



Configuring the Inclinator Driver for a Pressure Transducer - Part 2

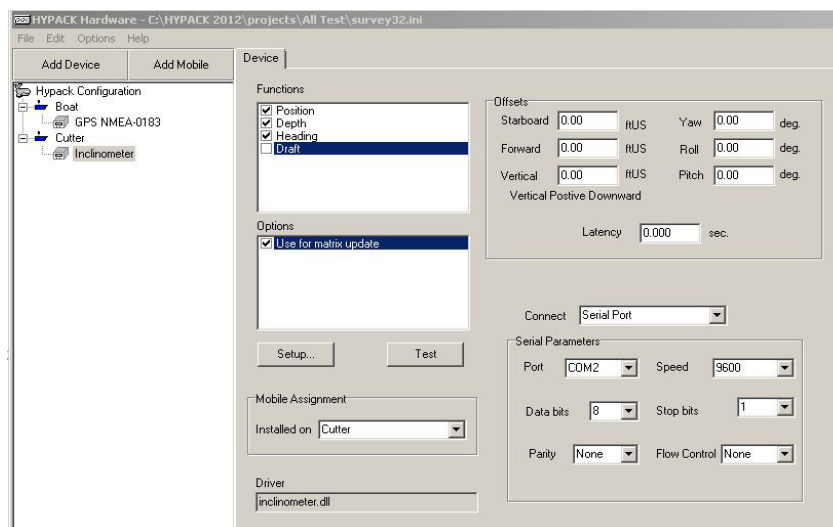
by Bob Glover

In my *Sounding Better!* article from last month, we discussed setting up a DGH board to use a pressure transducer, along with the associated testing. Now we will look at the HYPACK® HARDWARE setup.

In this example, we will configure the system for a simple cutter suction dredge. We assume you have basic knowledge of HYPACK® HARDWARE.

This example requires you to have two mobiles. **Boat** is always the first mobile. In this case, add a second mobile named **cutter**. The boat mobile contains the positioning system for the body of the dredge, so add the GPS.dll to this mobile. The cutter mobile will contain the Inclinator.dll.

FIGURE 1. *Configuring a Cutter Suction Dredge in HYPACK® HARDWARE*



1. **Configure the GPS.dll** to provide positioning as it normally should.
 - Make the offsets to the ladder pivot point or trunnion.
 - In this example, we are not using RTK for tides so the vertical offset is unnecessary. If we were using RTK tide corrections, we would add the vertical offset from antenna phase center to waterline (a negative value).
2. **Determine the raw milliamps output from the DGH board with the corresponding real depths.**
 - a. **Open the correct COM port using Wcom32.** (In HYPACK® HARDWARE, select OPTIONS-COM-WCOM32.)
 - b. **Place the ladder at a minimal depth or on the water surface.**
 - c. **With the serial port open in your terminal program, enter \$1RD.** (WCOM32 does not echo local keystrokes, so don't be alarmed if you don't see anything in the window as you type.) The DGH board will respond with a milliamp output return.
 - d. **Record the DGH output value with the ladder depth.**
 - e. **Perform this same test again with the ladder at the maximum depth and again record the DGH output.**

3. **Assign the Inclinometer.dll to the cutter mobile.**
 - Select position, depth and heading in the function box.
 - Select “Use for Matrix Update” to color a matrix file according to the depths recorded by the inclinometer driver in DREDGEPACK®.
 - The pressure transducer has no need for horizontal or vertical offsets as the transducer reads only depth. The driver will use the information received from the GPS.dll to calculate position and heading.
 4. **Configure the connection parameters.**
 5. **Click [Setup]** to open the Driver Setup dialog.
- In the Main Settings Tab do the following:**

FIGURE 2. Inclinometer Driver Setup - Main Settings Tab

- From the Instrument Type drop down box, select Manual Config.. This will add a Manual Setup tab to the dialog box.
- Enter the length of the ladder in the Ladder Geometry box.
- Enter cutter head radius if desired.

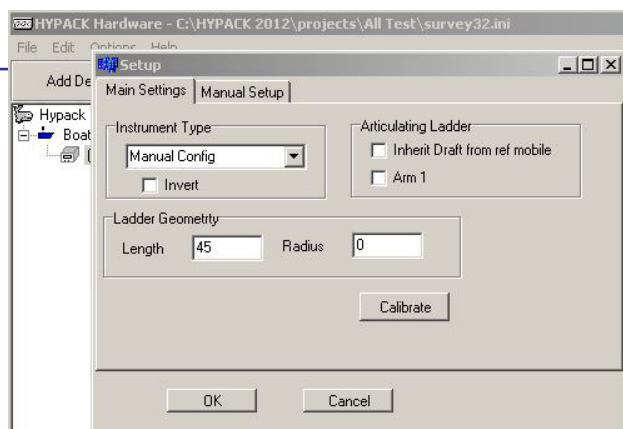


FIGURE 3. Inclinometer.dll - Manual Setup

In the Manual Setup tab:

- **Enter the Start Char as 1 and Length as 8.** This is determined from the DGH configuration discussed in [Part I of this article](#).
- **Enter the DGH Output values in the Calibration portion of the setup dialog.** The driver will now be able to calculate a depth based on the return millamp output of the DGH board.



6. **Click [OK]** to save your setup. The driver is now ready to be used in DREDGEPACK® to record depth from your pressure transducer.

As always any questions regarding this setup feel free to contact Bob@HYPACK.com for further assistance.