



HYSWEEP Driver Update: Reson Seabat 71xx Multibeam

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INTRODUCTION

Reson has added some useful features to its 71xx sonar systems. (7101, 7111, 7125 and 7150.) To use these features with HYPACK®, you will need a driver update. The update will be available in HYPACK® 2011.

Two features we'd like to bring to HYPACK® users are:

- Compressed snippets data.
- Raw detection data with beam uncertainty.

An additional change sends start and stop logging commands to the Seabat controller.

FIGURE 1. Driver Setup

7K Drivers

☐ Seabat MR 7.1 and Earlier

☒ Seabat MR 7.2 and Later

Snippet Samples Per Beam: 25

☐ Send Start and Stop Logging Commands to the Seabat

You need to tell the driver the Seabat software version. MR 7.2 supports compressed snippets and raw detection data.

With MR 7.2 you don't need to enter the number of snippet samples per beam. The number is automatically determined by the Seabat.

The check box is there if you want to control Seabat data logging.

COMPRESSED SNIPPETS DATA

People who work with snippets are used to huge quantities of data. Terra bytes! 1,000,000,000,000. One trillion. That's **really** a lot of data!

Part of that is necessary, as the resolution of snippet imagery requires a lot of sampling. But there can be waste. The previous snippets format required the same number of amplitude samples for each beam. So beams near nadir were over sampled to provide enough samples at the edge of the swath, where beam footprint is larger. Lots of unneeded samples were getting saved.

In the compressed format, the samples per beam is no longer fixed. It is determined automatically by the Seabat so as to provide 3 dB overlap between beams.

RAW DETECTION DATA WITH BEAM UNCERTAINTY

For a long time there's been talk of sonar systems reporting the uncertainty in their data. Reson has done it. The updated HYSWEEP® driver reads and logs the uncertainty of each beam to the raw (HSX) data files.

We hope to include Seabat uncertainty in our TPU calculations at some point. (For those unfamiliar with TPU, it is Total Propagated Uncertainty. An uncertainty value for each beam that takes into account uncertainty due to survey equipment and conditions at time of survey.) Currently, sonar uncertainty in TPU is based on equations that may not get updated as new systems come on line.

SEABAT LOGGING CONTROL

The Seabat controller is PC-based and capable of logging data in Reson format (S7K). Some HYPACK® users like to log to S7K in parallel with HYPACK® data logging. The logging commands make that easy.

BETA TESTING

If you are interested in doing some testing, I can send out a version that works with HYPACK® 2010. Let me know (Mike@hypack.com).