of these cases, the selected event type means that event must be an anomaly. The same can apply the other way around: A Fields Joint "in Good Condition" cannot have an Anomaly flag of "Yes" so we can use Auto Repeat to set it to "Know" if the Level 2 type of a Fields Joint is "Good Condition".

The example below shows a setup for Anodes.

Settings for the Auto Repeat function, with a three level event hierarchy, are:

ON: Previous value for 'Level 1' – Select this to repeat a value for all events with this Level 1 type. (In the example above this will repeat for all Anodes.)

ON: Previous value for 'Level 2' – Repeat for all events with the same Level 2 type. (In the example above this will repeat for all Anodes of sub-type "Bracelet".)

ON: Previous value for 'Level 3' – Repeat for all events with the same Level 3 type. (In the example above, this will repeat for all Anodes with "Moderate Wastage 50-75%".)

ON: Previous value for any event – Repeat for all events of any type. This might be useful if you want to set a pipeline ID number for a whole survey, or anything else that applies regardless of the different event types.

OFF: Use EventConfig Default – Do not use auto repeat, instead use the default defined in the configuration (which is shown in quotation marks).

2   VisualEvent Config Editor

When logging event data you will use a Client Configuration. This Client Configuration defines what data should be logged and how that data should be encoded to meet company specifications or other requirements for a particular job. Most pipeline and platform operators have strict and specific guidelines for how inspection data should be recorded. These guidelines can be built into a Client Configuration.

The **VisualEvent Config Editor** lets you define what columns should appear in the Events data table in VisualEdit, and lets you configure the formatting of those columns. It also lets you configure event categories and types, along with their associated coding and attributes to populate the Events table.

The **VisualEvent Config Editor** includes the following key functions:

- Choice of Hierarchy levels: whether to use one, two or three level in a hierarchy of events.
  For example do you just want to log "Anodes" or do you want to sub-divide them into different types such as "Bracelet Anodes", "Sled Anodes", Remote Anodes", etc., and then perhaps also divide the sub-types based on a third level such as percentage wastage?

- Definition of Event Table Column names, data types, and formatting.
  For example do you want a column named Easting, or East, or E... and should that column to have one, two or more decimal places?

- Definition of Auto Update settings for use in VisualEdit. Columns such as position and KP can be set to update automatically using data in other data tables within VisualEdit.
  Usually this means that KP, Easting, Northing and Depth will be automatically copied from the table called "Video Position", but you can use other settings if you need to.

- Definition of Event Classifications, including naming, code, attributes.
  For example does your client want to code an Anode as "AN", or as "An", "ANO", "400" or any other value? Should that Anode have a recorded CP reading, percentage wastage value, or any other attribute associated with it?

- Creation of the VisualEvent Config file (.VEC) which stores the entire configuration within one file making it easy to move the configuration from one PC to another.

- Generation of .INI files to be used with **VisualEvent Logger** and **VisualEdit Eventing** for online and offline event logging and editing.

The **VisualEvent Config Editor** can be opened by going to Start, Programs, VisualSoft Suite, Tools, and then click on VisualEvent Config Editor. When the **VisualEvent Config Editor** runs it will open a window like this:

2.1   Working with 3rd Party Applications

The VisualSoft Suite, including VisualDVR is designed to work alongside other applications from other 3rd party companies. We have offline playback in VisualEdit and VisualReview that can be controlled by, or can control, other companies viewers and inspection systems. We have recording, overlay and image grabbing in VisualDVR that can be controlled by a number of 3rd party applications. The following sections of this user guide describe some of these 3rd party interactions and how to configure them; they should each be read alongside the 3rd party documentation.

If you have a 3rd party application that you think should work with a VisualSoft application, and it is not listed below, please contact VisualSoft Support by email to visualsoft.support@f-e-t.com or by calling our support line [52].

Known 3rd party applications that are compatible with VisualSoft Applications include:

Application	Compatibility
AiZe's Coabis to VisualDVR Connection [22]	Remote control of VisualDVR from Coabis
AiZe's Coabis and VisualOverlay Setup [25]	Remote control of VisualDVR's overlay from Coabis
Eiva's NaviModel [29]	Remote control of NaviModel from VisualEdit, and event logging from NaviModel into VisualEdit
Fugro's Starfix [33]	Remote control of time synchronisation from Starfix, and sending of navigation and event data to VisualDVR
PiSYS	Remote control of, and image grabbing in VisualEdit
QPS's QINSy	Data import from QINSy into VisualEdit via pre-defined ASCII files
Wood's NEXUS [35]	Compatibility with Wood's *DVR Protocol*, allowing remote control of VisualDVR and overlay

2.1.1   Aker's Coabis to VisualDVR Connection

From version 12.1 onwards of Coabis you can control VisualDVR from inside Coabis. The following sections describe how to configure this in both the Coabis and VisualSoft applications. You need to setup a few things in Coabis to get a successful connection between Coabis and VisualDVR.

A. Installation

First make sure that you have installed the VS Control add-on, by running VisualSoft's installer "InstallVSControlV10.4.2.exe" (or a later version number of InstallVSControl).

B. Coabis Settings - Start the VisualSoft add-on

In Coabis go to **Site**, then **Tools**, and then **Digital Video Configuration**.

Set the **Digital Video Encoder** type as VisualSoft, and then click the **Network Options** button.
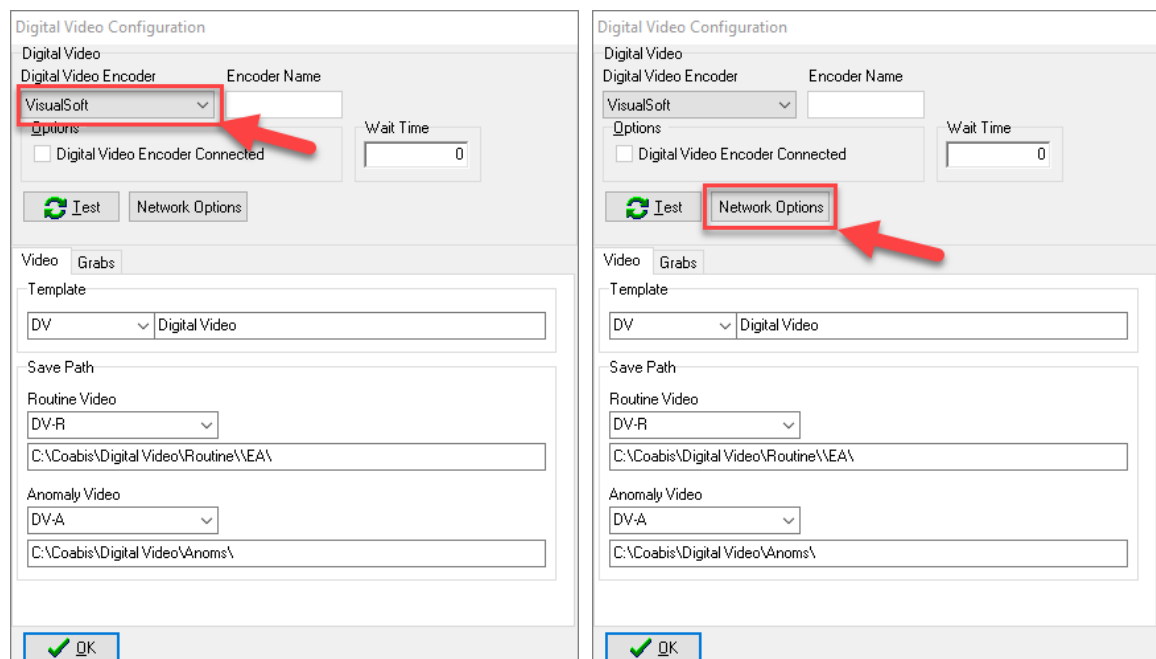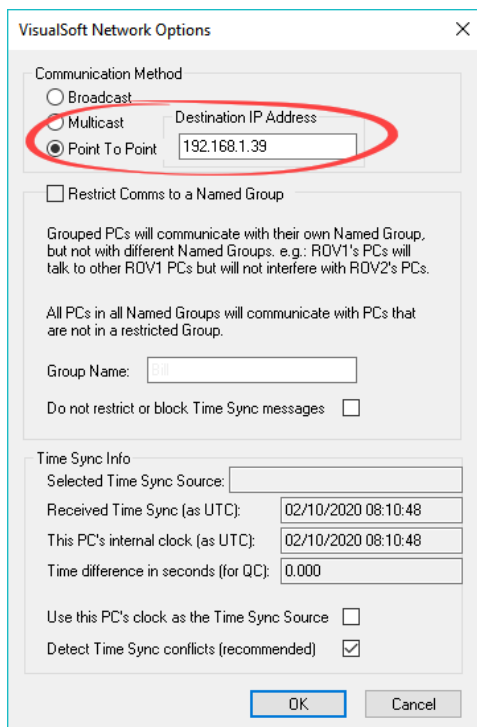

This opens a VisualSoft Network tool in the Windows System Tray notification area at the bottom right of your screen ⏹. You may need to click "Show hidden icons" in Windows before you can see it.

Configure the VisualSoft Network

Click on the VisualWorks Network icon to open the settings window.

Select the Point to Point method so that you only control **one** VisualDVR and do not accidentally interfere with other DVRs or logging application that you or a survey contractor may have on the same network. Enter the IP address of the VisualDVR PC. If the DVR PC has more than one network connection and/or more than one IP address, make sure that you select the one that is in the same subnet range as the IP address of the Coabis PC.

In a typical setup of VisualDVR the time sync will be coming from a navigation data output derived in turn from a GPS or other GNSS time source. In that scenario, do NOT select Use this PC's clock as the Time Sync Source. Only if you want all logging to be synchronised to the internal clock of the Coabis PC should you select "Use this PC's clock". If you do that, you must also ensure that all other logging PCs for survey data sensors are also synchronised to that same source.
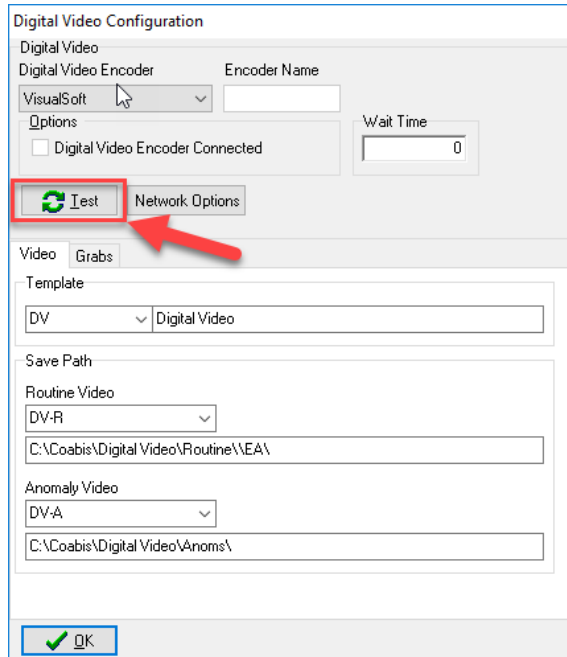

Click OK to close the VisualSoft Network options window.

Test the VisualSoft Network

Click the Test button in the Coabis Digital Video Configuration window. If the test is successful the Encoder Name will be filled in with the name of the VisualDVR PC, and a message will pop-up confirming a successful test.

After a successful test, configure other options in the lower part of the window (search for "Digital Video Interface" in Coabis's built-in help for more information), then click OK to close the Video Configuration window.

2.1.2   Aker's Coabis and VisualOverlay Setup

From version 12.1 onwards of AiZe's Coabis you can control VisualDVR's overlay from inside Coabis.

Before setting up the overlay, be sure to setup the configuration for the <u>Coabis to VisualDVR Connection</u> ²²

A. Coabis Settings - Overlay Setup

In Coabis go to **Site**, then **Tools**, and then **Video Overlay**.

In Overlay Settings, select the **Overlay Unit** type as VisualSoft, and then click the **Setup Overlay** button. This will prompt you to complete the setup in VisualDVR.
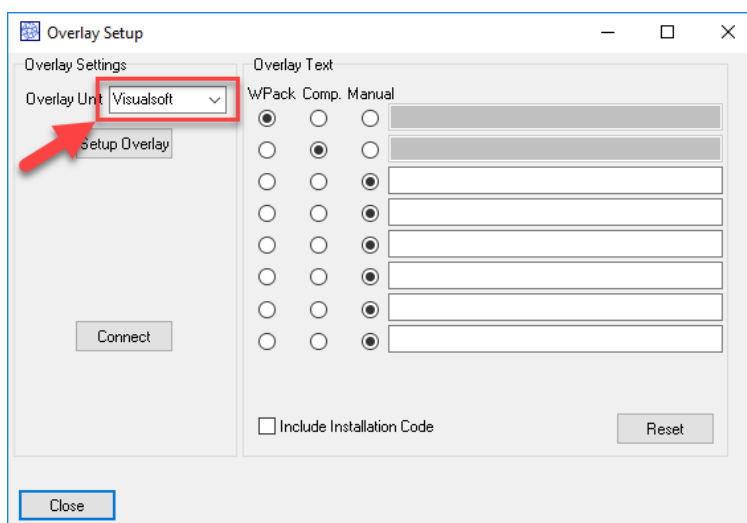
B. VisualDVR Overlay Settings

Open VisualDVR's overlay setup using `F6` on the VisualDVR keyboard, or with the VisualDVR menus via left click in the main video window. If you use the menus instead of `F6`, go to **System Setup & Admin**, then **Advanced**, then **Configure Video Overlay**.
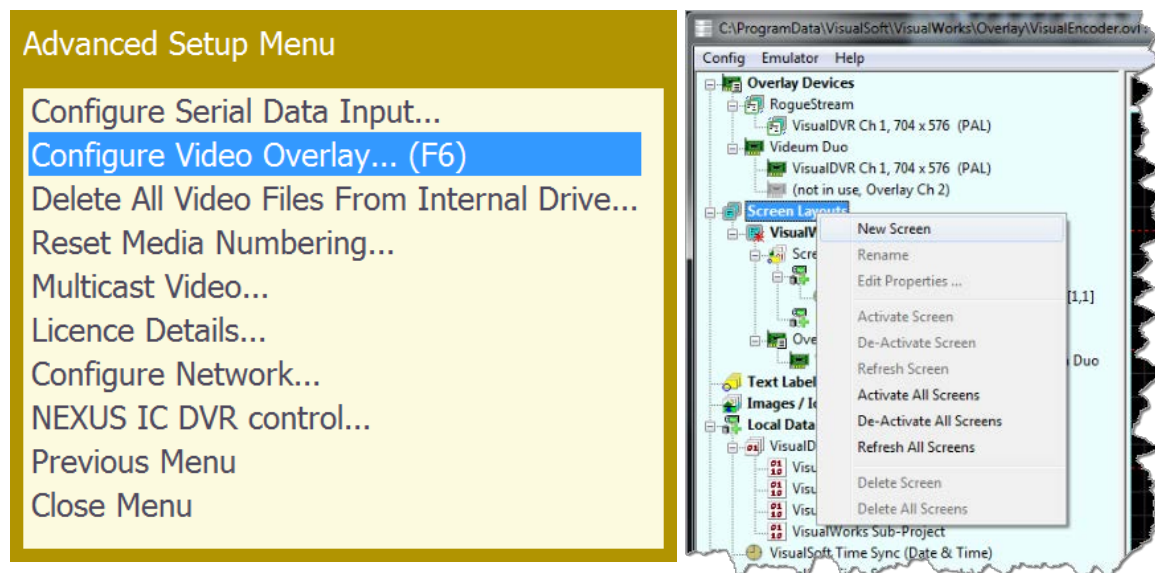
In the overlay window, right-click on **Screen Layouts** and select **New Screen**. Type a name for the new Screen Layout, for example "**Coabis**", then click the + sign next to the new Screen Layout to expand it, then when it is expanded, double-click on **Screen Items** in the newly expanded section, just below the new Screen Layout's name.

Type a name   **Expand the new Screen Layout**   **Double-click on Screen Items**
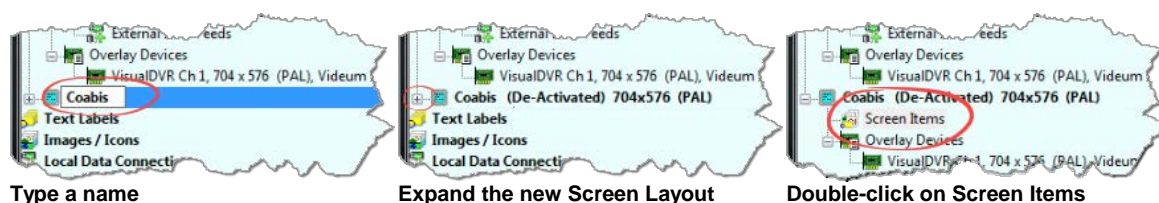
When you double-click Screen Items, you will see a window where you can select what you want to add to your overlay. Select the numbered "**Remote::Coabis**" items.
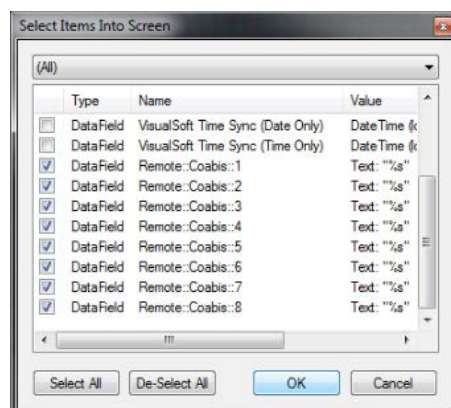
In the preview window on the right, all eight items will appear overwriting each other in the top left. Use drag and drop to move them where you want, then click OK to close the window.
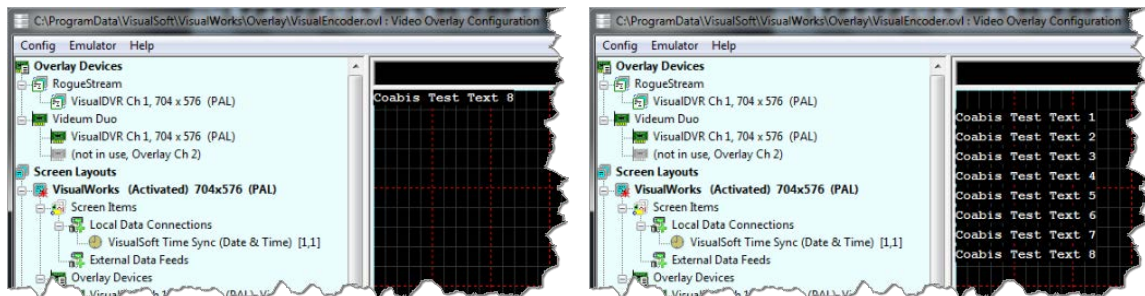
Right-click on the **VisualWorks** Screen Layout in the tree view on the left, and select **"Deactivate" to turn it off**.

Right-click on the new **Coabis** Screen Layout in the tree view on the left, and select **"Activate" to turn it on**.

If you have more than one channel or camera, or more than one overly device, be sure to add all of the relevant devices to the Coabis Screen Layout. You can do this by dragging and dropping from the list of devices in the tree view on the left.

If you want all of the overlay text to be the same colour and style, right-click again on the new **Coabis** Screen Layout in the tree view on the left, and select **"Properties"**. If you want different items to look different , right-click on the individual items instead of on the Screen Layout. For more details on this see the VisualOverlay User Manual.

C. Test Video Overlay

Make sure that VisualSoft is still selected as the **Overlay Unit** type in Overlay Settings, then click **Connect**.
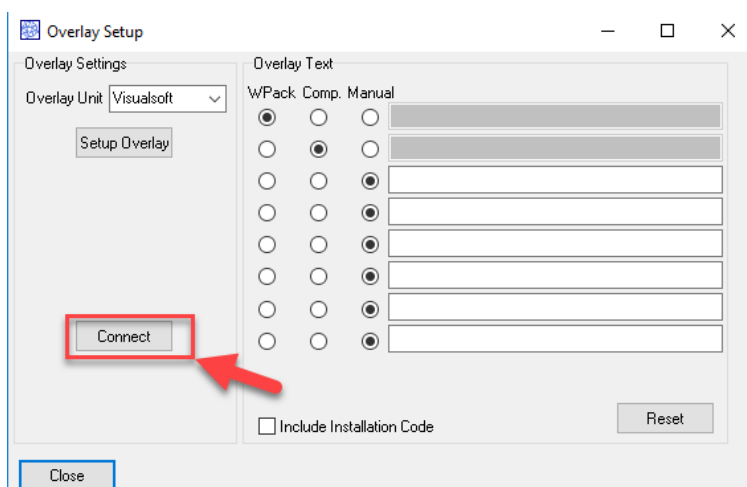
You should see text appear in the overlay preview and in VisualDVR's video window. Click Yes in Coabis to confirm you can see the overlay in VisualDVR, and close Coabis Overlay Setup.
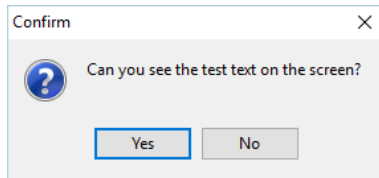
2.1.3   Eiva's NaviModel

You can use VisualEdit to "drive" the 3D display of Eiva's NaviModel so that the position shown in the VIsualEdit windows will be matched by NaviModel. After you load your data in VisualEdit, click on the Options Ribbon and select NaviModel in the Comms section on the left.
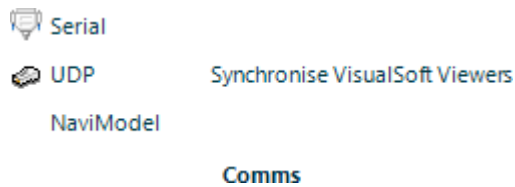
This will open a setup window where you should click **Start Server**.
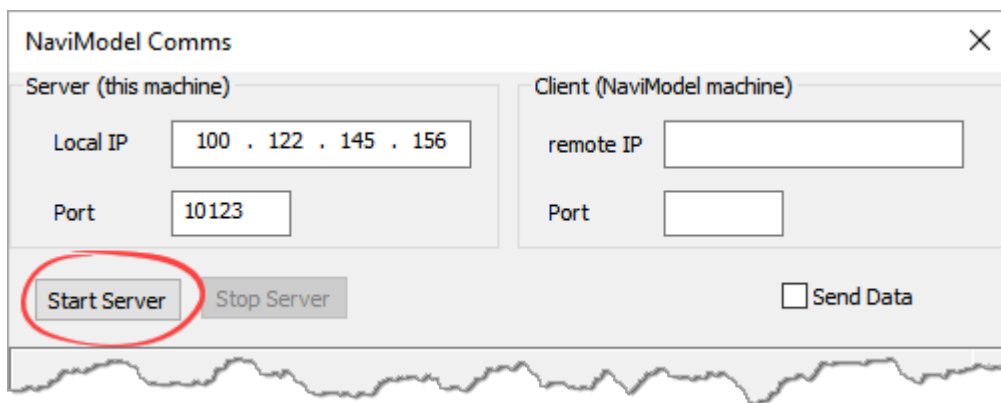
Next, load your Project in NaviModel so that you can see the 3D display with the same survey are that you have in VisualEdit, then open a data connection into NaviModel from VisualEdit. In NaviModel, expand the Project data tree on the left and right-click on **Online**. Select Connect from the pop-up menu.
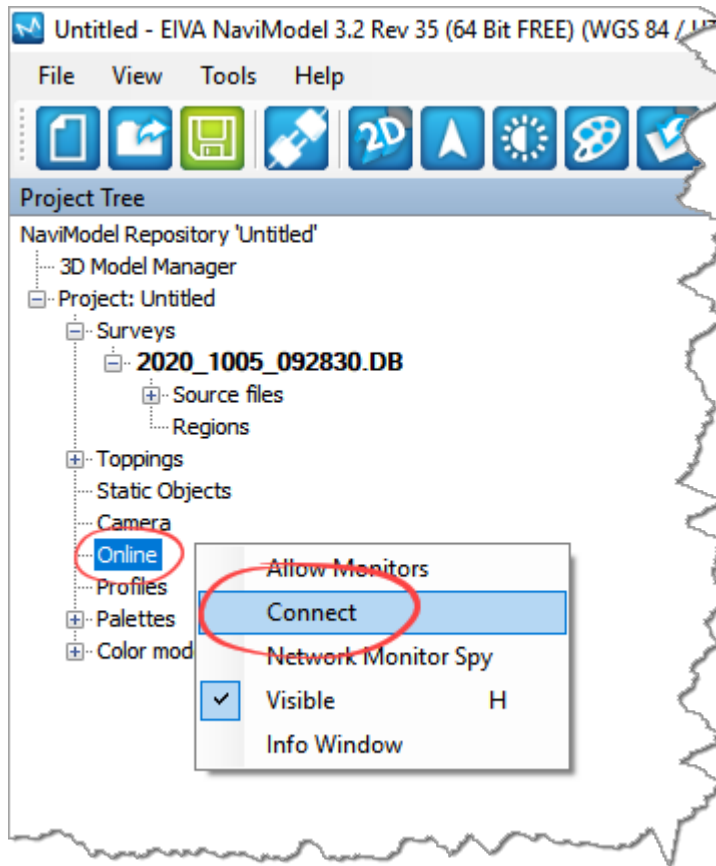
When you click Connect you will see a list of available "online" data servers. This might include a live feed from NaviPac's real-time online survey position, but should also include the VisualEdit server that you just started, which will be shown with the name of the data project loaded in VisualEdit. Select the Project and click Connect.
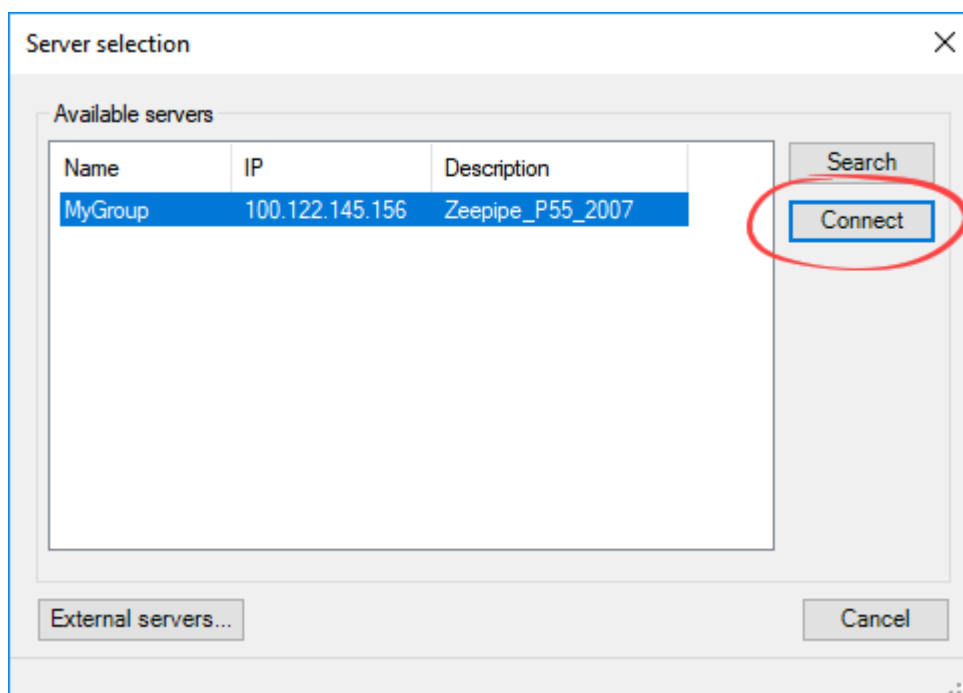
Now that the connection between VisualEdit and NaviModel has been initiated, you should return to the NaviModel Comms window in VisualEdit and select the box to Send Data. You should immediately see the data being sent from VisualEdit.

Click OK to close the NaviModel Comms window.

Position selection in VisualEdit

The default, and intended setup is that the "Video Position" table has data in the standard, pre-defined columns named KP, Easting, Northing and Depth. Which data columns are sent by VisualEdit is determined automatically using the following priority:

- First look in the "Video Position" table. Check that the table is not empty, not full of zero values, and there are KP/East/North/Depth columns available.

- If data is not found in the "Video Position" table, look in the "Processed Survey" table.

- As a last resort, if data is not found in the "Processed Survey" table, look in "Raw Survey".

- When looking for the data columns the following search is used:

- KP: Check first for a column named exactly "KP" then for one with a name containing "KP" then if for one that contains either "FP", "MP" or "STA".

- Easting: Check for a column name containing "East" then for one exactly named just "E".

- Nothing: Check for a column name containing "North" then for one exactly named just "N".

- Depth: Check for a column name containing "Depth" then for one exactly named just "D".

Follow mode in NaviModel

Expand the two Online levels in the NaviModel Project Tree. You should then see a VisualSoft "camera", VISUALSOFTCAM1.

Right click on the **VISUALSOFTCAM1** and select **Follow**.
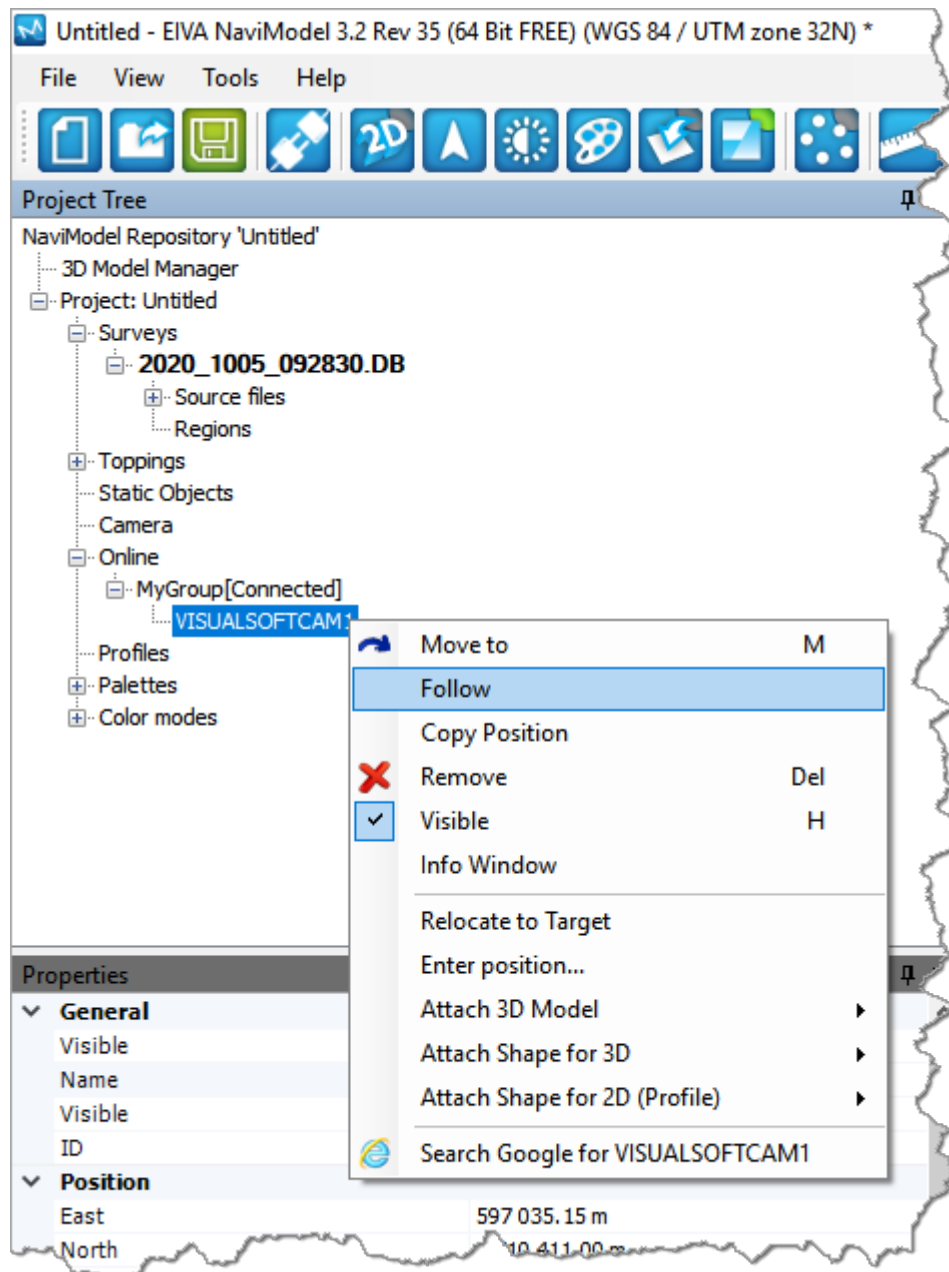
The display in NaviModel will now be locked to the current video position in VisualEdit. When you play the video or browse through the data lists in VisualEdit, the NaviModel display will move to the same Easting and northing position.

2.1.4   Fugro's Starfix

Starfix.IOWIN can send time and position data to VisualDVR, using the VisualWorks **Video Inspection System Output** in the Video Overlay section of IOWIN.
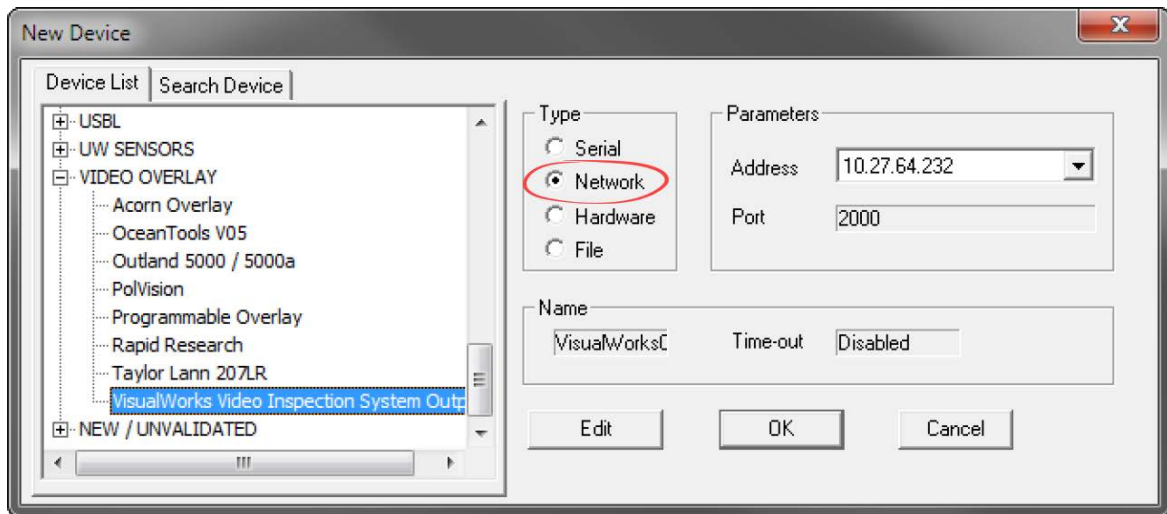

Set the communication type to Network, as shown above. There is no need to edit the network communication parameters because the actual communications are done through the VisualWorks network comms, (which is similar to Starfix.Message Manager), so although the user can select a port to use, no data is sent to that specific port by this driver. Instead VisualSoft's standard port number will be used automatically.

When the user enters the driver configuration menu they can select which survey information to send to the VisualSoft system. The driver will also send start and stop logging commands from Starfix to the VisualSoft system on receipt of a suitable command via Message Manager. In othert words, Starfix.Logging will provide the driver with these commands via Message Manager so that when Starfix.Logging starts or stops, VisualSoft's VisualDVR will do the same. In effect the IOWIN dll translates Starfix logging commands to VisualSoft logging commands.

Please note – when first started the IOWIN driver will send a default pre-defined configuration to the VisualSoft system. Starting Starfix.Logging will then force the driver to output the correct user configured configuration when you start logging. You may therefore want to start the logging as a brief test to force your configuration through to the VisualSoft system and see the correct column headers in VisualDVR's survey data window.

2.1.5 QPS's QINSy

VisualEdit can import survey sensor and MBE data from a series of predefined ASCII files exported from QPS' QINSy logging and processing software. See help topic Configurable File Import.

2.1.6 Wood's NEXUS

To use NEXUS IC with VisualDVR you must configure it using the NEXUS IC Options page in the VisualDVR start-up Configuration Wizard.

Enable NEXUS IC-Inspection DVR control: If you are doing an inspection job using Wood Group's NEXUS IC-Inspection software (version 6.4 or above) you must turn on NEXUS IC-Inspection DVR Control on this page. In NEXUS add the VisualDVR as a "Generic DVR" device using its IP address.

IC-Inspection Time Synchronisation: NEXUS IC-Inspection can send a time synchronisation message to VisualDVR. If you turn on this option in IC-Inspection you must also turn it on here so that VisualDVR receives the time sync messages. (As with all VisualSoft time synchronisation options, you must use only one time sync source, so if you turn on NEXUS IC Time Sync, make sure that you turn off time sync in the VisualDVR Survey Data set up and other places such as VisualDataLogger.

IC-Inspection **Base Folder path:** VisualDVR will receive commands from IC-Inspection telling it to start or stop recording, create image grabs and so on. VisualDVR will still record video in the usual way, using the standard file names that are expected by VisualArchive and other VisualSoft applications. It will also make a copy of the video files and image grabs using names and locations requested by IC-Inspection. IC-Inspection will send either a full folder path, or a partial folder path. If IC-Inspection sends a partial file path this is usually based on the component selected for inspection in IC-Inspection. If VisualDVR receives a **partial folder path** it will be added to the "IC-Inspection Folder

base path" that you specify here. You can use the same base path for all cameras, or have different paths for different cameras. There is a short-cut button to quickly copy the path set for Channel 1 to all other channels. In the example below the base path is "\\My NAS\Shell NS 2019", so if IC-Inspection sends partial folder path "\Pipelines\PL1234", the video files will be sent to the combined path "\\My NAS\Shell NS 2019\Pipelines\PL1234".

Port Numbers: IC-Inspection sends commands to VisualDVR via the network using TCP ports. These port numbers are selected in IC-Inspection for each camera and the same port numbers must be set for each camera here.

IC-Inspection Frame Grabs folder: If you have a VisualDVR with Vitec VMC-7440 HD/SD hardware encoder cards in it, the DVR can send image grabs back to IC-Inspection immediately via the network. If you do not want to use that option, you can choose to save image grabs to a folder instead. Other types of VisualDVR, for example with the older Winnov Videum Duo or Quattro cards, cannot create instant image grabs. Instead they create the grabs when recording of the current file ends. In this case you need to tell it where to save those by selecting an IC-Inspection Frame Grabs folder.

2.2 Creating a VisualEvent Configuration (VEC) File

To create a new Client Configuration file for **VisualEvent Logger** and/or **VisualEdit Eventing**, start the **VisualEvent Config Editor** and go to the File menu. Select the option for a New configuration and type a name for it into the pop-up box.
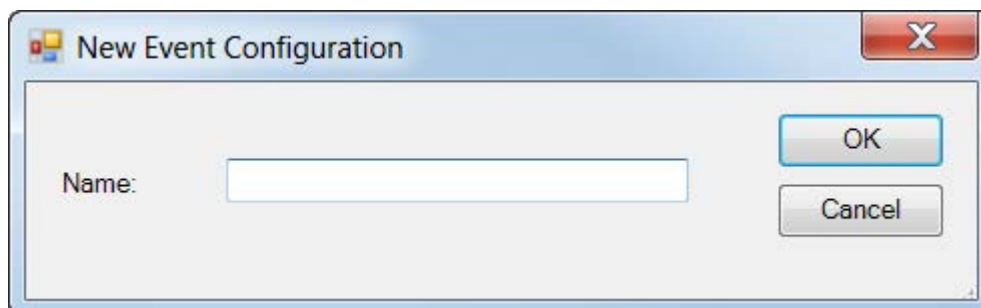
This will be the name of your new Client Configuration and will be shown in the list of available Client Configurations the next time that you run **VisualEvent Logger** or **VisualEdit Eventing**.

The name that you type will be shown in the Main Settings window and you can change it if you need to.
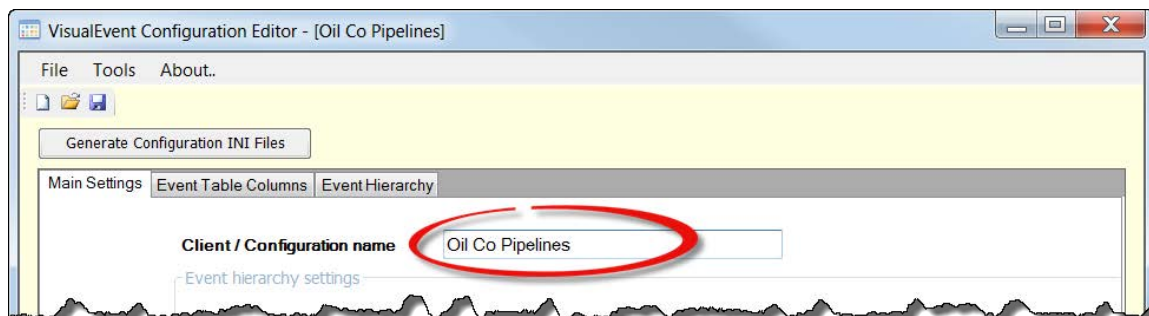
Save the New Configuration

As soon as you have given the new configuration a name you should save it. Go to the File menu and select Save As.

The configuration MUST be saved in the correct location. This means that you must save the .vec file inside a folder with the same name, and that folder must be inside the correct location, as follows:

On Windows XP   C:\Documents and Settings\All Users\Application Data\VisualSoft\VisualWorks\EventConfig\...

On Windows 7   C:\ProgramData\VisualSoft\VisualWorks\EventConfig\...

This sounds complicated, but there is a safe and easy short-cut:

1. Click the button labelled "Generate Configuration INI Files". This will automatically create a new folder in the correct location.

2. Go to File, Save As and browse to a location inside the new folder, which will be in one of the locations shown above (depending on whether you have Windows XP or Windows 7). The new folder will have exactly the same name as you typed into the Name box at the start. (In the example above it is "Oil Co Pipelines".)

3. Save the .vec file so that it also has exactly the same name as you typed into the Name box at the start. (In the example above it is "Oil Co Pipelines".)

2.3   Event Config: Main Settings

The Main Settings tab has some key configuration choices, that you will need to set just once. These will then affect the behaviour of the other configuration tabs.

2.3.1   Event Hierarchy Settings

Each Client Configuration includes many different event types. These can be presented to the user a single list, or they can be grouped into a hierarchy. (Often this decision will be made for you, because your client – the owner of the pipeline or platform – will have specified what they want.) Using a hierarchy can make the logging of the events quicker and more efficient because the inspection engineer does not have to search through long lists of event types: at each level of the hierarchy there are only a few simple choices.

If you use a hierarchy it can have two or three levels. You might want to allow the inspection engineer to log events without having to choose all of the levels, for example you might want them to be able to log an Anode without having to specify whether it is a Bracelet Anode or a Sled Anode, but remember that if you do this then someone else will still have to make that decision later. You might save a little time during online logging, but that time will then have to be spent during offline review. You can control this choice with the box labelled "Allow logging of events that have lower levels in the hierarchy". If

you do not select that box, the online inspection engineer will have to complete all levels of the hierarchy before they can log the event.

TIP: In the VisualEventLogger 4 the user can create and use "Quick Entry" buttons on a toolbar or tablet, so they can still log an event with three hierarchy levels just by clicking a single button.

Choose the number of hierarchy levels
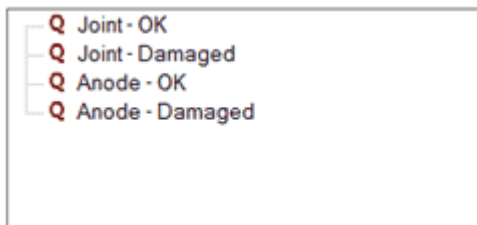
An example of a single level hierarchy.
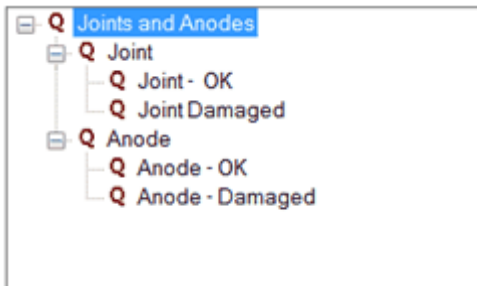
The same event types presented in a three level hierarchy.

2.3.2   Event Name Settings

In a typical events listing, one of the columns will usually describe each type of event in words rather than just as an abbreviated code, for example it may say "Bracelet Anode", "Field Joint damage", "Freespan - Start" or "Corrosion Coating exposed". This descriptive "Name" can be built up automatically when the event is logged, and the Event name settings let you control how this is done.
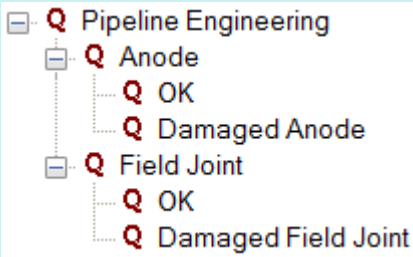
Which method you should use depends on the wording of the event types and sub-types in the . This is best explained with an example showing two different hierarchy structures for the same event types, with very slightly different wording.
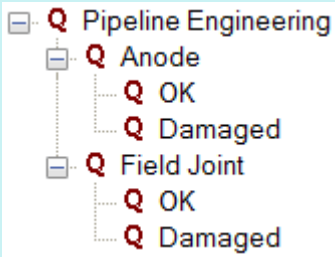
In this example, we would need to include all of the levels in the descriptive "Name", if we want to be able to tell the difference between a damaged anode and a damaged field joint. With all levels selected, and with those levels separated by a dash, we would get: **Pipeline Engineering – Anode – Damaged** and **Pipeline Engineering – Field Joint – Damaged**	In this example the lowest sub-type level has a little more detail in it, so we could use just the lowest level and still be able to tell the difference between: **Damaged Anode** and **Damaged Field Joint**

2.3.3   Event Code Settings

In the same way that the event listing and data table usually includes a descriptive text column, there will also be a column containing event "codes". These codes may be numeric or they might be text (usually just simple abbreviations like "FJ" for a field joint, or "An" for an Anode).

If you and you client want to use numeric codes, you can have these created automatically, or you can type them into the configuration yourself just like you would type the text abbreviations.

If you have a hierarchy 37 of event types and sub-types, you have a choice of using the codes from all levels (separated by a dot or a dash perhaps), or you might only use the lowest level code in the same way that you might use the lowest level text description. There is also an option to use the event "Tag" but this is unusual and rare. The Tag is most commonly used on alignment sheets and other charts to provide a text alternative to a numeric code.

```
┌─ Event code settings ────────────────────────────────┐
│                                                       │
│     ◉ Auto numbering: 1, 1.1, 1.1.1 etc               │
│                                                       │
│     ○ Event tag                                       │
│                                                       │
│     ○ Lowest level code only                          │
│                                                       │
│     ○ Codes from all levels of hierarchy              │
│                                                       │
│        Code separator      [              ]           │
│                                                       │
│                                                       │
└───────────────────────────────────────────────────────┘
```
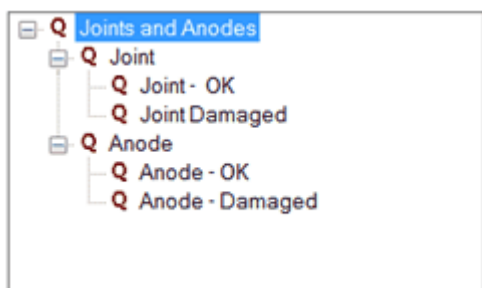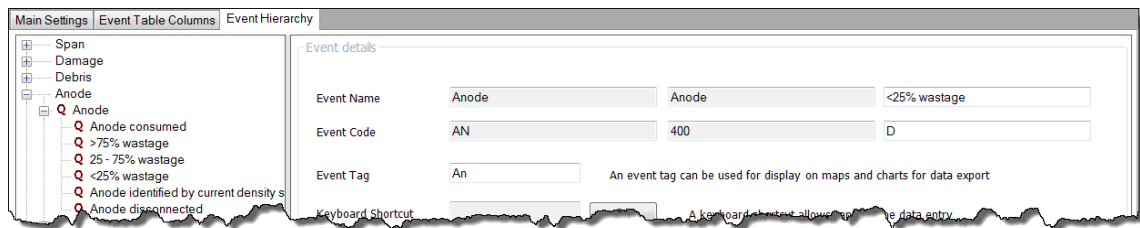
Auto Numbering

The picture below shows an example of an event hierarchy. If we use auto numbering the top level "Joints and Anodes" will be assigned a code of "1". The Level 2 categories, "Joint" and "Anode" will be assigned codes 1.1 and 1.2 respectively. The Level 3 codes will be 1.1.1 for "Joint – OK", 1.1.2 for "Joint Damaged", 1.2.1 for "Anode – OK" and 1.2.2 for "Anode Damaged".

```
┌──────────────────────────────────────────┐
│ ⊟ Q Joints and Anodes                     │
│    ⊟ Q Joint                              │
│       ├ Q Joint - OK                      │
│       └ Q Joint Damaged                   │
│    ⊟ Q Anode                              │
│       ├ Q Anode - OK                      │
│       └ Q Anode - Damaged                 │
│                                           │
│                                           │
└──────────────────────────────────────────┘
```
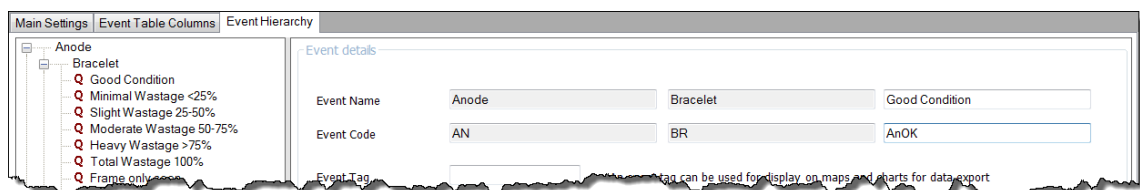
Event tag

The Tag can be used as a way of having a short and simple listing column that can be read and understood by humans whilst having codes that are more machine readable as in the example below.

Lowest level code only

For all code types except auto numbering you must type in the codes by hand when you create each event type in the hierarchy. This is explained in Event Config: Event Hierarchy 50. In the example below you can see that the Level 1 type "Anode" has a text code "An", the level 2 sub-type "Bracelet" has code "Br", and the level 3 sub-type "Good Condition" has a code of "AnOK".

If you use the "Lowest level" option, you must make sure that the codes make sense. The example here, "AnOK", is understandable as being an Anode that is OK, but compare it with the final example just below it and you will see that "GC" would not be easily understandable as being an Anode.

Codes from all levels of hierarchy

IN the example below, if we use all levels of the code hierarchy, and we use dots as the separator we have "AN.BR.GC".

2.4   Event Config: Event Table Columns

The Event Table Columns tab is used to configure the columns that will be shown in the Events data table in **VisualEdit** and **VisualReview**.

For each column you need to select a data type – is it a whole number, a number with decimals, a text description etc. – and you must select whether or not the data will be typed in manually or set automatically by the software.

Each column of the Event data table has its settings in one row of the table shown below, for example the KP is a decimal number with three decimal places which will be set automatically be the software using data in the "Video Position" data table in **VisualEdit**.

Columns for the event table can be added, deleted, moved and configured as described in the following sections:
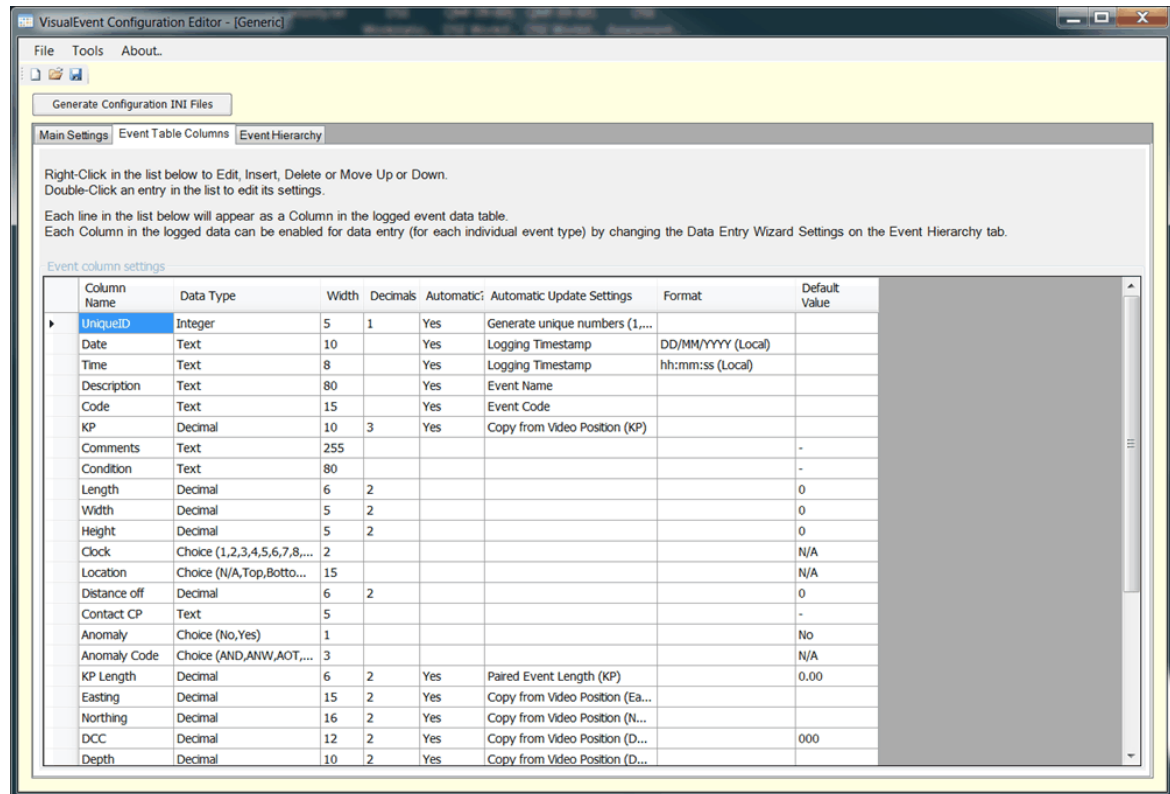
Adding Columns 42

## 2.4.1   Adding a Column

After you create a new Client Configuration, the list of Event Table Columns will be blank as shown below. You must decide what columns you need, and how you want them to be configured. This will usually be based quite closely on what your client want in their own event listings, but there will often need to be small differences so that you can take advantage of the automated functions built into **VisualEdit Eventing** and **VisualEdit Professional**.
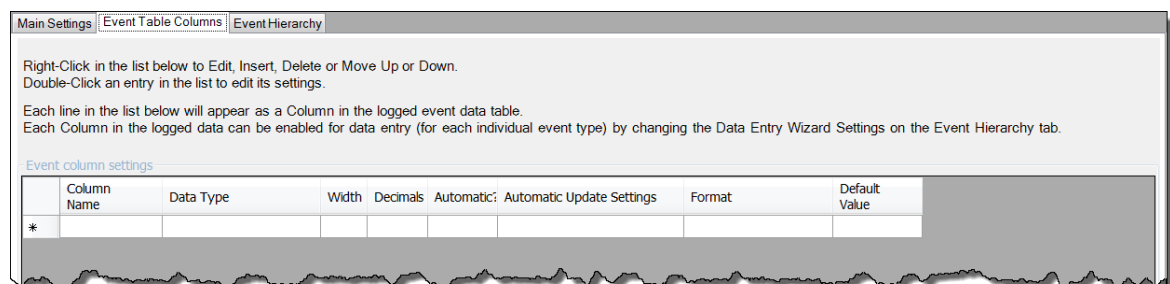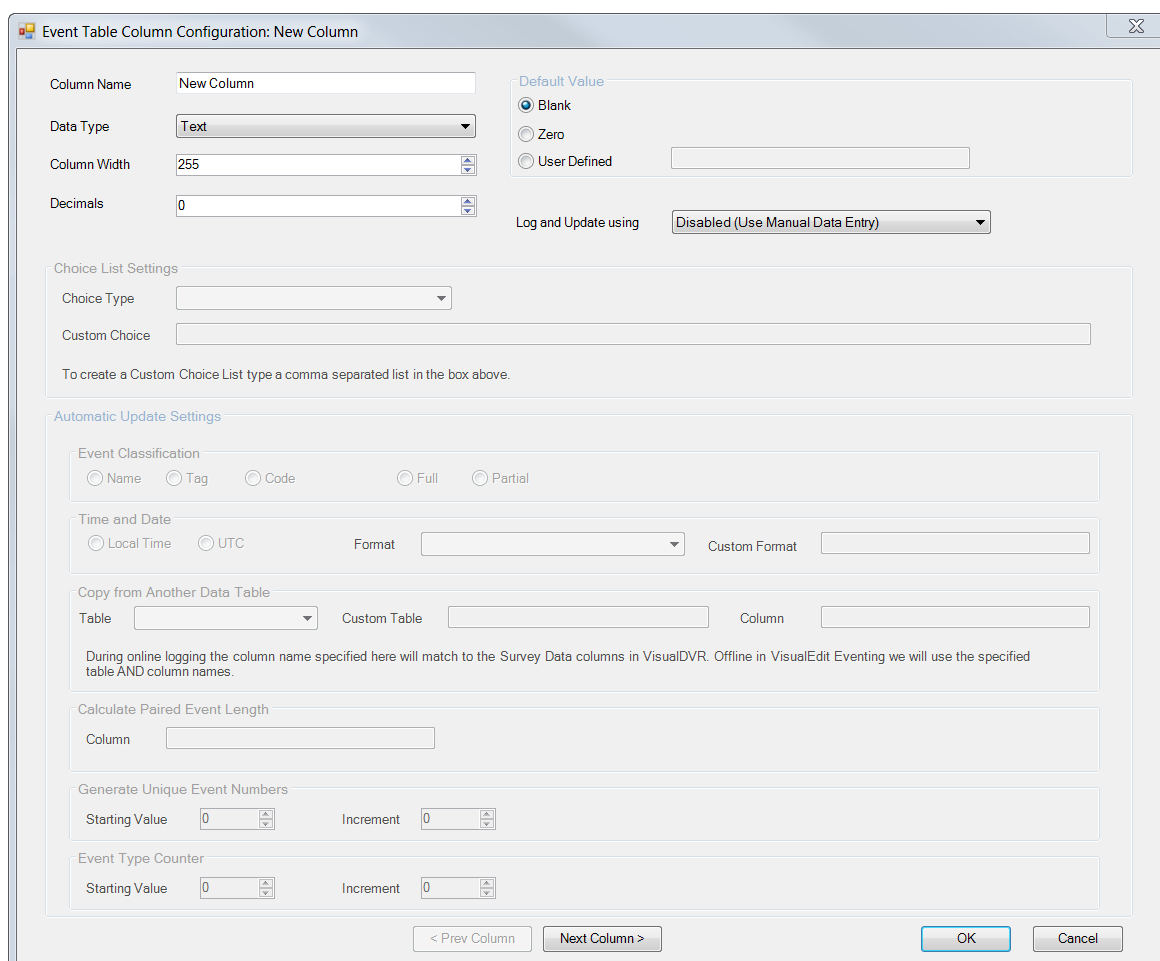
To add a new column double click on the asterisk to the left of the blank row in the table, or right-click on the blank row and select "Add new column" from the pop-up menu. You will be asked to confirm that you want to create a new column.
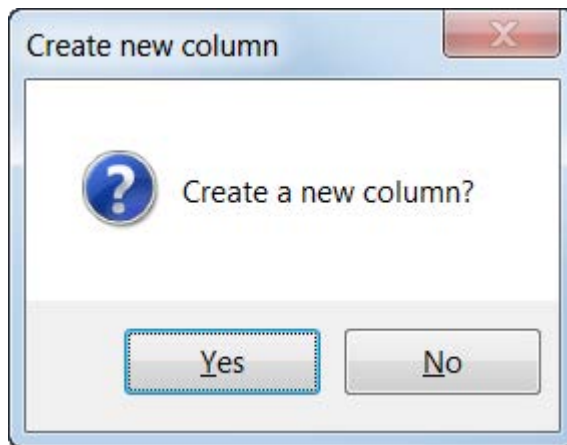
If you click Yes you will see window with settings where you can configure the name, data type and behaviour of the new column.

2.4.2   Configuring a New Column

When you add a new column, you will see a large window like the one below. At first sight this might look quite complicated, with lots of different settings but you will soon find that most of them are turned off most of the time. The most important settings are the ones at the top of the window. After you have configured those main settings you might also need to make one or two choices from the settings in the lower sections of the window.

Main Column Settings

Column Name	The column name should be short but descriptive and it must be unique. It will be seen in VisualEdit and also in VisualReview (so it will probably be seen by your client and the end-users of the data).
Data Type	Choose from one of the following: • **Decimal** – For columns which will contain numbers with decimal places, for example "KP", "Easting", or "Length". • **Integer** – For columns that will have whole numbers, for example "Quantity". • **Text** – For columns that will have any kind of alphanumeric text, which might include event names or codes, or comments and descriptions that you will type. • **Choice List** – For columns where you will select from a pre-defined list, for example Port/Centre/Stbd, North/South/East/West, A/B/C/D or Yes/No. If you select Choice List you will be able to configure the

	choices in the lower section of the window. See [Configuring a Choice List](#) 46.
Column Width	This will set a maximum width for the data that a user can enter in this column. You usually only need to define a column width for text columns. For most purposes the default value of 255 characters will be OK, but you might want to reduce it if your client has a reporting format that sets its own limit. Setting a limit here will stop people entering text that you will not be able to report correctly later.
Decimals	For decimal columns you can specify the required number of decimal places. For example you might want three for a KP value, but only two for an Easting or Northing column.

Default Value

The default value will be used if nothing else is typed into a column or if it is not automatically updated. This becomes most relevant when events are logged using the [Quick Entry](#) 5 option.

Log and Update Using...

These settings control how each data column will be logged by **VisualDataLogger** or **VisualEdit Eventing** when you record a new event, and also how that event will be updated if you make offline changes using **VisualEdit Eventing**.

Disabled (Use Manual Data Entry)	Select this option if you want to enter the data for this column manually by typing, instead of having it update automatically.
Event Classification	Select this to have a column update automatically when you choose a particular event type or sub-type. This is mostly used for the event "Name" and "Code" columns.
Event Timestamp	Every event that you log has a hidden VisualSoft timestamp containing the date and time of the relevant frame of video. Selecting this option will allow this data column to be created from that timestamp to give you a readable date or time that will update automatically if you move an event to a new time.
Copy from another Data Table	Select this for columns such as KP, Easting, Northing and Depth so that they can be updated automatically after the data processors put final, processed data into another data table. Most often this will be the Video Position data table which is specifically designed to hold the positions that match the video display – i.e. The position where the cameras are focused.

Calculate Paired Event Length	Some pipeline features, for example Freespan or Burial, have matched pairs of "Start" and "End" events. This option will use the KP of the two paired events to calculate the length in metres from the start to the end.
Generate Unique Event Numbers	Select this to have a column filled with incrementing integer numbers for each logged event. (Note that this count relates to the order in which the events are logged, not to their KP or Station order along a pipeline.)
Event Type Counter	Select this to have a column filled with incrementing integer numbers for each logged event, with a different count for each different type of event. (Note that these counts relates to the order in which the events are logged, not their KP or Station order along a pipeline.)

2.4.3   Configuring a Choice List

If the Data Type is set to "Choice List" then the Log and Update option is automatically set as "Disabled (Use Manual Data Entry)", and the Choice List Settings section in the lower part of the window becomes active.
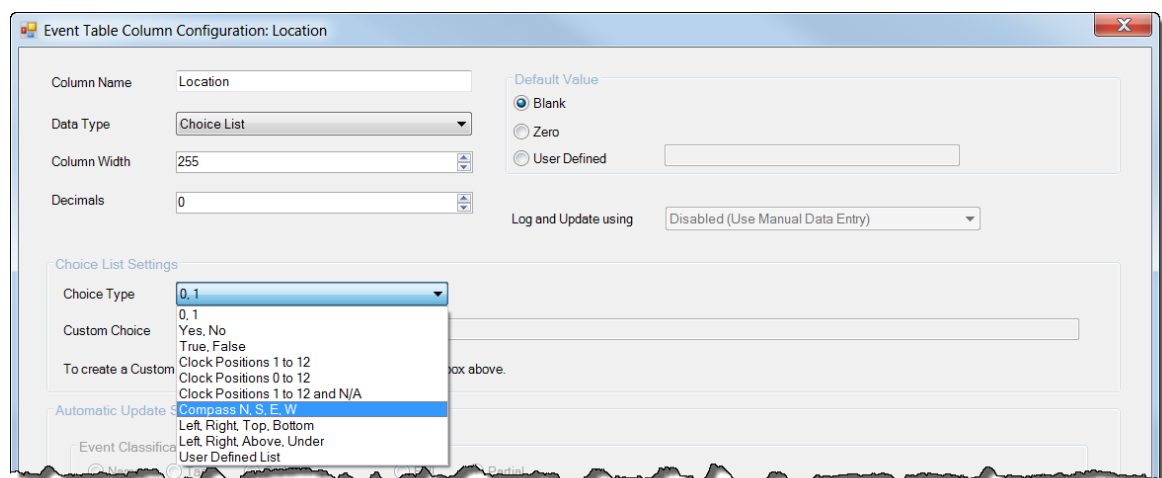
You can select from a list of pre-defined choices, as shown above, or you can create your own User Defined List.

To create your own choice list, select "User Defined List" in the Choice Type drop-down, and then type your list into the Custom Choice box. Type the choices, separated by commas with no spaces after the commas, as in the example below.
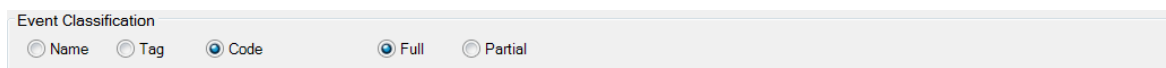
2.4.4 Configuring Auto Update Settings

If the selection for a data column's "Log and Update" setting is any of the automatic types then you will have one extra group of settings to configure. The automatic options are "Event Classification", "Event Timestamp", "Copy from another Data Table", "Calculate Paired Event Length", "Generate Unique Event Numbers", or "Event Type Counter" and each of these has their own settings as explained below using examples from the "Generic" client configuration which is available on all VisualSoft PCs.

Event Classification

The Generic configuration, and many others, includes a column called Description which displays the text to describe the event type, for example "Anode – Bracelet – Good Condition", or "Freespan – Start". This column is configured to Log and Update using the Event Classification. This means that when the inspection engineer clicks a button on the logging toolbar or the logging tablet, or selects an event type and sub-type using the logging wizard, the text that goes into this column depends on which type of event was chosen.

A column which uses the Event Classification can be configured to use the event Name, Tag or Code values, and can be configured to use all levels of the hierarchy (the Full classification) or just one level (a Partial classification). For example:

Name, Tag or Code	Full or Partial	Resulting text in column
Name	Full	Anode – Bracelet – Good Condition
Name	Partial (Level 1)	Anode
Name	Partial (Level 2)	Bracelet
Code	Full	AN.BR.GC

Code	Partial (Level 2)	BR

Event Timestamp

Each event has a hidden timestamp which includes the year, month, day, hours, minutes and seconds (including milliseconds) when an event was logged online, or the time of the video frame it is associated with offline.

A data column which uses this timestamp has a choice of using UTC time or local time, and it can be formatted to show date only, time only or both. Many default formatting options are available, or you can create your own custom format.

Copy from another Data Table

For pipeline inspection surveys there will usually be a logged ROV position, from which a team of data processors will calculate an accurate position for where the cameras were looking at any particular time. This position information is saved in a data table called Video Position. On all inspection projects there may be other data such as CP readings stored in other data tables in VisualEdit.

Some of the columns in an event list can be configured to update automatically by matching an event timestamp to the times in other data tables such as Video Position. This is most often used for columns such as event KP, event Easting, event Northing or event Depth.

When using this option it affects the behaviour of VisualEdit Eventing offline, and also the online logging in VisualEvent Logger. Offline in VisualEdit Eventing, both the table name and the column within that table are used to update the event. Online in VisualEvent Logger only the column name is used, and it sets the event column based on data received in the Survey Data window of VisualDVR.

Calculate Paired Event Length

For events which have matched pairs representing the Start and End of the same feature, such as Freespan or Burial, a length can be calculated. Typically this uses the KP column of those two paired events.

Calculate Paired Event Length

Column: KP

Generate Unique Event Numbers

This assigns a unique number for each logged event. **This is old and you should use the script Set Sequential Numbers instead.** The script lets you define a starting number (so that you do not have to load a whole project at once) and it lets you set the numbers in KP order instead of time order. These numbers are best assigned after all editing and QC when you might add, delete or move events.

Generate Unique Event Numbers

Starting Value: 0   Increment: 1

Event Type Counter

This adds an incrementing count of each different type of event. **This is old and you should use the script Set Advanced Numbering instead.** The script lets you define a starting number (so that you do not have to load a whole project at once) and it lets you set the numbers in KP order instead of time order. It also has "conditions" so that the numbers can be applied separately to different types of event. These numbers are best assigned after all editing and QC when you might add, delete or move events.
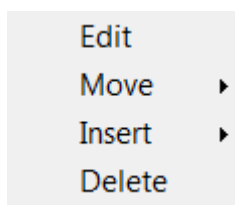
Event Type Counter

Starting Value: 0   Increment: 1

2.4.5 Re-Configure, Move or Delete a Column

To re-configure a column of the event list, you can either right-click to open the menu shown below, and then select Edit, or you can

Edit
Move   ▶
Insert   ▶
Delete

Other options in the menu allow you to do the following:

• Insert a new column above or below the one in which you made the right-click

• Move the column up or down in the list

· Delete the column.

2.5   Event Config: Event Types and Hierarchy

After you have defined the <u>Main Settings</u> 37 and the <u>Event Table Columns</u> 41 you are ready to create the Event Hierarchy with all of the different event types and sub-types that you need to log.

Create a Level 1 event type

Select the Event Hierarchy tab, and then right-click in the blank white area on the left. Select Add Event from the pop-up menu.
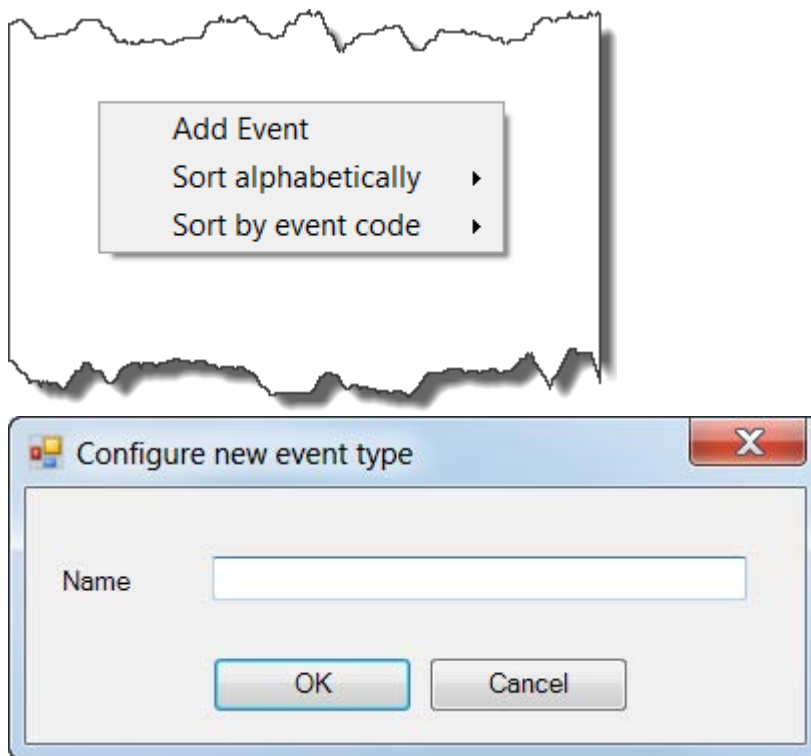
You will be asked to type a Name for the event. This is the descriptive text such as "Anode" or "Field Joint" and this will usually be defined by a client specification from the pipeline or platform operator.

As soon as you click OK you will see a screen of settings for the new event type, and the cursor will move automatically to the Code box. Type the code (unless you are using Automatic Numbering). You can then complete other settings for the event type.

- Event Tag – this is a specific alphanumeric value to identify the Event

- Keyboard Shortcut – to allow rapid data entry for numerous event types such as Joints

- Quick Entry – Any event with this enabled will not prompt for information beyond the event type itself whilst eventing.

- Event Pairing – Enables start / end events to be paired for calculation of length based on event KPs.

- Data Entry Wizard Settings – Assigns specific

Create a Level 2 event type

To add a sub-type (Level 2) right-click on a Level 1 event type, and select New event, then follow the same instructions as for a Level 1 type, above.

Create a Level 3 event type

To add a sub-type (Level 3) right-click on a Level 2 event sub-type, and select New event, then follow the same instructions as for a Level 1 type, above.

2.6   Publishing a Client Configuration on other PCs

The creation of a VisualSoft Event Config (.VEC) file can be done using any PC with **VisualSoft Suite** installed. On any PC required for online or offline eventing (and running **VisualEvent**) it is then necessary to use that VEC file to **generate .INI files** into a default folder.

On each PC running **VisualEvent**:

- Run **VisualEvent Config Editor**
- Open the required .VEC file from its saved location
- Click on "**Generate Configuration INI Files**"

The .INI files will be created in a folder with the Client name, within the application data **EventConfig** folder, overwriting any existing files.

This should be repeated on every machine whenever changes are made to the .VEC file to ensure consistency within the event logging.

3   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.

3.1   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

3.2   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

Index