

Site Fix User Guide -DRAFT-

SITE FIX USER'S GUIDE v379

What Is SITE FIX?

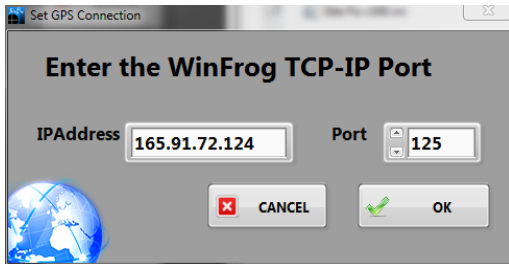
Site Fix is a LabView application that allows the user to collect GPS data, display and calculate the ship's position in real time. In addition, it provides utilities to create a report that is used by the Operations Superintendent. Fixes can be loaded again and fixed if necessary. We currently have two versions of SiteFix (see below).

v344

Start Icon



Site Fix v344.exe



Click and launch the program. Depending on the PC's memory, it may take a few seconds for the application to appear as it allocates memory space for the **GPS Connect** dialog box will open. Here you set the **IP** and **Port** numbers which are necessary to connect the WinFrog application's GPS data service. When **OK** is clicked, the connection is verified and the dialog box closes; otherwise, you'll get a TCP timeout error. There are several issues that can cause

WinFrog GPS Data Service

First, make sure that WinFrog is running? Assume the network is ok.

No WinFrog > no data > no site fix.

Second, which WinFrog is running?

We have two PC's which can run the WinFrog application and each has a different IP addresses: WinFrog #1 = 165.91.72.122 and WinFrog #2 = 165.91.72.123. Yes, there are two WinFrog devices setup in WinFrog and that means two separate instances of Site Fix can be ran at the same time.

Third, do you have the right port number?

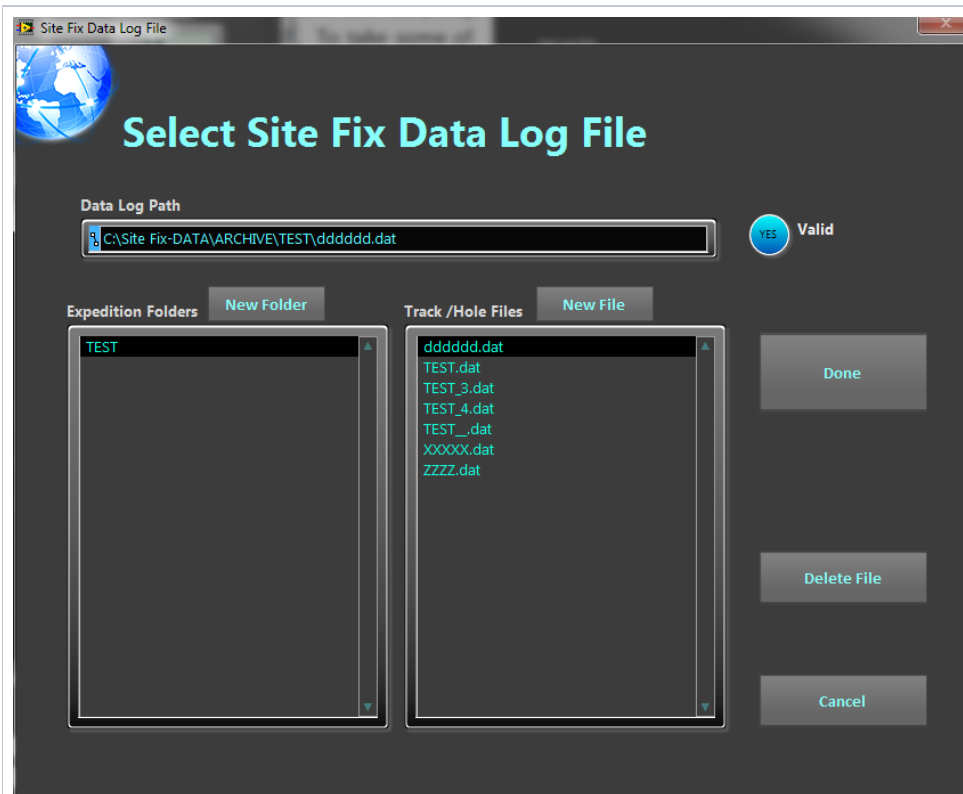
On any particular Winfrog computer, all of the TCP-IP devices will have the same IP address; what separates a particular TCP-IP device from the others is

Fourth, has the I/O device been configured to the vehicle?

If you can connect without errors and you are on the right port number but the GPS data is not updating, chances are the I/O device has not been configured. The I/O devices must be configured by the Underway Techs (aka LOs, who are nice guys but prone to excessive grumpiness).

*After clicking **OK** and connecting successfully to WinFrog, the **Datalog File** window will open.*

Data Log File Setup



Site Fix collects, calculates and displays a large volume of data while maintaining a real time connection with WinFrog. This can be tricky at best and can crash and guarantees data recovery, it necessitates that the data in memory and data log file be kept in sync.

No site fix can start without a data log file.

Name conventions:

Datalog filenames can be anything BUT BY CONVENTION we use the Site-Hole designation such as "U1234B.dat". Data log files are organized under Exp

To select an existing data log file:

Select the folder in **Expedition Folder/Expeditions** list box, select the data log file in the **Track/Hole File/Holes** list box, and click the **Done** button.

To create a new Expedition folder:

Click either the **New Folder** button or double click inside the **Expedition Folder** list box and enter the expedition name in the dialog box that appears.

To create new data log file:

Click either the **New File** button or double click inside the **Track / Hole File** list box and enter the Site-Hole name in the dialog box that appears.

Please don't add the ".dat"; the program will take care of adding the extension. It will cause problems.

Click **Done**, when you have made your selection.

Data log files can hold a little or a lot of data. If it is of the latter variety, it may take a few seconds to load. These data log files are your backup files should

Main Application interface

Site Fix v344

Site Fix

Another fine program from the unintelligent design team

CNT **16985**

Dist to Mean **4.09** m EXP **TEST** HOLE **dddddd**

LAT **75° 42.972340' N** mLAT **75° 42.972782' N** d:**7.57E+1**

LON **65° 57.207290' W** mLON **65° 57.206379' W** d:**6.60E+1**

HDG **140.9** HDOP **1.6** UTC **26 SEP 12 - 11h 30m 59s, z 0**

WF ON REC OFF GPS OFF HDOP RED LOG ON ERR NO

Datalog File: C:\Site Fix-DATA\ARCHIVE\TEST\dddddd.dat WF IP: 165.91.72.122 : 126

Position: 75.7162873

Fix 10 m

LAT: 75.7161565

LON: -65.9532582

Pending Cmds: 0 Queue Size: 0 Data Log Size: 16985

From: 25 SEP 12 - 23h 00m 06s, z 0 To: 26 SEP 12 - 11h 30m 59s, z 0

Version 344S

Avg: 100000

Wait: 0 sec

HDOP Filter: 3.0

+ From Mean: 4.09

Paused

WinFrog Connect

Edit Data

Clear All Fixes

Re- Calc Center

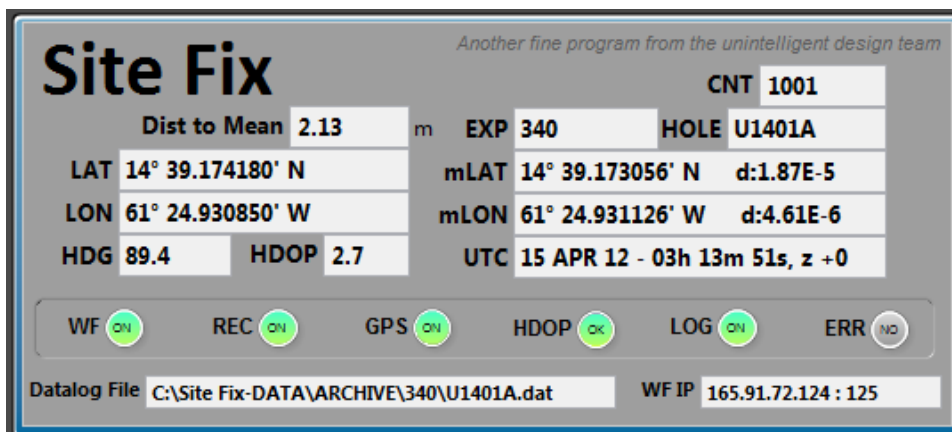
Data File

Get Report

Quit

Report Errors? No

The informational display



- The **WF**, **REC**, **GPS**, **HDOP**, **LOG** and **ERR** are status displays.
 - A green **WF** indicates that Winfrog is connected;
 - A green **REC** indicates that you are currently recording; otherwise it is gray;
 - **GPS** blinks green every time it receives data from WinFrog (roughly once per second);



- **HDOP** will be green when the GPS's HDOP value is equal to or better (less than) the requested HDOP filter \ higher quality data you can set it around 2, below this value you filter out almost all of your fixes. The HDOP light will turn orange if it is out of range and ignored.
- **LOG** will blink green every time it logs a value. The rate is set by the user's wait value. Also, the HDOP filter will prevent a log event.
- **Report Errors?** **ERR** will turn red when an error occurs. Occasionally this will happen with a glitch in the communication cycle. Site Fix will set its way. Most errors clear themselves. If the red ERR stays lit, you need to find out what is going on so that you can correct the problem. To do this you will see the error number and message.
- **LAT** and **LON** show the current position of the ship.
- **mLAT** and **mLON** indicators show the current location of the vessel based on the mean of the processed fixes. The LAT and LON values are followed by the distance in decimal degrees between the current and previous mean positions. Small is good, E-6 at least.
- **CNT** shows the number of fixes that have been processed.
- **HDG** shows the current ship's heading.
- **UTC** shows the current GPS's date as UTC.
- **EXP**, **HOLE**, and **Datalog File** indicators show the values set in the **Data Log Setup** window.
- **WF IP** shows the WinFrog IP address and port in use.
- **Dist To Mean**: The distance in meters from the current vessel's position to the mean of the processed fixes.

The user settings

Avg

Wait
 sec

HDOP Filter


+ From Mean


Avg: set the maximum number of fixes to average for the site fix. The program will collect up to this amount and then start to discard the older values. Rec
Wait: This is the time in seconds to wait between processed fixes. This isn't the same as the sampling rate which is the sum of the time to receive data, prc
as fast a 1 second but it is recommended that you set this value between 15 and 60 seconds. Depends on how long you plan to stay on site.
HDOP: Set the HDOP filter value (see above).
From Mean: Same as **Dist To Mean** (see above) and will be deleted in future versions.


Pending Cmds Queue Size Data Log Size


From To


Function buttons


 **Paused**


 **Recording**


 **WinFrog Connect**


 **Edit Data**

 **Clear All Fixes**

 **Re- Calc Center**

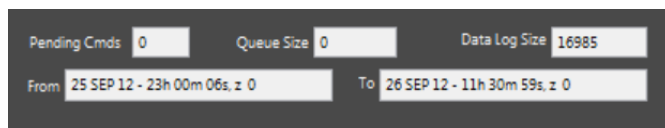
 **Data File**

 **Get Report**

 **Quit**

Paused / Recording: Click to start recording, button turns green. Click to pause, turns gray.
WinFrog Connect: Opens the **WinFrog TCP-IP** connection dialog box (already explained at the beginning).
Edit Data: Opens the **Site Fix Editor** utility
Clear All Fixes: Does exactly what it say and blows all of your data away and cleans the slate. You get a chance to change your mind but if you confirm th
Re-Calc Center: Recalculates the mean position. This should be used after editing data.
Data File: Opens the Datalog setup window.
Get Reports: Prints and saves the excel file report of the fix. This is what you hand to the Operations Manager.
Quit: ...quits

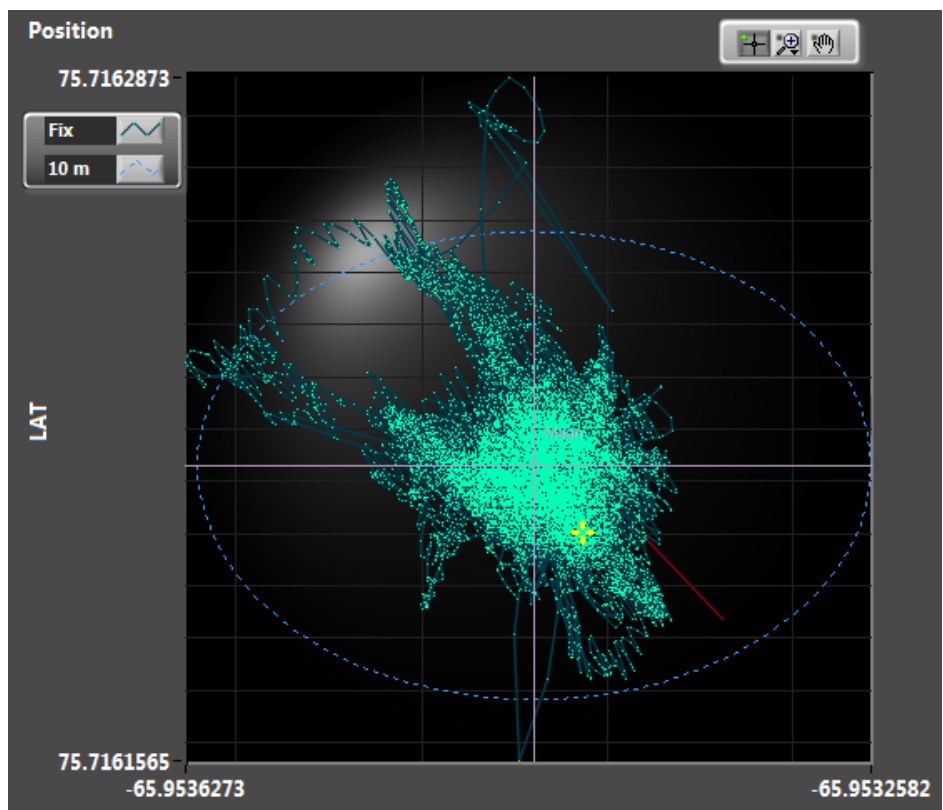
Miscellaneous Information



Pending Cmds 0 Queue Size 0 Data Log Size 16985
From 25 SEP 12 - 23h 00m 06s, z 0 To 26 SEP 12 - 11h 30m 59s, z 0

From and **To:** The dates spanned by the data.
Pending Cmds: Shows the number of user commands waiting to be processed. Each time you click a button a command is queued. If this number grows clicking buttons. If the value does not get smaller then you have locked up. Time for CTRL-ALT-DELETE
Queue Size: The number of pending GPS fixes to process. If the number is growing, then increase your **Wait** value. If the number continues to grow you n
Datalog Size: This is the number of records stored in the data log file and should equal the **CNT** value.

Graphical Display



The blue circle is 10m diameter about the mean. It may look like an ellipse, but that is because the graph is auto-scaling. Ship's heading controls: Zoom an time a GPS value is processed. To use the **Zoom** and **Pan** control you need to pause data collection.

Histograms

NONE

Edit data



Site Fix Editor WARNING: When working with very large datasets the screen may appear to lock up. Give it a minute to unblock.

Fix Data

```

FIX #: 0
UTC=25 SEP 12 - 23h 00m 06s, z 0 | LAT = 75° 42.971270' N, | LON=65° 57.204630' W

FIX #: 1
UTC=25 SEP 12 - 23h 00m 08s, z 0 | LAT = 75° 42.971270' N, | LON=65° 57.204640' W

FIX #: 2
UTC=25 SEP 12 - 23h 00m 10s, z 0 | LAT = 75° 42.971270' N, | LON=65° 57.204670' W

FIX #: 3
UTC=26 SEP 12 - 00h 32m 41s, z 0 | LAT = 75° 42.972480' N, | LON=65° 57.207060' W

FIX #: 4
UTC=26 SEP 12 - 00h 32m 43s, z 0 | LAT = 75° 42.972470' N, | LON=65° 57.207020' W

FIX #: 5
UTC=26 SEP 12 - 00h 32m 45s, z 0 | LAT = 75° 42.972500' N, | LON=65° 57.207060' W

FIX #: 6
UTC=26 SEP 12 - 00h 33m 01s, z 0 | LAT = 75° 42.972480' N, | LON=65° 57.206820' W

FIX #: 7
UTC=26 SEP 12 - 00h 33m 03s, z 0 | LAT = 75° 42.972510' N, | LON=65° 57.206870' W

FIX #: 8
UTC=26 SEP 12 - 00h 33m 04s, z 0 | LAT = 75° 42.972520' N, | LON=65° 57.206880' W

```

Start Fix # 0
End Fix # 17434

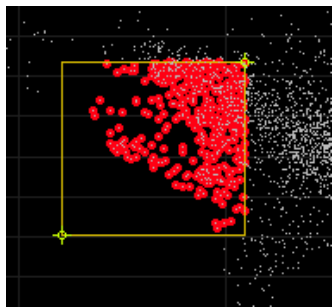
Select Fixes Based On Start / End Fixes

Done Editing Return To Site Fix

Delete Selected

Delete Unselected

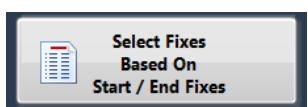
Undo All Edits



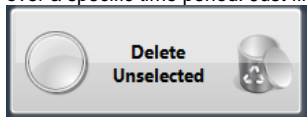
Did the ship move to a new site and no one told you? Do you only want fixes during a specific time period (from Spud-In to POOH)? Then you'll need to edit

DISCLAIMER: If you are working with a very large dataset (20,000+ fixes), and your computer has limited memory and/or processing power, you longer. Click once and wait.

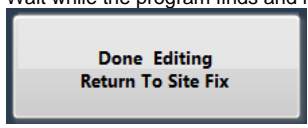
Working With Dates and Time (only this version)



On the left side of the window there is a text display of the data. The site fix numbers are not related to the WinFrog site fix number. These are just indices over a specific time period. Just find the fix number of the starting date/time and the end date/time and type them into the controls below and then click.



Wait while the program finds and highlights the data in the graph. Click



Wait while the data is deleted and the remaining data is re-plotted. Repeat as necessary and then click to return to the Site Fix main window. Don't forget to report.

Working with the Graphical Display

In the Graph on the right you will see two yellow cursors that define the corners of a yellow box that you will use to select data on the graph.

In version 344, click and drag one corner at a time, release and wait for the program to highlight the data within the yellow box. Move the other cursor and

Now you have a choice..

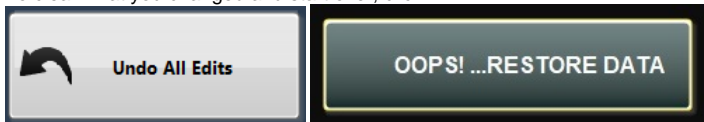
To delete the data you highlighted, click



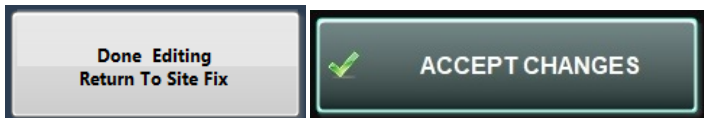
To delete the data you did not highlight, click



To clear what you changed and start over, click



Repeat above until you are left with the data you want and then click



Made a mistake ?

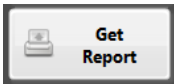
To undo all of your changes, click



REMEMBER once you click your changes are committed and there is no recovery!

...wait one minute, there is a way. Before you edit make a copy of your datalog file first. Datalog files are stored in C:\Site Fix-DATA\ARCHIVE\Expedition"

Print/Save a Report



Site Fix Report

Print To

- Fax
- DIAdem PDF Export
- Canon iR C3200 PCL5c
- Adobe PDF
- \\ipp://iprint.ship.iodp.tamu.edu\tso_prt
- \\ipp://iprint.ship.iodp.tamu.edu\so_color
- \\ipp://iprint.ship.iodp.tamu.edu\copier
- \\TINK-PC\Lexmark 5600-6600 Series

Expedition To

Hole From

Save To

Copies

Print and Save

Yes

Only

Save

- Select your printer
- Set the number of copies to print
- Make sure Expedition and Hole values are correct, change if necessary.
- v344: Select the folder to save the Excel report to.
- v344: Select one of the following actions: 1) save/print or 2) print only or 3) save only.
- Click the **Print/Save** button

The Excel application will open and the data will be transferred into a pre-defined template, printed and saved.

The excel template is saved in "C:\SITE FIX\Report Template" and is named "SITE FIX.xlsx". No template file and Excel will throw an error. The Site F copy of the file here. If the file is lost, it can be retrieved from SVN folder "JNav-SITE FIX-HDG" (see a developer for help)

Report and storage

SITE FIX: U0067A

LAT: 75° 42.972766' N d:1.16E-9

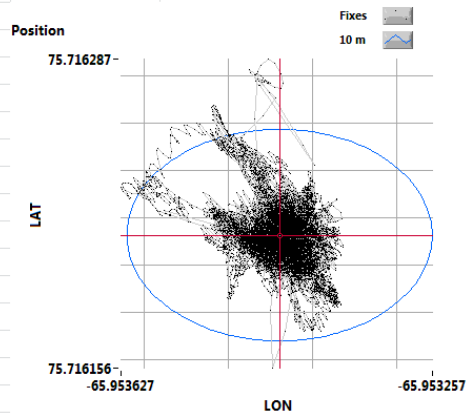
LON: 65° 57.206335' W d:1.78E-9

Date of Report: Wednesday, September 26, 2012

Collect From: 26 SEP 12 - 21h 10m 28s

Collected To: 26 SEP 12 - 23h 51m 10s

Fixes Used: 17405



Site Fix reports should be saved to the folder "JR1:\data\1.5 Ops Navigation\Site Fixes" in order to be carried back to shore after the expedition.

Distance from the current position to the current meanCurrent GPS Position and HeadingCurrent GPS HDOP valueConnected to WinFrogData Log File pathRecording is activeCurrently reading a GPS fixNo errorsData Logging ActiveWinFrog IP and PortHDOP acceptableUTC time of FixMean positions & deltaExpedition and HoleNumber of records processed