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MULTIBEAM AUTOPROCESSING Examples

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MULTIBEAM AUTOPROCESSING is now available for data cleaning *while a survey is in progress*. A field product is available immediately after surveying. This is useful to any organization that values fast data turnaround. Dredging operations for example. Dredgers have been asking for this and hopefully we've hit the right spot.

Auto processing is done by the MBMAX64 editor so anyone who processes multibeam in HYPACK® will be familiar. During survey, MBMAX64 in auto mode loads files, does the calculations, applies the filters then saves to HS2x. Afterward the surveyor can step in and save a gridded XYZ or whatever is required.

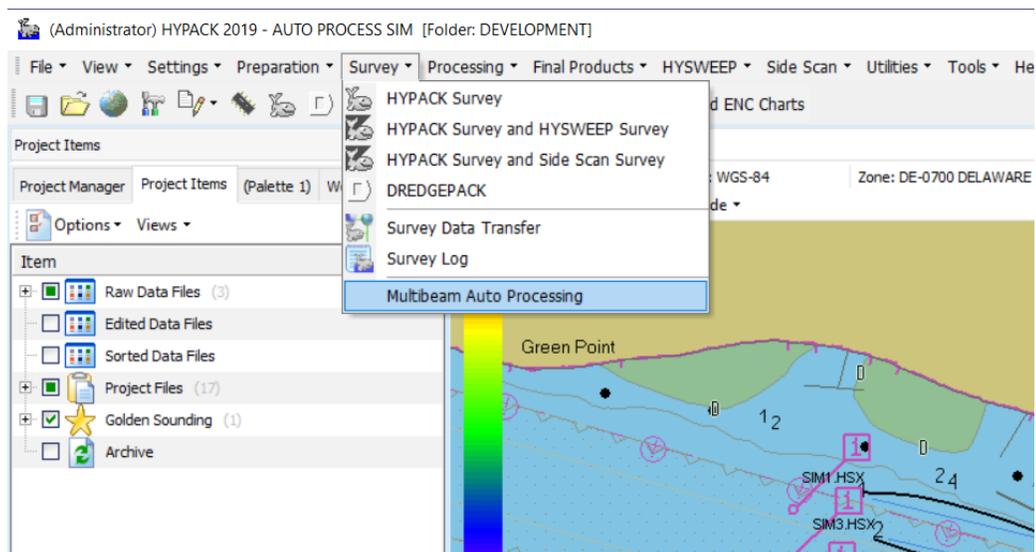
If a field product isn't needed the processed HS2x files are still useful. Preliminary filtering by the survey team might take advantage of knowledge not available in the office. And HS2x files typically load faster than raw HSX files.

Here's a sample survey run in various auto process modes and the resultant data files. The examples should provide a feel for what we've done, and help you decide if it's for you.

STARTING UP

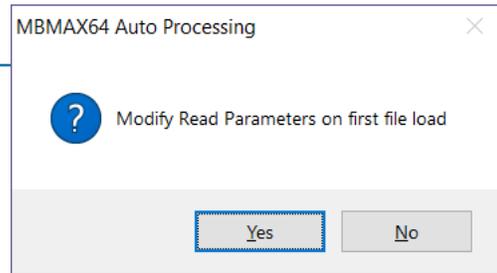
Start MULTIBEAM AUTOPROCESSING in the HYPACK® Shell (figure 1) *before starting Survey*.

FIGURE 1. Starting MULTIBEAM AUTOPROCESSING in the HYPACK shell



Auto process asks a couple of questions at start up. The first (figure 2) is whether to modify read parameters and filters when loading the first file. You should answer Yes while you're getting a feel for how the process works. When it's realized that nothing needs changing, the No answer will provide full hands-off operation.

FIGURE 2. Auto process question 1. Answer Yes if you're unsure. Answer No if nothing needs changing.



The second question (figure 3) should help avoid trouble. Auto process can work on one file (survey line) at a time or load the entire survey together. For surveys of a hundred million of soundings, please process one file at a time. For small surveys there is no problem loading all files together.

FIGURE 3. Auto process question 2. When in doubt load one file at a time. It's OK and convenient to load all files together, if your computer can handle it.

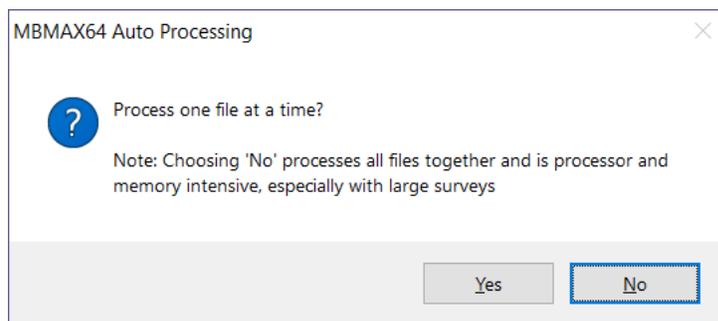
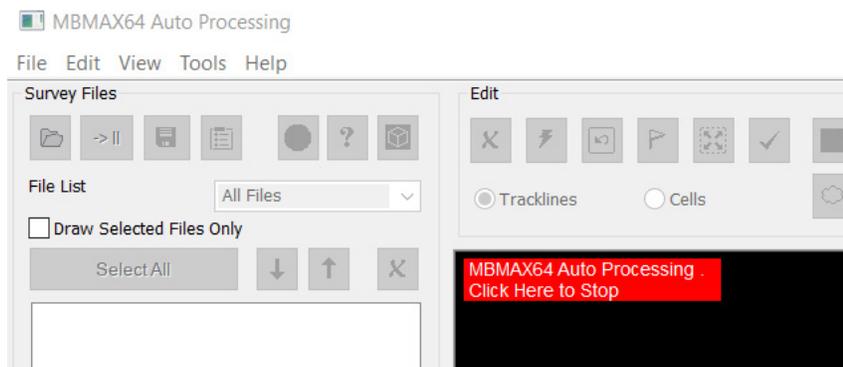


Figure 4 shows MULTIBEAM AUTOPROCESSING is started and actively waiting for files.

FIGURE 4. Auto process in Run Mode.



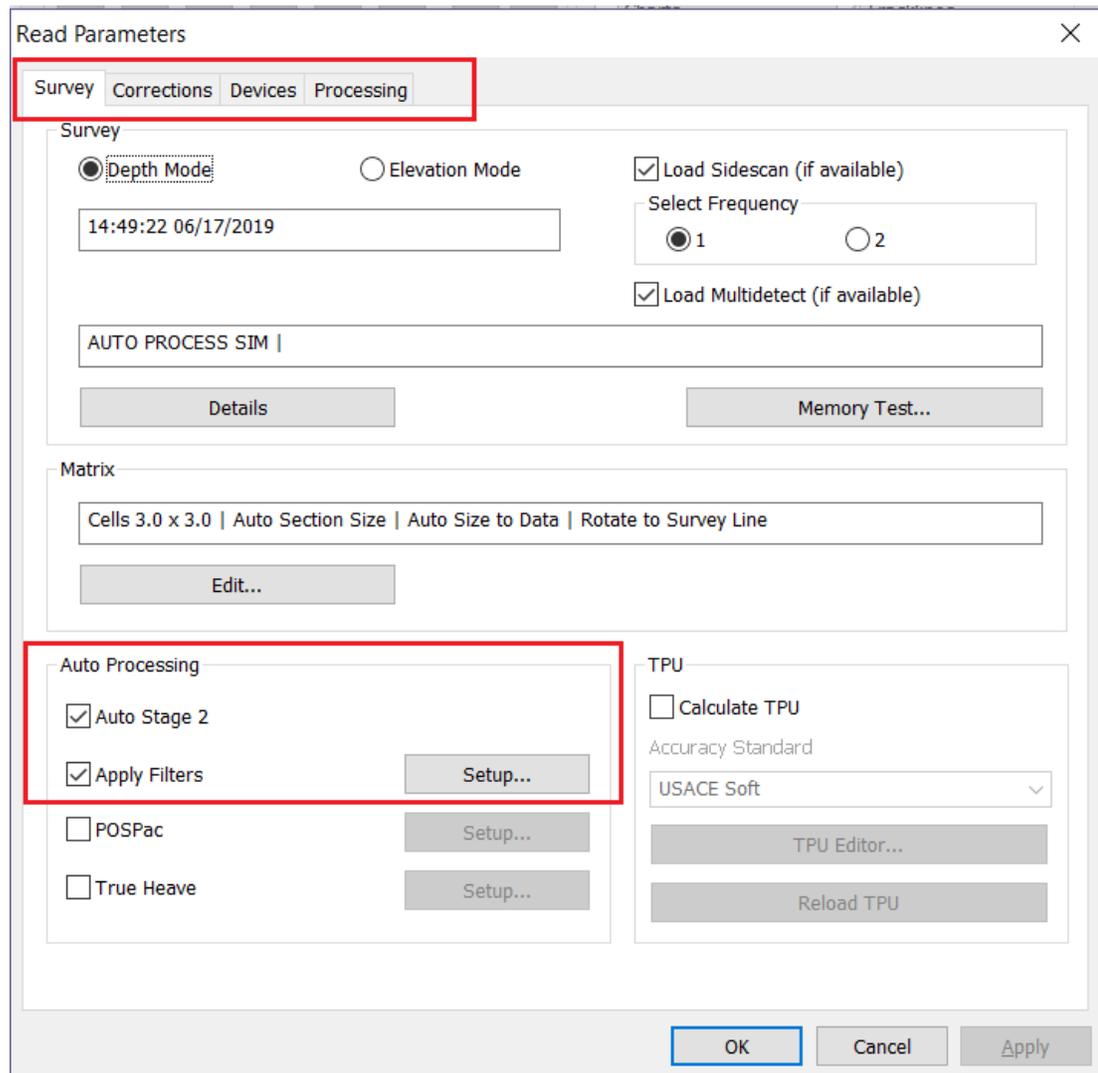
EXAMPLE – MODIFYING READ PARAMETERS

MULTIBEAM AUTOPROCESSING continuously checks for new survey files. A new file is created whenever a survey line is ended. So it can be a little distracting to see MBMAX64 Read Parameters pop up at the first line end, seemingly out of nowhere. It's just something to get used to.

The Read Parameters are shown in figure 5. Tabs across the top and the auto processing filters are the points of interest. There is a lot to enter and review but, as long as the boat hardware and filtering stays the same, nothing needs to be changed. That's why the Read

Parameters can be bypassed once a comfort level is reached with what's left over from last time.

FIGURE 5. MBMAX64 Read Parameters may be used to change boat hardware and filtering configurations. Bypass Read Parameters when nothing needs changing.



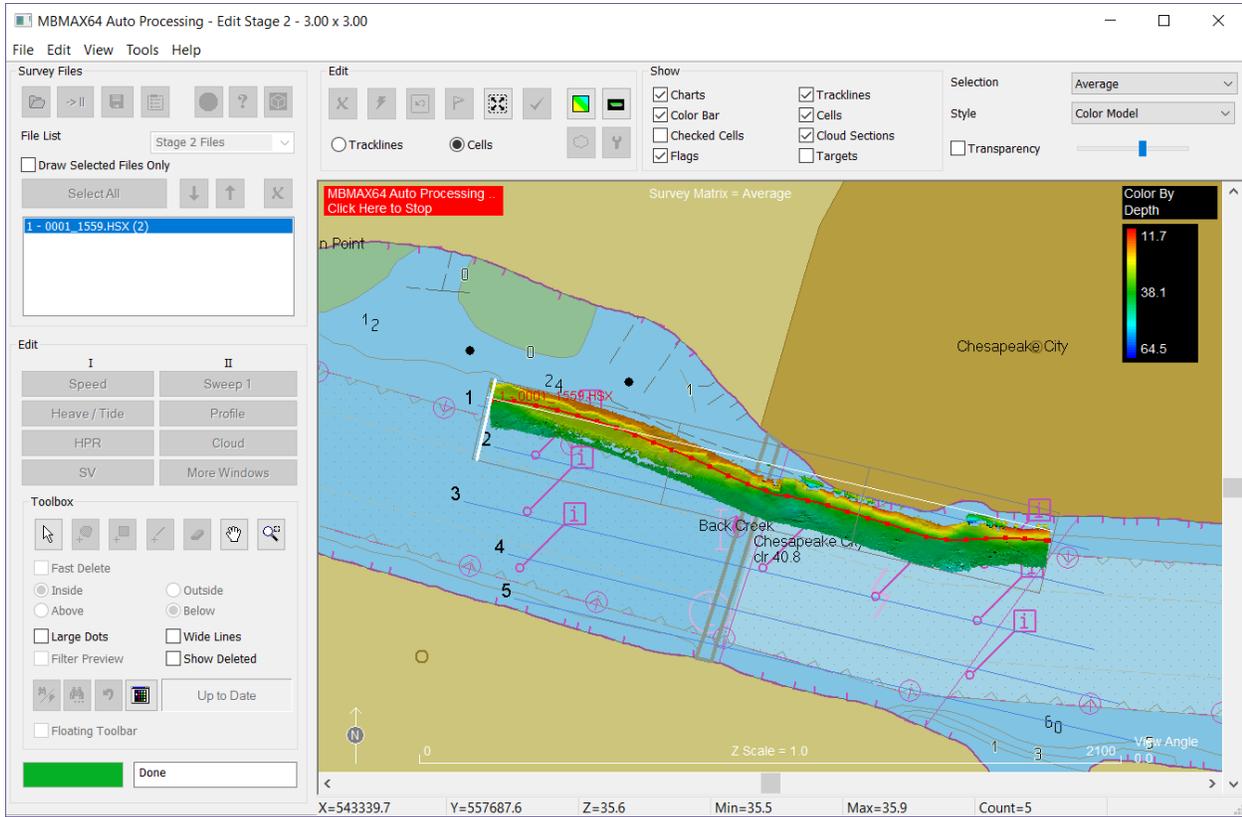
EXAMPLE – PROCESSING ONE FILE AT A TIME

Figure 6 shows what's expected in MULTIBEAM AUTOPROCESSING when loading one file at a time. That is, only the most recent file is loaded, filtered and saved.

Getting a field product from this is mostly trivial: First, click the red box to turn off auto processing. Then load the auto processed files (HS2x_AUTO.LOG in the project \Edit folder) and save to XYZ or whatever format is suitable. The auto processed HS2x files should load much faster than raw HSX data—about 10x faster in this example.

If a field product isn't needed the processed HS2x files are available for fast loading office work later on.

FIGURE 6. MULTIBEAM AUTOPROCESSING in 'Load One File at a Time' mode.

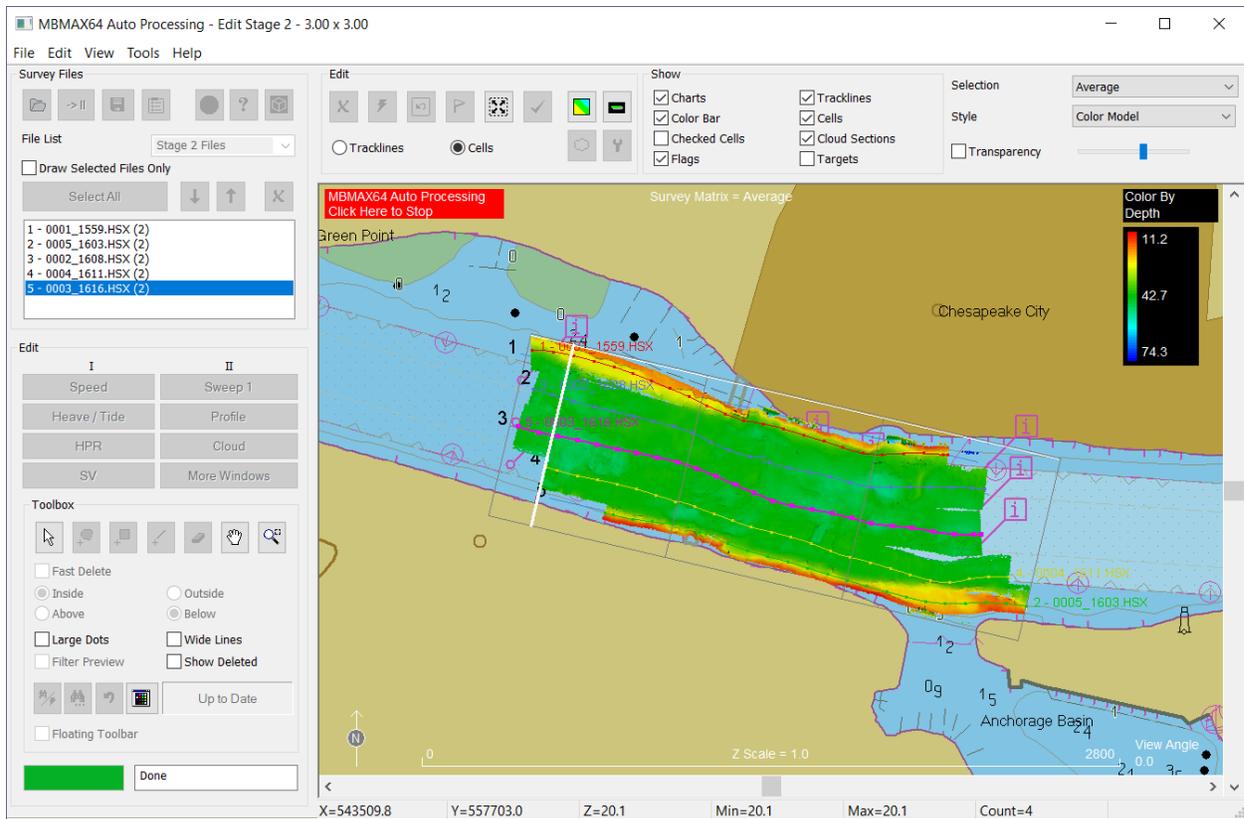


EXAMPLE – PROCESSING ALL FILES TOGETHER

Figure 7 is the auto processing result when all files are loaded together. Survey lines pop up on the MBMAX64 display as loaded. When the entire survey is complete, click the red box to turn auto process off then save the desired field product.

As with all auto process examples, the processed HS2x files are available for further work.

FIGURE 7. MULTIBEAM AUTOPROCESSING in 'Load All Files' mode.



EXAMPLE – AUTO PROCESS ON A REMOTE COMPUTER, METHOD 1

The results are the same but survey and processing are split between computers. The obvious advantage is reducing the load on the individual computers.

Survey is run in the typical mode on the data collection computer. That is, data is collected on and logged to the same computer.

Auto processing uses the same project but accessed over a network. One way to do this is to select the Network project group in the HYPACK Shell, then set its location using the right-click menu (figures 8 and 9). It's easy when there is network access to the survey computer. The trick might be getting access in the first place!

After setup, start MULTIBEAM AUTOPROCESSING on the remote computer then start Survey on the data collection computer.

FIGURE 8. Select the Network group then right-click to set the project location.

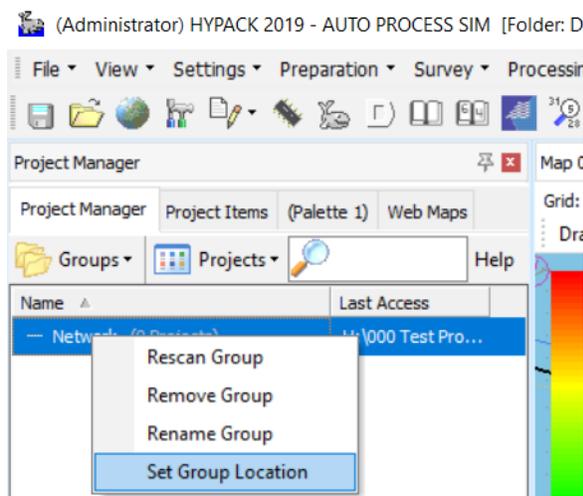
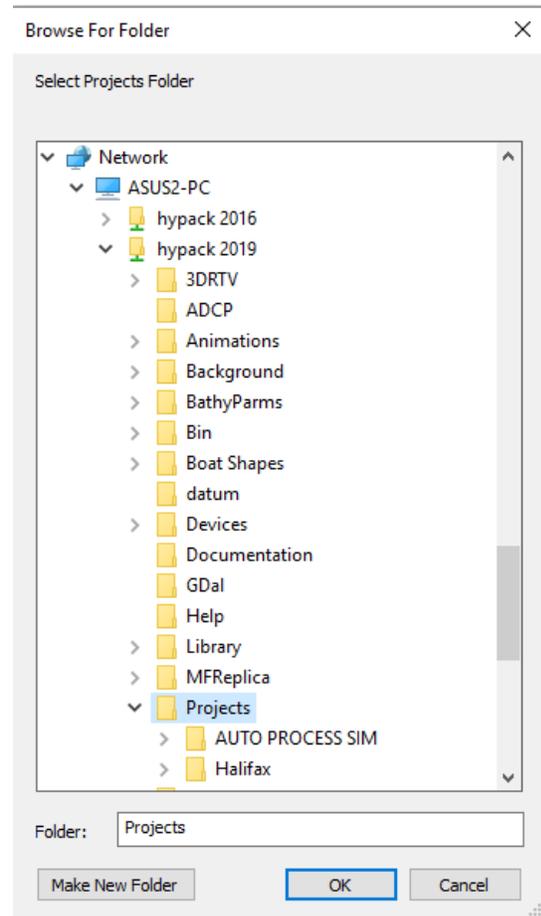


FIGURE 9. Browse window for network project location.



EXAMPLE – AUTO PROCESS ON A REMOTE COMPUTER, METHOD 2

You get the same results as Method 1, but this time HYPACK *.RAW and *.HSX files are transferred from one computer to another at each end of line. There's no need to share a project across the network as with remote method 1.

Set up the file transfer on the survey computer: In the HYPACK Shell menu, select SURVEY-SURVEY DATA TRANSFER and select the remote computer project\Raw folder (figure 10).

As always start MULTIBEAM AUTOPROCESSING first and Survey second.

FIGURE 10. Selections for Survey Data Transfer. Copies RAW and HSX files from Survey to Auto Processing computer at end of line.

