Chapter 10: Eventing and Raw Data Logging

The ability to record data is essential for all but the most basic offshore navigation/positioning projects. Data items required typically include the vehicle's position, speed, heading, course made good, etc. You may be required to record this information at a set **time** or **distance** interval or **on demand**, such as when the vehicle changes course or passes a point of interest.

WinFrog can accommodate all of these data logging requirements. In WinFrog, the recording of information is referred to as **Eventing;** each individual record is called an **"Event**."

Note: in hydrographic surveying, an **even**t is often called a **"fix,"** while in seismic surveying operations the term **"shotpoint"** is often used.

WinFrog can be used to record events in two different ways: **automatically** and **manually**. The two methods of eventing can also be combined. For example, you can configure WinFrog to automatically record events at a set time or distance interval, while simultaneously recording **Manual Events** by clicking a button on the toolbar.

WinFrog is also capable of recording user-definable amounts of **raw** data from all interfaced I/O devices.

For more details, refer to the **Configuring Events** and **Configure Raw Data Logging** sections later in this chapter.

Types of WinFrog Events

Automatic Events

WinFrog can record an event based on a specified time or distance interval or when activated by an interfaced external triggering device. The following information is recorded at each event:

- File format version number (WinFrog v3.5.7 and later)
- Event Number
- Vehicle Name
- Position
- Time and Date
- Height
- Depth (of water)
- Layback
- Speed
- Heading
- Course Made Good
- Offset
- QC
- Downline Distance
- Offline Distance
- KP (Kilometer Post)
- Attitude (pitch and roll)

- QA data (if available)
    - GPS HDOP
    - DGPS corrections age
    - Position standard deviation
- Various sensor data (if available)
    - Conductivity
    - Pressure
    - Salinity
    - Sound velocity
    - Oxygen concentration
    - Oxygen saturation
    - Altitude
    - Analogue data

Events generated automatically (or by an external trigger) are recorded as one of four different types:

Data Logging	identified with a **.DAT** file extension
Hydrographic	identified with a **.DAT** file extension
Source	identified with a **.SRC** file extension
Receiver	identified with a **.RCV** file extension

Note: although there are four different record types (three actually, as there are two **.dat** files), **the contents of the different record types are exactly the same**.

All files generated by **automatic eventing** are recorded in the directories specified under **File > Select Working Files**.

To provide backwards compatibility with third-party software that may use the event files, WinFrog allows you to select the format to use (see **Specifying the Event File Format**).

Manual Event

A "**manual Event**" is defined as the instantaneous recording of navigation and positioning data of all WinFrog vehicles. There are three ways that you can instruct WinFrog to record a **Manual Event**:

1 Click the "**EV**" button on the toolbar

2 Press the **F10** hotkey

3 Select **Configure > Manual Event**

The following information is recorded the instant that a manual event is initiated:

- User-Entered Comment
- All Vehicle Positions
- WinFrog Time and Date
- Height
- Depth (of water)
- Layback
- Speed

- Heading
- Course Made Good
- Offset
- QC
- Downline Distance
- Offline Distance
- KP - Kilometer Post (distance downline in kilometers)

All **Manual Events** are recorded in the **Working Logs (.log)** file, as specified under **File > Select Working Files > Logs**.

Cable Events

In addition to automatic and manual events, WinFrog can also be configured to record "**cable events**". A **cable even**t is a special type of a manual event that is related to cable laying projects. All **cable events** are stored in the **Working CET** file.

The following information is recorded with a **Cable Event**:

- User-Entered Comment
- WinFrog Time and Date
- All Vehicle Positions
- Water Depth
- Cable Tension
- Cable Data Source
- Cable Event Type (one of the following options):
  - KM (Kilometer Mark)
  - Transition
  - Splice Box
  - Repeater
  - Branch
  - Cable End
  - Square
  - Circle
  - Triangle
- Incremental Route Distance
- Cumulative Route Distance
- Incremental Cable Distance
- Cumulative Cable Distance
- Incremental Percent Slack
- Cumulative Percent Slack

Fugro Pelagos has written supporting software to automatically apply cable event information to real-time cable installation calculations. The WinFrog **Cable Management Extension Module** interacts with the **Cable Route Design Database** to model the cable and derive touchdown positions.

(For use of this model, refer to the **WinFrog Cable Management Extension Module (WCMEM) & Cable Route Design Database (CRDD)** User's Guide.)

The following sections of this chapter explain how to configure a vehicle for **automatic**, **manual,** and **cable events.**

Configuring Vehicles for Automatic Events

In order to configure WinFrog to automatically record event data, you must define one vehicle as the **Primary Event Vehicle**. The information for any number of vehicles can be recorded using automatic eventing. However, only the **Primary Event Generation Vehicle** can trigger event recording. If you want to record information for any other WinFrog vehicle, the additional vehicles must be configured as **Secondary Event Vehicles**. When the **Primary Event Vehicle** triggers an **Automatic Event**, information for that vehicle (along with all secondary event vehicles) is written to disk.

The specification of which vehicle will be the **Primary Event Vehicle** is critical only when automatic events will be generated based on **distance**. Automatic events generated at distance intervals are triggered with respect to the **Downline** distance along a tracked **survey line**. Obviously, unless the various vehicles are at exactly the same location, the **automatic events** would occur at different times for the different vehicles. Thus, events are generated only as the **Primary Eventing Vehicle** crosses (at a right angle to) a multiple of the specified distance interval.

Note: the **downline** distance is not necessarily the same as the **distance traveled** by the vehicle, especially if the vehicle is "weaving" or traveling at an angle to the selected survey line.

The specification of a vehicle as the **Primary Event Vehicle** is not important when **automatic events** are generated based on **time**. In this case, **WinFrog Time** is used, which is the same for the all vehicles. Hence, the **automatic events** will be generated at the same time no matter which vehicle has been designated as the **Primary Event Vehicle**.

IMPORTANT NOTE:

The file size of each individual event file is limited to 10,000 events (v3.9.41). This makes it more efficient to draw the events in the Graphics windows and makes it easier for the user to unload individual files. However, for long projects the accumulation of these files can still use up available memory to the point where WinFrog can no longer function properly. Although it seems that the accumulated size of the *.DAT files can reach 150MB without adverse effects, we recommend unloading older *.DAT files in order to keep the accumulated size of all the *.DAT files loaded below about 50MB. The amount of memory used is displayed on the Data.ALG dialog assessed from File > Edit Working Files > Data.

To Configure a Vehicle as Event Primary

1. Select **Configure > Vehicles**.
2. Highlight the vehicle that you wish to designate as the **Primary Eventing Vehicle**.
3. Select the **Vehicle Presentation** button to display the **Vehicle Presentation** window.
4. In the **Event Generation** area click the **Event Primary** radio button.
5. Click **OK** to close the **Vehicle Presentation** dialog box.

Note: if another vehicle is already set as the **Primary Eventing Vehicle,** WinFrog displays a message stating that the other vehicle must be configured as a **Secondary Eventing Vehicle** before this vehicle can be enabled as the **Primary Event Vehicle.**

To Configure a Vehicle as Event Secondary

In order to have data collected for vehicles other than the **Primary Eventing Vehicle**, they must be designated as **Secondary Event Vehicles**.

1 Select **Configure** > **Vehicles**.

2 Highlight the vehicle that you wish to designate as the **Secondary Eventing Vehicle**.

3 Select the **Vehicle Presentation** button to display the **Vehicle Presentation** window.

4 In the **Event Generation** area, click the **Event Secondary** radio button.

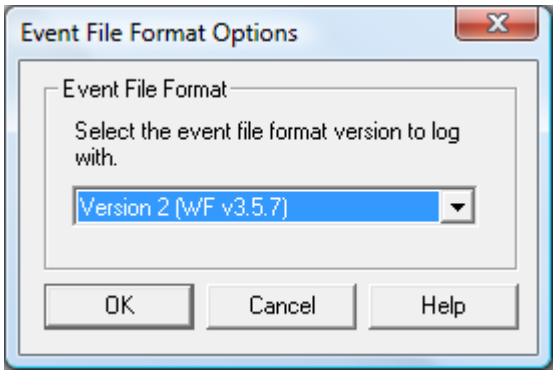
5 Click **OK** to close the **Vehicle Presentation** dialog box.

Specifying the Event File Format

Third-party software is often used to process the data logged by WinFrog. To support existing third-party software, WinFrog allows you to select the logging format. The following section details the steps required to select the file format version. The default setting is the newest supported version. For details on this option when operating a Controlled Remote, see **Events Tab** in the **Controlled Remote Tug Telemetry** chapter.

To Configure Event File Format Version

1 In the main menu, go to **Configure** > **Data Events** > **File Version**.



2 From the drop down list, select the format version that the event files are to be logged in (default is Version 2). The WinFrog version that the respective file format version was implemented in is included in the listing as a reference.

3 Click **OK** to exit and apply the selection.

Enabling and Activating Automatic Events

The following section details the steps required to **enable** and **activate automatic event** recording in WinFrog. These instructions require that a vehicle has been designated as the **Event Primary** vehicle. If this has not yet been completed, see the section above for details.

To Enable Automatic Event Recording

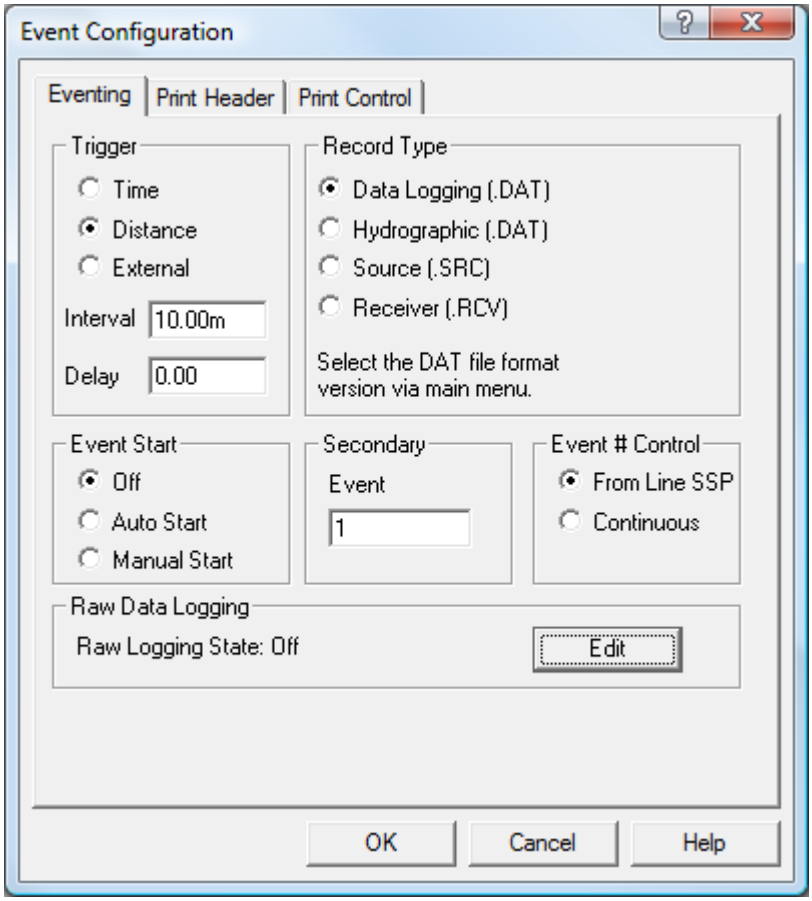
1 Ensure that the **Primary Eventing Vehicle** is visible in the **Vehicle Text** window.

2 Move the mouse pointer into the **Vehicle Text window** and click the right mouse button.

3 Move the mouse pointer to the **Setup Data Events** button and click the left mouse button to bring up the **Event Configuration** dialog box. (This dialog box can also be accessed by selecting **Configure > Data Events...Setup** or by **Configure > Vehicles > Setup Data Events**.)

The **Event Configuration** dialog box contains three tabs: **Eventing**, **Print Header** and **Print Control**.

4 Select the **Eventing** tab first.



5 Select the appropriate **Trigger** radio button.

The **Trigger** selection defines the method by which **automatic events** are triggered.

Time radio button	Select this button to record events at a configurable **Time** interval and enter the time interval, in seconds, in the **Interval** field.
Distance radio button	Select this button to record events at a configurable **distance** interval. This mode requires that the **Primary Eventing Vehicle** be tracking a survey line. As the **Primary Eventing Vehicle** moves parallel to the selected survey line, WinFrog calculates the increasing or decreasing

	Distance Downline value relative to the vehicle's **Tracked Offset** point. WinFrog triggers events as the **Primary Eventing Vehicle's Tracked Offset Point** crosses whole number multiples of the specified **Distance Interval**. Remember, this is not necessarily the same as the distance traveled by the vessel. If this mode is selected, enter the distance interval in the **Interval** field, using the correct unit of measure. **Note**: if the **Trigger** mode is set to **Distance** and the **Primary Eventing Vehicle** is not tracking a survey line, WinFrog will not record any **Automatic Events**. If the **Record Type** is set to **Hydrographic**, **Source**, or **Receiver**, (as detailed below) WinFrog automatically prompts you to select a survey line to track. However, if the **Data Logging** record type is selected, WinFrog does not prompt for a survey line to be tracked. In this case, the survey line tracking must be enabled from the **Survey Line** dialog box (select **Setup Line Tracking** from the **Vehicle Text window** right click shortcut menu).
External radio button	Select this button to have an external triggering device generate **Automatic Events**. This requires the installation of a special cable between the triggering device and a WinFrog comm port. You must also add the appropriate **Event** device (typically the **Trigger > Closure In** device) to the **Event Primary** vehicle's **Devices**.
Interval field	Enter the time or distance interval as described above.
Delay field	This value only works with **Eventing Based on Distance**. As the vehicle travels down a survey line, WinFrog anticipates the next upcoming event and sends out a closure before the automatic event is to take place. The delay value defines the number of seconds before the event that this closure is sent. This calculation is based on WinFrog's calculated downline speed. This is intended for use with seismic systems that need some advance "warning" to prepare for an event.

6 In the **Record Type** area, click the appropriate radio button.

Remember, you can record automatic event data to a file using any of the four different record types. All four **Automatic Event Record Types** contain exactly the same data, in exactly the same format, but are easily distinguishable by their file extensions.

Any one of the four options can be used when triggering is based on time. In order to keep it simple, the **Data Logging** option is recommended.

Any one of the four options can also be used when triggering is based on distance. If you select the **Hydrographic**, **Seismic**, or **Cable Lay** record type, a window opens prompting you to select a survey line before automatic event recording is enabled. If the **Data Logging** type is selected with distance triggering, you must enable survey line tracking before you begin configuring automatic events.

(See the **Working Files** chapter and **Appendix A: WinFrog File Formats** for a detailed explanation of file use and file structure in WinFrog.)

7 In the **Event Start** area, click the desired radio button.

These buttons define how **Automatic Eventing** will be made **Active.**

Auto Start	This option instructs WinFrog to immediately enable **Event Active** status when **OK** is selected to close the **Event Configuration** window.
Manual Start	This option instructs WinFrog to initiate **Event Enabled** status when the **OK** is selected in the **Event Configuration** window. All of the **Event Configuration** window options that have just been set are retained and you are able to manually activate events. WinFrog will not start automatic event recording until the **Event Status** is **Active**. You must change the **Eventing Status** to **Active** by clicking on the **Event Start** button in the toolbar. Alternatively, you can select **Configure > Data Events... Start** from the main menu.

Regardless of which button is chosen, WinFrog actually completes two stages before it will start automatic event recording.

In the first stage, eventing is set to **Enabled** status. Data are not recorded while in **Event Enabled** status. There are 2 ways to determine if WinFrog is set to the **Event Enabled** status: the **Event Start** button in the toolbar will change in color from **gray** to **green** and the **Event Status** option in the **Vehicle Text** window will state **EVT Enabled** (as opposed to **Evt Active**).

The second stage is **Event Active**. WinFrog must be in **Event Active** status to record automatic event data. There are 2 ways to determine if WinFrog is in **Event Active** status: the **Event Stop** button in the toolbar will change in color from **gray** to **red** and the **Event Status** option in the **Vehicle Text** window will state **EVT Active**.

8 Configure the **Secondary** option.

This option is for output to 2 specific devices: the **Odom DF3200** echosounder and the WinFrog **Closure Out** device. The value entered in this window defines how often an output will be sent. For example, entering a 5 in this window instructs WinFrog to output to these devices only every fifth automatic event.

9 In the **Event # Control** area, click the desired radio button.

The selection made here will define the default starting **Event Number** that appears when

you close the **Event Configuration** window (the window that you are in now) and the **Data Logging** window is displayed.

If you select the **Line** option, WinFrog will use the **Starting Event Number** entered when the survey line was created. This option obviously requires that a survey line be selected for tracking.

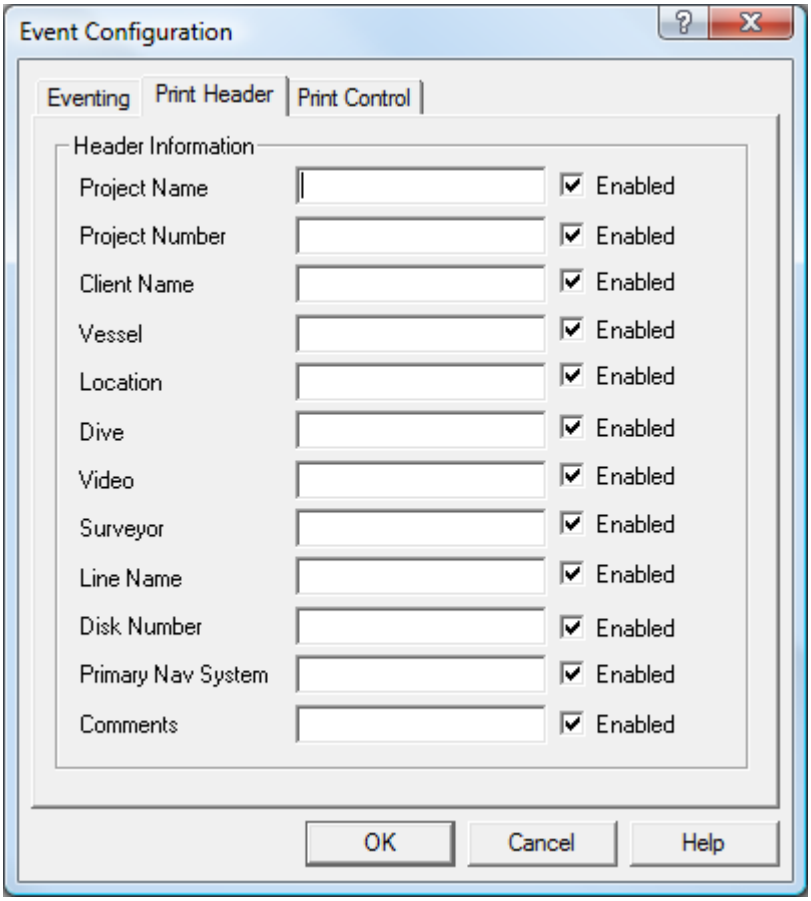
If you select the **Continuous** option, WinFrog will use the last **Event Number** that was generated when eventing was last used, incrementing or decrementing this value as required to match the defined counting order. (The number 1 will default here for the initial data collection session).

Note: this option only defines the **default** number that will appear in the **Starting Number** entry window. You can always change the number to another value later, if you wish. This option is provided only as a convenience in those situations where the same **Event Number** is used at the start of each survey line, as is typically the case with seismic surveys. This saves you from having to enter a **Starting Number** each time data collection is re-activated.

10 The **Raw Data Logging** panel initially displays the raw data logging mode as of the time the **Event Configuration** dialog was opened. If the raw data logging parameters require modifying, click the associated **Edit** button to access the **Configure Raw Data Logging** dialog (see **Configure Raw Data Logging** for details). Upon leaving this dialog with OK, the modified raw data logging mode is displayed.

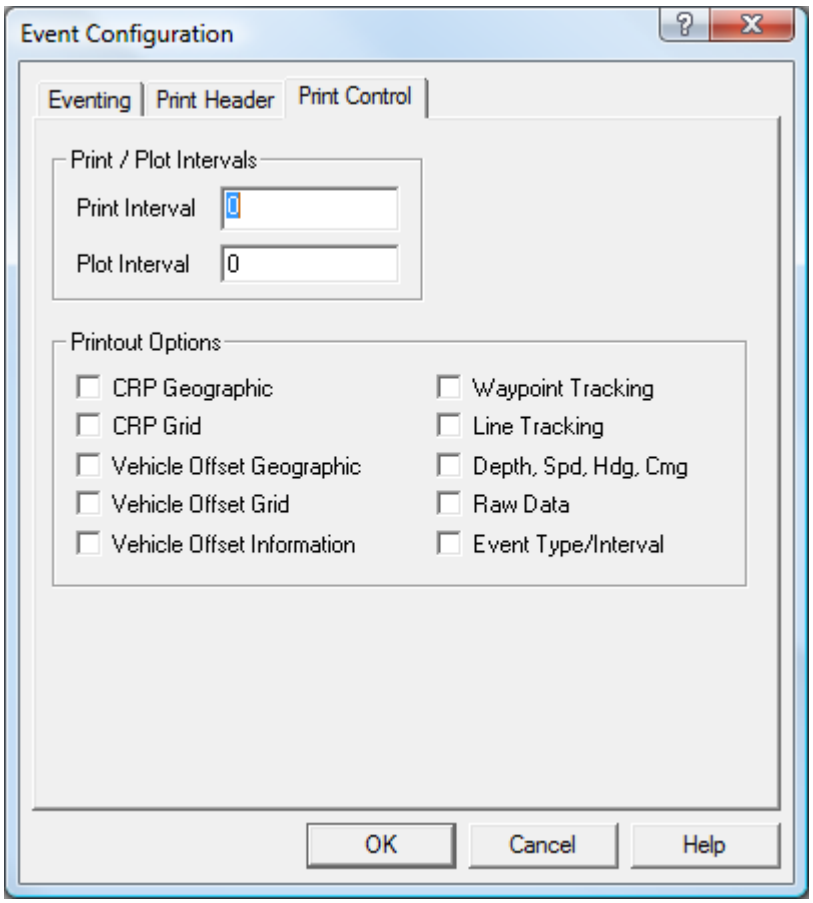
Note: The changes to the raw data logging parameters are not applied until the **Event Configuration** dialog is exited with OK.

11 Click the **Print Header** tab.



This dialog box presents twelve fields for entering information that prints on the top of each page while WinFrog is generating automatic events. Click an entry field and enter text for that specific category. If a window is not pertinent and no data are entered, you can disable the printing of a blank space by de-selecting the **Enabled** option for that particular field.

12 Click the **Print Control** tab.



This dialog box allows you to define the interval at which information will be printed. (At present, the **Plot Interval** feature is not available).

13 Click in the **Print Interval** field and enter the desired value. For example, entering a **5** here specifies that WinFrog will print at every **fifth** automatic event, while entering a **0** instructs WinFrog to **not** print any automatic events.

There are 10 **Printout Options** to choose what data (if any) are printed. The data are printed for the **Primary Eventing Vehicle** and all **Secondary Eventing Vehicles** as well.

The **Printout Options** include:

CRP Geographic	the geographic coordinates (latitude and longitude) of the vehicle's Common Reference Point (CRP)
CRP Grid	the grid coordinates (Northing and Easting) of the vehicle's Common Reference Point (CRP)
Vehicle Offset Geographic	the geographic coordinates (latitude and longitude) of the **Vehicle Offset** point being tracked
Vehicle Offset Grid	the grid coordinates (Northing and Easting) of the **Vehicle Offset** point being tracked

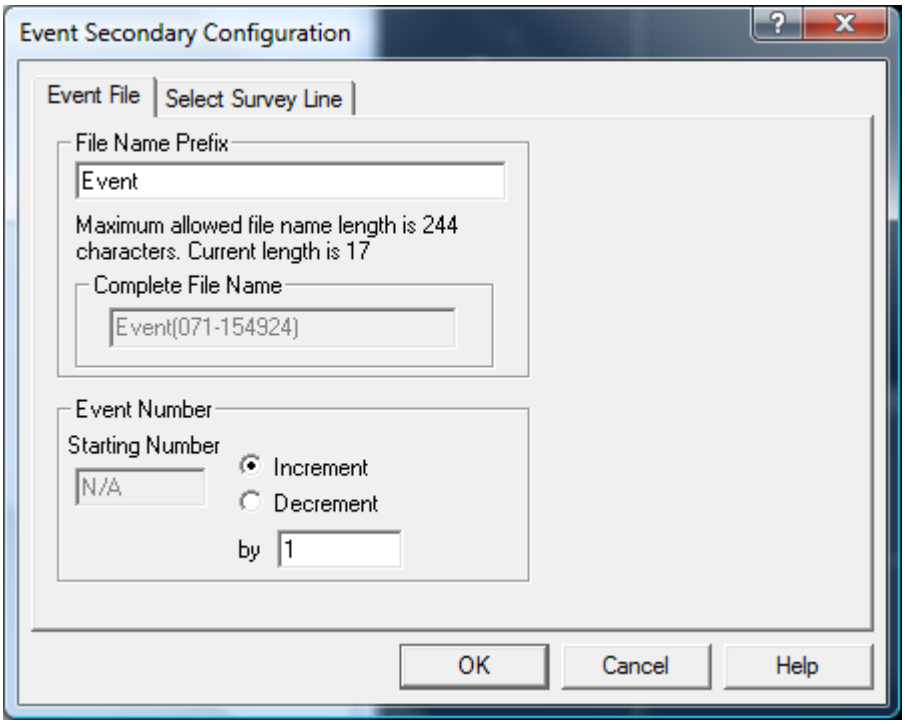
Vehicle Offset Info	offset details
Waypoint Tracking	the bearing and distance from the vehicle's currently tracked offset point to a selected waypoint
Line Tracking	survey line tracking information including the distance to the **Start of Line** (SOL), **End of Line** (EOL), and **Offtrack** distance and direction
Depth, Spd, Hdg, CMG	The water depth (as provided by an interfaced echosounder), the vessel's speed, heading, and Course Made Good
Raw Data	the raw, uncorrected data read directly from interfaced I/O devices at the instant of the printed event
Event Type/Interval	the type of event trigger (**time** or **distance**) and the event interval

14 Once all of the **Event Configuration** options are set, click **OK**.

Depending upon the **Record Type** that was selected in the **eventing options**, one of two dialog boxes opens.

Event Secondary Configuration	If the **Data Logging (.DAT)** radio button is selected in the **Record Type** area of the **Event Configuration** dialog box, WinFrog opens the **Event Secondary Configuration** dialog box, as described immediately below. If either the Trigger is set to Distance or the Raw Data Raw File Control is set to Use Currently Selected Survey Line in the **Event Configuration** dialog box, the **Event Secondary Configuration** dialog box includes a Select Survey Line tab. This allows you to select a survey line to track directly from the eventing setup.
Distance Fixing	If **Hydrographic (.DAT), Source (.SRC), or Receiver (RCV)** is selected in the **Record Type** area of the **Event Generation** dialog box, WinFrog opens the **Distance Fixing** dialog box, as described further below.

To Configure the Event Secondary Configuration Dialog Box



1 Enter a name in the **File Name Prefix** field.

WinFrog supports a combined length for the event file path and name of 256 characters, including the drive and file extension. The number of characters available for the event file name itself is displayed in the **File Name** panel as a reference with the length of the current entry. The length is checked as the name is entered and not allowed to exceed the allowable length.

Note that any spaces in the file name are removed and replaced with '_' (an underscore) by WinFrog. WinFrog adds the extension **.DAT** to the file name and records the file in the **Filing Directory** as specified in **File > Select Working Directories**.

WinFrog automatically appends the Julian day number and time (hhmmss) in brackets to the entered name. A maximum of ten thousand events are allowed in each event file. When this number is reached WinFrog will automatically create a new file using the entered name appended with the Julian day number and time when the new file is created and start placing the events in the new file. Once eventing is stopped completely you cannot append events to an existing event file.

2 Enter a value in the **Starting Number** field in the **Event Number** area.

Each individual automatic event has a numerical value assigned to it. The **Starting Event Number** is the value assigned to the first event. WinFrog will enter a default number in this window, based upon the last event taken in the previous event file or the event number specified for a tracked survey line.

3 Select the **Increment** or **Decrement** radio button.

Configure this option as required. For eventing based on time, this is typically set to

Increment. For eventing based on distance, this may be determined by the direction the line is run. Often, when conducting a site survey with numerous parallel lines, you will want to have matching event numbers located at the same distance downline locations. In this case, you would increment the count as you go in one direction, then decrement it as you go back.

4 Enter a value in the **by** field. Typically, this is left at the default value of 1.

This sets the amount that the event number will increment or decrement. For example, if **by** is set to **2** and the **Starting Number** is set to **0**, WinFrog numbers the events **0, 2, 4, 6**… when the **Increment** radio button is selected.

5 Click **OK** to close this window and proceed to eventing.

Event File Dialog Box

The **Event File** dialog box opens if an **Event file** of the same name already exists in the **Filing Directory**. This is very unlikely to happen given the addition of the Julian day number and time appended to the entered name.

1 If the existing file is not to be used, click **No**. WinFrog returns to the **File Name Entry** dialog box.

2 If the existing file is to be used, click **Yes**. WinFrog opens the **Append File** warning box.

3 To overwrite the existing file, click **No**.

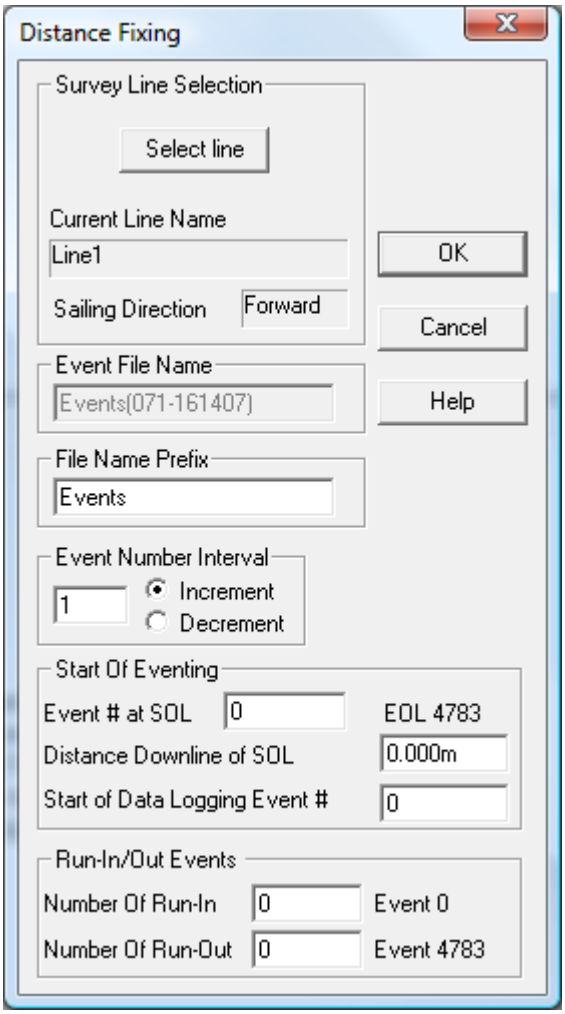
4 To append new data to the existing file, click **Yes**.

WinFrog now returns you to the previously configured real-time display. Depending on the **Event Start** selection made (see above), the **Event Status** is now either **Enabled** or **Active.** (See below for further information on Event Status.)

Distance Fixing Dialog Box

If the **Hydrographic**, **Seismic**, or **Cable Lay** radio button is selected in the **Record Type** area of the **Event Generation** dialog box, WinFrog opens the **Distance Fixing** dialog box. This dialog box is used to configure the distance fixing for event generation.

To Configure the Distance Fixing Dialog Box



Survey Line

Select Line — This button accesses the survey line selection and other parameters.

Current Line Name — This is the name of the currently selected line.

Sailing Direction — This is the sailing direction of the currently selected line. (See Setup Line Tracking in the Vehicles chapter.)

Event File Name

Display — This is the file name that the event data will be stored in. WinFrog appends the Julian day number and time (hhmmss) to the prefix entered below. WinFrog also adds a three letter file extension to the file name based on the user's selection in the **Record Type** area of the **Event Generation** dialog box: **.DAT**, **.SRC**, or **.RCV**.

File Name Prefix

Entry field

Enter a name to act as a prefix to the complete name displayed in the **Event File Name** edit box.

Note: the prefix must not contain quotes, back slashes, forward slashes, square angle braces, curly braces, colon, semicolon, equal sign, dots, spaces or commas.

WinFrog automatically appends the Julian day number and time (hhmmss) in brackets to the entered name. A maximum of ten thousand events are allowed in each event file. When this number is reached WinFrog will automatically create a new file using the entered name appended with the Julian day number and time when the new file is created and start placing the events in the new file. Once eventing is stopped completely you cannot append events to an existing event file.

Event Number Interval

Entry field

WinFrog labels consecutive events by the value entered in this field.

Increment radio button

Increases the event number for the next event by the value entered in the **Event Number Interval** window.

Decrement radio button

Decreases the event number for the next event by the value entered in the **Event Number Interval** window.

Start Of Eventing

Event # at SOL field

WinFrog labels the first automatic event with the number entered in this field.

Distance Downline of SOL field

This is the distance from the **Start of Line** where eventing will commence. This option is used when it is necessary to begin the data collection somewhere other than at the start of the survey line. If eventing is to start at the SOL, leave this as the default value of 0.

Start of Data Logging Event # field

Enter the number of the event where you want to start the eventing. Again, this is for re-shoots. The default value here (0.0) configures eventing to start at the SOL, but you can enter a different value to start eventing somewhere down the line. WinFrog takes this event number and multiplies it by the event interval to determine where this event will take place.

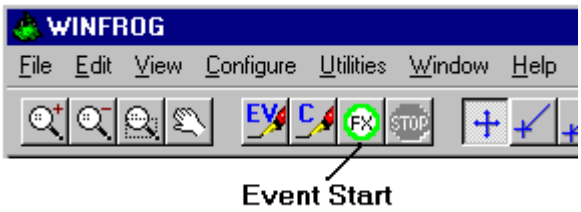
Run-In/Out Events

Number of Run-In field	This is the number of events to take before the start of the currently tracked survey line.
Number of Run-Out field	This is the number of events to take after the end of the currently tracked survey line.

When all values are configured as desired, click **OK**. The **Event File** dialog box opens if an **Event** file already exists. (See above for details.) Otherwise, WinFrog returns you to the previously configured real-time display. Depending on the **Event Start** selection made (see above), the **Event Status** is now either **Enabled** or **Active.** (See Setup Line Tracking in the Vehicles chapter.)

Eventing is Enabled/Active

Collection of automatic events commences when **Event Status** is made **Active**. If the **Auto Start** radio button was selected in the **Event Generation** dialog box, WinFrog proceeds directly to **Event Active** status and begins recording data.



If the **Manual Start** radio button was selected in the **Event Generation** dialog box, WinFrog is only in **Event Enabled** status.

To Activate Data Recording

1 Click the green **Start** button in the toolbar or choose the main menu item **Configure** > **Data Events...Start**.

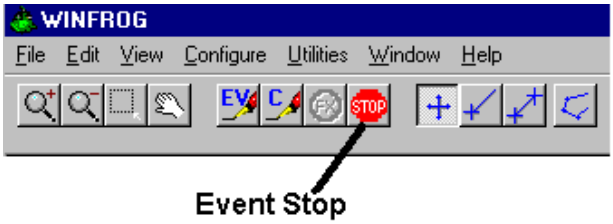
Several things will happen when the **Automatic Event** data collection **Status** is **Active**.

- In the **Vehicle Text** window, the **Event Status** section indicates **EVT ACTIVE** and the **Event Number** section displays the current event number.
- The **Graphics** display (in its default configuration) will display the event locations and event numbers (scale dependent).
- If a survey line is being tracked, its color in the Graphics window will change to the color of the **Primary** eventing vehicle. The Vehicle Text window will display the **Line Name**, **Distance to SOL**, **Distance to EOL**, and the **Port/Starboard** information (the distance perpendicular from the current survey line segment to the vehicle.)
- The red **Event Stop** button is enabled. This button is used to stop eventing, as described in the following section.

Stopping Automatic Event Data Recording

To Stop Recording Data

1 Click the red **Event Stop** button on the toolbar (as seen below), or choose **Configure** > **Data Events... Stop**.



WinFrog will present the same window that was used to configure the **Event File Name** for the data recording session that just ended.

If the **Data Logging** radio button was selected in the **Record Type** area of the **Event Generation** dialog box, WinFrog opens the **Data Logging** dialog box.

If the **Hydrographic**, **Seismic**, or **Cable Lay** radio button was selected in the **Record Type** area of the **Event Generation** dialog box, WinFrog opens the **Distance Fixing** dialog box.

This allows you to quickly restart automatic event recording using the same event configuration options previously selected. If these event configuration parameters are still suitable, you only have to change the **Event File Name**.

If you want to change the recording parameters or stop data recording completely, click the **Cancel** button. This causes WinFrog to exit **Event Configuration** altogether.

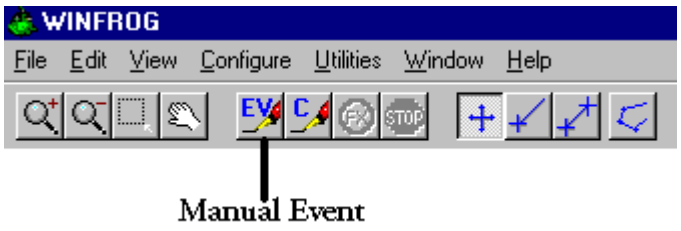
Manual Events

In addition to recording automatic events, WinFrog also allows you to record **Manual Events** and **Cable Events** at the press of a button.

To Record a Manual Event

There are three ways to record a **Manual Event**:

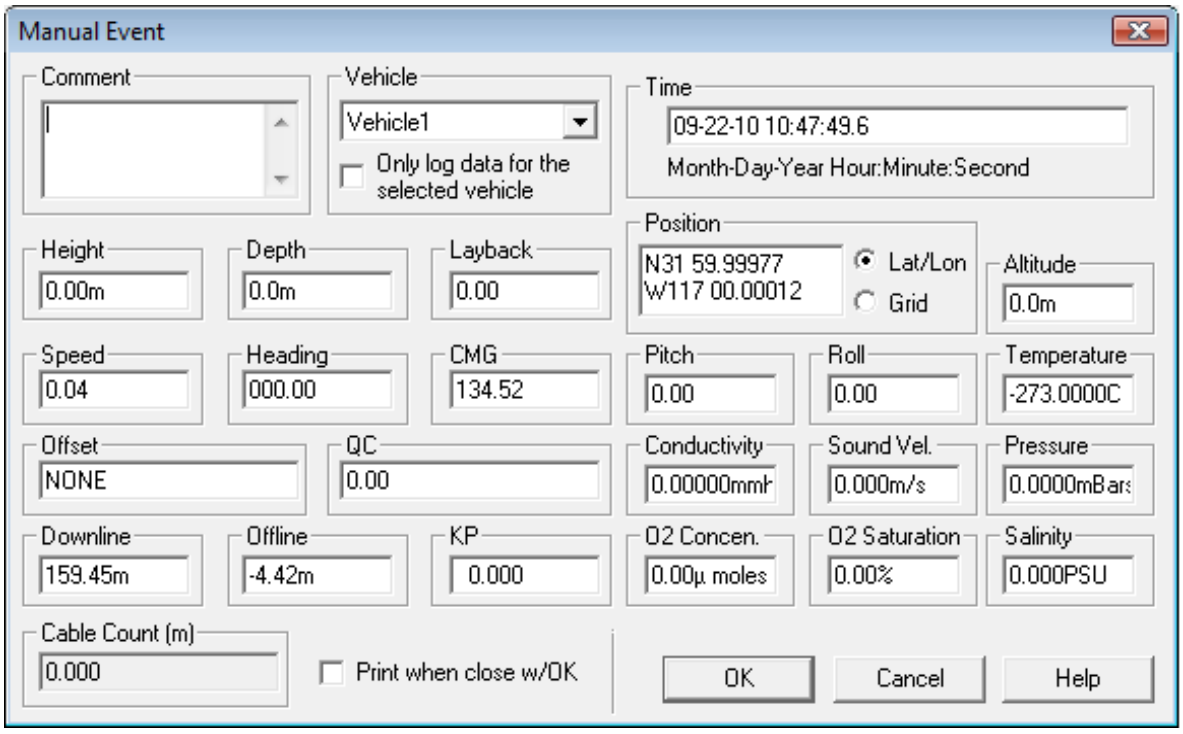
1 Click the **Manual Fix** button in the toolbar, as seen below



2 Choose the main menu item **Configure > Manual Event**.

3 Press the **F10** key along the top row of the keyboard.

Regardless of which of the above methods is used, the **Manual Event** dialog window appears, as seen in the next figure.



To see the information for another vehicle, click the **Vehicle** dropdown field. All of the other fields will update to show the selected vehicle's data.

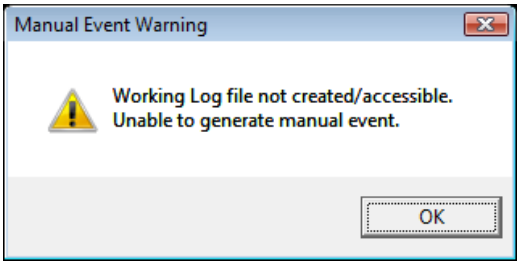
By default, WinFrog will record information for all vehicles. If you want to record data for only one specific vehicle, select that vehicle from the dropdown list and select the **Only log data for the selected vehicle** checkbox.

Note: The **Only log data for the selected vehicle** checkbox is always unchecked when a manual event is taken and this dialog opens. This is to ensure that it is not checked for one manual event and then inadvertently left checked and not noticed for subsequent manual events potentially resulting in required data not being logged to the log file.

To print the event, select the **Print when close w/OK** checkbox. This sends this event to the printer when the OK button is clicked.

Note: The comment cannot include comma, carriage return or line feed characters. (The carriage return or line feed characters can occur if the comment includes copied and pasted text.) WinFrog checks the comment entry upon exiting the dialog and automatically replaces commas with underscores and carriage returns or line feeds with dots.

Note: If the Working Log file is not accessible or open, WinFrog does not execute the manual event and the following warning appears. This usually only occurs when the Working Log file folder path that is specified in a WinFrog initialization or configuration file is changed or deleted and the respective file is then loaded.



To Edit a Manual Event After it has been Recorded

1 Select **File > Edit Working Files…. > Logs**

2 Highlight the appropriate **Manual Event**

3 Select **Edit**.

The same **Manual Event** dialog box will appear as when the manual event was initially recorded.

Note: The **Only log data for the selected vehicle** option is not applicable when reviewing already captured manual events and the respective checkbox is disabled.

WinFrog's **Graphics** and **Bird's Eye** windows can be configured to display the location of manual events. See the **Operator Display Windows** chapter for more information on WinFrog displays.

Cable Events

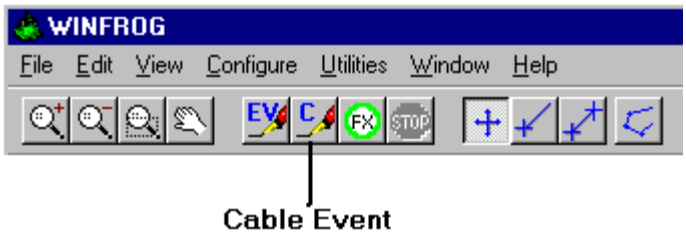
Much like manual events, **Cable Events** allow you to record information at the touch of a button. However, **Cable Events** differ from manual events in that they record additional data specific to cable installation projects. Specifically, cable events record the observed **Incremental and Cumulative Route and Cable Distances**, and the observed **Incremental and Cumulative Slack Percentages.**

Note: a **Working .cet** file or **.mdb Cable Engineering Database** file must be opened before a cable event can be recorded. (See the **Working Files** chapter for more information on these file types.)

To Record a Cable Event

There are three ways to record a **Cable Event**:

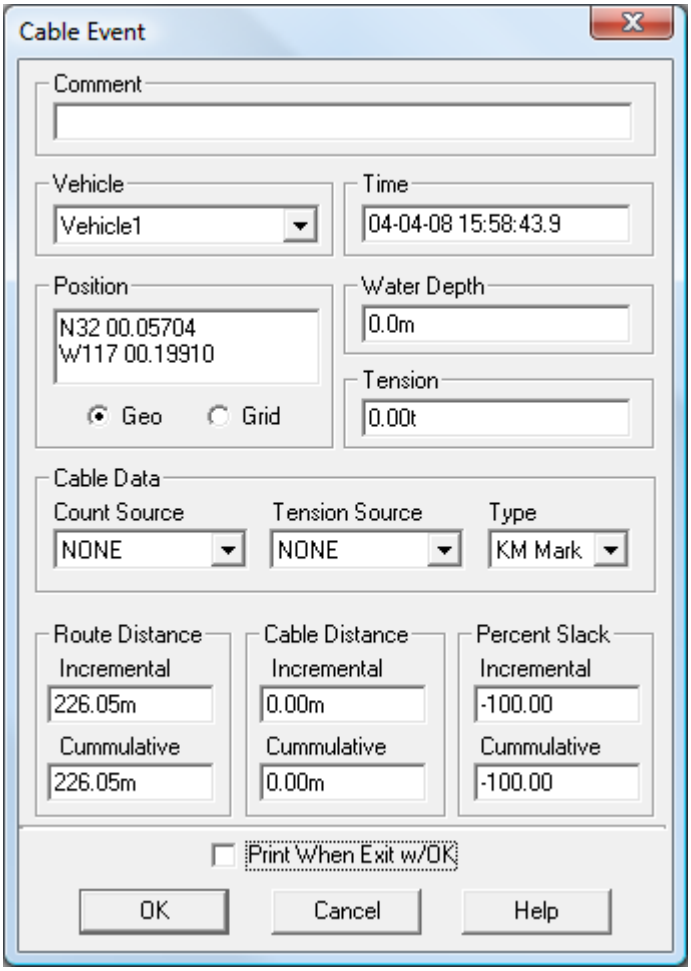
1 Click the **Cable Event** button on the toolbar, as seen below.



2 From the main menu item **Configure**, select **Cable Event**.

3 Press the **F11** hotkey along the top row of the keyboard.

Regardless of which method is used, the same **Cable Event** dialog box will appear, as seen in the next figure.



The **Cable Event** dialog box displays a variety of information pertinent to cable laying operations.

- User-Entered Comment
- Vehicle Name
- WinFrog Date and Time
- All Vehicle Positions
- Water Depth
- Cable Tension

Cable Data

Source	Select a cable counter peripheral device previously added to WinFrog.
Type	Select one of the provided options.

The options presented are specific to cable laying projects:

KM Mark	Splice Box	Circle	Repeater	Cable End
Transition	Square	Triangle	Branch	

Route Distance

Incremental The distance traveled along the route since the previous cable event.

Cumulative The distance traveled along the route since the first cable event.

Cable Distance

Incremental The amount of cable let out since the previous cable event.

Cumulative The amount of cable let out since the first cable event.

Percent Slack

Incremental The amount of slack in the cable since the previous cable event.

Cumulative The amount of slack in the cable since the first cable event.

To see the information for another vehicle, select from the **Vehicle** dropdown field. All of the other fields will update to show the selected vehicle's data.

To print the event, select the **Print When Exit w/OK** checkbox. This sends this event to the printer when the OK button is clicked.

To Edit a Cable Event After it has been Recorded

1. Select **File> Edit Working Files…. > Cable Events**
2. Highlight the appropriate cable event
3. Select **Edit.**

The same **Cable Even**t dialog box displays as when the event was initially recorded.

The **Graphics** and **Bird's Eye** windows can be configured to display **Cable Events**. For more details, see the **Operator Display Windows** chapter.

Configure Raw Data Logging

Raw data logging by WinFrog refers to the logging of the raw device data as passed to the vehicles through the association of device data items with the vehicles, not the actual logging of the data as it is received at the device. As a result, the data for a given device may actually be contained in several different raw records. In addition, if a device is not associated with a vehicle through its data items, that device's data is not logged. The exception to this is the logging of Time Synchronization raw records where there is no data item to associate with a vehicle. In this case, the raw data is logged as per the respective configuration (see the Operator Display Windows chapter, Time Synchronization section).

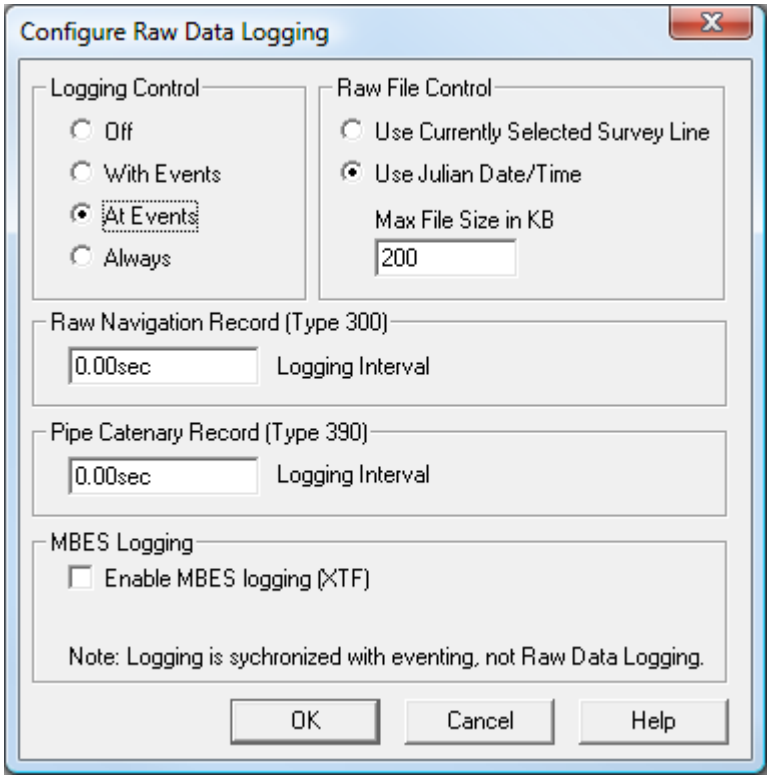
In addition to the device raw data, WinFrog also logs event information to the raw files when eventing is active. This includes Event Starting and Event Stopping records and Event position records. Processed position and catenary data can also be logged.

For information on the contents and format of the raw records, refer to **Appendix B: WinFrog File Formats**.

Note: Unless specified in the respective raw record format description, the data logged to the raw records is as received by the device, uncorrected for offsets, filtering and calibration. For example, a GPS receiver's position is logged as WGS 84, not in the Working Ellipsoid.

To Configure Raw Data Logging

1 Select **Configure > Raw Data Logging**. The **Configure Raw Data Logging** dialog will appear.



Logging Control

The **Logging Control** options are used to configure the amount of raw data that are recorded. There are four modes: **Off**, **With Events**, **At Events**, and **Always**.

Off	No raw data are recorded.
With Events	WinFrog begins recording raw data at the first automatic event, recording raw data continuously until automatic eventing is stopped.
At Events	Raw data are recorded only when an automatic event occurs. For example, if automatic eventing

is set to trigger every 10 seconds, raw data will be recorded only at those same 10 second intervals.

Always — Raw data are recorded as soon as the **OK** button is clicked to close the **Event Generation** dialog box. You do not have to enable automatic eventing recording to record **Raw Data Always**. As with **Raw With Events**, all data being received from interfaced I/O devices are recorded.

Note: If **With Events** or **At Events** is selected and eventing is already active, when this dialog is exited with OK, raw data logging starts immediately.

Note: The Logging Control setting can be displayed in the Vehicle Text window for monitoring purposes.

Raw File Control

Raw File Control establishes the **.raw file** name and the maximum **.raw** file size. All raw files are created with a **.raw** file extension. The raw file name can be one of two options:

Use Currently Selected Survey Line — Using this option, the **.raw** file name will be the same as the currently selected survey line. For example, if **line1** is being tracked, the file name will be **line1.raw**. If no survey line is currently being tracked, the raw file name will default to **noline.raw**.

Use Julian Date/Time — Using this option, the **.raw** file name will be based on **WinFrog's** Julian date and time. The Julian day is the number of that day of the year, starting with January 1st as Julian day number 1. For example, September 27, 1999, is Julian day 270 for that year. If the raw data collection began at 8:00 am that day, the raw file name would be **270-0800.raw**. If another raw file is created in that same minute, the seconds would be added to the file name and the file name would display as **270-080032.raw**.

Note: WinFrog's time can be based on the computer's clock or synchronized to GPS time.

Max File Size in KB — This entry window only works in conjunction with the **Julian Date/time** naming option. It allows you to define the maximum size of any single **.raw** file. As the maximum file size is reached, a new **.raw** file will be created, again named according to WinFrog's date and time. The only limit to file size is the amount of space available on the computer's hard drive. You should limit the file size to a practical size so that the file can be easily transferred or edited. The default of 200 KB is recommended for most operations.

Note: during eventing, WinFrog constantly checks the amount of space left and issues a warning when the capacity gets down to 1 MB. **Note:** this warning will not occur if you have set raw data collection to **Always**. As mentioned above, recording raw data **Always** does not require **eventing** to be active.

Raw Navigation Record (Type 300)

Logging Interval — This entry window allows you to record the **type 300** raw record at a specific interval, where as device raw data is logged when new data is available. The type 300 record contains processed positioning and navigation data for each vehicle. If this record is not required, enter 0.0 in this field.

Pipe Catenary Record (Type 390)

Logging Interval — This entry window allows you to record the **type-390** raw record at a specific interval, where as device raw data is logged when new data is available. The type-390 record contains the dynamic tracking data and calculated pipe catenary data.

Note: The logging of the Raw Navigation and Pipe catenary records is independent of the eventing state, i.e., if the **Logging Control** is set **With Events** or **At Events**, these records are logged to raw data files regardless of whether or not eventing is active.

MBES Logging

The logging of XTF files is dependent upon the MBES Data Logging module. With this module, WinFrog supports the logging of XTF files for select devices for post-processing with third party software. To enable this option, check the **Enable XTF logging** box. For details, see **EM4 - Multibeam Logging and Coverage Map Display**.

Note: For more information about raw data files, see the **RAW Files** section in the **Basic Ribbit** chapter.