



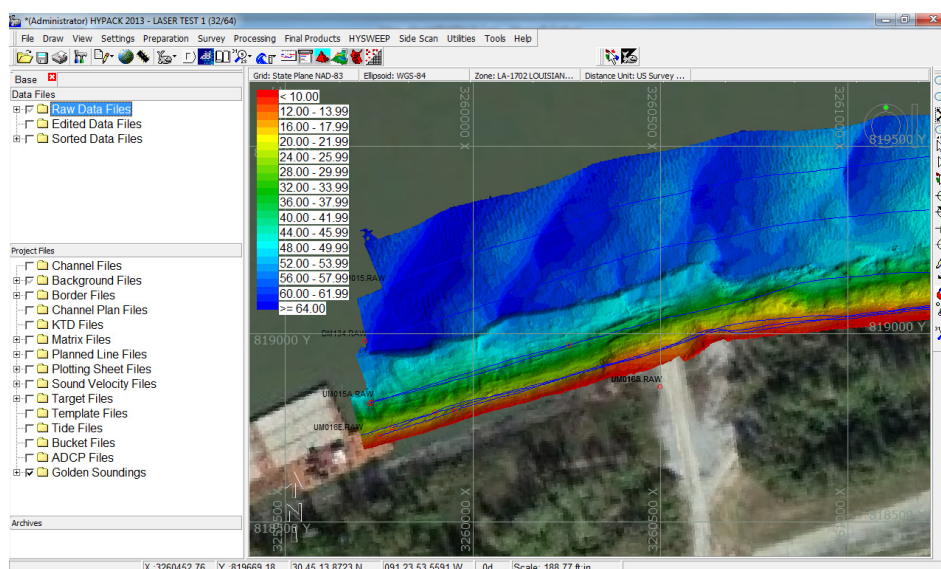
Adjusting a Broken HSX File: The Reverse Head Option

By Harold Orlinsky

When collecting data in HYSWEEP®, the data being stored in the HSX file is based upon all the settings from the sonar. Right or wrong, good or bad, data will be stored in the HSX file. For nearly all of us, the data works fine in the HYSWEEP® EDITOR (MBMAX). But what if the data being sent from the sonar has an incorrect setting for the sonar orientation? The data would be a mirror image of the seafloor. In the past year, I've come across a situation in which the client inadvertently selected the reverse mount option on the sonar. There is no indication in the file that the data is reversed, except when compared to another line, or feature that is in the correct position.

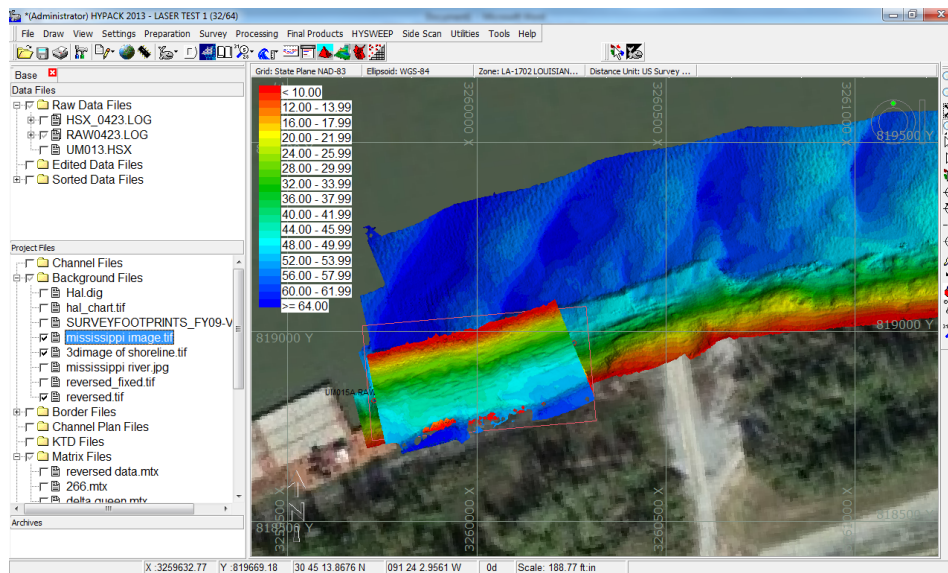
To help in these situations, a new option was added in the HSX CONVERTER program to undo this error.

FIGURE 1. A Survey in the Mississippi River, Along the Bank in Louisiana



As a test, I collected a single line of data, with the sonar set incorrectly—it was a forward mount installation, but in their software they selected the reverse mount setting. The data can be seen overlaid with the normal survey data, having the shallow end out in the channel.

FIGURE 2. Data Logged with the Mount Setting Reversed Overlaid on Correct Data



The file is run through the converter program, using the HSX Utility **Reverse Data** option.

FIGURE 3. Selecting the Reverse Data Option in the SIDE SCAN CONVERTER

The output HSX file will be created in the same directory, with the name appended with _NEW.

Processing the data again, swaps the port and starboard bathymetry, handles the motion correctly, and adjusts the intensity and side scan data based on the swapped bathymetry.

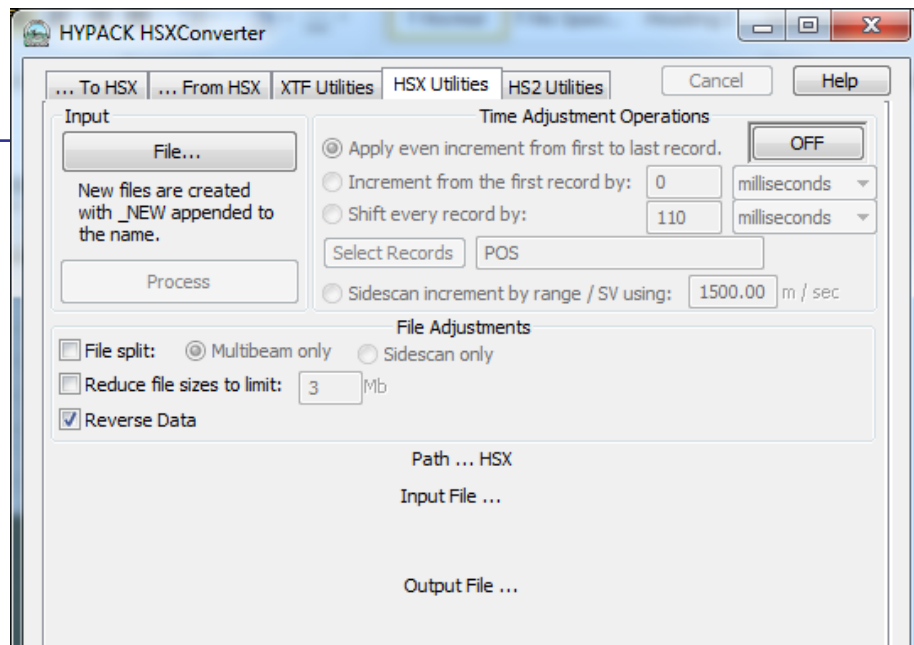
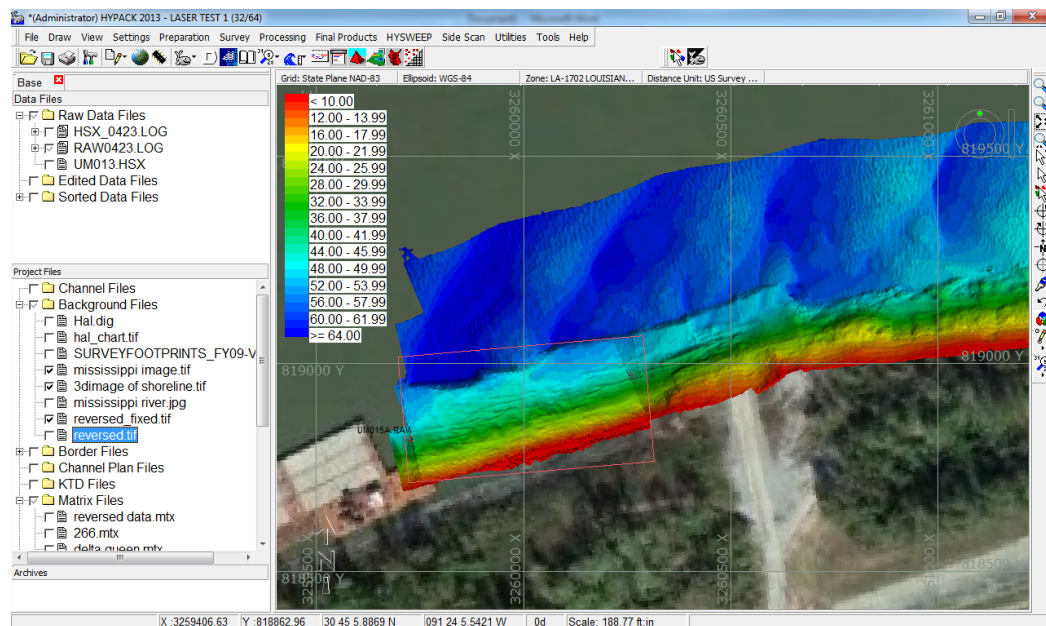


FIGURE 4. The Same Data Comparison After Correction in the HSX CONVERTER



So a correction to a data set can be done in HYSWEEP®.

Still, two questions remain:

- Why is the reverse mount so easily accessible to the sonar operator?
- Why are folks collecting line after line of bad data, without seeing features reversed?

With that, I keep updating the converter to handle miscues by non-HYPACK® software operation.