New Methods for Multi-head Systems in HYSWEEP®

By David Maddock

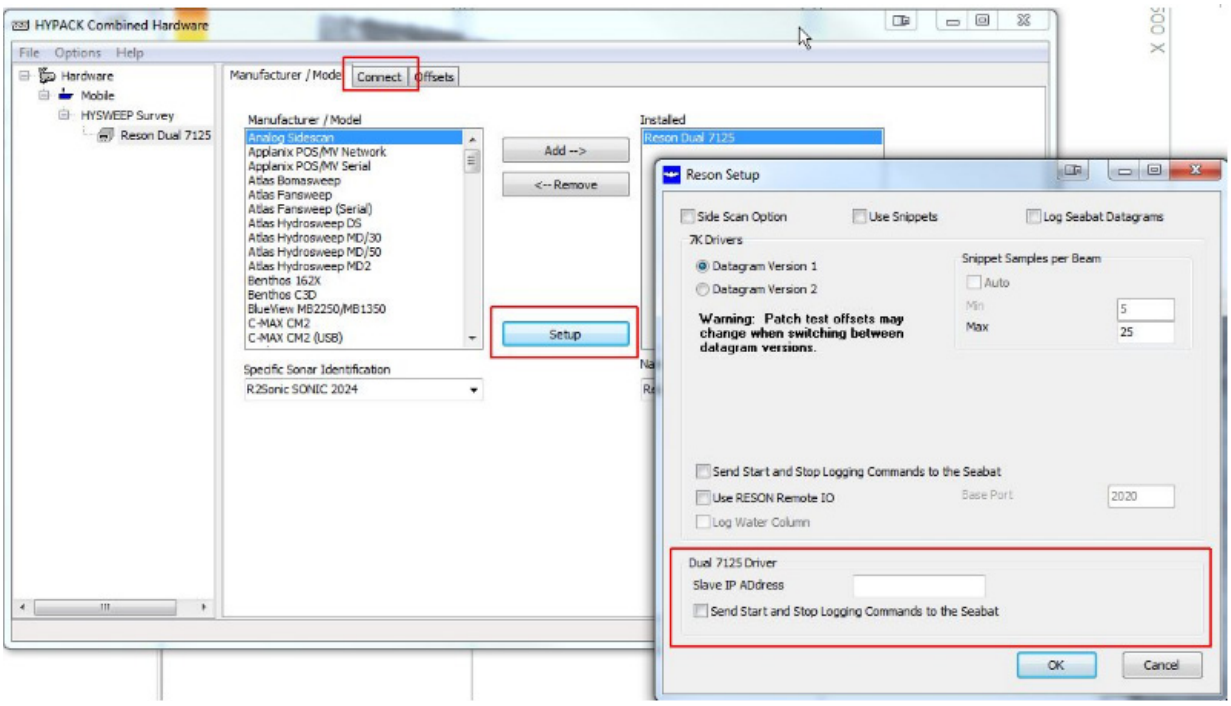
HYSWEEP® has included dual-head drivers for many sonars over the years including models from Reson, R2Sonic, Simrad, Odom ES3, and others. However, these setups usually require a custom driver that polls each head independently and merges their pings together during acquisition. It was not possible to add two instances of a single-head driver to your HARDWARE configuration.

In HYPACK® 2012, we took a first step toward allowing multiple sonar drivers by allowing one multibeam driver and one laser driver per configuration. Currently in development is the capability to install multiple sonars to a single configuration.

SETTING UP EXISTING DUAL-HEAD DRIVERS

To review existing practice, a dual-head installation in HYSWEEP® uses a special driver for the purpose. Figure 1 uses a dual-head Reson 7125 as an example. The connection details for the primary head are entered on the Connect tab as usual, but connection details for the second head are typically entered on the driver setup form.

FIGURE 1. *Reson 7125 Dual Head Setup*

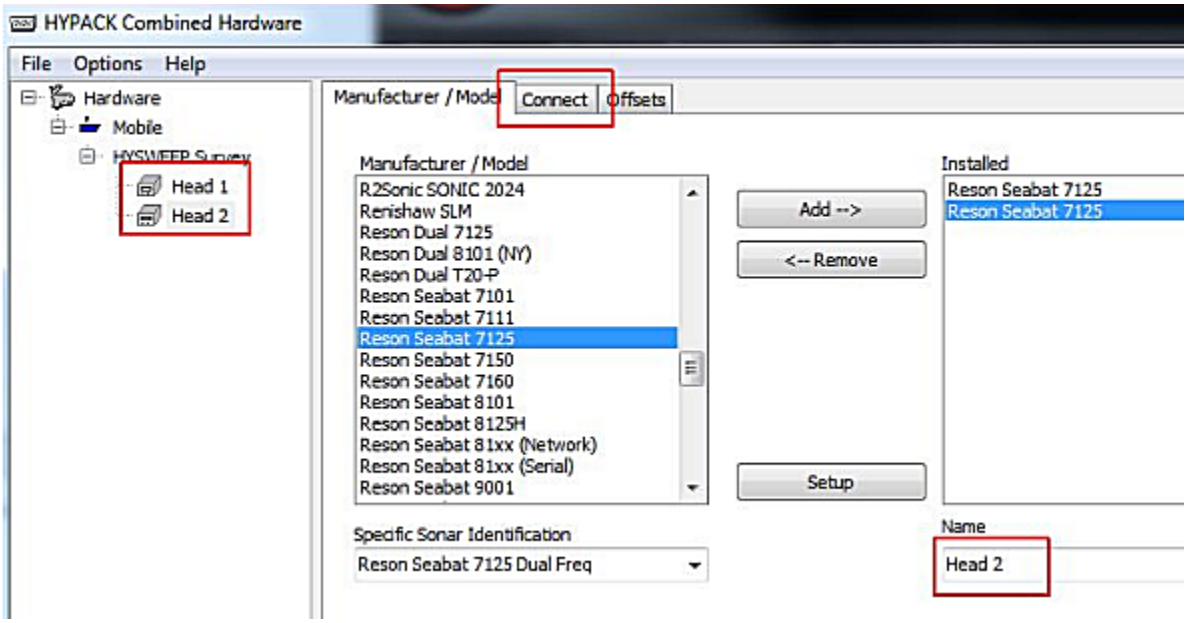


These drivers won't disappear in HYPACK® 2015, but future support for multiple-head installations will focus on the new method, detailed in the following sections.

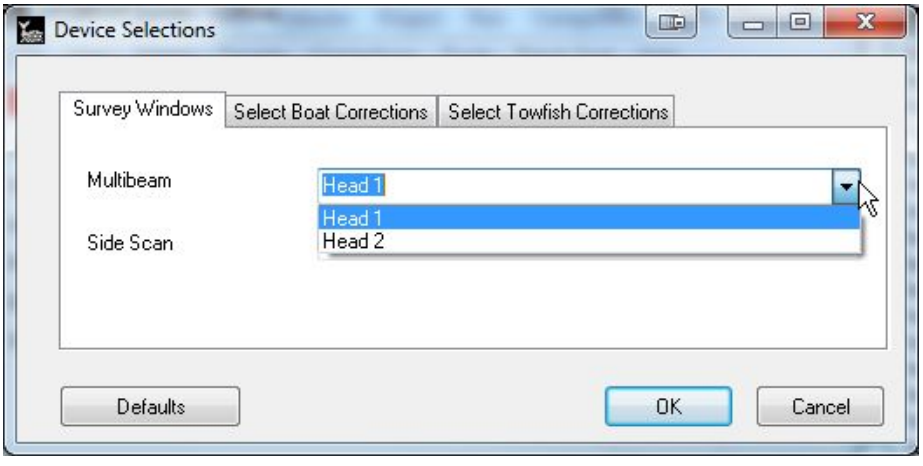
SETTING UP MULTIPLE SINGLE-HEAD DRIVERS

The new method for these installations allows you to add more than one instance of the single-head driver. In Figure 2, I've added two Reson 7125 drivers to the HARDWARE configuration, one for each head. In this case, the connection information for *both* heads is entered on the Connect tab forms. For clarity, enter a custom name for each instance so you can tell which is which. Here I've simply called them Head 1 and Head 2.

FIGURE 2. *Configuring Two Instances of the Reson 7125 Driver*



DISPLAY DURING ACQUISITION



As you know, existing dual drivers merge the two heads into a single record. As such, data from both heads is displayed as a single unit in all HYSWEEP® displays. With the new methodology, you select which device you want to be shown in the primary and secondary displays using the VIEW->DEVICE SELECTIONS... menu.

PROCESSING

The changes in the processing chain are minimal. Currently each head is loaded separately—just like the configurations that feature simultaneous sonar and laser data. Load the same HSX file twice, selecting Head 1 first, then Head 2. If you immediately save each head into separate HS2 files, then you can reload both heads into a single MBMAX64 (64-bit HYSWEEP® EDITOR) editing session.