

FLDRS Administrator's Guide

Version 1.0



FLDRS

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About the FLDRS Application

The FLDRS (Fisheries Logbook Data Recording Software) application allows fishermen to enter catch data. There are two modules within FLDRS:

- The Logbook module captures every individual fishing effort.
- The Administration module provides a toolkit to simplify application maintenance and control application settings.

This document explains how to use the tools in the Administration module.

Specifications

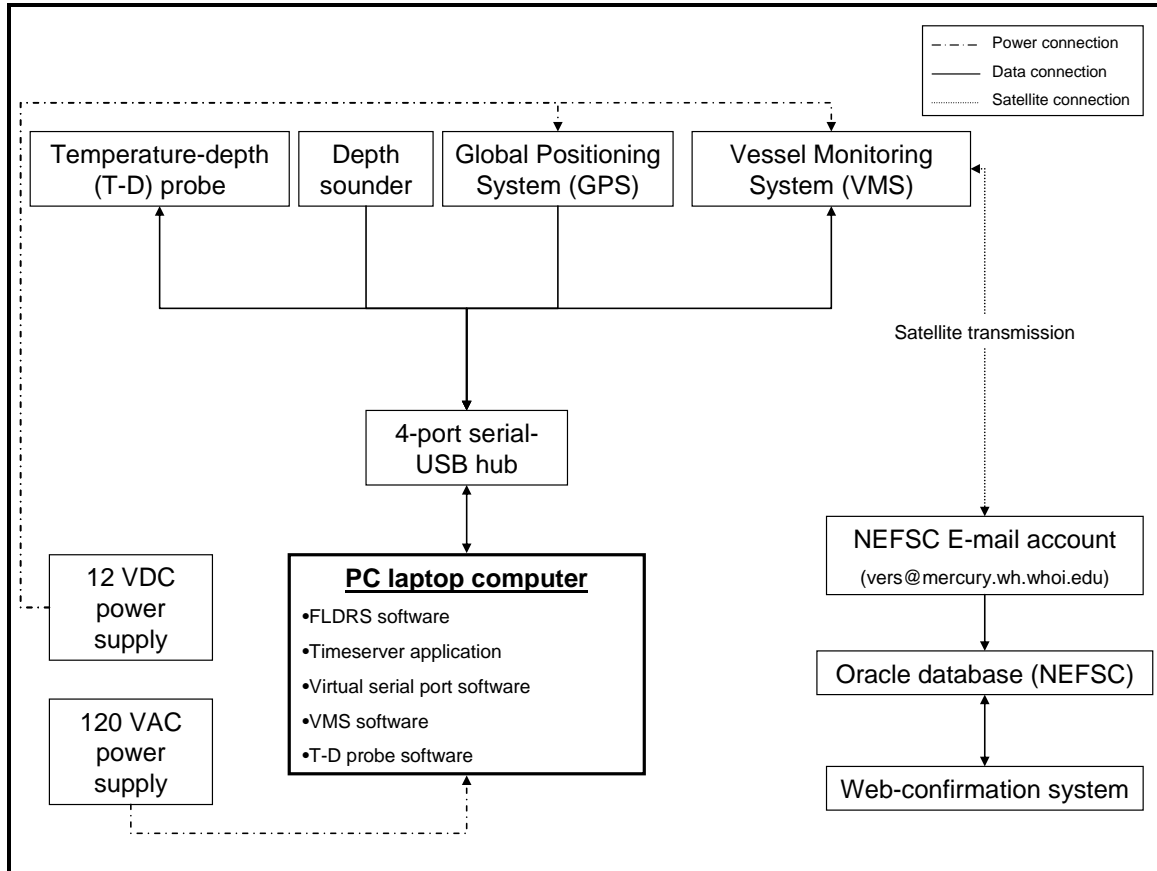
The FLDRS application runs on a dedicated Windows laptop. It requires a connection to a GPS that provides location data to the FLDRS software. It also requires connections to SkyMate or Boatracs, so the catch data can be sent to NMFS electronically.

Here are the minimum and recommended systems specifications for PC to run FLDRS:

Specification	Minimum	Recommended
Operating System	Windows 2000	Windows XP
Processor	Intel Pentium III or equivalent	Intel Pentium 4 or equivalent
Memory	256 MB	512 MB
Hard Drive	20 GB	60 GB
CD Drive	12x-CDR	N/A
USB Drive	2 USB 1.1 ports	2 or more USB 2.0 ports
Screen Resolution	1024 X 768	1024 X 768

FLDRS has not been tested on Microsoft Vista.

This diagram shows the components and how they interact:



Installing the FLDRS Software

To install the FLDRS software, use the self-extracting installation file. Double-click on `setup.exe` and follow the prompts, accepting the defaults.

The Appendix on page 33 shows the directory structure that FLDRS creates if you accept the defaults during the installation procedure.

Using the FLDRS Administrator Tools

The Administrator module of the FLDRS application provides a quick way to view and adjust many of the application's most useful options.

The FLDRS Administration module provides tools for:

- loading updated versions of the most important support tables; see page 6.
- managing the link between FLDRS and the GPS unit; see page 8.

- managing the link between FLDRS and the depth sounder; see page 12.
- setting up the export of data to NMFS; see page 20.
- managing user accounts and access to the FLDRS components; see page 20.
- controlling the fisherman's view of the major support tables; see below.

Setting up the other software and hardware components is described starting on page 27.

Table Import

There are four main tables that are of interest to the Administrator:

- **Species:** lists all the possible species that a fisherman can record as a catch or discard, along with grade descriptions, market descriptions, and units of measure combinations.
- **Gear:** lists all the possible types of gear that a fisherman may deploy, along with ranges of acceptable values.
- **Dealers:** lists all the permitted dealers to whom a fisherman can sell. Also includes some non-sale categories, such as Sold As Bait and Home Consumption, to allow for comprehensive recording.
- **Ports:** lists all the ports where a fisherman can land.

Each table contains a comprehensive list of all the possibilities that a fisherman might need. The tables are region-specific, to allow the software to be modularized by region. During the initial setup phase, the Administrator works with the fisherman to select likely species, gears and dealers from these possibilities, and then to select a set of defaults specific to the fishing vessel.

After the FLDRS software has been installed, the administrator maintains the tables by reloading them when significant updates are distributed. The administrator can edit the tables before reloading them. Importing a new table replaces the current table, and may affect the fisherman's selections.

Reloading a support table

When changes must be propagated to the laptops, the Study Fleet Manager provides a .csv file with appropriate layout and content. The administrator propagates the changes by importing the .csv file into the FLDRS application.

Warning: Updating a support table so it no longer contains records used in a fisherman's short list deletes those records from the short list.

To reload one of the four support tables:

1. First, back up the existing database by copying it and placing a renamed copy in its original location. The file name of the table file reflects its content; for example, the Species table file is usually stored in c:\Program Files\FLDRS1_0\Database\tblSpeciesType.DB
2. Start the FLDRS software and log in as an administrator.
3. Click the **Table Import** button.
4. Click the **Browse** button for the appropriate table, locate the .csv file, and click **Open**.
5. Click the appropriate **Import** button.
6. Check the new table by starting the Logbook, clicking **Software Setup**, and viewing the data. Make sure that the fields are in the proper columns. Double-check the user's favorite defaults. The data must appear properly in the fisherman's view of the table. If it does not, use your saved copy of the database to return to the original table, and report the problem to the Study Fleet Program Manager.

TIP: The administrator can hide irrelevant dealers and ports by editing the .csv file. The import routine preserves the display flag settings in the .csv file, so if you open the Dealers or Ports .csv file and edit the display flag settings, you can quickly suppress a lot of irrelevant data. Do not try this on the Species or Gear tables, though.

GPS Tab

The GPS provides location and time data for the fishing efforts. FLDRS uses data from the GPS to associate fishing events with locations. The fisherman does not have to enter positions manually.

FLDRS does not require a particular make or model of GPS. The only requirement is that the GPS device be able to receive and transmit these NMEA 0183 sentences:

- \$GPGGA or
- \$GPRMC, \$GPGSA, \$GPVTG, \$LCGLL, and \$GPRMA

Many of the sentences contain duplicate information, but the FLDRS software scans all these sentences so that it can accommodate a variety of GPS units. If duplicate information is provided, FLDRS takes the information from the first available sentence.

Setting up the GPS

To set up the GPS for FLDRS, you need to split the GPS signal between the laptop and the vessel's computer system. You also need to tell the FLDRS software to listen at that port.

First, connect the GPS to the laptop:

1. Make sure that the device driver for the hub is installed and up to date.
2. Split the GPS signal using either a virtual port splitter or a serial cable Y-splitter. For more information on the virtual port splitter, see page 28. If you use the Y-splitter, connect one end back into the vessel's computer system. Connect the other end of the splitter to the 4-port serial-to-USB hub. For more information, see page 28.
3. Turn on both the FLDRS computer and the GPS device.
4. On the laptop, use the Windows Device Manager to find out which COM port the GPS is using. You can reach the Device Manager by starting the Windows Control Panel, double-clicking on **System**, clicking the **Hardware** tab, and, finally, clicking the **Device Manager** button.

Alternatively, use the GPS tab of the FLDRS Administrator module to find the correct COM port; see page 8.

Next, set up the COM port in FLDRS:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.

The GPS tab shows GPS setup information.

3. Select the correct COM port. ***If you are unsure of the correct port, start with COM1 and increment until you find the correct port.***
 - For each port, click the **Test GPS** button. If you see a stream of data displaying the \$GPGGA, \$GPRMC, \$GPGSA, \$GPVTG, \$LCGLL, or \$GPRMA sentences in the GPS pane, the port is correct and you do not need to change anything.
 - If you do not see a stream of GPS data, or you receive an *Error opening port* error message, change the COM port number and try again. If you are certain that the COM port is correct, check that the GPS device is turned on.
4. Set the Lat/Lon format. This setting defines the format that operators use to enter positional information manually if the GPS system fails. **Decimal minutes** requires the fisherman to enter latitude and longitude in degrees, minutes, and thousandths of a minute. **Seconds** requires the fishermen to enter the latitude in degrees, minutes, seconds and hundredths of a second.
5. If the fisherman has a preference, set the time display format to Local Time or GMT/UTC. This setting affects the display but not the content of the data; all data are exported as GMT.

6. Test the GPS by clicking the **Test GPS** button. The test pane fills with data.

The screenshot shows the 'Fisheries Logbook Data Recording System - [Software Administration]' window. The 'GPS' tab is selected. The 'GPS Setup' section includes a dropdown for 'Enter Comm Port for GPS Device' set to 'COM5', and 'Test GPS' and 'End Test' buttons. The 'Lat / Lon Format' section has 'Decimal Minutes' selected. The 'Time Display Format' section has 'Local Time' selected. The test pane displays the following NMEA sentences:

```

$GPGSV,3,2,11,08,15,077,43,10,61,040,51,21,15,301,45,24,54,311,53*73
$GPGSV,3,3,11,26,47,180,51,27,12,050,44,29,61,165,51,,,,*4A
$GPRMC,152031,A,4131.5611,N,07040.4424,W,000.0,000.0,300407,015.9,W*7E
$GPGGA,152031,4131.5611,N,07040.4424,W,1,11,0.9,15.9,M,-33.7,M,*,*4B
$GPGSA,A,3,02,04,06,07,08,10,21,24,26,27,29,,1.6,0.9,1.3*3F
$GPGSV,3,1,11,02,40,113,50,04,05,117,41,06,47,273,50,07,40,290,49*7B
$GPGSV,3,2,11,08,15,077,43,10,61,040,51,21,15,301,45,24,54,311,53*73

```

Below the test pane, the current location is displayed: Latitude: 4131.5611 N Longitude: 07040.4424 W Fix: 2 # of Satellites in View: 11.

The 'GPS Polling' section has 'Enable GPS Polling' checked, with 'On (polling active)' selected and a 'Polling Frequency (seconds)' dropdown set to 20.

The 'GPS Backup (export to local drive)' section shows a file path 'C:\Program Files\FLDRS1_0\Gps_Polling\' and a 'Browse' button.

At the bottom right, there are 'Help' and 'Exit Setup' buttons. The status bar at the bottom left shows 'Logged in as system'.

7. To check the format, click **End Test** after the test pane fills. If the results are not what you expected, check the documentation for the GPS device.

Setting up GPS polling

The FLDRS software can be configured to poll the GPS unit at set intervals, and to write the data to a file. To record depth data, GPS polling must be turned on. By default, GPS polling is turned off.

To turn on GPS polling:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.

3. Click the GPS tab.
4. Set the GPS Polling option to **On (polling active)**.
5. Set the desired polling frequency in seconds. A 20-second polling frequency is recommended. Resolution can be decreased in post-processing, if desired.

Setting up the GPS data export file

By default, FLDRS writes the data to the directory named in the **GPS Backup (export to local drive)** field. This directory can be changed if needed. Before the trip identifier is set, the file is named **poll_data.txt**. After a trip identifier has been assigned, the GPS polling file is renamed **poll_tripidentifier.txt** (e.g., **12345607051209**). If a trip is not saved (i.e. the user clicks **Exit Without Saving**), the polling file is deleted. GPS polling remains active while the user has started a trip and is logged into the logbook. If a user completes a trip or shuts FLDRS down, or if the user logs out of the logbook module and an Administrator logs into the Administrator module, GPS polling stops.

This file is not automatically transmitted by VMS; the field technician must pick it up after the trip.

Here is the structure of the GPS poll data stream. Speed is given as km/hr, course is true, and depth is in meters. For information on setting up the depth sounder feed, see page 12.

If no depth sounder is present, the depth readings in the GPS polling file default to 0000.0.

The format for the data is:

DATE, TIME (GMT), LATITUDE, LONGITUDE, SPEED (KM/HR), COURSE (TRUE), FIX, SAT_AVAIL, DEPTH (M), EFFORT_EVENT

Here is some sample data:

```
04/30/2007, 14:54:56, 4131.5615 N, 07040.4418 W, 000.0, 000.0, 2, 11, 0011.4,
04/30/2007, 14:55:16, 4131.5612 N, 07040.4418 W, 000.0, 000.0, 2, 12, 0011.2,
04/30/2007, 14:55:36, 4131.5610 N, 07040.4420 W, 000.0, 000.0, 2, 12, 0011.4,
04/30/2007, 14:55:56, 4131.5612 N, 07040.4422 W, 000.0, 000.0, 2, 12, 0011.3,
04/30/2007, 14:56:16, 4131.5611 N, 07040.4429 W, 000.0, 000.0, 2, 12, 0011.4,
04/30/2007, 14:56:20, 4131.5612 N, 07040.4431 W, 000.0, 000.0, 2, 12, 0011.5, End Set -
Effort #2
04/30/2007, 14:56:36, 4131.5616 N, 07040.4432 W, 000.0, 000.0, 2, 12, 0012.5,
04/30/2007, 14:56:56, 4131.5615 N, 07040.4430 W, 000.0, 000.0, 2, 12, 0012.5,
04/30/2007, 14:57:16, 4131.5618 N, 07040.4424 W, 000.0, 000.0, 2, 12, 0012.3,
04/30/2007, 14:57:36, 4131.5619 N, 07040.4427 W, 000.0, 000.0, 2, 12, 0011.3,
```

04/30/2007, 14:57:56, 4131.5617 N, 07040.4428 W, 000.0, 000.0, 2, 12, 0012.4,
04/30/2007, 14:58:16, 4131.5613 N, 07040.4425 W, 000.0, 000.0, 2, 12, 0013.5,
04/30/2007, 14:58:36, 4131.5610 N, 07040.4419 W, 000.0, 000.0, 2, 12, 0013.4,
04/30/2007, 14:58:56, 4131.5608 N, 07040.4425 W, 000.0, 000.0, 2, 12, 0013.5,
04/30/2007, 14:59:16, 4131.5612 N, 07040.4426 W, 000.0, 000.0, 2, 12, 0013.4,
04/30/2007, 14:59:36, 4131.5614 N, 07040.4429 W, 000.0, 000.0, 2, 12, 0013.3,
04/30/2007, 14:59:56, 4131.5612 N, 07040.4430 W, 000.0, 000.0, 2, 12, 0011.9,
04/30/2007, 15:00:16, 4131.5612 N, 07040.4430 W, 000.0, 000.0, 2, 12, 0013.4,
04/30/2007, 15:00:36, 4131.5609 N, 07040.4427 W, 000.0, 000.0, 2, 12, 0013.5,
04/30/2007, 15:00:56, 4131.5612 N, 07040.4424 W, 000.0, 000.0, 2, 12, 0013.4,
04/30/2007, 15:01:16, 4131.5612 N, 07040.4426 W, 000.0, 000.0, 2, 12, 0013.2,
04/30/2007, 15:01:36, 4131.5612 N, 07040.4431 W, 000.0, 000.0, 2, 12, 0014.4,
04/30/2007, 15:01:56, 4131.5608 N, 07040.4430 W, 000.0, 000.0, 2, 12, 0013.3,
04/30/2007, 15:02:16, 4131.5607 N, 07040.4433 W, 000.0, 000.0, 2, 12, 0014.2,

GPS troubleshooting

For GPS troubleshooting information, please see the FLDRS user manual.

Comm Tab

The Comm tab contains options for configuring the feed from the depth sounder, for setting up the VMS report transmission options, and for backing up data files.

Depth sounder

FLDRS can receive data directly from the vessel's depth sounder, if the depth sounder can send data via a serial port to the FLDRS laptop. FLDRS does not require a particular make or model of depth sounder. The only requirement is that the depth sounder device must be able to receive and transmit the \$SDDBT NMEA 0183 sentence. If no depth sounder is available, set the sounder option to Off. When it is off, the depth sounder activity indicator in the logbook show a reading of 000.0 and no depth information is written to the GPS polling file.

Setting up the depth sounder

To set up the depth sounder for FLDRS, you need to add a serial port connection between the depth sounder and the FLDRS laptop. You also need to tell the FLDRS software to listen at that port, and to enable GPS polling.

First, connect the depth sounder to the laptop:

1. Make sure that the device driver for the hub is installed and up to date.

2. Connect the depth sounder and the FLDRS laptop.
3. Turn on both the FLDRS computer and the depth sounder.
4. On the laptop, use the Windows Device Manager to find out which COM port the depth sounder is using. You can reach the Device Manager by starting the Windows Control Panel, double-clicking on **System**, clicking the **Hardware** tab, and, finally, clicking the **Device Manager** button.

Next, set up the COM port in FLDRS:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button. The Comm tab shows depth sounder setup information.
3. Click the **On (sounder active)** radio button to activate the depth sounder polling.
4. Select the correct COM port. ***If you are unsure of the correct port, start with COM1 and increment until you find the correct port:***
 - For each port, click the **Test Sounder** button. If you see a stream of data displaying the \$SDDBT sentence in the depth sounder pane, the port is correct and you do not need to change anything.
 - If you do not see a stream of data, or you receive an *Error opening port* error message, change the COM port number and try again. If you are certain that the COM port is correct, check that the depth sounder is turned on.

5. Test the depth sounder by clicking the **Test Sounder** button. The test pane fills with data.

Fisheries Logbook Data Recording System - [Software Administration]

GPS | **Comm** | Users | Species | Gear | Dealers | Ports

Depth Sounder Setup: Enter Comm Port for Sounder:

Enable Depth Sounder

On (sounder active)

Off (sounder inactive)

```

SSDDBT,0011.6,f,0003.5,M,001.9,F
SYCMTW,070.0,C
SVVVHW,,T,,M,00.0,N,,K
SSDDBT,0011.2,f,0003.4,M,001.9,F
SYCMTW,070.0,C
SVVVHW,,T,,M,00.0,N,,K
SSDDBT,0011.5,f,0003.5,M,001.9,F
SYCMTW,070.0,C
SVVVHW,,T,,M,00.0,N,,K
SSDDBT,0036.7,f,0011.2,M,006.1,F
SYCMTW,070.0,C

```

VMS/Export Setup (export to National Marine Fisheries Service):

VMS Type

Skymate

Boatracs

Automatically Calculate Identifier?

File Destination

Recipient Address

Data Backup (export to local drive)

File Destination

Logged in as system

6. To check the format, click **End Test** after the test pane fills. If the results are not what you expected, check the documentation for the device.
7. Check that GPS polling is turned on; see page 10.

SkyMate

FLDRS can use the SkyMate vessel monitoring system to transmit a trip report back to NMFS.

For transmission of report data, you need to install and run the PC component of the VMS software on the FLDRS laptop. Next, configure the VMS software itself. Finally, set the FLDRS options.

If the SkyMate unit is not used for VMS reporting, you do not have to update the software regularly. However, the software version must be V3.73 or higher.

The SkyMate unit must be connected to the FLDRS PC for the export to run. If the SkyMate software is not installed directly on the FLDRS PC, the FLDRS and the SkyMate computers can be networked together using either a null modem cable or a serial connection.

Installing SkyMate

To install or upgrade SkyMate:

1. If SkyMate was already installed on the machine, and you are just upgrading, copy the entire folder directory to a flash drive (to back up saved emails and address books).
2. Next, install the software, accepting all the defaults. You may choose to save the address book and prior emails.
3. When the installation is complete, look for the saved emails and address books (usually in subdirectories of `c:\Program Files\SkyMate`). If they were erased, restore them from the backed-up versions.

Associating SkyMate with a COM port

To associate SkyMate with a COM port:

1. Exit from FLDRS, and make sure that the vessel's VMS system is connected. See page 27 to set up the connection.
2. On the Windows desktop, double-click on the SkyMate icon.
3. Wait until you see the text **The system is running** in the status box, indicating that the software has established a connection with the SkyMate VMS unit. It may take a few moments for the software to find the correct COM port. If SkyMate cannot find the COM port, see page 35.

Configuring FLDRS to use SkyMate

To have the FLDRS software send data to SkyMate:

1. Start FLDRS and log in as an administrator.
2. Click the **Software Setup** button.
3. On the Comm tab, set the VMS Type to SkyMate

4. Set the file destination to **C:\Program Files\skymate\dropbox**
5. Test the system by creating and exporting a file from the Logbook.
6. Confirm receipt of the test transmission with a NMFS staff member who has access to the `vers@mercury.wh.who.edu` account. Receipt should occur within an hour of transmission. SkyMate zips and Uuencodes the data before placing it in the body of an email.

SkyMate troubleshooting

If SkyMate cannot find the COM port, try these steps:

1. Shut down and restart the SkyMate software.
2. Check the serial cable connections, to make sure that both SkyMate Communicator and the PC are hooked up.
3. Check the hub. It should show either a green or red light. If it is green, a satellite is visible. A solid red or flashing red light means no satellite is visible.
4. Ensure that the VMS is receiving power, by checking the LED light on the Communicator unit. If the light is off, the unit has no power. If you are certain the VMS unit is wired correctly, check the fuse leading to the Communicator unit.

If a file does not arrive at the `vers@mercury.wh.who.edu` account, try these steps:

1. Open the **C:\Program Files\skymate\dropbox** directory and look for the file. The file is named with the trip ID and the extension ENC (e.g., **12345606051009.enc**). SkyMate prefixes a sent file with **SENT...**, so if your file doesn't have that prefix, SkyMate has not recognized it yet.
2. Make sure the SkyMate software is running. Files can only be transmitted from the PC to the SkyMate unit if the SkyMate software is running on the PC.
3. If the SkyMate software is running and the file still has not been renamed with the **SENT...** prefix, check the communication with the SkyMate unit. Files can only be renamed if the PC can communicate with the SkyMate unit.
4. If the file has been renamed with the **SENT** prefix but has not been received, check the email outbox, **C:\Program Files\skymate\outbox**. Any messages listed in the email outbox are pending delivery. They

- remain in the outbox until the SkyMate unit receives confirmation from SkyMate that the messages have been received.
5. If the file has been renamed in the dropbox and is not listed in the outbox, check the sent directory, `C:\Program Files\skymate\sent`. ***If the message is listed in this directory, it has left the transmit queue and has been sent from the system.***
 6. If the file is not listed in the outbox, check the inbox. Occasionally, SkyMate may send an email back to the unit if an email cannot be transmitted. This may happen if the SkyMate unit was powered down before the file could be fully transmitted.

Boatrac

To transmit report data, you must install and run the PC component of the VMS software on the FLDRS laptop. Next, configure the VMS software itself. Finally, set the FLDRS options.

FLDRS can use the Boatrac vessel monitoring system to transmit a trip report back to NMFS. For successful transmission, install and run the PC component of the system on the FLDRS laptop. The PC component of Boatrac is named WBUI (Windows BOATCOMM User Interface).

The Boatrac unit must be networked to the FLDRS PC for the software to run. If the Boatrac system is not connected to the vessel's computer system, consult the vessel's electronics technician.

Installing WBUI

If WBUI is already installed on the laptop, check the version number. If you have version V5.1.5 or higher, go ahead and configure it.

Otherwise, install the software and accept all the defaults.

Configuring WBUI

After you install WBUI, activate its long file name command:

1. Open the `wbui.ini` file using any text file editor. This file is located in the WBUI installation directory, which is typically `C:\WBUI\wbui.ini`. The directory structure depends on the WBUI version number.
2. In the `wbui.ini` file, locate the `enablelongfilenames` command and change it to `enablelongfilenames=1`

You may want to use *Edit*, *Find* to locate the entry.

3. Save the file and exit. Now WBUI can handle FLDRS trip report files, which are named using the 14-character trip identifier.

Next, set up communications:

1. On the Windows desktop, double-click on the WBUI icon. The first time you start WBUI, you are likely to see an error message about COM port settings. You can ignore this.
2. Choose *Options, Configuration, Comm Port* and select the COM port for the Fisheries Mobile Communications Terminal unit (FMCT unit).
3. Select *Options, Configuration*, click the *Configuration* button, and check the **Record files in directory listings** box. Now the transmission of binary files can be recorded in the **Sent message directory**.

Configuring FLDRS to use Boatracs

To set up FLDRS to use Boatracs to transmit trip data:

1. Start the FLDRS software and log in as an administrator.
2. Click the *Software Setup* button.
3. On the Comm tab, set the VMS Type to Boatracs.
4. Check that the file destination is set to C:\WBUI\OutBox\

For earlier versions of Boatracs, you may need to choose a different directory, such as C:\Boatracs\download or C:\Program Files\WBUI\OutBox. To determine the correct path, look on the c: drive for a directory called either **download** or **OutBox** that contains three subdirectories named **badfile**, **files** and **nak_sav**.

5. Test the system by creating and exporting a file from the Logbook.
6. Confirm receipt with a NMFS staff member who has access to the `vers@mercury.wh.who.edu` account. The file should arrive within 15 minutes of transmission. Boatracs sends the data as a password-protected zip file.

Boatracs troubleshooting

If the file does not appear in the `vers@mercury.wh.who.edu` account, try these steps:

1. Open the `C:\WBUI\OutBox\` directory and look for the filename. The file name has 14 characters and the extension `.zip`; for example, `12345606051009.zip`. If the file is still in the main `C:\WBUI\OutBox\` directory, it has not yet been sent to the FMCT unit.
2. Make sure the WBUI software is running. Files can only be transmitted from the PC to the FMCT unit if WBUI is running.
3. If WBUI is running and the file still has not been moved to any of the three subfolders, check the directory scan rate. In the WBUI software, choose **Options, Configuration** and set the **Check for files to send automatically every _ minute** to 1 (one).
4. If the file is not in the main `C:\WBUI\OutBox\` directory, check the **badfile** folder. If the file is here, then there is something wrong with the file. Boatracs does not send files larger than 20KB, so check the file size. If the file is less than 20KB, double-check the `wbui.ini` file again and make sure `enablelongfilenames=1`; see page 17.
5. If the file is not in the **badfile** folder, check the **nak_sav** folder. If the file is there, check the **File Segment** reading in the WBUI software. If the value is not 0 (zero), the file is in the process of being transmitted. Satellite communications may be poor in the particular location, and the antenna may have trouble establishing a strong connection. Check the M0 reading on the MCT unit. In the New England area, the M0 reading should be > 15 .
6. If the file is not in the **nak_sav** folder, check the **files** folder. If the file is there, it has probably already been transmitted. Check the sent message directory (In the WBUI application, choose **Send, Sent Message Directory**). If the file is in the **files** directory, it has been sent to Boatracs.
7. Open the sent message directory by choosing **Send, Sent Message Directory**. Check the **Stat** column in the list. If the status is **ACKD**, the message has been received by Boatracs and the MCT unit has received confirmation of its receipt. Other possible status are: **PEND** (the message is being sent to the MCT unit); and **SENT** (the message has been transmitted to Boatracs, but confirmation of its receipt has not yet been received).

8. If the file is listed as **ACKD** but does not show up in the `vers@mercury.wh.who.edu` account, or if its status remains **SENT** for a long period of time, the file may not have been received by Boatracs in its entirety, or the vessel's account may not be set up to transmit data files to the `vers@mercury.wh.who.edu` email account. Call Boatracs technical support, and be sure to have the vessel's MCT unit number ready. The number for the 24-hour Networks Operations Center is 1-800-262-8722.

The MCT number appears on WBU's main window. To see it on the LCD display, press **View Status** and then the **Down** button.

Setting the default directory for file export

When the fisherman clicks the **Export Trip** button on the Transmit tab, FLDRS automatically places a copy of the trip report in the backup directory.

To set the directory where trip data files are backed up:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.
3. On the Comm tab, the **Data Backup (export to local drive)** field shows where data is backed up by default. The default location is `C:\Program Files\FLDRS\Local_Backup`

This directory appears by default when the fisherman transmits a file, but the fisherman may override it.

Automatically setting the Trip Identifier

By default, the Trip ID is calculated when a trip starts. However, a user may prefer to set this manually. If you un-check the **Automatically Calculate Identifier** checkbox, FLDRS adds a **Set Identifier** button to the data entry user interface. The user must click the **Set Identifier** button before a trip landings record can be written.

Users Tab

The Administrator can add, delete, or change privileges for all users. The Administrator can also set passwords.

A user may have either administrator privileges or Logbook privileges. A user name with special privileges is set up for administration purposes; see the Study Fleet Program Manager for details.

Changing user access privileges

To change access privileges for a user:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.
3. Click the Users tab.
4. In the list on the left, highlight the user name. The properties of that user name appear on the right.
5. Use the radio buttons to control access to the FLDRS modules.

Adding a new user

When you add a new user, you must provide a password for the user and set access privileges.

To add a new user:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.
3. Click the Users tab.
4. Click the **New User** button at the bottom of the window.
5. Complete the fields to give a name and password to the new user.
6. Use the radio buttons to control access to the FLDRS modules.

The changes are saved when you click on another user name in the list, click **New User** again, click on another tab, or click Exit Setup.

Deleting a user

You can delete any user except the administration user name.

To delete a user from FLDRS:

1. Start the FLDRS software and log in as an administrator.

2. Click the **Software Setup** button.
3. Click the Users tab.
4. In the list on the left, highlight the user name. The properties of that user appear on the right.
5. Click the **Delete User** button at the bottom of the window.
6. Click **Yes** to confirm the deletion, or **No** to cancel.

You cannot delete the last Administrator account.

Species Tab

The full list of species that can be recorded by the FLDRS application is stored in the Species support table. Because the list is very long, the Administrator can (and should) use the Species tab to hide irrelevant species from the fisherman.

If you need to reload the Species table, see page 7.

Changing the view of the Species table

Although you should not change the content of the Species table, you can make species visible or invisible to the fisherman. Since the table contains a vast array of species, many are likely to be irrelevant to a fishery or to a particular fisherman, and should be hidden.

To hide a species from the fisherman's view:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.
3. Click the Species tab. The list shows all the species in the table. The record for each species includes a display property, which controls whether the species name is visible to the fisherman. If the display property is set to True, the fisherman sees that species in the lists in Software Setup.
4. To hide a species, double-click on its **Display?** field. Alternatively, you can highlight the species name and click the **Display Species?** checkbox at the bottom of the window. The display state toggles between True and False.

5. Repeat the previous step for every species you wish to exclude from the fisherman's view.

Your choices are saved when you click on another tab, or click the **Exit Setup** button.

HINT: To restrict your view to a particular category of species, click the dropdown list next to the **All Categories** button at the top of the window. Selecting an item from the dropdown list restricts the list in the main window to show only species in that category. Restricting the view makes it easier to locate irrelevant species to exclude.

Before you leave the laptop with the fisherman, check that the species list is appropriate. Log in as the fisherman, and use Software Setup. In the Short List tab, the list on the upper right shows all the species the fisherman can select.

Gear Tab

Every type of gear that the FLDRS application can handle is stored in the Gear support table. Because the list is very long, the Administrator can (and should) use the Gear tab to hide irrelevant equipment from the fisherman.

If you need to reload the Gear table, see page 7.

Changing the view of the Gear table

Although you should not change the content of the Gear table, you can make different types of gear visible or invisible to the fisherman. Since the table contains a vast array of possibilities, many are likely to be irrelevant to a fishery or to a particular fisherman, and should be hidden.

To hide a type of gear from the fisherman's view:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.
3. Click the Gear tab. The list shows all the gear types in the table. The record for each type of gear includes a display property, which controls whether the gear is visible to the fisherman. If the display property is set to True, the fisherman sees that type of gear in the lists in Software Setup.

4. To hide a type of gear, double-click on the **Display?** field. Alternatively, you can highlight the gear name and click the **Display Gear?** checkbox at the bottom of the window. The display state toggles between True and False.
5. Repeat the previous step for every item you wish to exclude from the fisherman's view.

Your choices are saved when you click on another tab, or click the **Exit Setup** button.

Before you leave the laptop with the fisherman, check that the gear list is appropriate. Log in as the fisherman, and use Software Setup. In the Short List tab, the list on the upper right shows all the types of gear the fisherman can select.

HINT: To restrict your view to a particular category of gear, click the dropdown list next to the **All Categories** button at the top of the window. Selecting an item from the dropdown list restricts the list in the main window to show only gear in that category. Restricting the view makes it easier to locate irrelevant gear to exclude.

The Study Fleet Program Manager determines the categories into which the gear is organized.

Dealers Tab

All of the currently permitted federal dealers are stored in the Dealers support table. Because the list is very long, the Administrator can (and should) use the Dealers tab to hide irrelevant dealers from the fisherman.

If you need to reload the Dealers table, see page 7.

Changing the view of the Dealers table

Although you should not change the content of the Dealers table, you can make dealers visible or invisible to the fisherman. Since the table contains a vast array of possibilities, many are likely to be irrelevant to a fishery or to a particular fisherman, and should be hidden.

To hide a dealer from the fisherman's view:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.

3. Click the Dealers tab. The tab shows all the dealers in the table, organized geographically. The record for each dealer includes a display property, which controls whether the dealer is visible to the fisherman. If the display property is set to True, the fisherman sees that dealer in the lists in Software Setup.

The lists also include some non-sale categories, which allow the fisherman to account for bait, home consumption, etc.

4. To hide a dealer, double-click on the **Display?** field. Alternatively, you can highlight the dealer's name and click the **Display Dealer?** checkbox at the bottom of the window. The display state toggles between True and False.
5. Repeat the previous step for every item you wish to exclude from the fisherman's view.

Your choices are saved when you click on another tab, or click the **Exit Setup** button.

Before you leave the laptop with the fisherman, check that the dealer list is appropriate. Log in as the fisherman, and use Software Setup. In the Dealers tab, review the names of the dealers.

Ports Tab

Every port that the FLDRS application can record is stored in the Ports support table. Because the list is very long, the Administrator can (and should) use the Ports tab to hide irrelevant ports from the fisherman.

If you need to reload the Ports table, see page 7.

Changing the view of the Ports table

Although you should not change the content of the Ports table, you can make ports visible or invisible to the fisherman. Since the table contains a vast array of possibilities, many are likely to be irrelevant to a fishery, geographical area, or a particular fisherman, and should be hidden.

To hide a port from the fisherman's view:

1. Start the FLDRS software and log in as an administrator.
2. Click the **Software Setup** button.

3. Click the Ports tab. The tab shows all the ports in the table, organized geographically. The record for each port includes a display property, which controls whether the port is visible to the fisherman. If the display property is set to True, the fisherman sees that port in the lists in Software Setup.
4. To hide a port, double-click on the **Display?** field. Alternatively, you can highlight the port name and click the **Display Port?** checkbox at the bottom of the window. The display state toggles between True and False.
5. Repeat the previous step for every item you wish to exclude from the fisherman's view.

Your choices are saved when you click on another tab, or click the **Exit Setup** button.

Before you leave the laptop with the fisherman, check that the list of ports is appropriate. Log in as the fisherman, and use Software Setup. In the Ports tab, review the names of the ports.

Setting Up Defaults

The fisherman cannot record any trips until defaults are set up, using Software Setup. See the FLDRS user manual for instructions.

Viewing and Deleting Old Trips

FLDRS keeps a list of all saved reports for viewing in an FVTR-like format. The transmitted trips can't be edited. If the list of trips becomes too long, a fisherman may ask you to delete some of them.

To view an old trip:

1. Log in as an administrator, and click the **Trip Reports** button. A list of trips appears.
2. Highlight the trip report and then click the **View Report** button. The trip appears in the Preview window; see the FLDRS user manual for details.
3. Click the **Close** button when you are done with the report.

To delete old trips:

1. Log in as an administrator, and click the ***Trip Reports*** button. A list of trips appears.
2. Highlight the trip report and then click the ***Delete Trip*** button. When you click ***Yes*** on the warning message, the trip report is deleted from the database. Repeat this step to delete another trip.
3. Click the ***Exit*** button when you are done.

System Setup

This section explains how to configure the other components of the FLDRS system.

Laptop

Before the vessel sails, you need to install the FLDRS software, along with a set of physical and logical components.

The correct sequence for installing these components is:

1. 4-port hub For details, see page 27
2. Fabulatech serial port splitter For details, see page 28
3. Tardis timeserver For details, see page 29
4. VMS (SkyMate or Boatracs) For details, see page 12
5. FLDRS software For details, see page 5
6. TD (temperature-depth) probe For details, see page 33

Four-port serial-to-USB hub setup

Many of the external devices used in the FLDRS setup require serial port connections (e.g., GPS, depth sounder, VMS, temperature probe, etc.). Most PC computers have only one or two serial ports. Since there are more peripheral devices than available serial ports, FLDRS uses a 4-port serial hub to expand the number of outputs from the FLDRS computer.

The FLDRS setup uses a Keyspan© 4-port serial-to-USB hub to accommodate the serial devices. This configuration requires only a single USB feed into the FLDRS computer.

To install and connect the 4-port hub:


1. Install the updated device driver from its source location (e.g. flash drive). Accept all the defaults in the installation wizard.
2. Attach the USB cable to the hub's USB port and then connect the other end of the USB cable to an available USB port on the FLDRS computer.
3. The hub is now ready for use.
4. Check the lights on the hub. A red light indicates that the PC recognizes the 4-port hub. The green light flashes or shows solid green when the FLDRS computer is actively communicating with a serial device through the hub.

Windows assigns a COM port to each of the serial ports on the hub. The port numbers are typically in sequence (e.g., COM3, COM4, COM5, COM6). You can use this information to deduce the correct COM port when you are configuring the GPS device. You can use the Windows Device Manager to view COM port assignments; for details, see page 35.

Port Splitter

Because two applications cannot use the same COM port simultaneously, and the time server must run all the time, you have to split the GPS feed and deliver it to two separate COM ports. In fact, the GPS feed must be split twice: once between the FLDRS laptop and the vessel's own onboard computer, and again between the Tardis and the Logbook application.

To split the signal using the Fabulatech virtual port splitter:

1. Make sure that you have Administrator privileges on the laptop.
2. Start the Fabulatech serial port splitter software. The main window shows the status of the computer's serial ports.
3. Choose **Port, Split...** then select a port number.
4. Click the green plus sign and select a port number to add the virtual port. 

To split the signal manually:

1. Using a monitor Y-splitter cable, attach the male ends to two separate serial ports on the 4-port serial-USB hub.

2. Use the Windows Device Manager to find out which COM ports the GPS is using. Scroll down to Ports, and right-click on a port name to see its properties.

Tardis Time Server

The Tardis 2000 timeserver application is a Windows utility that ensures the PC system clock is always correct. Clock drift can be a significant problem for all PCs, particularly those powered by a variable power supply like that of a commercial fishing vessel. FLDRS can collect data from many different sources (the Logbook, GPS polling, depth sounder, etc.) The vital link between these data feeds is accurate time-keeping; proper synchronization is critical.

The Tardis 2000 utility uses the vessel's GPS unit to update the PC's system clock continuously and automatically. The Logbook application derives its time directly from the GPS unit. Thus, a unit that runs off the PC's system clock (e.g. a temperature-depth probe) is in synchrony with the Logbook.

Using the Tardis eliminates data post-processing nightmares that often result from attempts to match up data feeds from unsynchronized time signals. Also, if the vessel's GPS goes down, the timeserver ensures that the system's PC clock is correct as of the last GPS fix.

The Tardis 2000 utility is a shareware program developed by H.C. Mingham-Smith Ltd. (<http://www.kaska.demon.co.uk/>).

Software installation

After the hardware is set up, install the Tardis software:

1. Double-click on the Tardis2000.exe file.
2. At the Welcome screen, click the **Next** button.
3. Accept the agreement and click **Next**.
4. Read the information and click **Next**.
5. Accept the default file location and click **Next**.
6. Select **Service Installation** and uncheck **K9 zip file and Tardis Manual installation**, and then click **Next**.
7. Accept the **Tardis 2000** folder location and click **Next**.

8. Click the ***Install*** button.
9. Uncheck **View Tardis.txt** and click ***Finish***.

Next, set up the application:

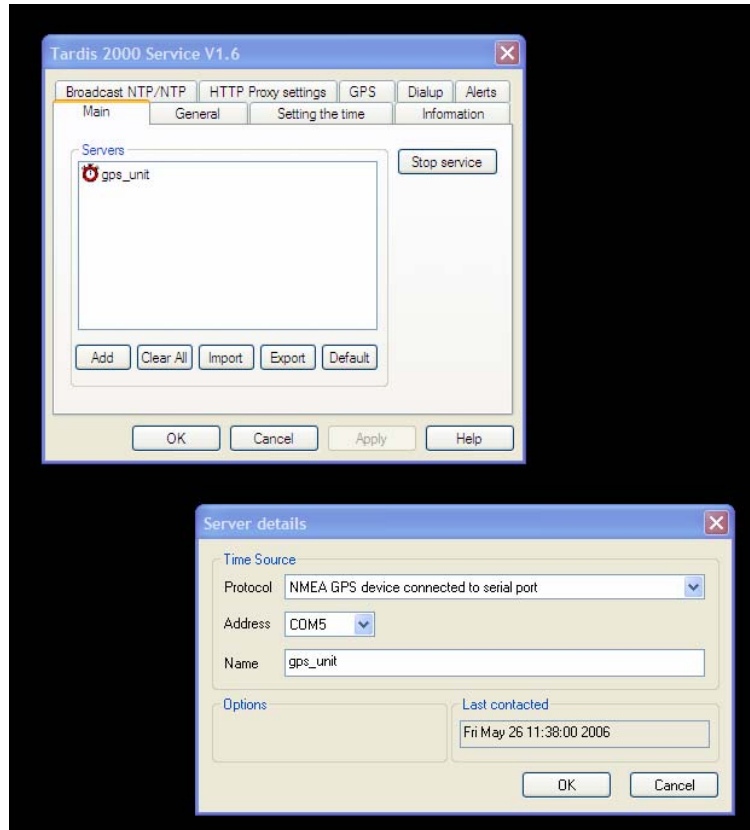
1. In the Windows Control Panel, click on the Tardis 2000 entry.
2. The first time Tardis 2000 launches you receive a Windows Time Service interference warning. You can safely ignore the Windows Time Service because it requires Internet access and FLDRS laptops do not connect to the Internet.

To ignore the Windows Time Server:

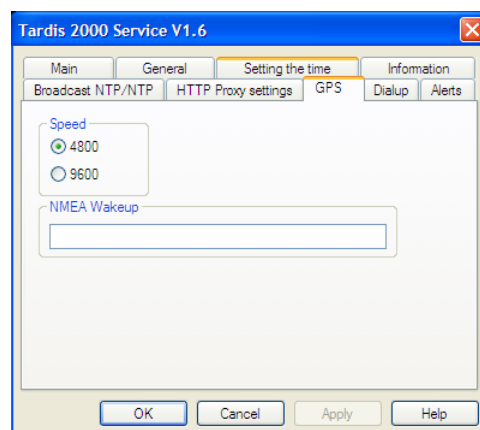
- a. Select **Disable the Windows Time Service**
 - b. Uncheck **Allow NTP protocol...**
 - c. Check **Don't warn me again.**
 - d. Click **OK**.
3. The first time you open the Tardis 2000 interface, you see the Main tab with three default time servers listed in the Servers window. Delete all three time servers by clicking on ***Clear All***. Choose ***Yes*** on the confirmation message.

Next, add and configure a new Tardis time server:

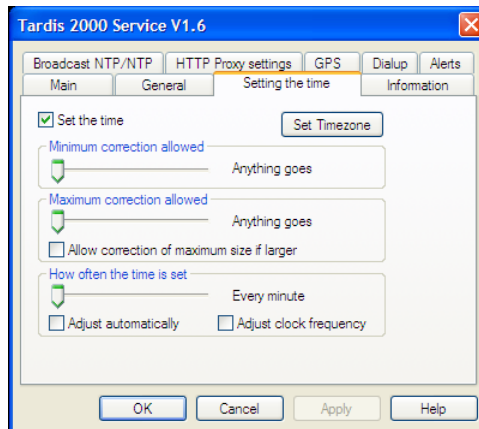
1. Click **Add, Name** and configure the new time server as shown below. Select the appropriate COM port and click **OK**.



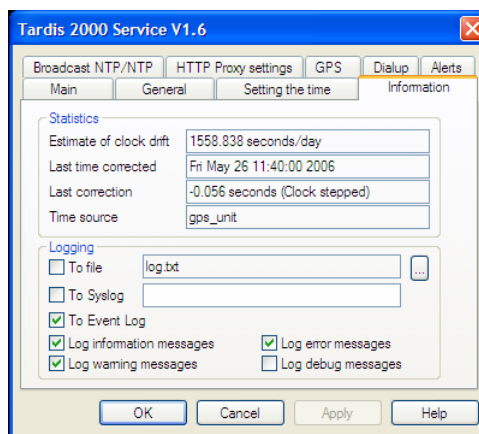
2. Go back to the Main tab, and click on the **Start Service** button.
3. Click on the GPS tab, and set the speed to 4800 baud.



- Click the Setting the Time tab. Use the settings shown below:



- Click the **Set Timezone** button. Check the time zone and daylight savings time adjustment. Click **OK**.
- Click on the Information tab. Configure the settings as shown below:



- Click **OK** to close the Tardis 2000 application window.
- Finally, test that the software is functioning properly by changing the PC clock by an hour or two. If the GPS unit is turned on and connected and the software is properly configured, the PC clock should correct itself in less than a minute.

Tardis troubleshooting

If the time server does not seem to be working, check the following:

- On the Main tab of the Tardis application, ensure that service is running. The text on the tab should read **Stop service**.

- Make sure there are two feeds coming into the unit. Check the COM port setting for the time server: use the GPS viewing pane in the Software Setup module, and test a different COM port to make sure there is a signal. Remember to switch the COM port back to the original setting when you finish testing.
- If there is no signal, check the physical connections.

Vemco Minilog Temperature/Depth Probe

FLDRS uses the Vemco Minilog to gather temperature and depth data, using a device attached directly to the fishing gear. The administrator sets up the gear and the fisherman should not have to interact with it.

To install the Minilog software on the laptop:

1. Insert the diskette/CD into the drive.
2. Choose **Start, Run** and specify the location of the file as **drive:\setup.exe**. Follow the prompts.

Vemco's detailed instructions for deploying the device start on page 35.

Appendix: FLDRS Directory Structure

When you install the FLDRS application, it creates these directories and files. You can install to a different path, but by default, the installation process creates these directories in `c:\Program Files\FLDRS1_0`.

Directory name	Contents
<code>C:\Program Files\FLDRS1_0\</code>	FLDRS executable and parent directory for all FLDRS software components
<code>C:\Program Files\FLDRS1_0\Database\</code>	Database files and support tables
<code>C:\Program Files\FLDRS1_0\Gps_Polling\</code>	GPS polling output files
<code>C:\Program Files\FLDRS1_0\Local_Backup\</code>	Backups created when fisherman saves a trip
<code>C:\Program Files\FLDRS1_0\Help\</code>	Help files for both modules

Appendix: Windows Diagnostic Tools

HyperTerminal

HyperTerminal is a program that connects to other devices using either a modem or a null modem cable. It is a useful tool in configuration and troubleshooting, because you can communicate directly with the hardware to identify problems with serial connections.

To start a HyperTerminal session:

1. On the Windows Start menu, choose ***Programs, Accessories, Communications, HyperTerminal***.
2. HyperTerminal attempts to connect to the device.

If the connection attempt fails, it is probably because the port settings are wrong.

3. Once you establish a session, check the status area at the bottom of the window and activate the equipment. You should see a message in the HyperTerminal window.

If there is no message or the message contains strange characters, check the port properties.

Windows Device Manager

The port properties are set in the Windows Device Manager. To check the port settings:

1. On the Windows Start menu, choose ***Settings, Control Panel***.
2. Scroll down the list, and double-click on ***System***. The System Properties window appears.
3. Click on the Hardware tab, then click the ***Device Manager*** button. Device Manager lists all the hardware installed for the computer.
4. Scroll down the list, and double-click on ***Ports***.
5. Double-click on the name of the port you want to investigate. The Properties window appears. The Port Settings tab has most of the relevant settings.

Appendix: Vemco Minilog

Minilog Basic Procedure

This section is designed as instructions for basic Minilog use. It assumes that the Minilog Windows software is installed and the Minilog Windows PC computer interface is connected to the computer. For details on any aspect of this list, please see the Help feature in the Minilog Windows software.

1. Initialize Minilog

- a. Run Minilog Windows software.
- b. Place the Minilog in the cup in the top of the Minilog Windows PC computer interface so the serial number on the back of the Minilog is facing up.
- c. Rotate the Minilog in the interface until the silver temperature sensor drops into the guide hole in the interface. The serial number on the Minilog should be in the same orientation as the text on the top of the interface.
- d. Click the Initialize Minilog button with the green arrow, shown here on the right. The software will communicate with the Minilog and display the Minilog information in the Minilog window (see below).
- e. Enter the study identification, delayed start date (optional), and the sample period.
 - i. Study ID - Enter any identification that will help keep track of the data.
 - ii. Delayed start - If the delayed start box is not checked, the Minilog will begin recording data as soon as the initialization is completed. If the box is checked, the Minilog will not begin recording data until the date and time specified (see Minilog Help for additional information).
 - iii. Sample period - Select the length of time between data readings. The Study duration line directly below the Sample period will reflect the time required to fill the memory given the chosen sample period.
- f. Click the Initialize button in the top right corner (with a green checkmark).
- g. Wait while the Minilog is initialized. A prompt will appear informing you that the Minilog is initialized.
- h. Remove the Minilog from the computer interface. **NOTE: Do not communicate with the Minilog again until the data is collected. Any communication will take the Minilog out of recording mode (stop the study).**

2. Collect Data

- a. Deploy the Minilog as desired. The temperature sensor is in the silver point protruding from one end of the Minilog. The pressure sensor (if applicable) is the

silver disc next to the temperature sensor. **Warning: Do not deploy the Minilog to a depth greater than the pressure sensor is rated for or the sensor will be damaged.**

b. Retrieve the Minilog when data collection is complete.

c. Dry the Minilog completely to prevent any water from coming in contact with the electronics in the computer interface.

3. Load data from Minilog

a. Run Minilog Windows software.

b. Place the Minilog in the Minilog Windows PC computer interface as described in Steps 1.b and 1.c.

c. Click the Load data from Minilog button with the red arrow, shown here on the right. The software will communicate with the Minilog and begin to download the data from the Minilog's memory.

d. Wait while the data is downloaded from the Minilog. A bar in the bottom left corner of the Downloading data window shows the progress of the download.

e. Select the YES button when prompted if you want to view the graph of the data.

f. Remove the Minilog from the computer interface.

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