

Chapter 1: Introduction

This User's Guide is written with the assumption that users are familiar with the operation of Microsoft Windows™ and have some familiarity with the use and purpose of integrated navigation systems. If you are unfamiliar with the Windows environment, you should spend some time reading Windows documentation prior to operating WinFrog as this will explain some of the basic features and concepts of the Windows operating system.

Of critical importance is the ability to navigate through the various windows of the program. WinFrog allows you to open dialog boxes and select various options by using a mouse or by the use of “**shortcut keys**” (i.e. File > Open = Ctrl + O). A WinFrog function can be enabled by simultaneously holding the ALT key and selecting the desired underlined control letter. In WinFrog, it is much more efficient to use the mouse to highlight, copy, and paste variables. Most WinFrog windows also have a configuration shortcut that is accessed by clicking the right mouse button when the mouse pointer is within the border of the desired window.

The use of a file management program such as **Windows Explorer™** is required to support WinFrog. In particular, you should be proficient in the creation of new folders and copying and moving existing files.

You should also know how to edit the contents of a file. All of WinFrog's files are written as simple ASCII text, so standard Windows editing programs such as **WordPad™** and **NotePad™** can be used to display the contents.

Conventions Used in this Manual

Files

All files used and created by WinFrog have unique three letter file extensions. As these extensions are unique to WinFrog, they are not automatically associated with any type of Windows program. See **Appendix B: WinFrog File Formats** for more detailed information concerning the structure and contents of individual WinFrog files.

Common Reference Point (CRP)

All locations on a vehicle are defined in relation to a reference position on that vehicle. This reference position is called either the **Common Reference Point (CRP)** or the **origin**. Typically, this is the position of the GPS antenna, but it can be any point on the vehicle, i.e., the point of the bow, the mount of the sounder transducer, the main mast, the center of the stern, the center of mass, etc. Once the location of the **CRP** has been determined, all **offset** measurements must be made from that location in order to obtain accurate results.

Direction and Orientation

Offsets **forward** and **starboard** from the **CRP** are **positive** values.

Offsets **aft** and **port** from the **CRP** are **negative** values.

Abbreviations

CRP	common reference point
comm	communications
COG/CMG	Course Over Ground/Course Made Good
I/O	input/output
QC	quality control
config	configuration

WinFrog Applications

The WinFrog integrated navigation and data management software is suitable for a wide variety of applications in marine, land, and air environments and is now being used for numerous applications on over 400 vehicles worldwide:

- Fleet Monitoring
- Remote Vehicle Tracking
- Cable and Pipelaying Operations
- Bathymetric Surveys
- Geophysical Surveys
- Seismic Surveys
- Drill Ship/Rig Positioning
- Land Surveying
- Real-Time Aeronautical Vectoring

Though these are some of the more common applications, the potential use of WinFrog in any environment is unlimited. The WinFrog suite of programs continues to evolve and develop as users find new applications for the system and as new computer, data acquisition, and data processing systems come onto the market.

WinFrog Features

The WinFrog integrated navigation software consists of a “core” package with several add-on modules that allow the choice of a final system configuration best suited to the particular positioning and processing requirements. The core WinFrog package contains features that are beneficial to all uses; while the features provided in additional modules typically apply to specific applications.

Core Package

Graphics

Separate windows are provided for graphics, vehicle control, device control, track following, and quality control. Multiple windows may be opened and controlled independently. It is also possible to have multiple instances of the same window for use on different workstations.

WinFrog supports the display of vector and raster data, i.e. shorelines, hazards, and navigation charts. Vector data can be imported in a variety of formats including DXF, DWG and DGN files or electronic charts, while raster data is imported in a number of common graphics formats or as

electronic charts and can be used to provide a level of visual detail not obtainable with vector charts alone. Several different layers of chart and graphics can be displayed simultaneously in the **Graphics** window and can be toggled on and off with a button click. The chart, like the vector display, can be scaled, panned, and rotated. In some cases, the chart color scheme can be changed to provide optimal contrast between the chart and the vector display or to enhance visibility at night.

Devices

WinFrog supports over 300 different peripheral devices, with the capability to simultaneously use over 30 devices, including multiple copies of the same device. Device data can be received in either industry-standard **NMEA** or customized formats. Alphanumeric windows display the raw data for each device configured in WinFrog. WinFrog serves as a data management system by collecting and distributing data for an entire project. Raw data for each device can be logged for future calculations, processing, and playback.

Vehicles

WinFrog supports the configuration of multiple vehicles, each using different peripheral devices. The calculation of each vehicle's position can be independently defined. Each vehicle can have its own shape and offsets, track its own waypoints, and line track. Events can be generated by any one of the multiple vehicles and raw device data for each vehicle can be logged for future use. Alphanumeric windows for each vehicle are user-configurable to display various parameters, such as position, speed, heading, course of advance, waypoint and line track, and crosstrack error.

Extension Modules

In addition to the Core WinFrog package, there are several extension modules to augment WinFrog's capabilities.

GPS Calculations Extension Module (GPS Calcs)

The GPS Calculations Extension Module of WinFrog provides multiple reference station DGPS positioning by combining raw pseudoranges and RTCM differential corrections in a weighted position solution. Kalman filtering and user-defined DOP gates can be selected to smooth data and reject spikes inherent in the GPS measurement system.

Extensive quality assurance of the DGPS position is achieved through the use of UKOOA standard statistical testing. The **Calculations** window can be used as a real-time display of various statistical testing and GPS calculation results, including vessel position, statistical position error and residuals, satellites used with their elevations, signal to noise ratio, differential corrections, age of differential corrections, and dilution of precision values.

WinFrog has the capability to perform visual quality control checks on some of its functions. In the **Calculations** window, which was designed for QA/QC purposes, you have the ability to view time series plots for all input and output data types and to monitor the data quality. The type of data viewed in a window, the scale of the data being displayed, and the width of the display window are all user-definable.

Multiple Vehicle Positioning and Telemetry Extension Module (MVP&T)

The WinFrog integrated navigation system supports a sophisticated, wireless, inter-vehicle telemetry network that enables position information from remote vehicles to be transmitted to other vehicles in the network. This ability is available in the Multiple Vehicle Positioning and Telemetry Extension Module. Each vehicle has the capability to transmit its own position as well as receive and display the positions of other vehicles in the network, all in real-time. Position information for each vehicle can be recorded at any one vehicle or at all of the other vehicles. Vehicle positions can also be monitored by transmitting observed raw pseudorange data to another vehicle. The remote WinFrog system will then calculate that vessel's position from the pseudorange data and available RTCM information. In addition to transmitting position information, files and RTCM corrections can be transmitted between vehicles in the network.

Controlled Remote

WinFrog supports the use of one site controlling the operation of a remote site. The WinFrog Controlled Remote Tug Telemetry Extension Module enables one central WinFrog system to control a series of remote WinFrog systems. This is useful for a project utilizing a barge with several anchor handling tugs.

LBL Acoustics

WinFrog supports the use of long baseline (LBL) acoustic technology. The WinFrog LBL Acoustics Extension Module provides the ability to calibrate and utilize LBL systems to enable accurate real-time positioning of a vehicle far below the ocean surface.

Cable Management

The WinFrog Cable Management Extension Module, in conjunction with the Cable Route Design Database, enables modeling and monitoring of submarine cables during cable lay operations. This software assists cable lay personnel with decisions regarding ship speed, cable tension, and cable payout speed to reach design goals.

Multibeam Data Logging and Coverage Map

The WinFrog Multibeam Data Logging and Coverage Map Module supports interfacing with selected devices for the purpose of logging multibeam data for post-processing and the real-time generation of coverage maps.

WinFrog Licensing and Security

Fugro Pelagos, Inc. provides a hardware licensing security system (dongle) and an emergency license for our software programs. The primary system uses a **DESkey™ dongle** that you attach to the computer's parallel printer port or USB port. This dongle is issued to you at the time of purchase and represents your software license. The backup emergency system uses **CrypKey™**, a system that uses a licensing feature coded into the software program.

WinFrog requires security approval in order to have all of WinFrog's capabilities made available. When you run WinFrog for the first time you will be prompted for the licensing method to use – either a DESkey dongle or a CrypKey license. Ensure that the default option of

DESkey dongle security is selected. (See **Starting WinFrog** later in this chapter.)

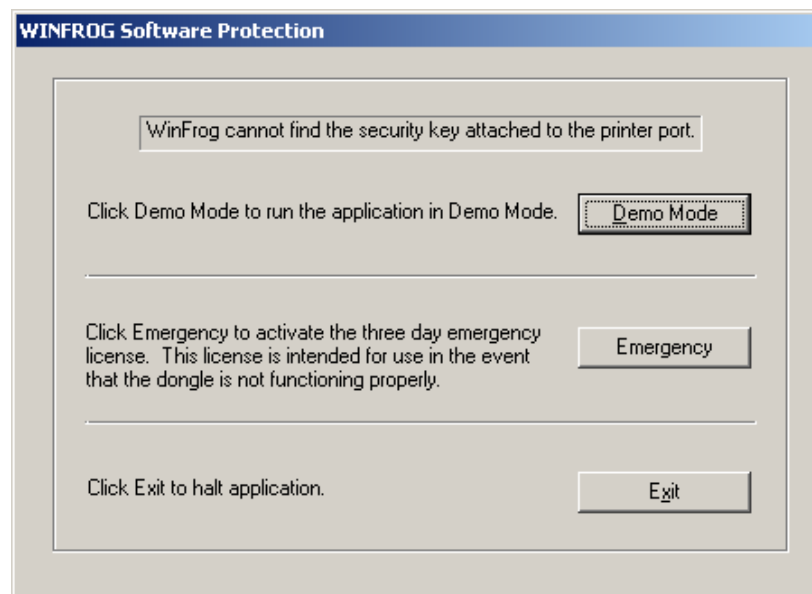
Without the security approval, WinFrog will only run in **Demonstration Mode (Demo)**. In Demo mode, real-time peripheral devices can be added to and are decoded by WinFrog, with the data visible in the **I/O Devices** window, but the data generated by these peripheral devices cannot be added to a vehicle. Only data generated by simulated peripheral devices can be added to a vehicle while WinFrog is running in **Demo** mode.

Note: While running after launching successfully with a dongle, if the dongle is determined to be missing you are warned and given 15 minutes to address the problem before WinFrog will automatically shutdown. This may be due to the dongle having fallen off or failed. In the case of a parallel port DesKey dongle, it can simply be replaced and WinFrog will automatically detect it and inform you that a dongle has been detected and abort the shutdown. In the case of a USB DesKey dongle, WinFrog must be exited and re-launched with the dongle replaced before it is detected.

Note: WinFrog is also available in a Demonstration Only version. The demonstration version operates as a standard version does when a CrypKey or DESkey license is not present. It cannot be activated to a licensed version.

Enabling CrypKey Security in the Event of a Dongle Failure

In the event that the DESkey dongle fails during a survey operation, the Emergency License can be activated to allow continued WinFrog operation until a replacement DESkey dongle is obtained. If WinFrog is started and the dongle is not detected, the following dialog will be displayed. **Note: If your operating system is Vista or Windows 7, in order to use the emergency CrypKey feature you must run WinFrog as an administrator.**



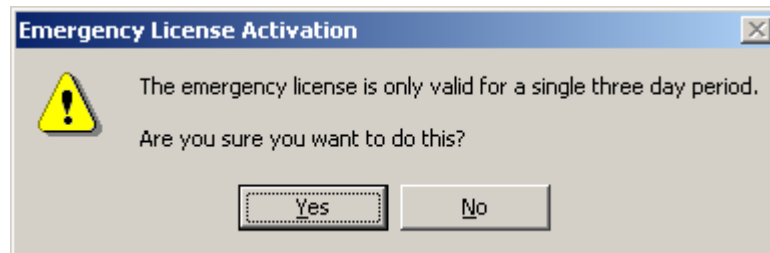
The Emergency License will allow WinFrog to be used for three days, allowing time to contact Fugro Pelagos to resolve your WinFrog licensing problem.

Note: The emergency license feature can only be used once per PC. By itself, it will provide licensing for three days beginning from the time the emergency license is first activated. The three day period can be extended by obtaining an emergency license from Fugro Pelagos.

Before enabling an emergency license, first check the port to ensure that the dongle is correctly attached. If it is attached correctly, but still fails, follow the steps below. **Remember, if running Vista or Windows 7 you must run WinFrog as an administrator before proceeding with the emergency CrypKey setup otherwise the emergency key will be lost.**

To Enable an Emergency License

- 1 Click the **Emergency** button in the **WinFrog Software Protection** dialog. The following dialog displays.



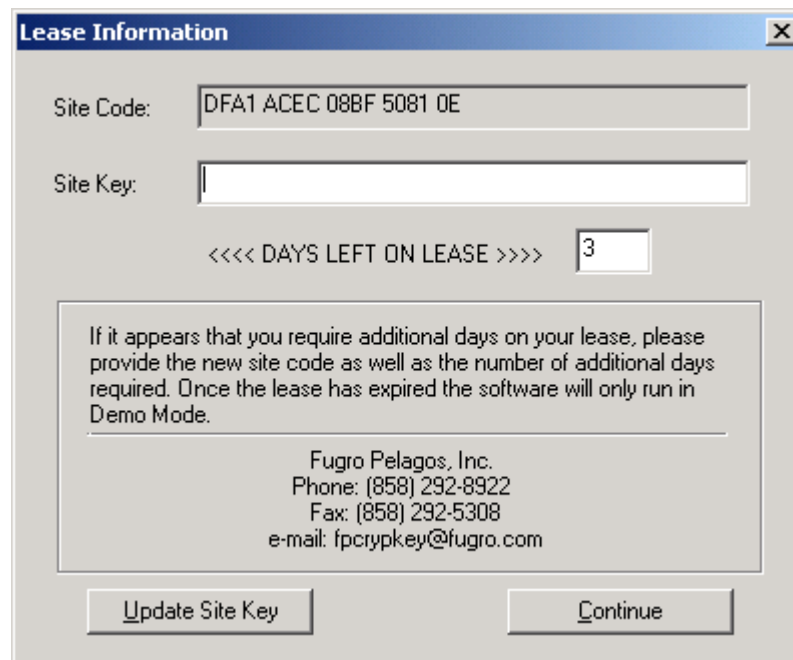
- 2 Click **Yes** to activate the emergency license. The following dialog displays.



- 3 Click **OK**. WinFrog will shut down.
- 4 Restart WinFrog. The **WinFrog Authorization** dialog displays.



- 5 Click the **Continue in Demo** button. The **Lease Information** dialog displays.



- 6 Click **Continue** to start WinFrog in the Emergency License Mode.
- 7 Contact Fugro Pelagos as soon as possible with the Site Code displayed in the Lease Information dialog to obtain an extended emergency license and/or a replacement DESkey dongle.

Third Party Software Licensing and Security

WinFrog supports a real-time GPS vector processing capability. This utilizes third party software provided by the Waypoint Product Group of NovAtel, Inc. This software requires a Sentinel USB security dongle. This dongle is provided by Fugro Pelagos when this option is purchased.

Installing WinFrog

Close all applications and ensure that you have **Administrator** privileges before beginning the install. WinFrog should be installed in the default folder and on the same drive as the Windows operating system.

When operating WinFrog, you need an account on the computer with sufficiently high privileges to read and write to the folders and files used by WinFrog. These include those folders created by other users and those folders listed below where the initialization files (**WinFrogINI.wfg** and others) are kept. The technical support document, available from the Help menu item, should be saved to a folder other than the WinFrog program files folder.

Operating System	Folder
Vista, Win7, Win8	C:\Users\Public\
XP	C:\Documents and Settings\All Users\
Win2000	C:\Documents and Settings\All Users\
Other	C:\WINDOWS or C:\WINNT

To Install WinFrog from a CD

The CD you receive has an auto-start feature which means that a menu screen with several options will appear when you insert the CD. This screen gives you the ability to install the software, copy documentation to your hard disk, browse the CD and visit our website. To install WinFrog, click the Install Software button and simply follow the steps through the installation program.

If for some reason the CD does not start, please follow the steps below.

- 1 Run Windows Explorer™ and navigate to the CD.
- 2 Double-click the autorun.exe icon.
- 3 The menu screen described above will appear. After choosing to install the software, the Setup window will appear followed shortly by the Welcome window. Follow the instructions on screen.
- 4 Restart the computer. (Note: Once the software is installed, it is no longer necessary to have administrator privileges.)

Starting WinFrog

To Launch WinFrog

- 1 Either double-click the **WinFrog** shortcut on the desktop (if there is one) or click **Start > Programs > Fugro Pelagos > WinFrog**.

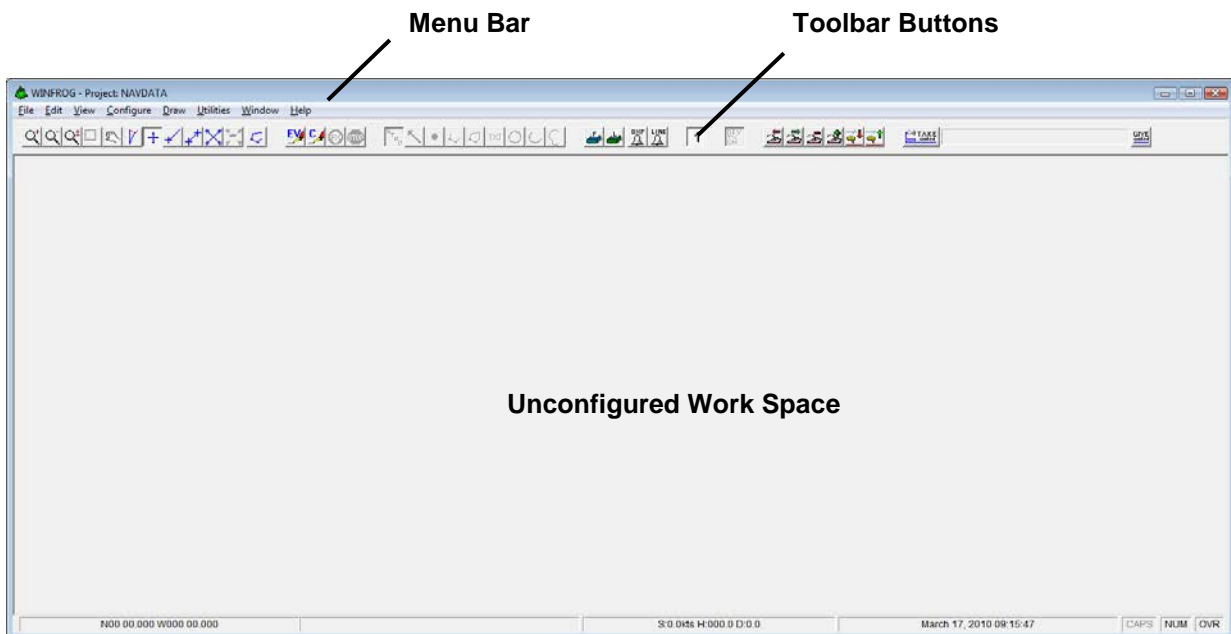
If running WinFrog on Vista or later, you should run it as an **administrator**. To set this, right-click on the desktop icon or the WinFrog application from the Start menu. Select **Properties** and select the **Compatibility** tab. Check the **Run this program as an administrator** box found in the **Privilege Level** group.

Be careful not to start more than one copy of WinFrog at a time. This will cause problems with real-time operations, as well as the potential loss or overwriting of various data files.

When you run WinFrog for the first time you will be prompted for the licensing method to use – either a hardware dongle attached to a parallel port on your PC, or a CrypKey license.



- 2 Ensure that the default option of **DESKey dongle security** is selected and click the **Finished** button. WinFrog fills the screen, displaying a window containing the **Menu bar**, a **toolbar with buttons**, and an unconfigured WinFrog **workspace**.



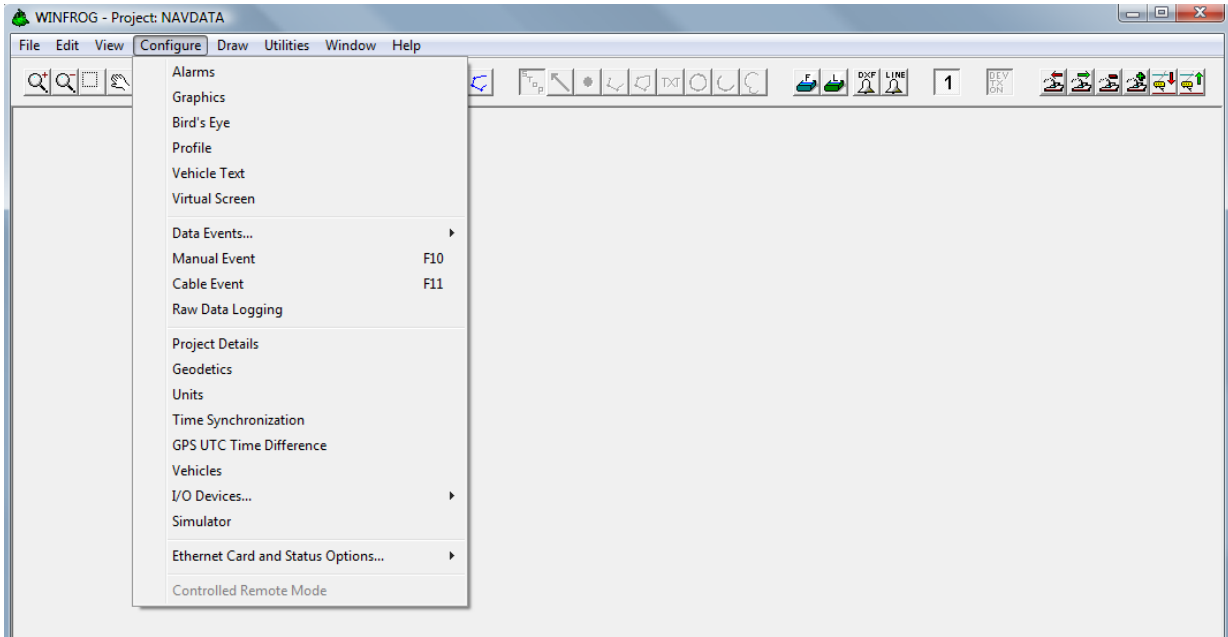
Using WinFrog

WinFrog uses standard **Windows** menus, dialog boxes, and windows. This section provides a quick introduction to using WinFrog.

Menu Bars

At the top of the WinFrog window is the **Menu** bar. This bar contains eight categories of WinFrog items, each of which contains numerous sub-options.

The **Configure** menu (shown in the next figure) is a typical WinFrog menu and provides numerous configuration options in a dropdown list. The Configuration menu is used as an example below.

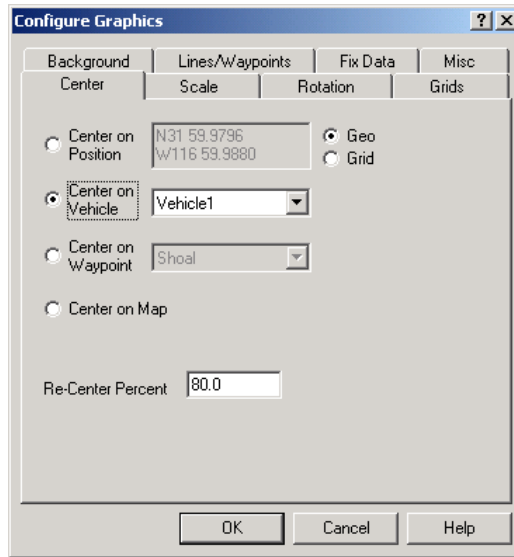


When you select the main menu item **Configure**, you will see that **F10** and **F11** appear to the right of the **Manual Event** and **Cable Event** choices. These are **hotkeys** that allow you to quickly choose a menu item without using the mouse. In this example, pressing the **F10** function button along the top of a standard keyboard would open the dialog box associated with the **Manual Event** menu choice. For more information on hotkeys, see the **Hotkeys** section later in this chapter.

Also in the main menu item **Configure** option list, note that there is an arrow to the right of the **I/O Devices** menu choice. This arrow indicates that if you select this menu item WinFrog will open a cascading sub-menu with more choices.

Dialog Boxes

Dialog boxes allow the user to communicate with WinFrog. WinFrog's parameters and options are set using these dialog boxes and they can also provide access to other dialog boxes and windows. Standard Windows conventions are used to select items and open and close dialog boxes. The **Configure Graphics** dialog box, seen below, is a typical WinFrog dialog box.



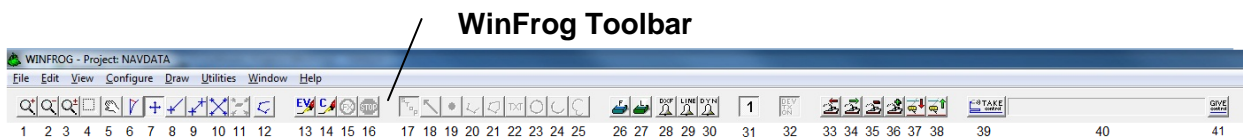
The title of each dialog box appears flush left at the top of the box. In this case, the dialog box is entitled **Configure Graphics**.

Clicking the **OK** button accepts the changes that have been made in a specific dialog box and closes that box. Clicking the **Cancel** or **Close** button or clicking the **X** in the top right corner of the dialog box closes the dialog box **without** accepting the changes made.

All WinFrog dialog boxes can be repositioned by clicking on the blue section at the top of the box and holding the left mouse button down to drag the dialog box to a new location. In addition, dialog boxes and windows can be resized. Move the mouse pointer to the edge or corner of the dialog box or window. When the pointer reaches the edge or corner, it will change to one of four double-headed arrows. Click and drag the edge or corner to the desired size.

Speed Toolbar

WinFrog’s default configuration has a toolbar that is located below the menu bar. The toolbar contains 36 buttons that provide shortcuts for performing often used functions. This toolbar is actually made up of 8 individual “dockable” sections that can be moved to anywhere in the WinFrog workspace by clicking near a button in the section and dragging to the new location. The complete WinFrog toolbar is shown below.



As found from the left, the buttons on the Speed Toolbar do the following:

- | | | |
|---|------------|--|
| 1 | Zoom In | Zooms in a Graphics or a Bird’s Eye window. |
| 2 | Zoom Out | Zooms out a Graphics or a Bird’s Eye window. |
| 3 | Mouse Zoom | Allows you to use the left mouse to zoom in and out in a |

graphics window by dragging the cursor up (zoom in) and down (zoom out) in the graphics window.

- 4 Zoom Window Allows you to window the area that you want to see on a Graphics or a Bird's Eye window.
- 5 Pan Allows you to pan around the Graphics window by left-click and hold. You can also pan without selecting this button by clicking and holding the center button. In either case if the Graphics window was set to center on a vehicle, after releasing the mouse button the Graphics window will spring back to centering on that vehicle.
- 6 Convergence Display Sets the Displays Position or Range/Bearing section of the display bar to display the Map Convergence and Scale Factor of the position the cursor is clicked on in the Graphics and Bird's Eye window(s).
- 7 Display Position Sets the Coordinate Readout to display latitude and longitude or grid northing and easting of the position the cursor is clicked on in the Graphics and Bird's Eye window(s). The coordinate format for this feature and all associated buttons (Range/Bearing, Quick Range/Bearing and Multiple Quick Range/Bearing) is dependent upon the configuration for Units\Coordinates.
- 8 Range/Bearing Sets the Displays Position or Range/Bearing to display bearing and distance from main crosshairs to secondary crosshairs. The main crosshair is set when the Display Position button is active, the secondary crosshair is set when the Range/Bearing button is active. The secondary crosshair can be reset repeatedly while maintaining the original main crosshair. Each time the left mouse button is clicked, the secondary crosshair is reset to that point. The previous measurement line is removed and a new line is drawn. This measurement can be made between different Graphics and/or Bird's Eye windows.
- 9 Quick Range/Bearing Sets the Displays Position or Range/Bearing to actively display the changing bearing and distance from main crosshairs to secondary crosshairs as the cursor is moved. The main crosshair is set when the left mouse button is clicked, the secondary is set wherever the cursor is as the left button is kept depressed and dragged around the Graphics or Bird's Eye window. When the left mouse button is released, the line is drawn on the screen in the same manner as for the Range/Bearing option. Each measurement cycle of clicking and holding the left mouse button causes the previous measurement line to be removed. This measurement cannot be made between different Graphics and/or Bird's Eye windows.
- 10 Multiple Range/Bearing This performs the same as the Quick Range/Bearing option except that subsequent measurements do not cause the previous measurement line to be removed, thus any number of

measurement lines can be displayed simultaneously. The information for the current measurement is displayed in the Coordinate Readout area. This measurement cannot be made between different Graphics and/or Bird's Eye windows.

- 11 Clear Range/Bearing This button is only active when the Multiple Range/Bearing option is active and there is at least 1 measurement line in existence. Clicking this button when there is more than 1 measurement line causes all but the last measurement line to be removed. Clicking this when there is only 1 measurement line causes this line to be removed (and the button to be disabled).
- 12 Graphical Route Design Used to enter survey line segment coordinates by clicking on the Graphics or Bird's Eye window with Display Position enabled.
- 13 Manual Event Click this to quickly add a Manual Event to the Working .Log File. This is the same as choosing Configure > Manual Event or pressing the F10 function key.
- 14 Cable Event Click this to quickly add a Cable Event to the Working.CET File. This is the same as choosing Configure > Cable Event or pressing the F11 function key.
- 15 Event Start Click this to manually Activate Automatic Eventing, (once events are enabled).
- 16 Event Stop Manually stops Automatic Eventing.
- 17 Stop Drawing Stops drawing the currently selected graphic object in the Graphics window.
- 18 Select Object Click this to select a user-drawn graphic object in the Graphics window.
- 19 Draw Point Click this to draw a point in the Graphics window.
- 20 Draw Polyline Click this to draw a polyline in the Graphics window.
- 21 Draw Polygon Click this to draw a polygon in the Graphics window.
- 22 Draw Text Click this to draw text in the Graphics window.
- 23 Draw Circle Click this to draw a circle in the Graphics window.
- 24 Draw Arc Click this to draw an arc in the Graphics window.
- 25 Draw Polyarc Click this to draw a polyarc in the Graphics window.
- 26 Form Feed Sends a form feed command to the Windows default printer.
- 27 Line Feed Sends a line feed command to the Windows default printer.
- 28 Hazard Alarm Select this option and then click within five meters of a map object displayed in the Graphics window to identify that item as a hazard. The map object could be a point, line, polyline, arc, polyarc or text on a BMM map with a DXF, DWG or SHP

map layer. An alert box appears on screen when a vehicle comes within 100 meters of an identified hazard. **Note:** A polygon and DGN map layer cannot be selected as a hazard. **Note:** the Hazard Alarm checkbox must be selected in the Vehicle Presentation dialog box to enable this feature. **Note:** The distance to the alarm feature is calculated from the vessel CRP rather than the closest point on the vessel shape.

- 29 Line Alarm
Click this button to enable line alarms. If any vessel comes within the specified distance to a line that has been enabled for the vessel approach alarm and this button is down, WinFrog will beep at 2 Hz. See the section on Working Survey Lines (.PTS) File.
- 30 Dynamic Vehicle Alarm
Click this button to enable inter-vehicle proximity alarms. If a vehicle enabled as an Excluded Vehicle enters a zone (vehicle) enabled as an Exclusion Vehicle/Area and this button is down, WinFrog will beep at 2 Hz and the outline of the excluded vehicle will change from solid to dashed. See the Vehicle Presentation section in the Vehicles chapter for more information.

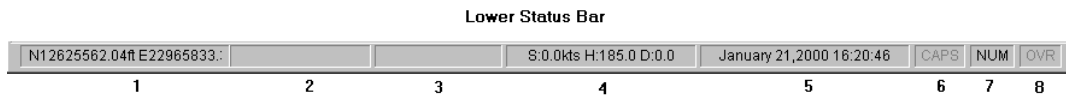
Note: If WinFrog is restarted, the Dyn button will need to be clicked again to restart the alarm-enabled mode.
- 31 Virtual Screen
Allows you to select the virtual screen to be active. Up to 24 virtual screens can be configured, each with their own toolbar button.
- 32 Device Output Control
Allows you to stop output from device drivers. Used when two WinFrogs are connected to the same peripheral device(s).
- 33 Turn Left
Click this button to turn the ship to the left by .1, 1, or 5 degrees, as configured in the Configure Simulator dialog box. The default is 5 degrees. This button only works with simulated devices.
- 34 Turn Right
Click this button to turn the ship to the right by .1, 1, or 5 degrees, as configured in the Configure Simulator dialog box. The default is 5 degrees. This button only works with simulated devices.
- 35 Decrease Speed
Decreases the vehicle's speed by the value entered in the Interval (kts) field of the Configure Simulator dialog box. The default is 0.25 knots. This button only works with simulated devices.
- 36 Increase Speed
Increases the vehicle's speed by the value entered in the Interval (kts) field of the Configure Simulator dialog box. The default is 0.25 knots. This button only works with simulated devices.
- 37 Increase Depth
Click this button to increase the vehicle depth. This button only works with simulated devices.
- 38 Decrease Depth
Click this button to decrease the vehicle depth. This button only works with simulated devices.

39-41 System Control tools

These tool bar items are only used with three cable machinery devices: DW System, SMD System, and Tycom Systems. If using one of these devices and there are two WinFrog computers, primary and secondary, only one can actually transmit data on the network. These tool bar items facilitate the transfer of output control between the primary and secondary computers. WinFrog boots up according to their previous settings (broadcasting or not) as stored in the **WinFrogini.wfg** file. You may then relinquish control, which will stop WinFrog from broadcasting on the network and will allow the other computer to take control and begin transmitting on the network. A computer cannot take control unless the other computer has given it. The present state of each computer is indicated between the buttons.

Lower Status Bar

At the bottom of the WinFrog window is an information bar that displays a variety of current WinFrog data. The status bar is divided into eight sections.



- | | | |
|---|------------------------------------|--|
| 1 | Displays Position or Range/Bearing | Depending on which option is enabled in the upper toolbar, this section of the Status Bar displays either coordinates (Latitude/Longitude or Grid Northing/Easting), range and bearing or the Map Convergence and Scale Factor for the point as defined by the respective cursor action. |
| 2 | Toolbar Information | As the mouse pointer is moved from one menu bar item to another, a brief message about that menu bar function displays. |
| 3 | AIS vessel information | When the mouse cursor hovers over AIS positioned vessels in a graphics window that has focus, the vessel's name and MMSI will be displayed. |
| 4 | Speed/Heading/Depth | Displays the speed, heading, and water depth of the vehicle displayed in the Vehicle window. |
| 5 | Date/Time | Displays WinFrog date and time information. Note: this may be different from the computer system's date and time. |
| 6 | CAPS | Displays if the keyboard's Caps Lock function has been enabled. If CAPS is grayed out, the function is not enabled. |
| 7 | NUM | Displays if the keyboard's Num Lock function has been enabled. If NUM is grayed out, the function is not enabled. |
| 8 | OVR | Displays if the keyboard's Overwrite (Insert key) function has been enabled. If OVR is grayed out, the function is not enabled. |

Capture Screen

To capture the whole screen, choose **File > Capture Screen**. The whole screen will be captured and a dialog will open asking for a file name to store the bitmap in. WinFrog stores the bitmap in BMP format.

Hotkeys

In addition to the toolbar shortcuts, the following function keys can be used to quickly display certain dialog boxes in WinFrog:

F8 = Print **Active Graphics Window** (**File** > **Print...Active Graphics Window**)

F9 = Print **Active Profile Window** (**File** > **Print...Active Profile Window**)

F10 = **Manual Event** (**Configure** > **Manual Event** or select the **Manual Event** button in the toolbar)

F11 = **Cable Event** dialog box (**Configure** > **Cable Event** or select the **Cable Event** button in the toolbar).

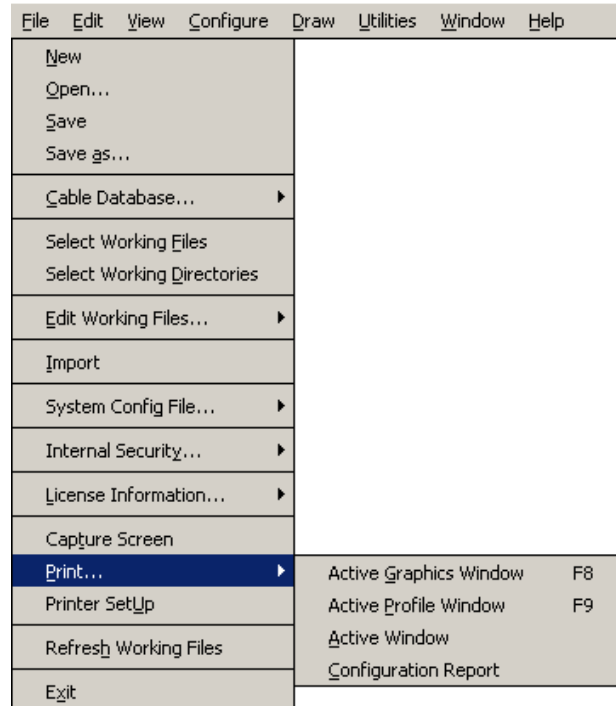
Printing Features

In addition to the report printing options provided by WinFrog, such as the LBL Calibration report or the Position Average report, and the automated printing features, such as event printing, WinFrog also supports the following printing features:

- Printing of the Graphics window
- Printing of the Profile window
- Printing of the Active window
- Printing of the Data configuration
- Printer setup, including...
 - Header information
 - Lines per page

Printing is output to the Windows default printer. This must be setup and configured as part of your Windows configuration and setup.

Print options are accessed via the main menu item **File**.



To Print the Graphics Window

From the **File** menu, choose **Print > Active Graphics Window**, or **F8**, to print the graphics window that currently has the focus. If no graphics window has the focus, the first graphics window is defaulted to and printed. If no graphics windows are open, nothing is printed. You will be prompted to select the printer to use (default is the Windows default printer). Note: if no graphic windows are open, this option is disabled.

To Print the Profile Window

From the **File** menu, choose **Print > Active Profile Window**, or **F9**, to print the Profile window that currently has the focus. If no Profile window has the focus, the first Profile window is defaulted to and printed. You will be prompted to select the printer to use (default is the Windows default printer). Note: if no Profile windows are open, this option is disabled.

To Print the Active Window

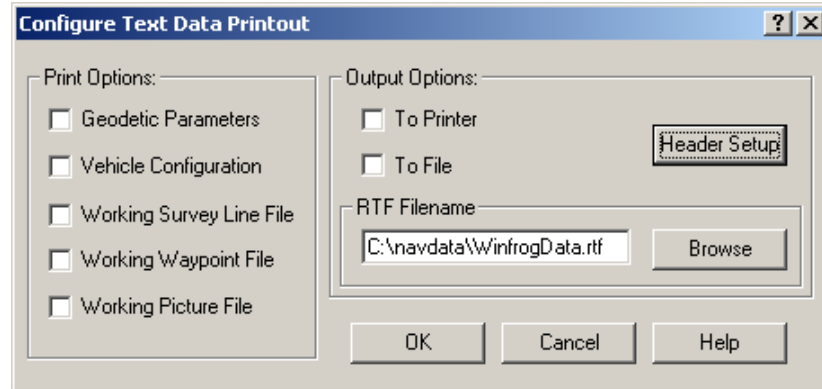
From the **File** menu, choose **Print > Active Window**, to print the WinFrog window that currently has the focus. You will be prompted to select the printer to use (default is the Windows default printer). The windows supported for this feature are as follows:

- Anchor Handling
- Vehicle Text
- I/O Devices
- Helmsman
- Attitude
- Offset
- Dynamic Target

- Bird's Eye Graphics
- Calculation

To Print the Data Configuration

From the **File** menu, choose **Print > Configuration Report** to open the **Configure Text Data Printout** dialog where you can configure what WinFrog configuration data is to be printed and where it is to be printed.



Print Options

These allow the selection of the different configuration data to be printed.

Geodetic Parameters

This includes the Working Datum ellipsoid parameters and Working to WGS84 transformation parameters plus the Working map Projection parameters.

Vehicle Configuration

This consists of all configuration settings for the vehicles, including shape, vehicle offsets, vehicle fairleads and vehicle device offsets.

Working Survey Line File, Working Waypoint File, Working Picture File

These options result in the tabular printout of the respective files.

Output Options

These allow the selection of where to send the report to, either directly To Printer or To File or both.

For either option, the report is prepared and printed/saved in a report ready rtf format.

Header Setup

Click this button to open the **Text Data Printout Header Setup** dialog box where you can enter text to be printed as a header at the top of each page of the report.

RTF Filename

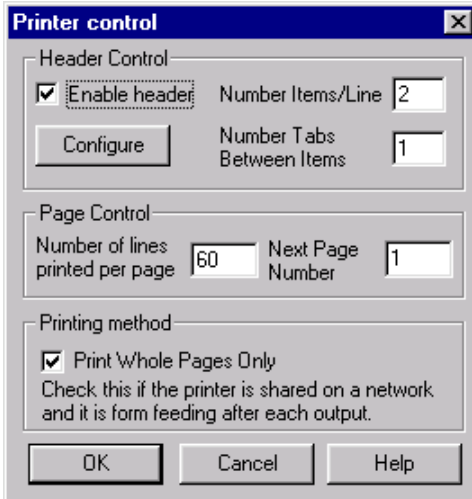
In the RTF Filename section, click the Browse button to enter a filename for saving the report file in the rtf format. If the file already exists, when WinFrog is printing the report,

you will be prompted to either overwrite the existing file or enter a new name.

Click **OK** to print the report.

Printer Setup

From the **File** menu, choose **Printer SetUp** to open the **Printer Control** dialog box where you can select what data to print and where to print.



Header Control

The **Header Control** section allows you to configure the header information that will be printed at the top of every page.

Enable Header	Turns the header at the top of the page on and off.
Number Items/Line	Controls how many of the selected header items will be printed per line in the header.
Number of Tabs Between Items	Allows you to control the spacing of the items on each line of the header.
Configure	Opens the Print Header Info dialog box where you select which header items are to be printed and enter the text to be printed for these. Check those items to be included in the header. The order listed here is the order that they are sent to the header.

Page Control

Number of lines printed per page	Allows you to set the number of lines that will be printed before a form feed is sent and a new header is printed.
Next Page Number	Allows you to control the pagination by setting the page number to be printed on the next page printed.

Printing Method

Print Whole Pages Only

When using some network printers, the driver may issue a form feed after each block of data that WinFrog sends to the printer. This allows other users on the network use of the printer without mixing different documents on the same page. By checking this box, WinFrog will avoid partial pages by saving up a whole page of data before printing it. A whole page is determined by the number of lines entered above.

Saving the Current System Configuration

WinFrog's system configuration parameters can be saved to a **System Configuration (.cfg)** file while the program is running. When a configuration file is created, WinFrog stores the following information:

- Working Directories
- Reference to Working Files
Note: Working Files are separate, individual files and so their contents are not saved with the .cfg file; only the reference to where the files are found is saved.
- All I/O Devices added to WinFrog, and their current configuration.
- Working Units
- Vehicle configuration parameters including dimensions, offsets, and devices
- Working Geodetic Parameters
- The placement and size of all open windows

Note: this same information is written to the **WinFrogini.wfg** file when WinFrog is exited properly.

To Save a System Configuration (.cfg) file

- 1 From the **File** menu, click **System Config File... > Save**.
- 2 In the **File name** entry window, type the name you wish to give to your file.
- 3 Navigate to the directory in which you wish to store the configuration file.

By default, the configuration file is stored in the directory specified as the **Filing Directory** in **Working Directories**. This defaults to **Navdata**, a directory created when WinFrog was installed.

- 4 Click the **Save** button. WinFrog creates a **.cfg** file in the designated directory.

The **.cfg** configuration file can be loaded to restore the WinFrog system configuration at any time.

To Load a System Configuration (.cfg) File

- 1 With WinFrog running, choose **File > System Config File... > Load**.
- 2 Browse to the appropriate directory and select the desired **.cfg** file.

Note: discrepancies may appear in WinFrog if a **.cfg** file from an older version of WinFrog is selected.

- 3 Click **Open**. WinFrog will re-set its configuration based on the contents of the **.cfg** file. It may take a moment for the changes to take effect.

Initialization File

When you first launch WinFrog, an initialization file (**WinFrogini.wfg**) is created in one of the following folders depending upon the operating system:

Operating System	Folder
Vista, Win7, Win8	C:\Users\Public\
XP	C:\Documents and Settings\All Users\
Win2000	C:\Documents and Settings\All Users\
Other	C:\WINDOWS or C:\WINNT

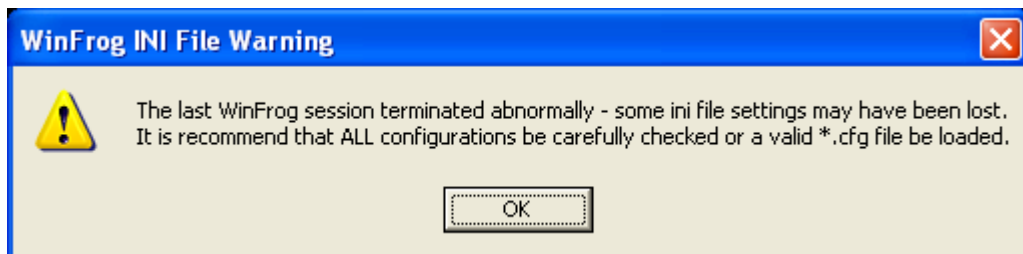
This file contains information concerning any changes in the program's default settings, including, but not limited to, the placement of open windows, the names and placement of any defined vehicles and devices, and geodetic parameters. It also contains the version of WinFrog that created the file. This file is used to configure WinFrog every time the program is started.

If a **WinFrogini.wfg** file is not found, WinFrog will use its internal default settings upon startup.

Note: To support backwards compatibility, if a **WinFrogini.wfg** file is not found, WinFrog will look for the initialization file that was used by WinFrog versions prior to 3.8 (**WinFrog_3.ini**). If this older file is found, it is moved to the respective new initialization file location, renamed to **WinFrogini.wfg** and then loaded. The file is moved to minimize the potential of repeatedly loading an older initialization file when it may not be desired. If the older file is not found, WinFrog will continue with its default settings.

The **WinFrogini.wfg** file is overwritten when WinFrog is **properly** exited. For this reason it is wise to create a backup copy of this initialization file (with a different name or in a different location) after you end your WinFrog session. This provides you the ability to restore WinFrog to the state recorded in the backed up **WinFrogini.wfg** file, if necessary.

Note: If WinFrog was not exited correctly, this is detected the next time that WinFrog is launched. In this case, you are warned that WinFrog was terminated abnormally and that not all settings may be as expected since the writing of the initialization file may not have correctly completed.



A copy of the **WinFrogini.wfg** file should always be included with project data after a project is completed. This provides anyone who examines the data in the future with critical information on how WinFrog was configured during the project.

Warning: While Fugro Pelagos, Inc. attempts to ensure backwards compatibility with

initialization files created by older WinFrog versions, it is strongly recommended that when upgrading WinFrog, the configuration be carefully checked and confirmed the first time it is launched and the initialization file created by the previous WinFrog version is loaded.

Exiting WinFrog

To Exit WinFrog

- 1 **File > Exit** or click the **X** in the top right corner of the window or double-click on the WinFrog icon in the top left corner of the window.

A dialog box displays asking, “Are you sure you want to exit?”

- 2 Choose **Yes**. WinFrog closes and overwrites the **WinFrogini.wfg** file.