



Interfacing the RESON Seabat T20-P in HYPACK®

By John Lindberg



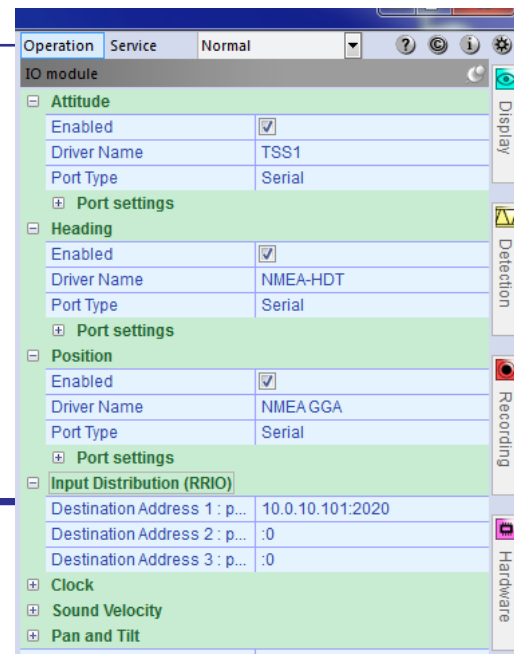
We've recently completed the HYPACK® and HYSWEEP® interface to the RESON Seabat T20-P. This is the RESON "portable" Seabat, which includes a smaller sonar head along with a smaller processor box. a single Ethernet cable provides the interface from the processor box to HYPACK® and HYSWEEP®. All other sensors (position, heading, motion) are interfaced directly to the sonar processor.

SEABAT CONFIGURATION

As you can see in the following figure, the additional sensors are interfaced to the Seabat processor via serial ports.

FIGURE 1. *Seabat User Interface*

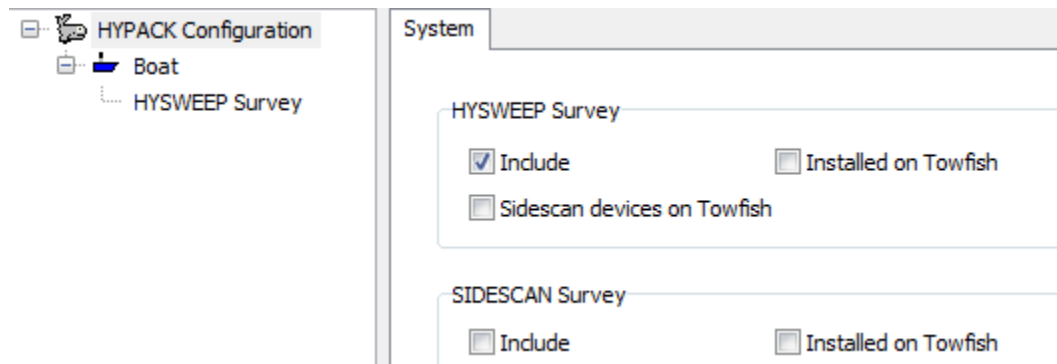
For attitude, in the Seabat software, I configured the IO (Input/Output) module to accept a TSS1 string, industry standard ASCII output for heave, pitch and roll. I also configured a GGA string from a GPS receiver for position, and an HDT string for heading. You will also see an address under "Input Distribution." This is the IP address of the computer running HYPACK®, and "2020" is the base port address, which will be needed when you set up HYSWEEP®.



HYPACK® HARDWARE CONFIGURATION

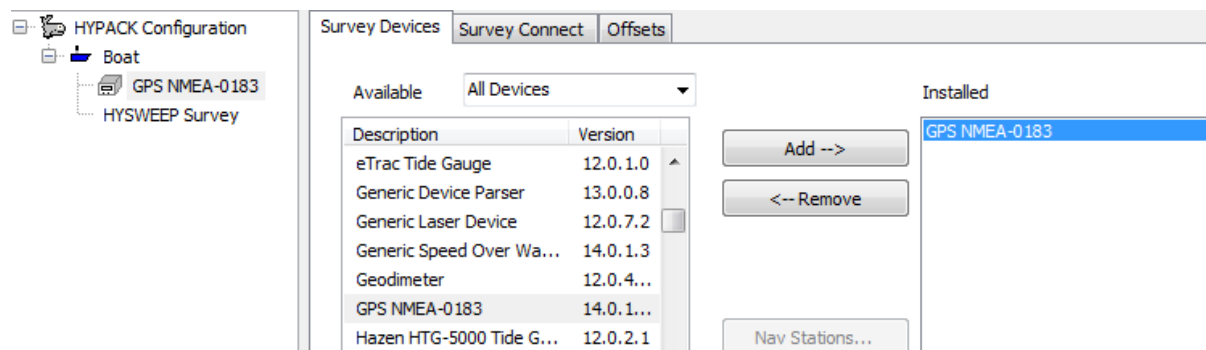
1. **In HYPACK® 2014, select PREPARATION – HARDWARE SETUP.**
2. **Indicate that you are using a multibeam system.** Highlight HYPACK CONFIGURATION and check the INCLUDE box under HYSWEEP SURVEY. Once you do that you will see HYSWEEP SURVEY listed under the main vessel (Boat).

FIGURE 2. Including Multibeam Devices in your System Configuration



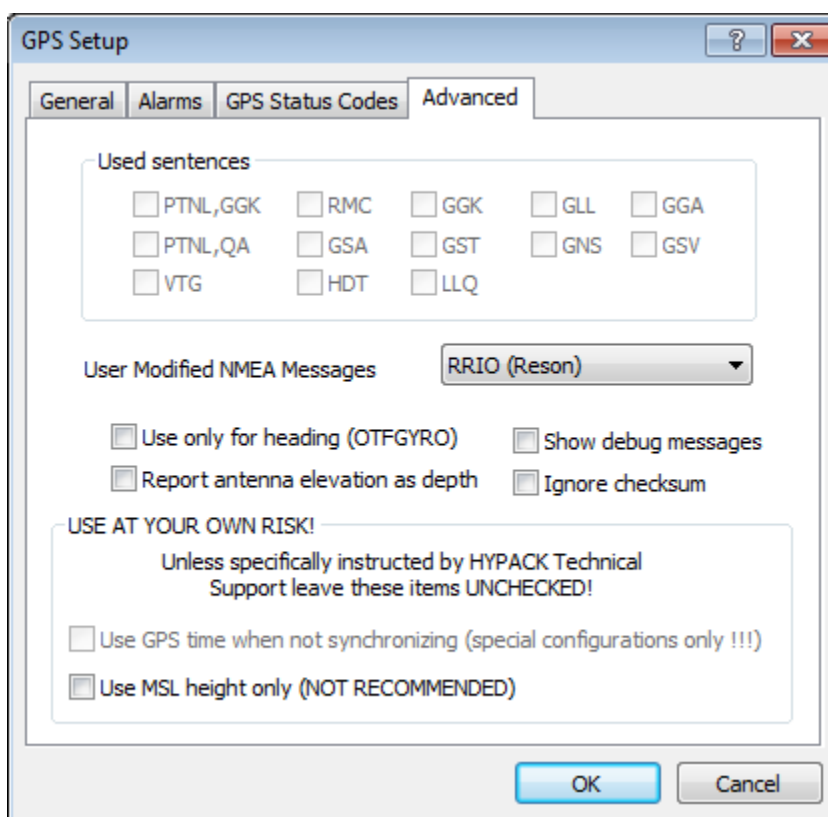
3. **Highlight BOAT, choose the GPS NMEA-0183 device and click [ADD].** You will see it listed under the main vessel.

FIGURE 3. Adding the GPS to the Main Vessel



4. **Click [SETUP] and, in the ADVANCED tab, select RRIO (RESON) next to the User Modified NMEA Messages and click [OK].**

FIGURE 4. Configuring the Reson RRIO Message in the GPS Setup



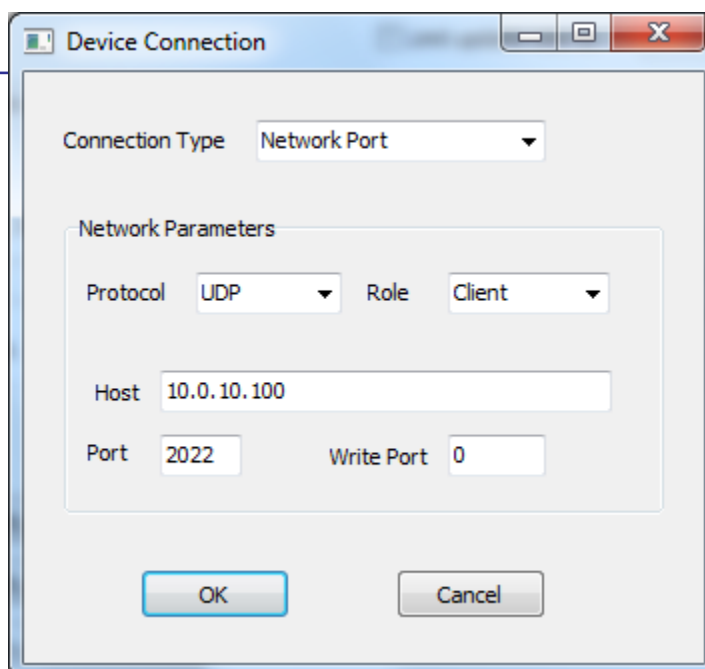
5. In the **SURVEY CONNECT** tab, set up the following for the device connection:

FIGURE 5. Connection Settings for the Simulation

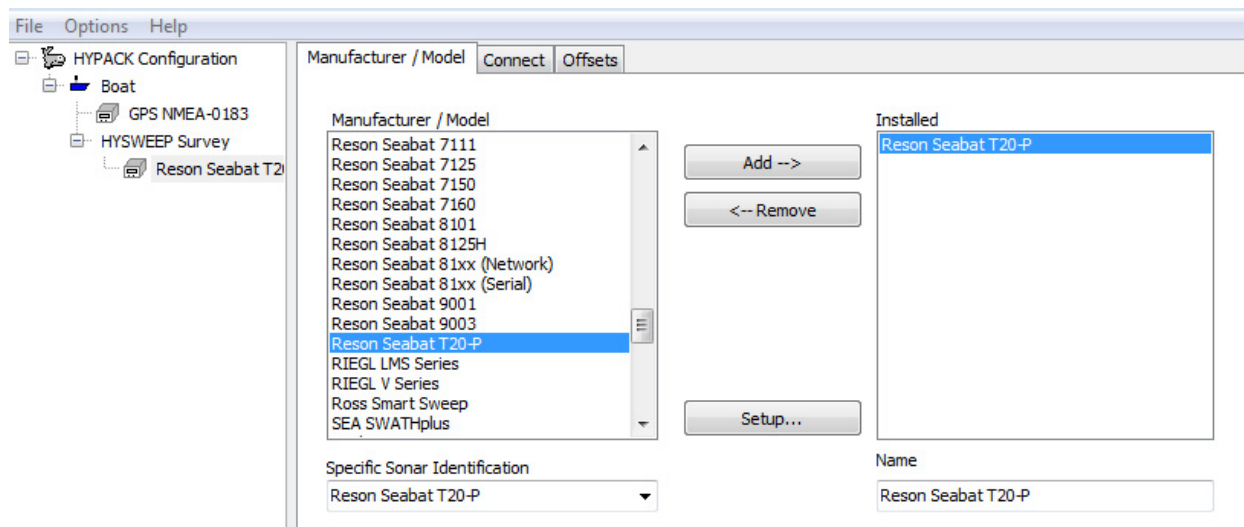
The HOST IP (Figure 5) happens to be how we set up our simulation and most likely will be different with an actual T20-P.

The Port 2022 is very important. If you recall the base port set up in the SEABAT IO was 2020. According to the T20-P manual, the position system is always “Base port +2” hence, the port number of 2022 for the GPS.

Test the device. If you see position data you are good to go. If not, be sure your Seabat IO is seeing the position device and recheck your addresses and port numbers.



6. Now it is time to **add the HYSWEEP device**.
 - a. Highlight HYSWEEP Survey and add the RESON SEABAT T20-P device.



- b. Click [SETUP].

FIGURE 6. Setup Dialog

- c. Select Datagram Version 2.
 - d. Check the box for USE RESON REMOTE IO.
 - e. Use 2020 for the BASE PORT.
 - f. Click [OK].
 - g. In the CONNECT tab, enter the IP of the T20-P and 7000 for the Port number, and click [OK].

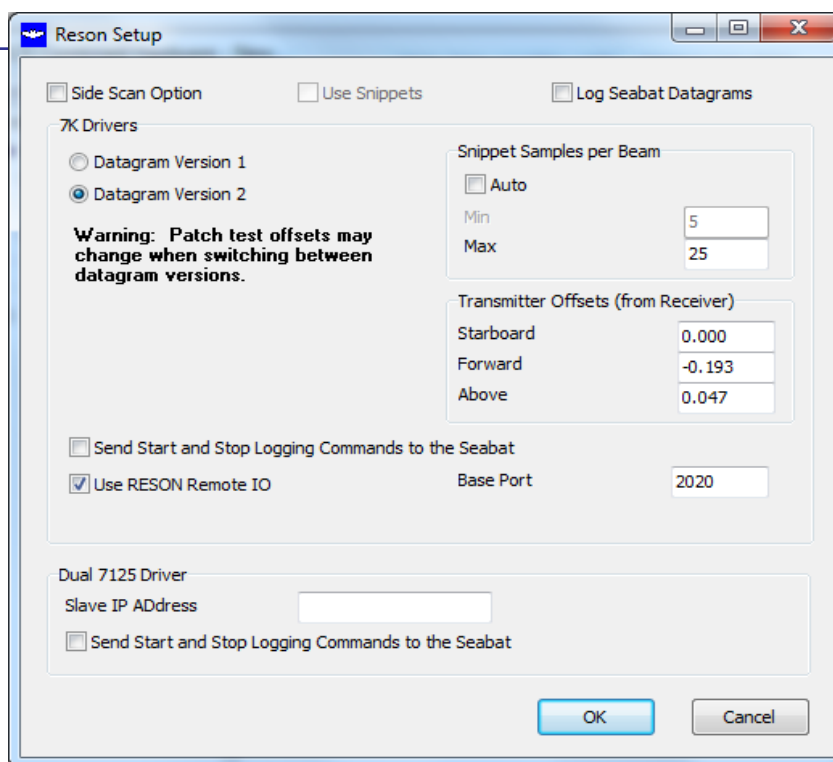


FIGURE 7. *Connection Settings*

The screenshot shows the 'Connection Settings' dialog box with the 'Connect' tab selected. The 'Enabled' checkbox is checked, 'Record Raw Messages' is unchecked, 'Ignore Checksum' is unchecked, and the 'Timeout Interval (Seconds)' is set to 15.0. The 'Network Connection' section is expanded, showing the 'Port' set to 7000 and the 'Internet Address' set to 10.0.10.100.

7. Enter all of your offsets.

Now you should be good to go! Timing is all taken care of in the IO Module, so HYPACK® is logging all of the time tags directly from RESON.

Important! To run the T20-P in HYPACK 2014 you must download the latest gps.dll and HYSWEEP® updates available from the HYPACK website or from the HYPACK Support Department.
