HYPACK
a xylem brand

Sounding Better!

The Shape of Things to Come

By Dave Maddock

The team is back in the office after another HYPACK Training Event. It was great to reconnect with long-time HYPACK® users, as well as to see many new faces. I always get a lot of great feedback that helps to drive our development priorities and improve the software package in the next release cycle.

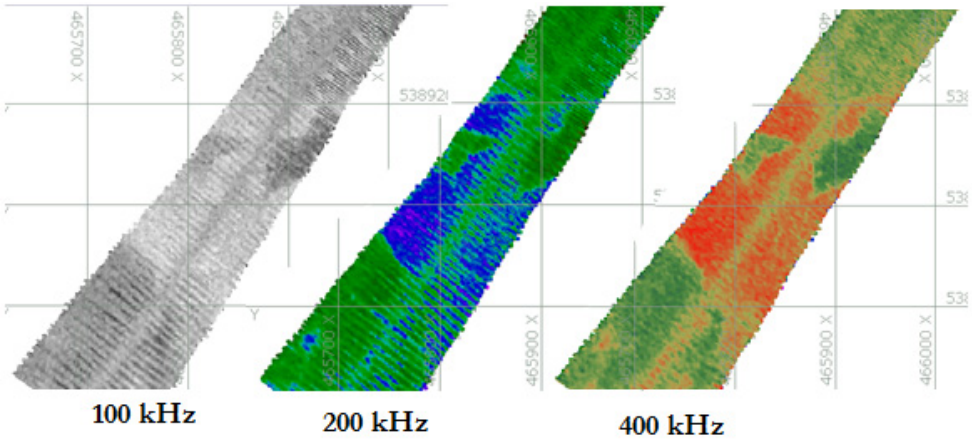
Thanks, in particular, to everyone who stuck it out until the last session of the last day. In that closing presentation, I spent a few minutes outlining some of the new features we are considering for HYPACK® 2019. For those of you who couldn't make it, I want to take this opportunity to mention a few of the highlights from that talk and invite the *Sounding Better!* audience to write back with your own wish lists for HYPACK® 2019.

Improved Multibeam Backscatter Support

Several items on the to-do list involve multibeam backscatter, and this is likely to be one of the first initiatives. HYPACK® has been able to acquire and process backscatter from almost any system that provides such data to us, but there are a few edge cases which we will tackle this year:

- Support new "normalized" backscatter datagrams
- Improved processing for backscatter from dual-head systems
- Support multi-spectral backscatter systems

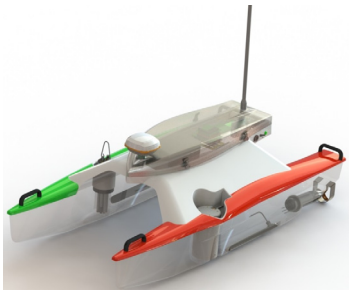
FIGURE 1. *Sample Multispectral Backscatter Data*



This third item bears further explanation. Systems like the R2Sonic 2026 now offer a multispectral mode which allows the MBES to frequency hop between pings, enabling you to collect data from three distinct frequencies in a single pass. The HYPACK® data converter can bring this data in, but we'll improve the collection and processing tools this year. By

assigning each frequency to one of the red, green, or blue color bands, a composite mosaic can be generated which visualizes all frequencies simultaneously.

Autonomy Tools



We want to continue to extend our support for autonomy in HYPACK® 2019. This means more advanced mission planning features like approach lines, custom start gates, and automatic line generation. Also, be on the look out for the launch of the Xylem HyCat ASV later this year.

One of the many use cases for the NEXUS 800 aerial mapping product is stockpile survey. To better support this application, we want to extend TIN MODEL to include a volume function and workflow specifically designed for this purpose.

This effort will also allow us to embed the contouring and TIN engine directly into all our editors—generate contours and other DTM final products without leaving your editing session.

More Intuitive Hardware Program

HYPACK® HARDWARE has its quirks. How about a drag-and-drop interface with a 3D boat display for entering and interrogating sensor offsets? Sounds good to us too!

Other Often Requested Items

Our project management software is crammed with great ideas submitted to us by the community. Sometimes, there are a few “under-the-hood” items that are consistently requested but, for whatever reason, might be difficult for us to do. Many of you will be happy to know that we’re tackling some of these items this year! These include:

- Eliminating the 1440 beams per ping limit in HYSWEEP®.
  - Dual-head systems and other high-definition sonars are blowing past this limit.
- Adding an option to work with geodetic position in SURVEY instead of survey grid XY.
  - Useful for large projects like pipeline surveys
- Millimeter logging in HYSWEEP® & MBMAX64 for LiDAR data.
  - You all are masochists, but we heard you! Now, you better collect this data from a stable platform or that third digit will be an expensive random number generator…

Does the above scratch your itch? If not, write in and let us know how we can make the software better.

Email help@hypack.com – for technical support, or

dave@hypack.com – for me directly.