TRACKMAN Device Driver

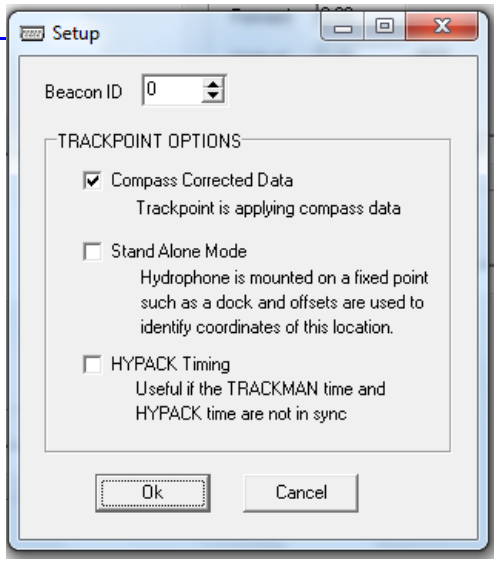
By Jerry Knisley

To interface the HYPACK® software with the TRACKMAN software from Trackpoint ORE, a device driver was written that reads in the $POREG message. This is a proprietary message generated from the TRACKMAN software. The TRACKMAN software is used to compute the position of the beacons and relay that information over to the HYPACK® software. You can use the same computer if the data is sent via UDP port within TRACKMAN.

In the driver there are four options:

- **Beacon ID**, tells the driver which beacon is to be tracked by this instance of the driver. If you track more than one beacon, the driver must be assigned to separate mobiles. A different Beacon ID is used in each instance of the driver, but the same UDP port number can be used as multiple drivers can read from the same port.

FIGURE 1. *Trackman Driver Setup Dialog*



- The **Compass Corrected Data** tells the driver to ignore the HYPACK® heading and use the corrections in a north-oriented grid. If this is unchecked, the HYPACK® heading is used in the calculations and the TRACKPOINT is considered to be reporting the positions in a relative orientation with the BOW of the vessel as 000° relative.
- **Stand Alone Mode** is used when the TRACKPOINT Hydrophone is mounted on a fixed point like a dock. The coordinates of the dock are entered as the STARBOARD and FORWARD offsets. By entering the coordinates in the offsets, the driver adds the TRACKMAN reading to report the position of the beacon.
- With the **HYPACK® Timing** option checked, the program uses the time tag of the message as it is received by the HYPACK® software. With this unchecked the HYPACK® program decodes the time in the $POREG message and applies this to the HYPACK® data.

FIGURE 2. *Sample Trackman Driver Configuration*

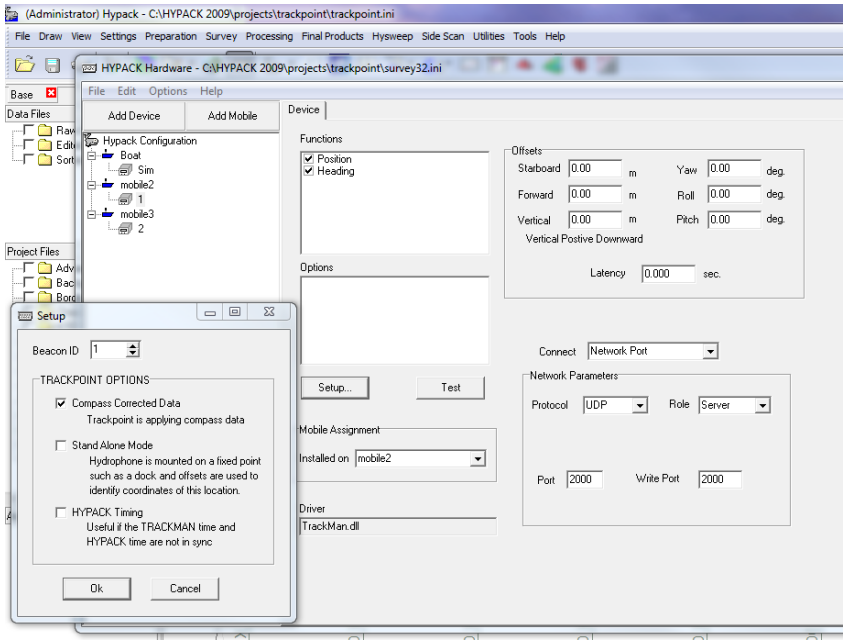


Figure 2 shows the configuration of a TRACKPOINT system with two beacons in the water. It is always preferable to use the compass-corrected data when possible because that allows TRACKMAN to do the math more efficiently and effectively. The BEACON ID is set to the beacon of interest and each beacon is a separate mobile.

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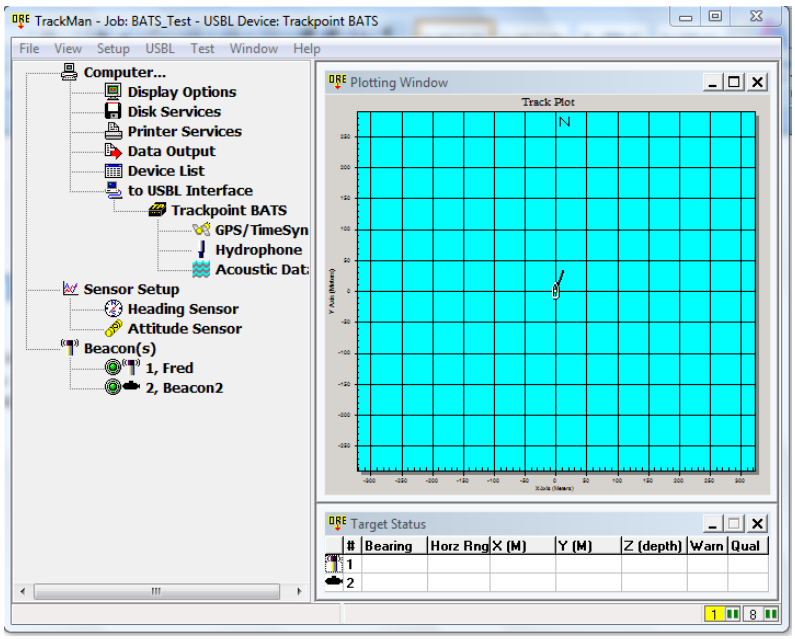
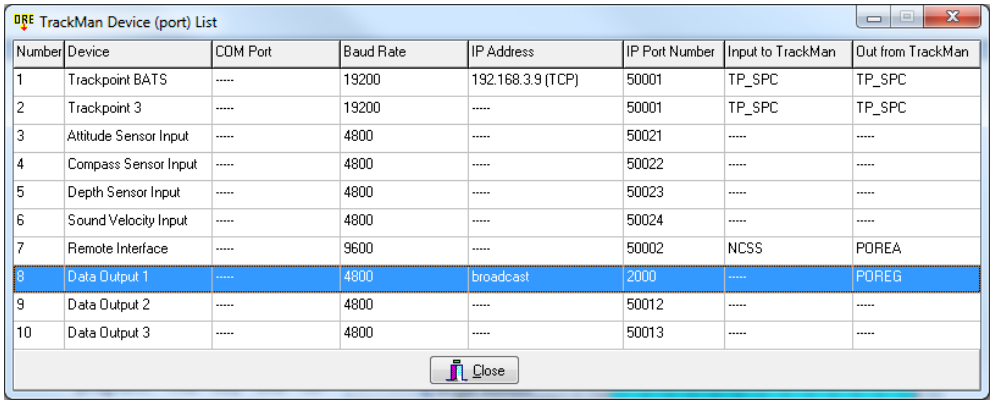
FIGURE 3. *Trackman Device Interface*



The main screen of the TRACKMAN software can be seen in Figure 3. The list of options to the left are buttons to access features of the program. The primary key to integrate with HYPACK® is the **device list**. This button displays a menu that allows you to specify the output parameters.

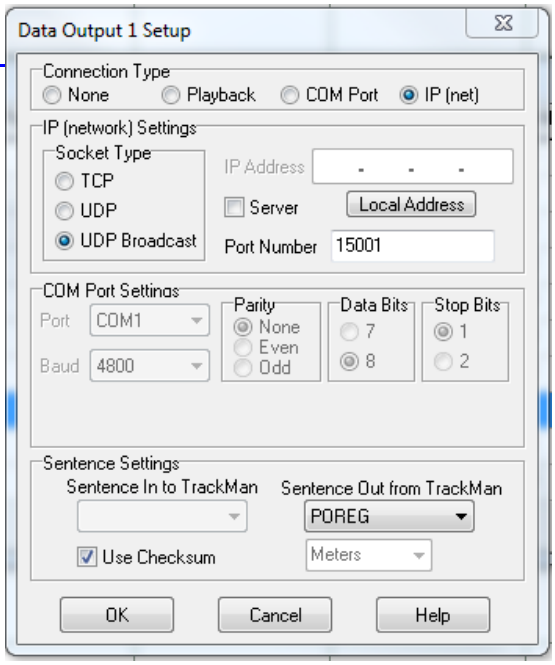
FIGURE 4. *Device List in the Trackman Setup*



In Figure 4, you will notice the Data Output 1 is highlighted. This is the manner in which the TRACKMAN program is going to send out the data to HYPACK®.

By double-clicking on the Data Output 1 line in the device list, a new menu appears. This is the Setup for that output and allows us to send the data to the HYPACK software. In my tests I was running the systems on the same computer and using the internal network card to handle interfacing.

FIGURE 5. *Setting Data Output 1 to output to HYPACK®*



To make this work most efficiently, HYPACK recommends using the UDP Broadcast method. In this setup, the TRACKMAN software sends a UDP packet with the tracking information directly to the port specified. If HYPACK® misses the packet or is not running, the packet is dropped and gone forever. If HYPACK® starts up before the next packet is sent, it will receive this packet and begin tracking. Any missed packets are not a cause for error and, since this is a real-time tracking system, they do not affect anything.