



Barge Device Driver

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We recently had a client contact Support asking if there was some way to use HYPACK® to navigate a barge to a very precise location where it would be used to remove a piece of machinery from the bottom of the harbor. The challenge would be to align the barge directly over the attachment point on the machinery below. The barge needed to be positioned to within one foot of the assigned location on the surface, if the winches were to be in range of the attachment points below.

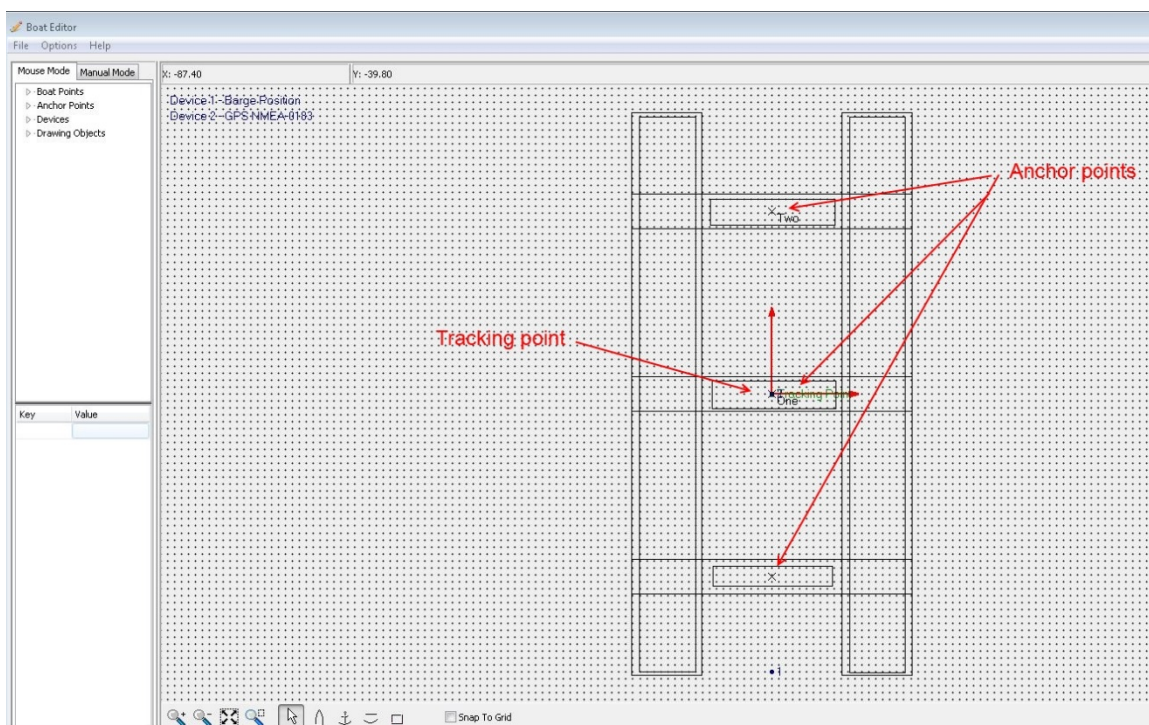
The barge had an RTK GPS system, so I was confident that the horizontal accuracy could be achieved. We would only need to add an accurate boat shape with anchor positions, configure our hardware correctly and input the locations of the targets. I recommended using the Barge.dll. This provides a very accurate position of the barge as it is moved into its target location.

CREATING THE BARGE BOAT SHAPE

For the Barge.dll to maintain its accuracy, a very precise barge shape is needed. The shape, created in the BOAT SHAPE EDITOR, must be accurate in size and the position of its anchor points. The tracking point must also be precisely located.

When the shape is complete, the next step is to configure the hardware setup.

FIGURE 1. *Creating the Barge Boat Shape in the BOAT SHAPE EDITOR*

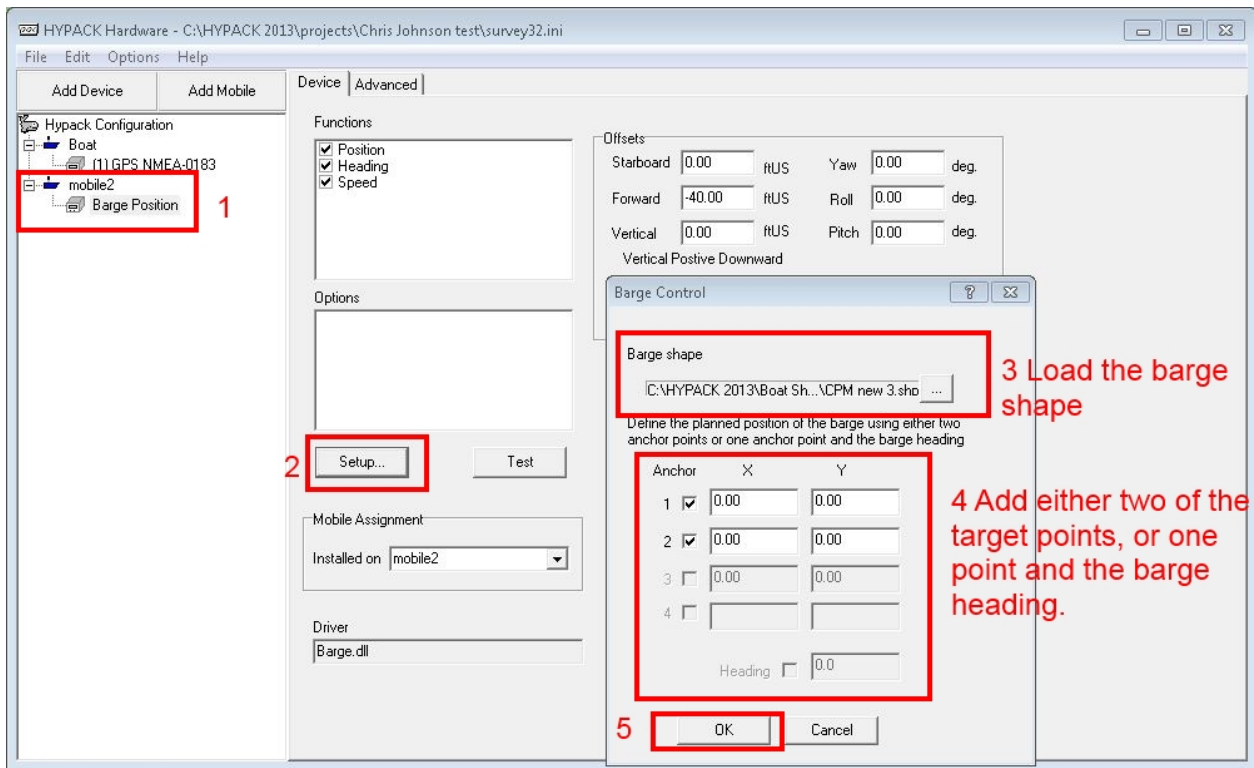


CONFIGURING YOUR HARDWARE

The hardware configuration for this job is relatively straight forward. We need two mobiles. The first mobile (Boat) is the primary position source. This is where the GPS.dll is installed and configured.

The second mobile has the barge.dll installed.

FIGURE 2. *Configuring the Barge.dll in HYPACK® HARDWARE*

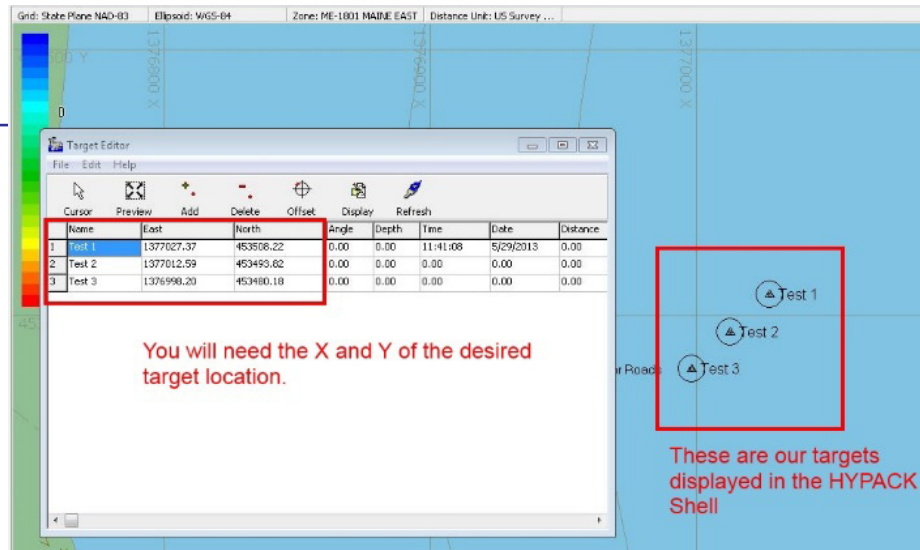


1. **Select the Barge.dll in the configuration tree and check all of the functions:** position, heading and speed.
2. **Click [Setup]** to open the Driver Setup for the barge control.
3. **Load the custom barge shape.**
4. **Enter the coordinates of the desired target locations assigned to the corresponding barge anchor points.**
5. **Click [OK]** to save the setup.

FIGURE 3. Loading Targets to which the Anchor Points Align in SURVEY

In this example, we use two targets to align the barge. Alternatively, you can use only one anchor along with the heading.

With hardware configured and the targets and anchor points selected, it's time to have a look at the Barge.dll in SURVEY.



THE BARGE DRIVER IN USE IN SURVEY

The barge.dll draws the outline of the position that will achieve the correct alignment. Each target location also displays the distance to target of the corresponding anchor point. This makes it easier for an operator to visually monitor the barge as it moves into position. The data display, as well as the barge.dll window, constantly update distance and bearing from anchor point to selected target. (Figure 4).

The barge.dll worked out very well in this case, as the client was able to navigate precisely into the needed location and perform the required maintenance on the machinery below.

Should you have any questions regarding this article, please feel free to contact help@HYPACK.com

FIGURE 4. The Barge Driver at Work in SURVEY

