



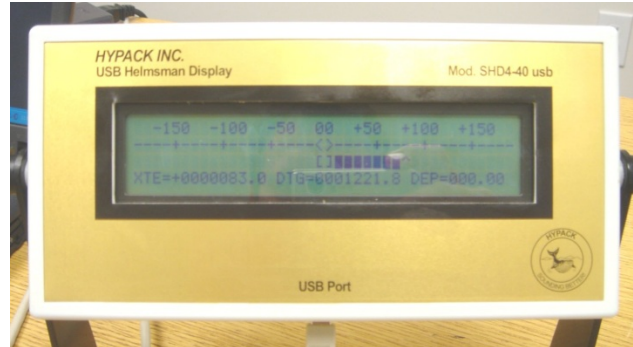
USB Helmsman Display

By John Lindberg

Over the years HYPACK has offered a multitude of helmsman displays, from a parallel interface box that just displayed an offline numerical value, to a Windows CE based “palm pilot” that had a left-right indicator and Data Display not unlike the HYPACK® SURVEY windows.

These days, LCD monitors are pretty cheap, and all you have to do is extend your desktop over to a second monitor, drag a few HYPACK® SURVEY windows over to that monitor for the boat operator to see, and you have an instant Helmsman Display.

When size constraints are an issue by far the most popular left-right indicators HYPACK has offered are the serial interface “4x40 LCD” units. With the lack of serial ports becoming available in PCs these days, HYPACK offers a USB left-right indicator. One nice feature of these units is that it does not require a separate power source like the serial RS232 versions. Power to the indicator comes directly from the USB port.



OPERATION

FIRST TIME CONNECTION

To interface the USB left-right indicator with your PC, just plug it into your USB port.

If you are using Windows® 7 *and* connected to the Internet, simply plug the USB cable into a USB port on your PC and follow the instructions as the dialog boxes appear:

FIGURE 1. *Instruct Windows® to Download the Correct Driver*

In the first dialog, be sure to highlight ‘Yes, do this automatically (recommended)’ and click SAVE CHANGES.

Windows® will search for the proper drivers:

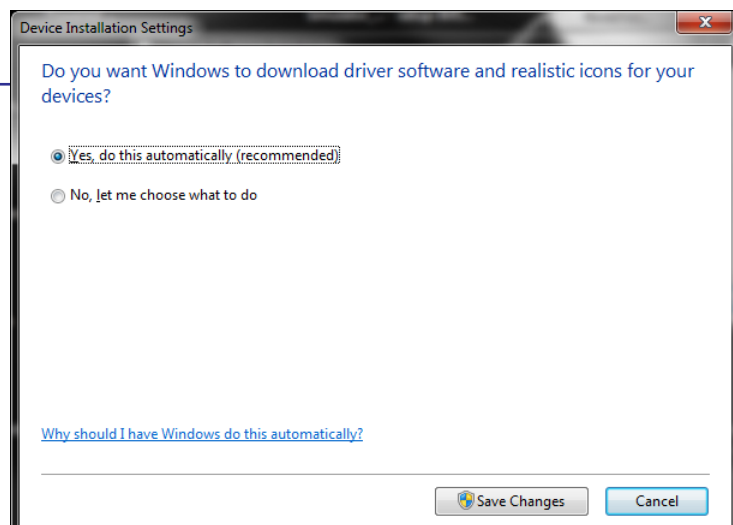
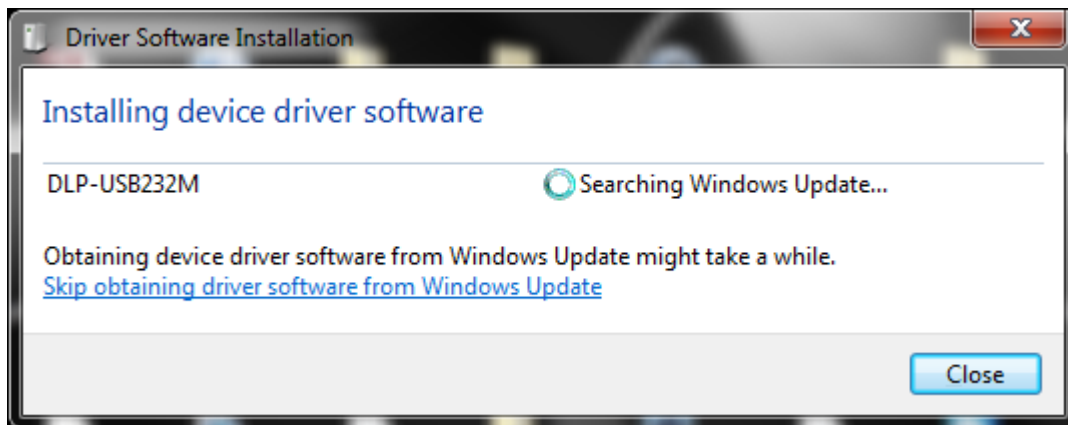
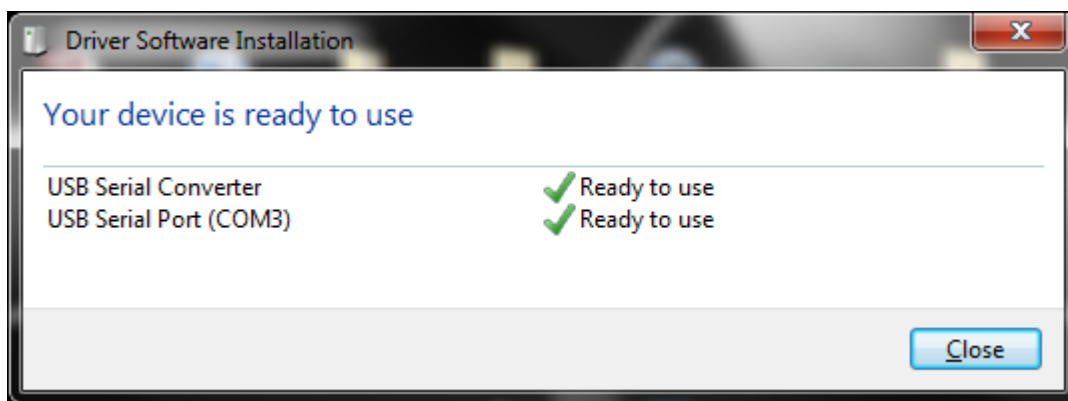


FIGURE 2. Windows Automatically Installs the Required Driver



When the drivers are loaded the dialog will display the COM port number READY TO USE as shown in Figure 3.

FIGURE 3. COM 3 is 'Ready to Use'



If you are not connected to the Internet, a virtual COM port driver is supplied on a CD which redirects data sent via a “virtual COM port” to the USB port. When the Event Interface is plugged in for the first time, a Windows® Wizard will appear, prompting for drivers. Simply point the Wizard to the CD. You can also download the drivers here:

32 bit drivers – <ftp://support.hypack.com/Outgoing/USB%20EVENT%20BOX%20DRIVERS.zip>

64 bit drivers – <ftp://support.hypack.com/Outgoing/USB%2064%20bit.zip>

If installing the drivers manually, note the COM port number in the Windows® Device Manager as shown in Figure 4:

FIGURE 4. The COM Port Listed in the Device Manager

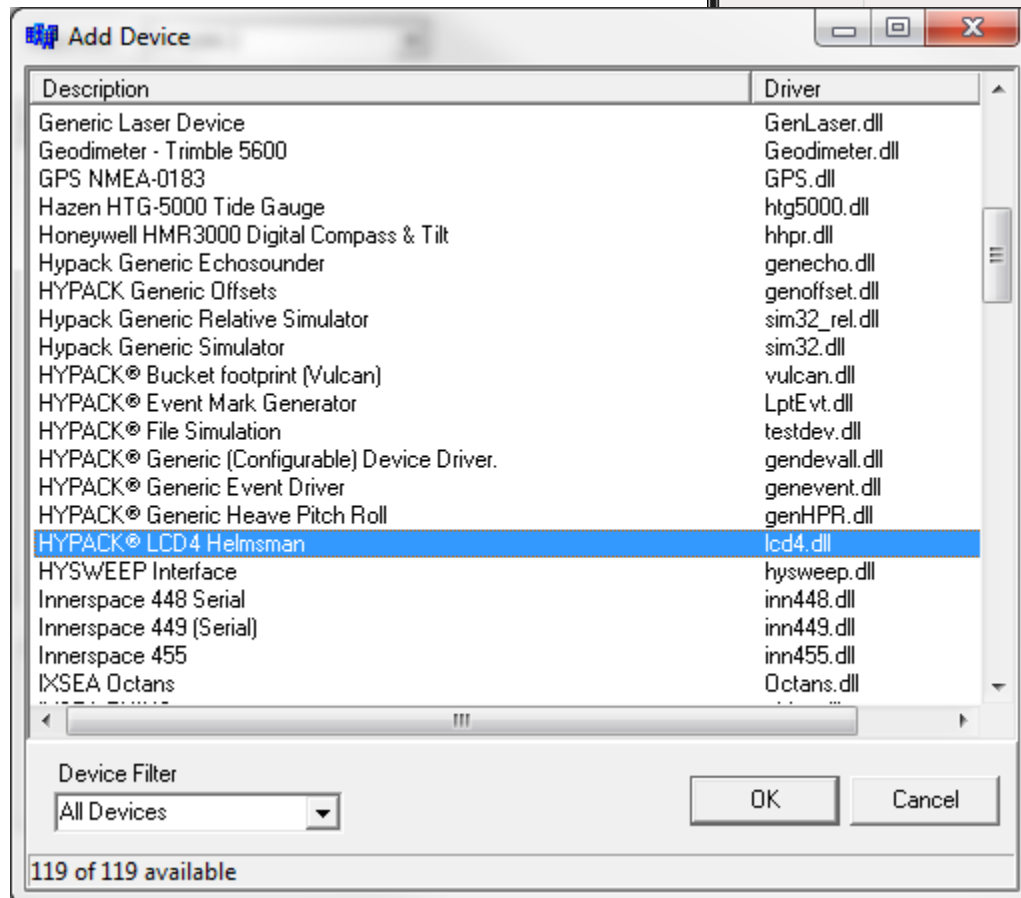
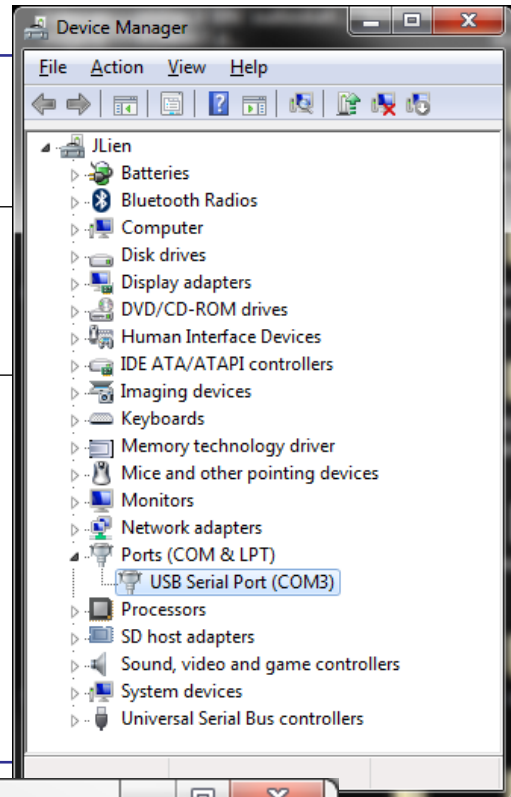
After the first installation you will not be prompted for the device drivers again.

Note: The virtual COM port drivers used with the USB Helmsman Display are identical to those used with the USB Event Interface and are interchangeable.

HYPACK® INSTALLATION

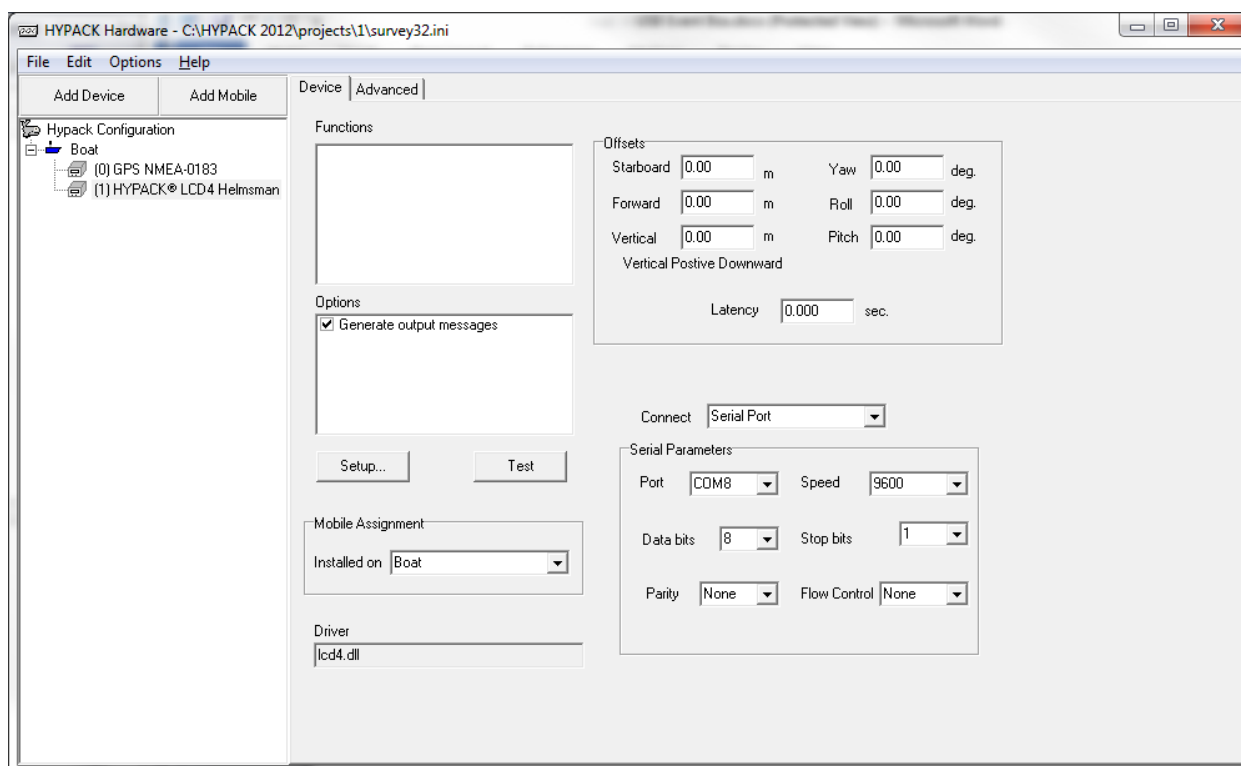
1. **Select PREPARATION – HYPACK HARDWARE.**
2. **Click ADD DEVICE and select HYPACK LCD4 Helmsman (lcd4.dll).**

FIGURE 5. Loading the LCD4 Driver



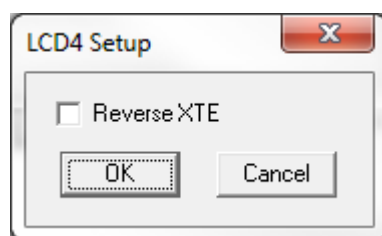
3. Under **CONNECT** choose **SERIAL PORT** and set the proper port number. Set the baud rate to 9600, parity to NONE, the data bits to 8, the stop bits to 1, and the flow control to NONE.

FIGURE 6. *Configuring the Driver*



If you click SETUP you will notice a “Reverse XTE” option. Check this only if you notice that, during operation, the cross track error is opposite what it should be. This is dependent on how one of the internal jumpers is set from the factory. Normally they are set for standard HYPACK® operation.

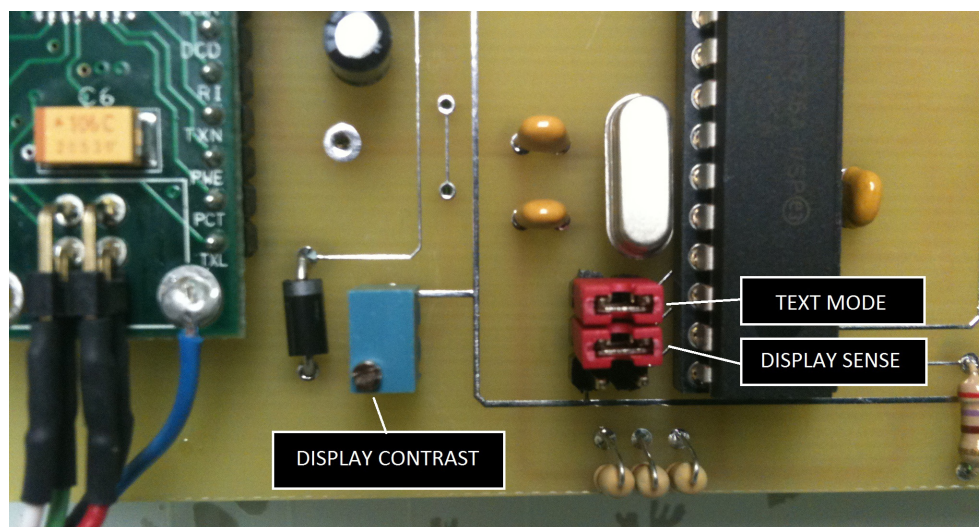
FIGURE 7. *LCD4 Driver Setup Dialog*



INTERNAL OPTIONS

Some of the device display options are controlled by settings inside the device.

FIGURE 8. Internal Settings in the USB Left-Right Indicator



DISPLAY MODE

The SHD4-40 USB can display the text data sent from HYPACK® in one of two formats:

- The **standard format** (as supplied from the factory) is the graphics display that provides an auto-ranging bar graph type display on the upper three lines of the display with the lower line reserved for critical text data.
- The **alternative display** is ALL TEXT. Only the lower line is used for a simple bar graph display while the upper three lines are all used for text.

To set the display mode using the link inside the display as follows:

1. Remove the 4 Philips-head screws and remove the rear cover.
2. Locate the 6-pin header block.
3. Place a jumper across the center pair of pins. The display will now be in the TEXT ONLY mode.
4. Replace the rear cover and screws.

DISPLAY SENSE

The sense of the display (left- or right-handed) may also be changed by the setting or removing of a link on the center pair of pins on the 6-pin header block.

The normal sense will read a negative XTE distance from HYPACK® and display the XTE distance with the negative sign. The bar graph display will move to the left.

When the link is in place this sense is reversed and the sign is changed from negative to positive. The bar graph will move to the right when a negative XTE distance is received from HYPACK®.

Follow the same procedure as for setting the display mode, but to change the display sense, set or remove the jumper on the pair of pins closest to the center of the board.

An screw adjustment is available inside the display to change the display contrast for better visibility at different viewing angles .

The USB Helmsman Display is available from HYPACK, Inc. for US\$950. Contact Sales at 860-635-1500 or email sales@hypack.com.

