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DATA SPLITTER/JOINER: A Feature Overview

by Connor MacDonald

The DATA SPLITTER/JOINER is a graphical cut and paste tool that saves selected sections of HSX and RAW files in their respective formats. It makes sure to include the proper header information of the files and merges files with overlap or a small gap.

RUNNING THE PROGRAM

The utility can be found in the menu bar of the main HYPACK® window: UTILITIES >FILE WORK >DATA SPLITTER-JOINER (Figure 1).

FIGURE 1. *Menu Option*

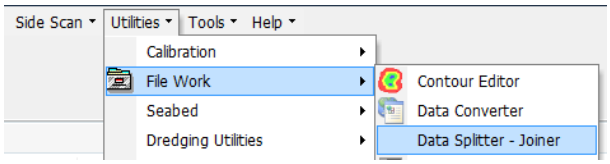
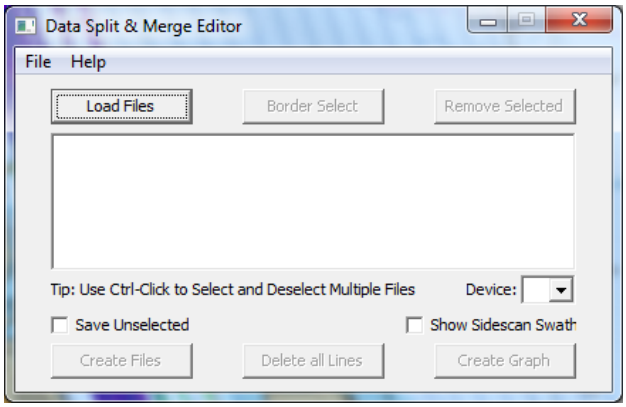


FIGURE 2. *Data Splitter-Joiner Interface*



The only button enabled once the program is loaded is the “Load Files” button (Figure 2). This button opens a dialog where one of three file types can be selected: HSX, RAW, or LOG (Figure 3).

FIGURE 3. *Loading your Data*

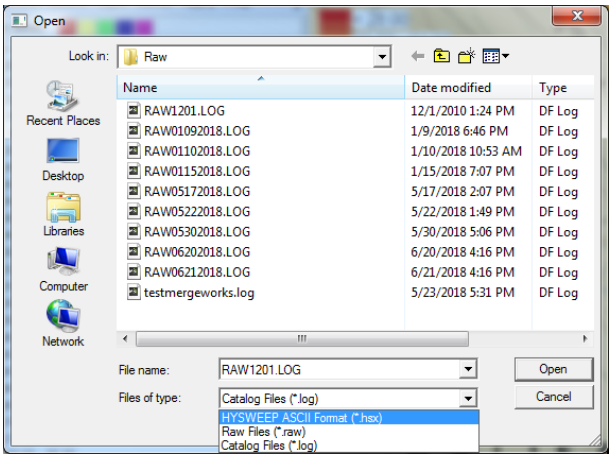
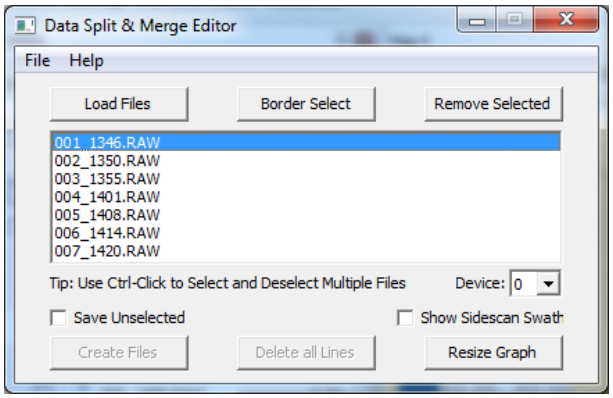


FIGURE 4. *File List in the Editor*



The Halifax project included with HYPACK® is used in this example, and the RAW1201.LOG file is selected. This loads each of the RAW files listed in the LOG file and displays their names in the middle of the DATA SPLITTER/JOINER display (Figure 4). The editor only allows one type of file to be loaded at a time. To work with files of a different type, all files must be removed from the file list first.

To clear your file list, click the first file in the list, then hold the Shift key and click the last file in the list, then click [Remove Selected].

When files have been loaded, two new windows appear on the screen: Display (Figure 5) and Tool tips (Figure 6):

FIGURE 5. *Display Window*

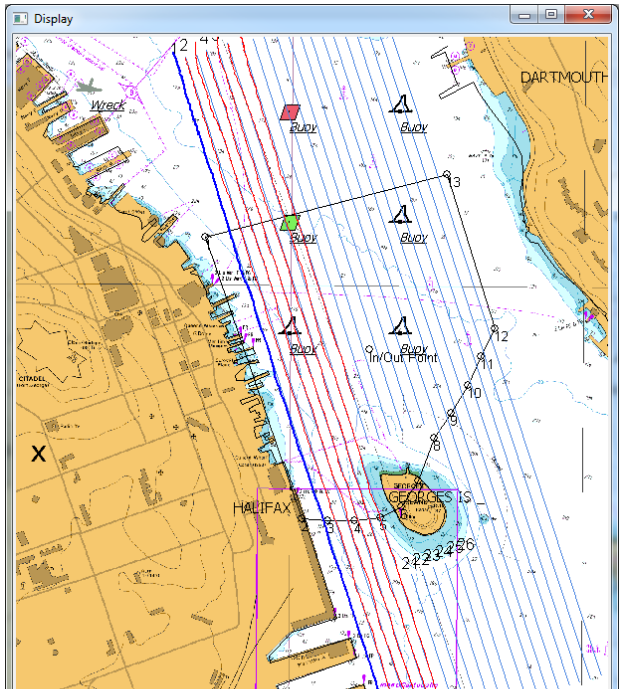
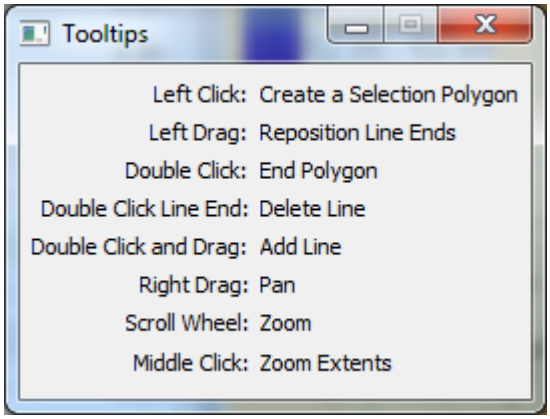
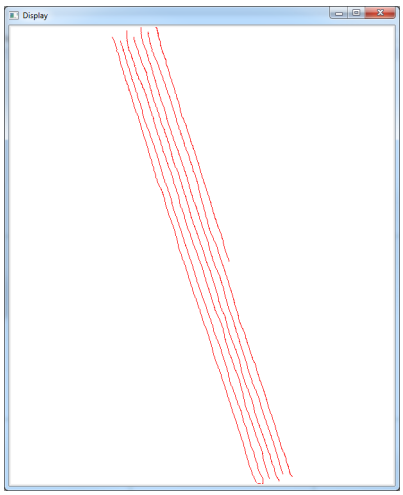


FIGURE 6. *Tool Tips Window*



The Display window loads the project files (charts, matrices, planned lines, borders, etc.) currently drawn in the main HYPACK® window. To make the function of the DATA SPLITTER/JOINER clearer in the following illustrations, all Project Items were disabled before opening the DATA SPLITTER/JOINER. When RAW1201.LOG is loaded, the Display window shows the position data of the RAW files (Figure 7).

FIGURE 7. *Display Window—Raw Positions*



CLIPPING DATA TO MANUALLY DEFINED AREAS

The Display is interactive and is used to select parts of the loaded files to keep.

1. **Define the area where you want to keep your data.** Click once on the Display to create the first point of a selection polygon. Each successive click adds another point. The last point created is signified with a circle around it (Figure 8). The short dashed line represents the current shape of the polygon if there are no more points added. Long dashed lines represent the shape of the polygon if a point was added at the cursor location. Solid lines represent the lines between the points of the polygon created thus far.

FIGURE 8. *Circle End Point with Dotted Line to Cursor Position on the Line*

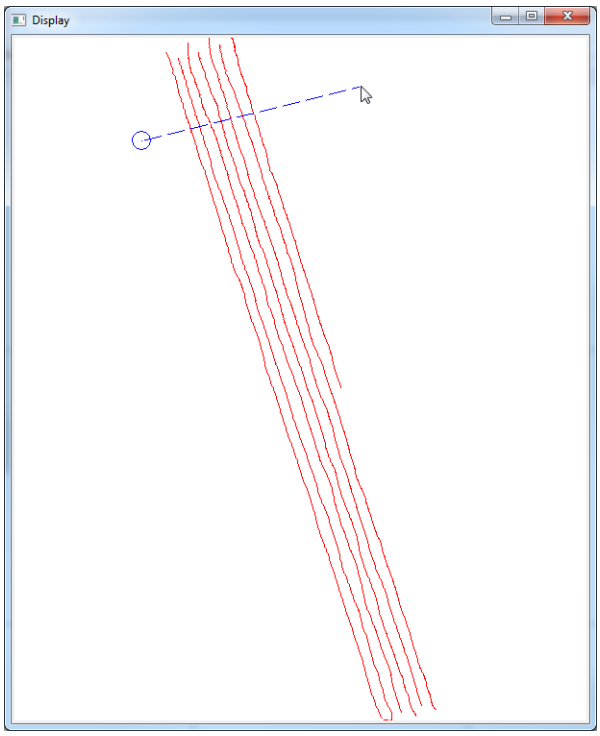
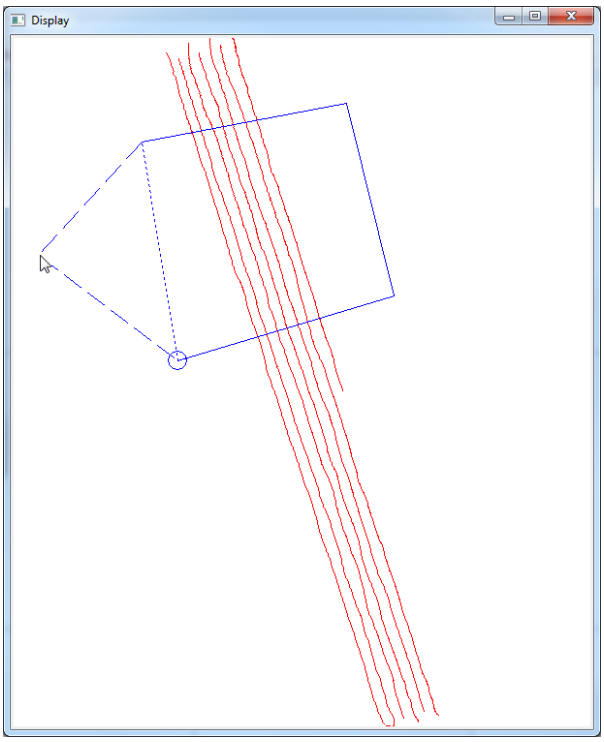
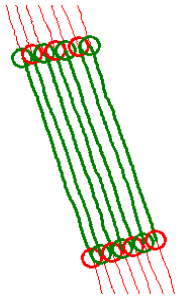


FIGURE 9. *Circle End Point with Dotted Line to Cursor Position on the Area Border*



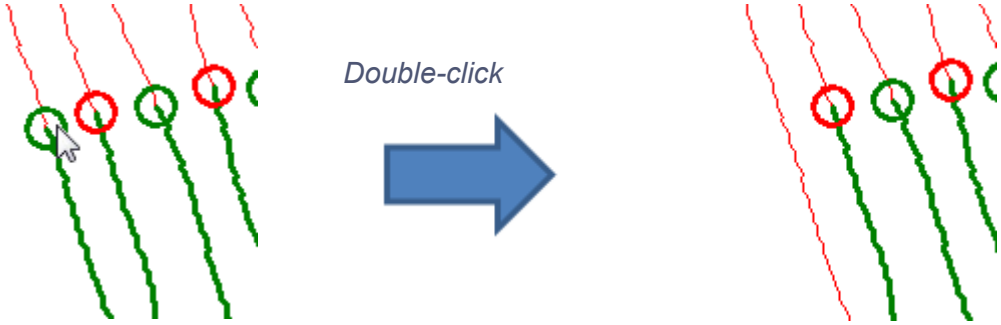
2. Once the solid lines and short dashed line encompass the selection desired, **double-click to select them** (Figure 9). The resulting selection is green lines with green circles signifying the start of the line and red circles signifying the end of the line (Figure 10).

FIGURE 10. *Green Lines with Green Circles Signify the Start of the Line. Red Circles Signify the End of the Line.*



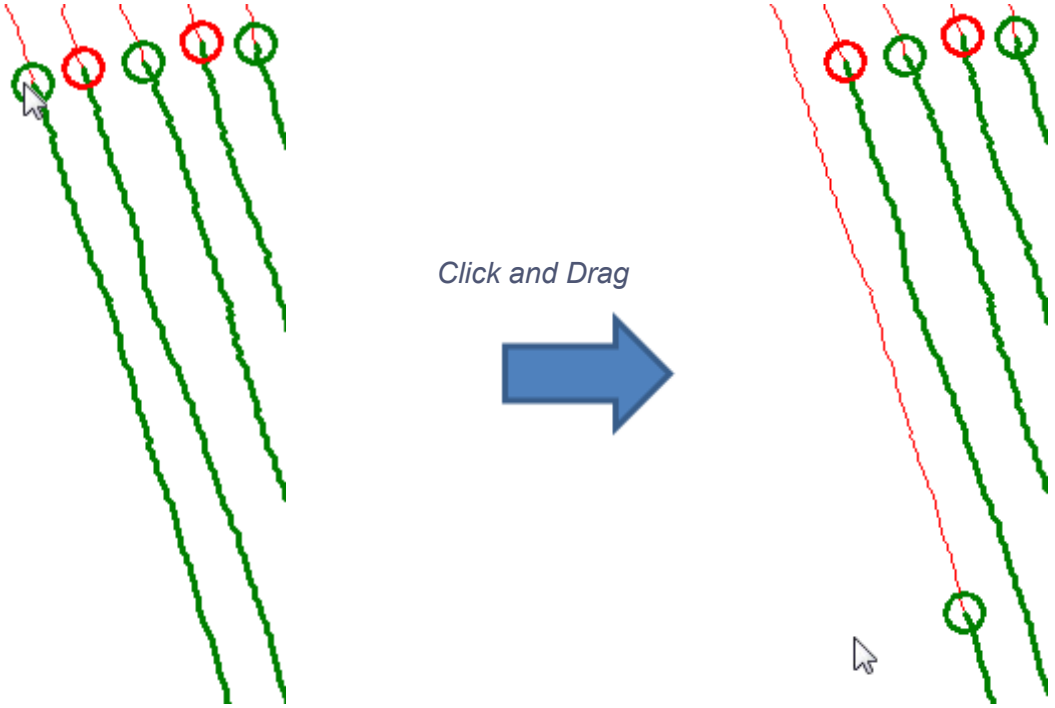
To delete a line, double-click on a circle at the beginning or end of the line (Figure 11).

FIGURE 11. Deleting a Line using a Double-click—Before (left) and After (right)



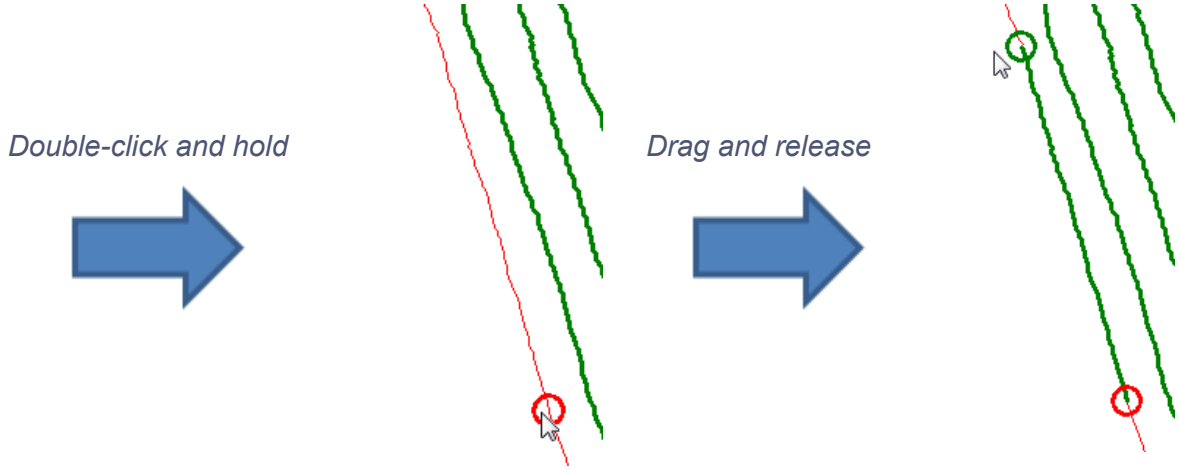
To move the line selections around, click and hold in a circle at either end of the line and drag it around the screen. Just release the mouse button to change where the line begins or ends. The circle will snap to whatever point in the loaded files is closest to the mouse cursor. (Figure 12)

FIGURE 12. Click and Drag—Before (left) and After (right)



To add a single line, double-click and hold the mouse button down near a point in the track line and drag to determine the end of the new line (Figure 13). As with changing a line end, the circle will snap to the point closest to the mouse when performing the first double-click and again where you release the drag.

FIGURE 13. *Adding a Line*



Other Notes

- **If the beginning and end of a line are the same** point, the line is deleted.
- In the Halifax example, the lines are very neatly arranged. In other cases, they may not be. Lines can be created over multiple files and, in such a case, the line goes to the end of the first file, finds the beginning of the next file in time, and repeats until the end point is found.
- **To pan the Display** as in the main HYPACK® window, use the right mouse button (Figure 14).
- **To highlight a file in the Display window** (blue), click a file in the file list (Figure 15). Use Ctrl-click to deselect a file.
- **To zoom to the selected files**, click the “Resize Graph” button. If none are selected, it zooms to the extent of all loaded files.
- **To reopen the Display**, click [Create Graph].
- **The “Delete All Lines” button** removes all created lines on the Display.

FIGURE 14.

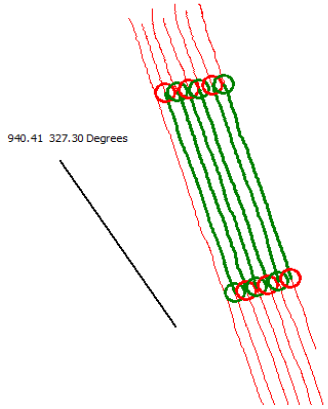
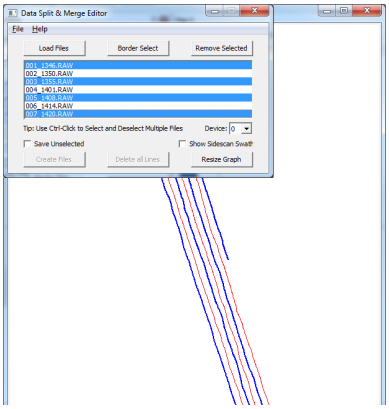


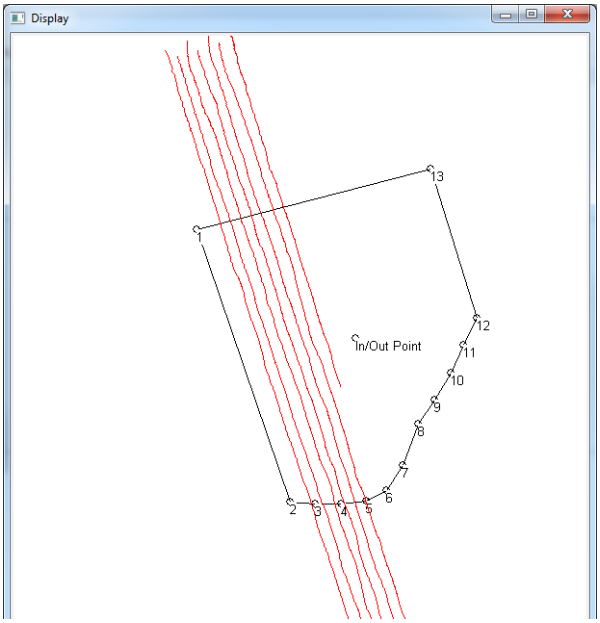
FIGURE 15. *Selected Files Displayed in Blue*



CLIPPING TO A BORDER FILE

The DATA SPLITTER/JOINER allows the use of border files as selection polygons as well. The tool has been opened with the Hal.brd file enabled in the project for clarification (Figure 16).

FIGURE 16. *Track Lines and Border File*



1. **From the main DATA SPLITTER/JOINER window, click [Choose Border] and select your border**. A dialog opens from which a you can select border file (.BRD) (Figure 17). In this case, “Hal.brd” will be chosen.

   Any segments of the files inside of the border file have been selected as lines (Figure 18).

Clipping to a Border File

FIGURE 17. *Choosing the BRD File*

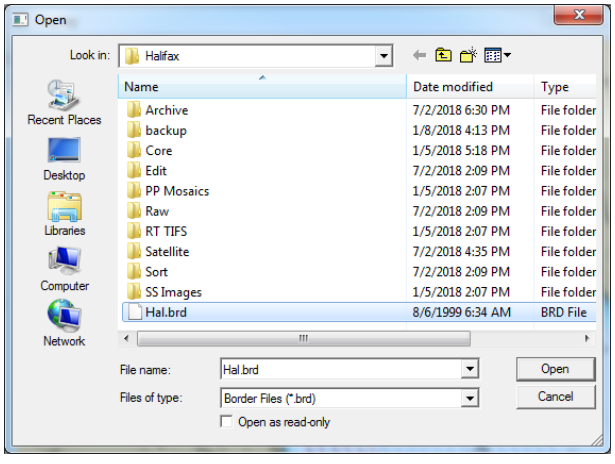
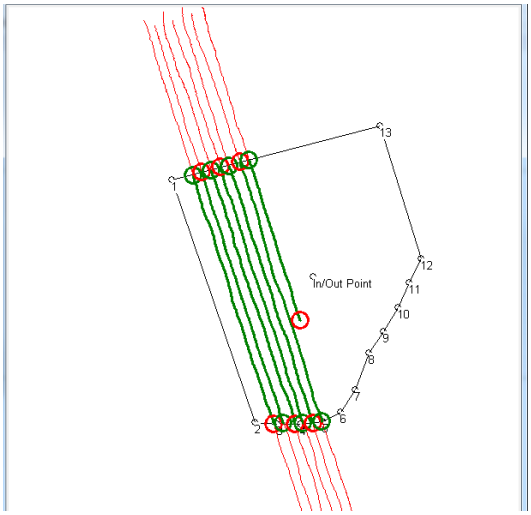


FIGURE 18. *Results of Clipping to a BRD*



2. **Save the selection to a LOG file.** Click [Create Files] and name the catalog. Each line is saved as a file named as such: "*logname_linenumber(_filenumber).extension"*. The file number is only used if a line spans more than one file and the files were not close enough in time or position to combine.
3. **Save the unselected data**. (Optional) By checking the "Save Unselected" checkbox, the editor saves everything that is not contained inside of the created lines when you click [Create Files] (Figures 19, 20).

FIGURE 19. *Saving the Unselected Data*

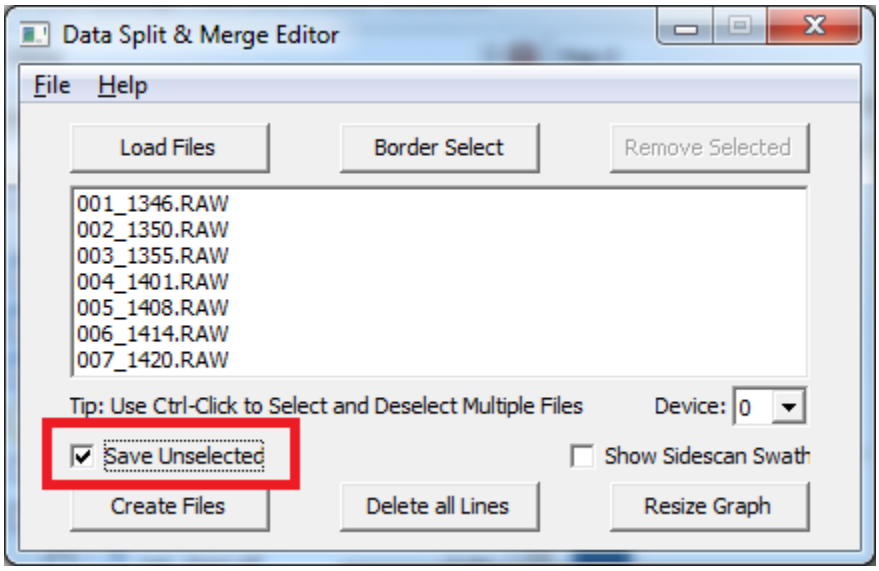
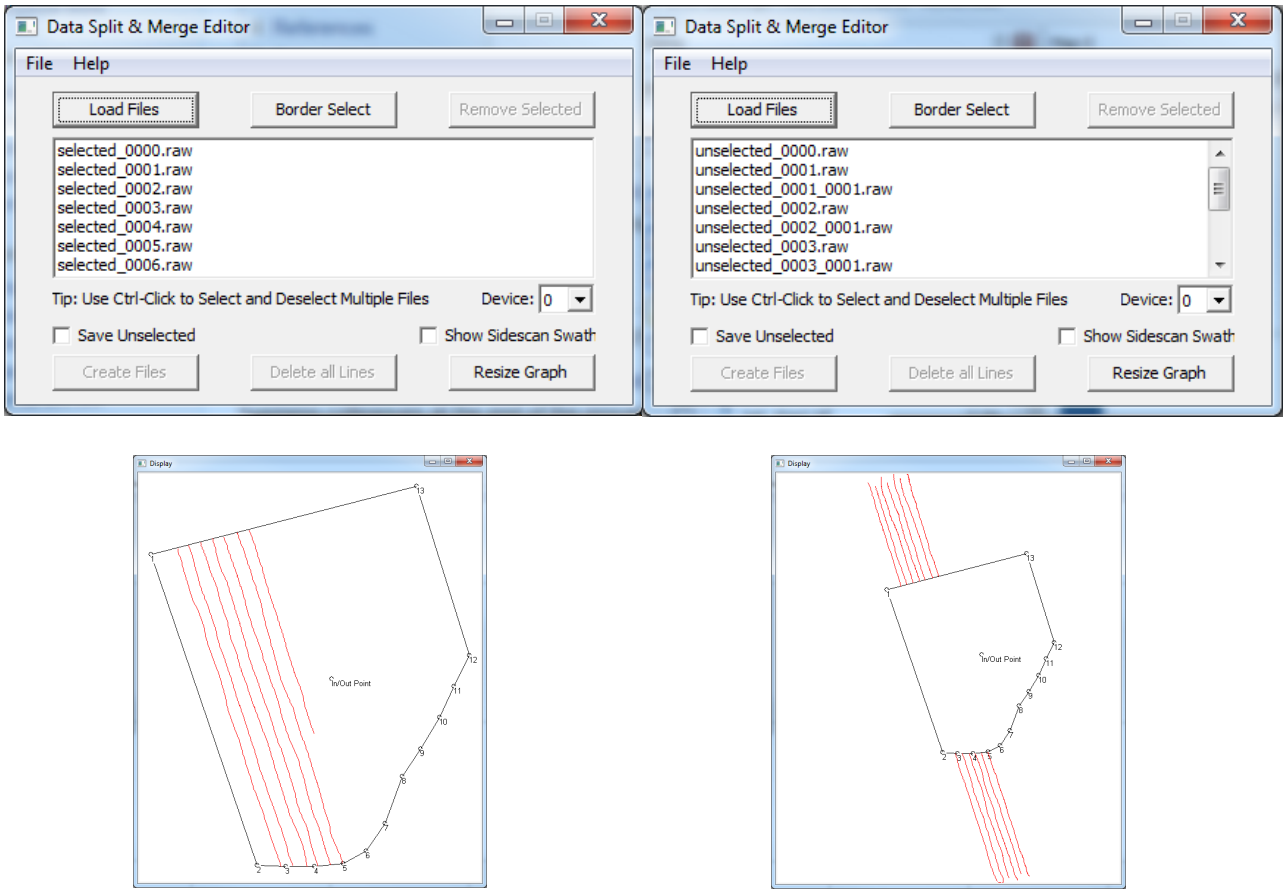


FIGURE 20. Saving the Selected Data (left) and Unselected (right)



That covers the basics of the tool but there are still a few more features...

ADDITIONAL FEATURES

DEVICE DROP-DOWN

The DATA SPLITTER/JOINER only displays position data from the records of the device chosen here (Figure 21). If necessary, you can right-click on a file in the file list to control of which device is used to display position data for each individual file instead of all files (Figure 22).

FIGURE 21. Choose your Device

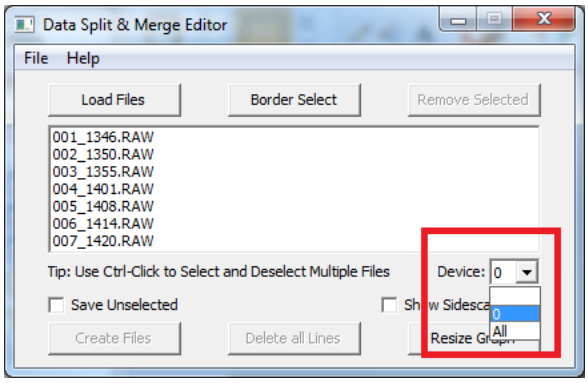
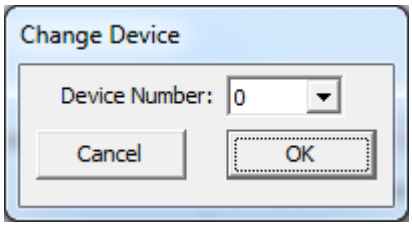


FIGURE 22. Device Drop-down

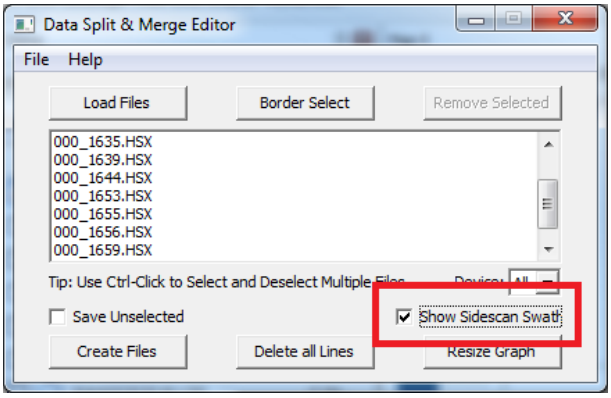


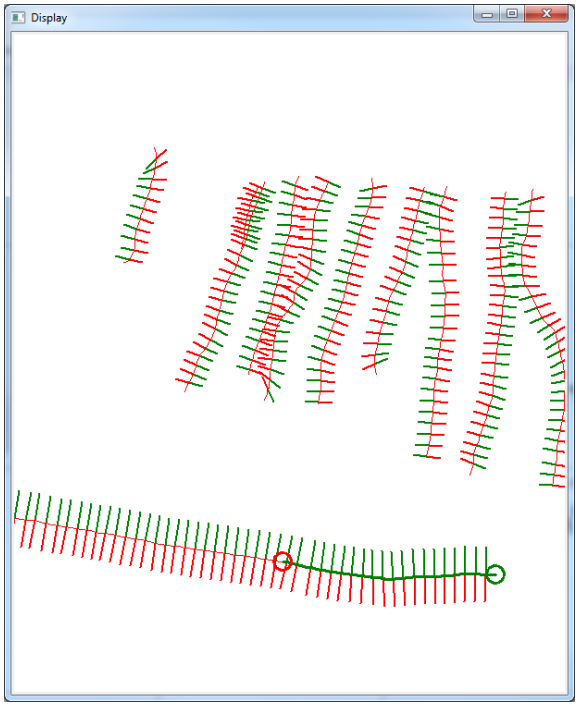
Tip: If data is zig-zagging backwards and forwards unnaturally, check that "All" devices are not selected. Remember that this feature is solely for display purposes in the program and does not delete data from any of the other devices inside of created files.

SHOW SIDE SCAN SWATH

When dealing with side scan data, the "Show Sidescan Swath" checkbox can be used to see the side scan coverage (Figure 23). Port is red, and starboard is green. This can be useful for checking whether there is enough overlap between lines.

FIGURE 23. Show Side Scan Swath



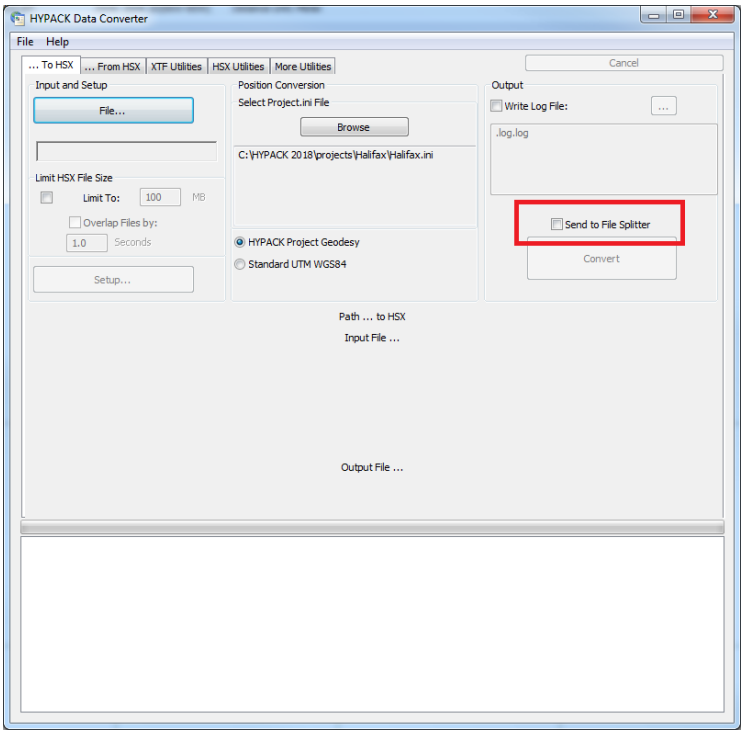


ACCESS FROM THE DATA CONVERTER PROGRAM

The DATA SPLITTER/JOINER can be directly opened from the HYPACK® DATA CONVERTER.

When converting a third-party file to a HYPACK® HSX file using the DATA CONVERTER, there is a Send to File Splitter check box in the Output options (Figure 24). If this option is checked, the DATA SPLITTER/JOINER opens and the files are immediately loaded.

FIGURE 24. *Automatic Loading Converted HSX Files to the DATA SPLITTER-JOINER*



CONCLUSION

The DATA SPLITTER/JOINER makes extracting useful data much more intuitive. Turns at the end of lines can be taken out quickly and excess data can be deleted to save hard drive space.