



HYPACK 2023 Q2 Release Notes

By Caroline Liu

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HYPACK SHELL

TPU EDITOR

Users can now add custom devices and custom standards to the TPU Editor:

- > **To add a custom device**, click File -> Add Device to set up parameters and name a new device. Users can add positioning, MRU, multibeam, and heading systems.
- > **To add a custom standard**, click on the drop down menu under Estimation Graph Parameters and click Add Standard. The New Standards window appears, and users can add depth and position uncertainties, target detection, and name the standard. Up to five custom standards can be added.

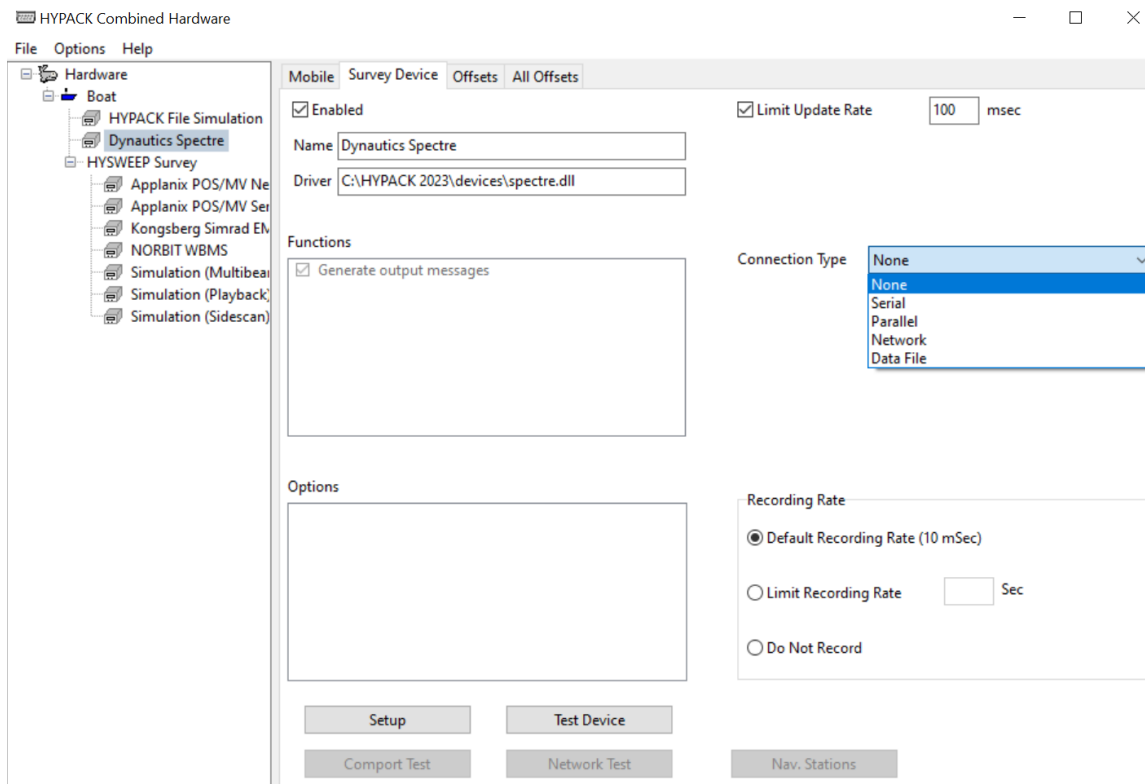
For more information, refer to [Custom Devices and Standards in the TPU Editor by Jocelyn Kane](#).

DEVICE DRIVERS

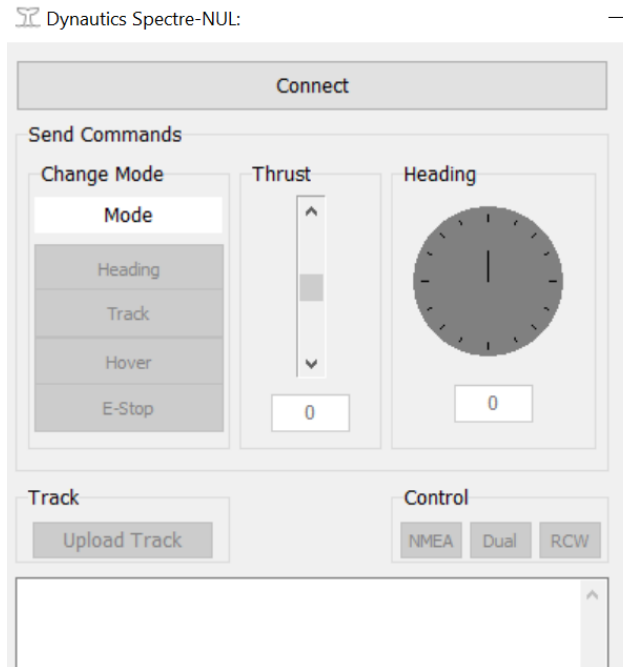
SURVEY DEVICE DRIVER UPDATES

- **New Driver: spectre.dll.**

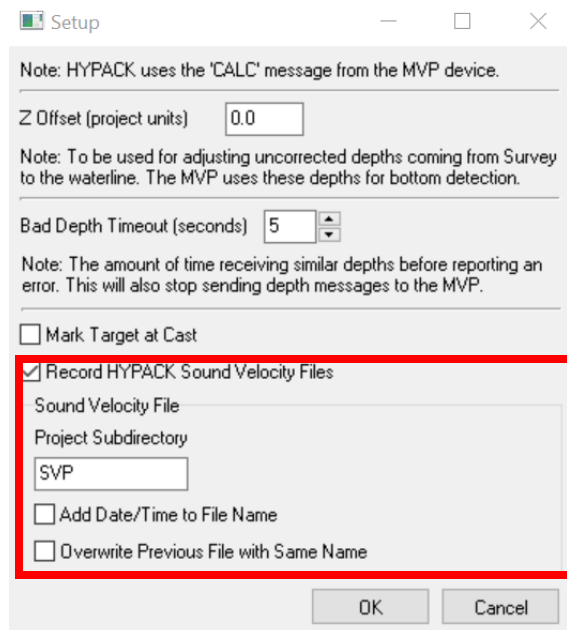
Dynautics SPECTRE is now supported in HYPACK, which allows control of the SPECTRE autopilot in Survey. When you add the driver in HYPACK Combined Hardware, you can set up the connection type and recording rate in the Survey Devices tab.



The Dynautics Spectre device window appears in HYPACK SURVEY. Click [Connect] to connect to the device. Once connected, you can use the Change Mode, Thrust, and Heading functions to control the device. Planned line files can be uploaded as a track to follow by clicking [Upload Track].



- **Updates to MVP.dll:**
 - > **MVP.dll now records coordinates, date, and time to the SVP (*.vel) file.**
 - > **SVP (*.vel) files are now written to the SVP folder of the active HYPACK project by default.** Users can use the Project Subdirectory field to change the save folder.
 - > **Added the Overwrite Previous File with Same Name option.** Select this option to overwrite the existing VEL file. If this option is unchecked, and if a file with the same name exists, the new files are named with the format of svp_1.vel, svp_2.vel, and so forth.



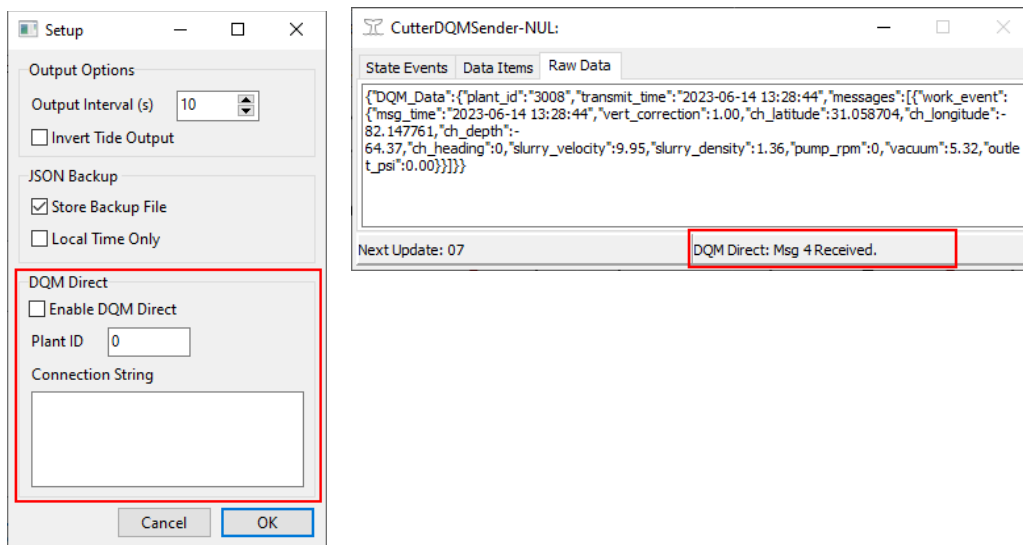
- > Fixed issue where there was a discrepancy between the position of the VEL files and actual position.

DREDGEPACK DEVICE DRIVER UPDATES

NEW FUNCTION: DQM DIRECT

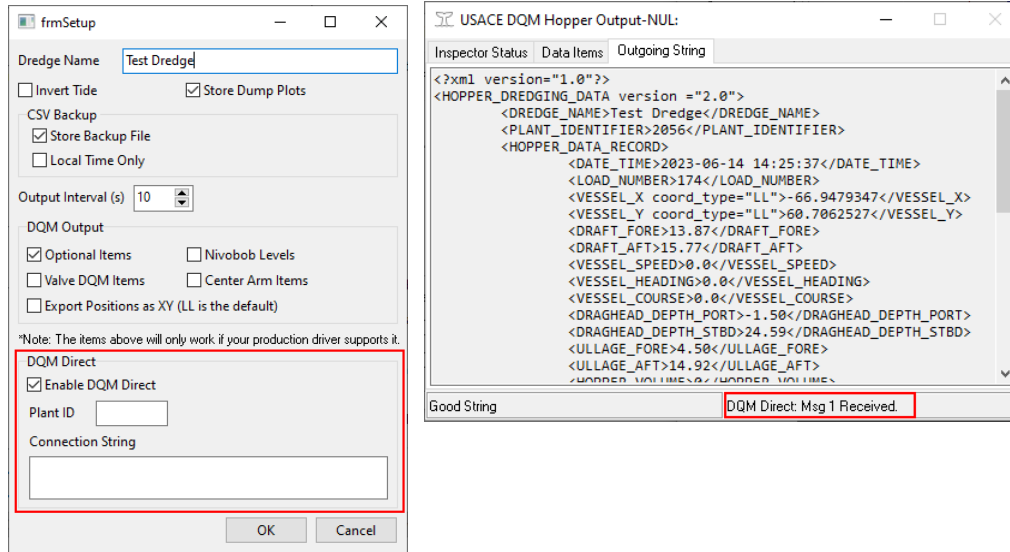
The USACE has recently added the ability to send DQM data directly to their servers through the internet. HYPACK has incorporated this function into their hopper, cutter-suction, and crane DQM device drivers. The following section lists an overview of updates that were made to support DQM Direct. For more information, please refer to [Dredge Quality Management \(DQM\) Direct for Hopper, Cutter-Suction, and Crane Dredges by John Marinuzzi](#).

- **CutterDQMSEnder.dll Updates** - Setup now includes DQM Direct options including Enable DQM Direct, Plant ID, and Connection String. Connection status is shown in the bottom right corner of the CutterDQMSEnder's runtime window.

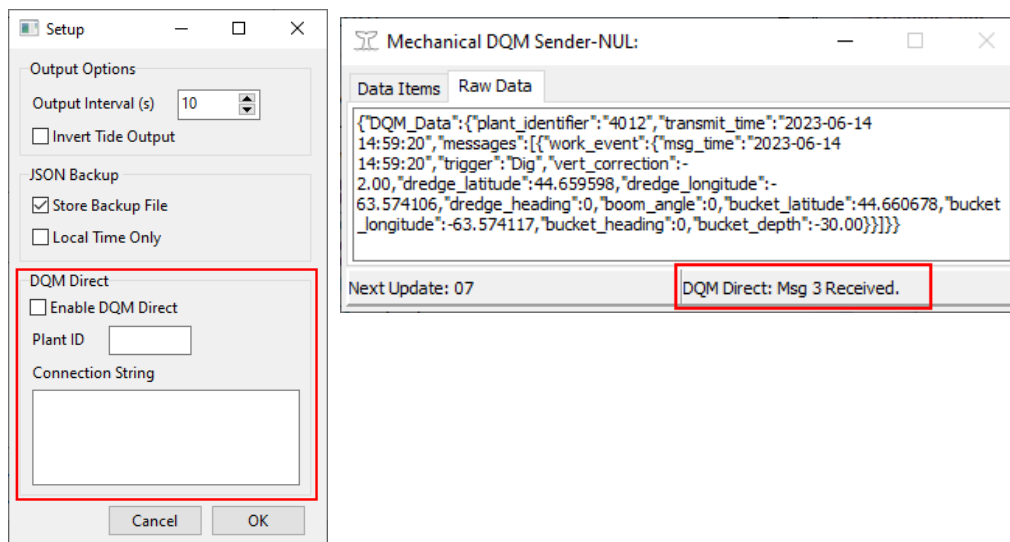


- **New Driver: HopperDQMSEnder.dll**
This driver is a rewrite of SI_SENDER.dll and handles DQM and DQM Direct for hopper suction dredges. The DQM Direct setup sends data packets over the Internet to a cloud-

based endpoint, which eliminates the need for a separate DQM computer on vessels. This driver also eliminates outdated DQM requirements and is more efficient.



- **New Driver: MechanicalDQMSender.dll** - Setup and runtime windows are similar to CutterDQMSender.dll and HopperDQMSender.dll.

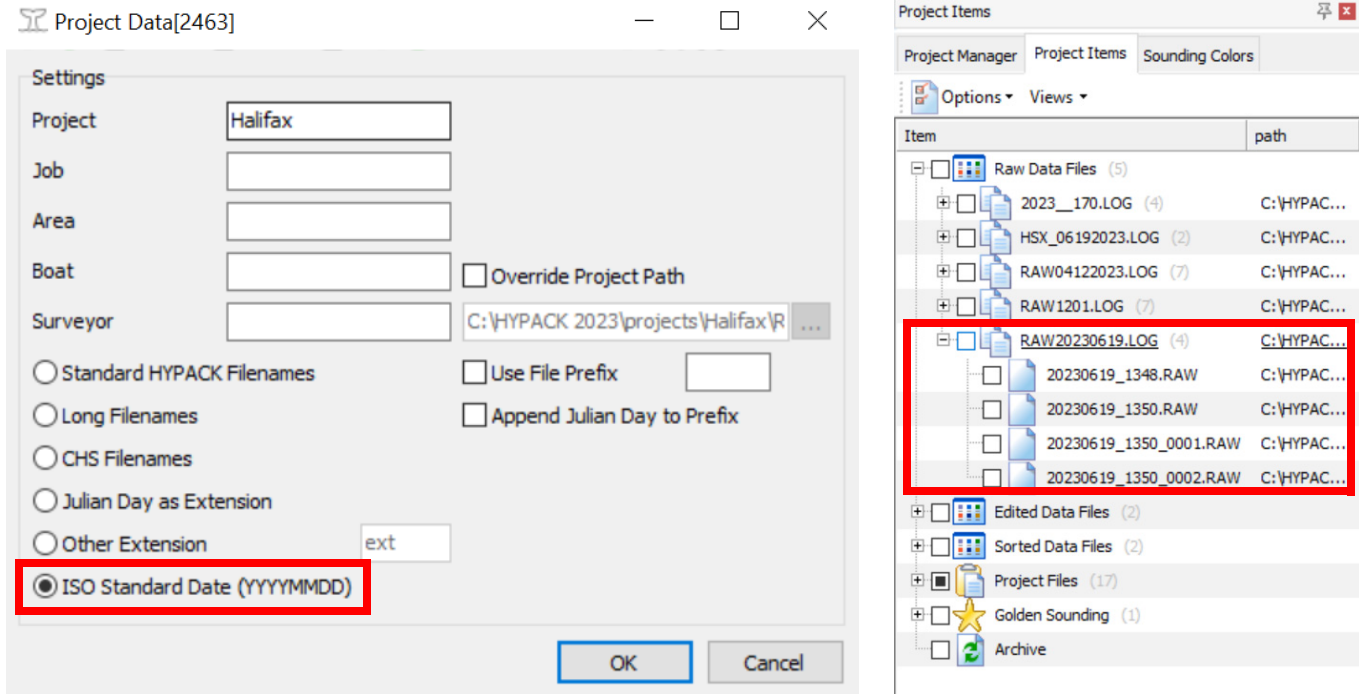


DATA ACQUISITION

SURVEY

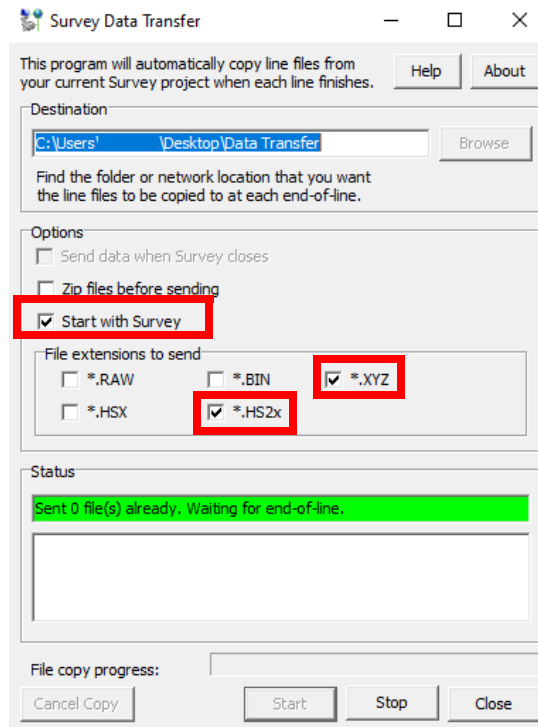
- Users can now use the keyboard shortcut **CTRL+T** to freeze and thaw windows in HYPACK Survey.
- Users can now choose to name LOG files with ISO Standard (European) date format (YYYYMMDD). This format also applies to RAW, HSX, HS2X and XYZ files. To use this option, in HYPACK SURVEY click Options -> Project Information. In the Project Data window, click ISO Standard Date (YYYYMMDD), then [OK]. Subsequent

LOG, RAW, HSX, HS2X, and XYZ files are named using date and time in the following format: YYYYMMDD_HHMM.file type.
In the following example on the right, LOG and RAW files are now named using the new date standard.



SURVEY DATA TRANSFER

The Survey Data Transfer window has received a few updates. To open the Survey Data Transfer window and use these new features, from the HYPACK® Shell click Survey -> Survey Data Transfer.



- **The Start with Survey checkbox has been added to the Options section.** When this box is checked, the Survey Data Transfer program automatically opens and begins file transfer when HYPACK® SURVEY is opened.
- **Users can now select and transfer XYZ and HS2x files.** The program monitors the Edit folder for HS2x files, and the Sort folder for XYZ files.
- Only one instance of Survey Data Transfer runs at any given time.

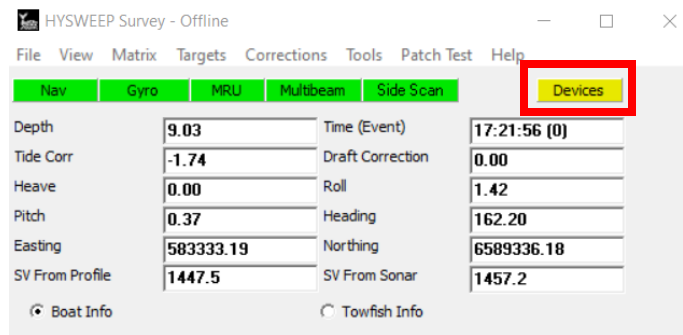
HYSWEEP SURVEY

- **Multiple updates were made to the HYSWEEP® SURVEY Profile, 3-D Seafloor, and Waterfall windows.** For more information, refer to [New Zoom and Color Range Functionality in HYSWEEP by Andrew Clos](#).

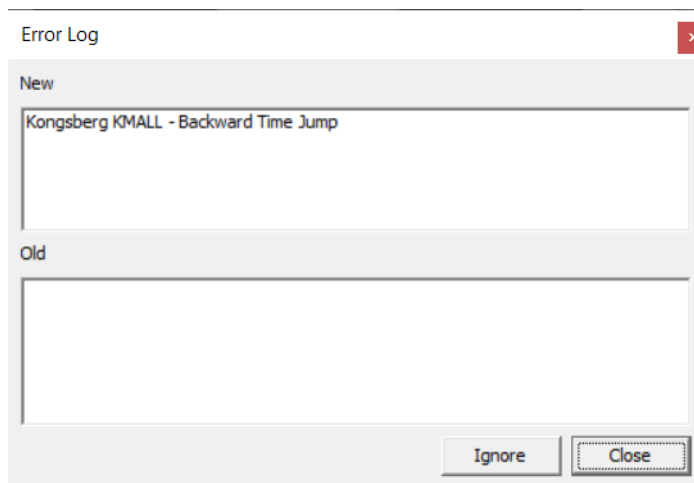
The following is an overview of these changes:

- > **Auto Scale Profile option added, which enables automatic range scaling based on the changing depth of the swath.** Enable or disable the auto scale function by right clicking the black portion of the Profile Window, or by using the newly added Auto Scale Profile checkbox located in the Multibeam Display tab in the View Options window.
- > **Horizontal and vertical slider bars are added to the profile window to enable limited zooming of the swath within the window.** These slider bars can be enabled or disabled by right clicking either slider bar.

- > The 3-D Seafloor window can now automatically scale its color range based on the changing water depth of the swath. Use the newly added Scale Color Map to Depth Range checkbox to enable and disable this feature.
- **HYSWEEP® SURVEY** now monitors and detects time tags that “jump back” in time. When this error occurs, the Devices indicator turns yellow.



Click the Devices indicator to display the Error Log window, which will include a “Backward Time Jump” message.



DATA PROCESSING

64-BIT SINGLE BEAM EDITOR (SBMAX64)

ECHOGRAM

The Auto Digitize icon has been added to the Echogram window in SBMAX64. The icons in the toolbar have also been rearranged to group digitizing icons together.



To auto digitize either frequencies, Click [Auto] to open the Auto Digitize window.

Auto Digitize

☒ Depth 1 ☐ Depth 2

Bottom Tracking Method
Threshold

Blanking 0

☒ Swell correct ☒ Remove outliers

Sensitivity 0

Calculate Reset

Apply Close

You will need to set up the following parameters:

- **Choose between Depth 1 or Depth 2.**
- **Select a Bottom Tracking method:**
 - > **Find first peak** - first prominent increase in return strength.
 - > **Gradient** - most sudden change of strength.
 - > **Threshold** - Uses user-defined threshold strength. Use Blanking and/or the Sensitivity slider to set the threshold.
- **Blanking** tells the program to ignore all signal down to the defined depth.
 - > **0** is the same as no bottom tracking.
 - > **Low setting** eliminates the effects of backscatter to help find the true bottom.
 - > **Very high setting** can actually set the bottom tracking at a depth greater than the true depth.
- **Swell Correct** takes swell into account for the depth calculation. Removes the effects of heave.
- **Remove Outliers** (recommended) ignores scattered data in the water column.
- **Sensitivity slider** sets the level of intensity at which the bottom is classified.
- **[Calculate]** displays the auto digitized depth on the echogram window in blue. This function uses the current line chosen. Calculated depths are kept when users switch to a different line and returns to the previous line with calculations already performed.
- **[Reset]** - Clears calculated depths of current line/depth combination.
- **[Apply]** saves the auto digitized depth. This option only saves the current line/depth combination. Click Undo in the SBMAX64 window to reverse these changes.
- **[Close]** closes the Auto Digitize window.

SORT PROGRAM

- **Added “Sort with Golden Sounding Priority” option to the Sort window.** This option behaves similarly to Sort with Priority, and allows you to give Golden Soundings priority

over others in the Sort routine. Golden Soundings are sorted first. Then, when compared to other non-priority data, Golden Soundings are retained regardless of the comparison result.

To use this new option, from the HYPACK Shell click Processing -> Sounding Selection -> Sort.

Sort-64

File Help

Data Files

- Edited Data Files
- Sorted Data Files**
 - ☒ 1A.xyz
 - ☐ 1B.xyz
 - ☐ 1C.xyz
 - ☐ border1.xyz
 - ☐ BORDER1A.XYZ
 - ☐ BORDER1B.XYZ
 - ☐ BORDER1C.XYZ
- External Files

Type

- ☒ Radius 15.00
- ☐ DX 25.00
- DY 25.00
- DZ 25.00
- ☐ 3-Dimensional Sort

Sort Status	Pass 1	Pass 2
Points Read		
Points Saved		
Points Rejected		
Minimum		
Maximum		
Percent		

Depth Input

- ☒ Depth 1
- ☐ Depth 2

Depth Mode

- ☒ Depth
- ☐ Elevation
 - ☐ Convert to Final Elevation

☐ Negate Output Z Value

Sort

Mode

- ☐ Sort with no Priority (No CHN)
- ☐ Sort with Priority
- ☐ Sort with CHN Priority
- ☐ Sort with Partitions
- ☒ Sort with Golden Sounding Priority

Output

- ☒ File
- ☐ One Output File per Input File
- ☐ Golden Soundings
 - Target Depth/Elevation 8.10
- ☐ Save rejected Data
- Rejected Data Filename

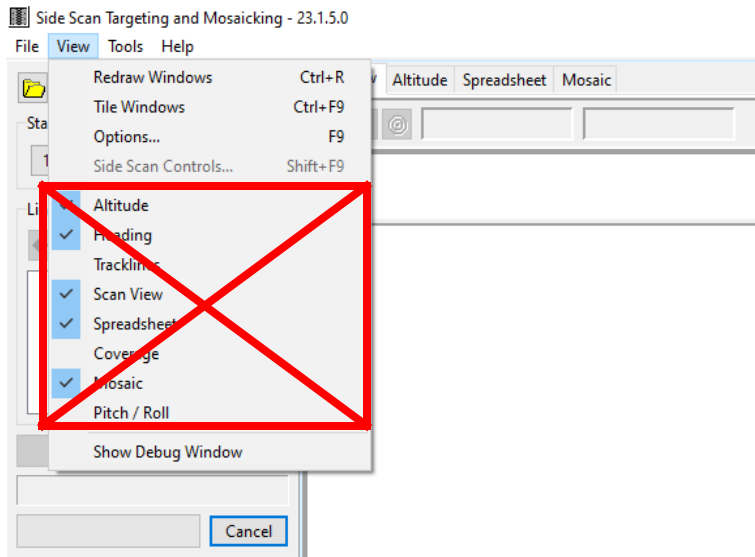
Status

SIDE SCAN PROCESSING

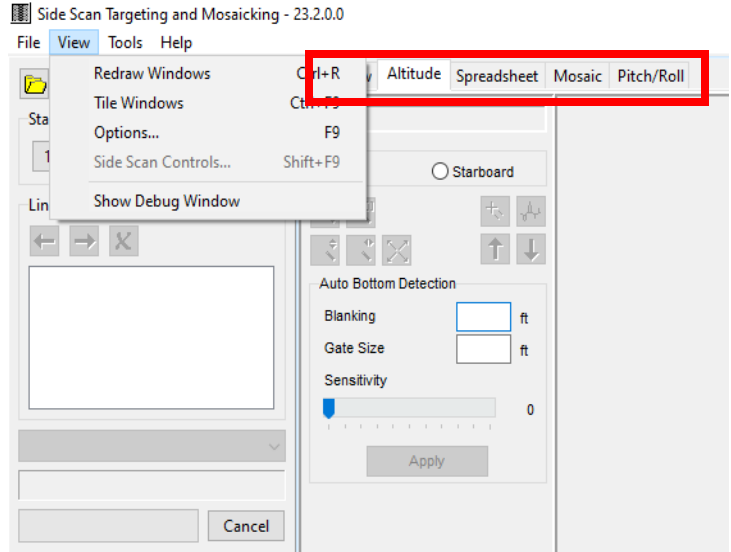
TARGETING AND MOSAICKING BETA

- Removed window options from the View menu, since they are all available as tabs within the Side Scan Targeting and Mosaicking window. We've only retained the Show Debug Window option.

BEFORE



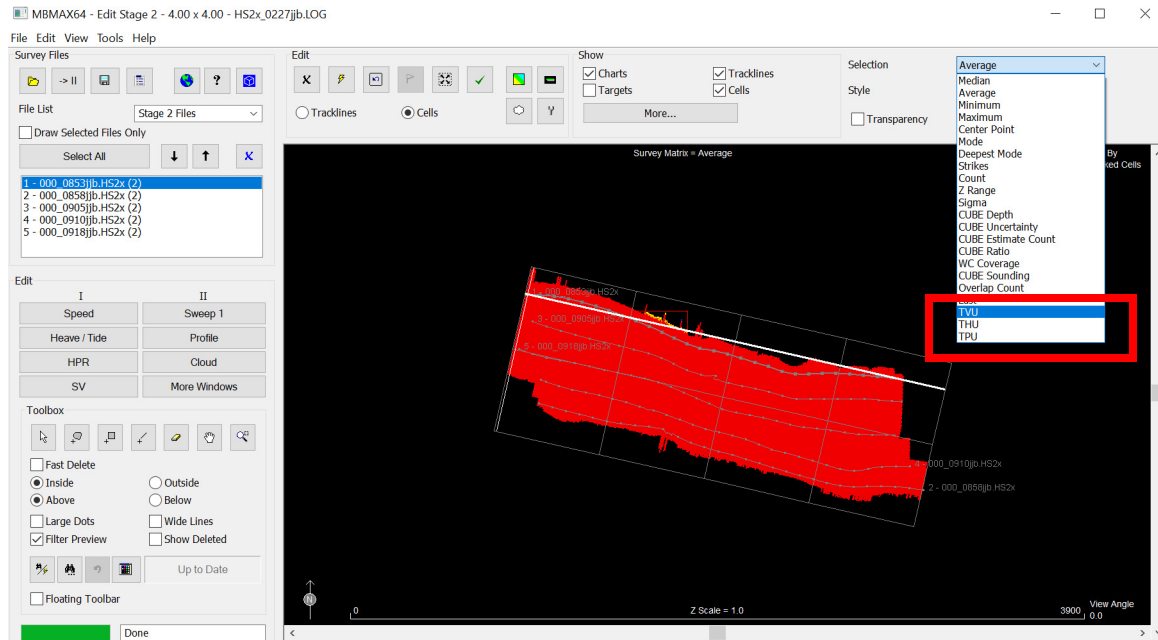
AFTER



64-BIT HYSWEEP EDITOR (MBMAX64)

Multiple TPU-related updates have been made to MBMAX64. See [TPU Updates in MBMAX64 by Mike Kalmbach](#) for more information, however these changes are summarized below.

- **Added TVU, THU, and TPU options to the Selection drop down menu, which allows users to show uncertainties in the matrix display.**



If you select:

- > TVU (Total Vertical Uncertainty) - Cell is green if one or more soundings in the cell meet uncertainty limits. Red otherwise.
- > THU (Total Horizontal Uncertainty) - Same green or red color coding as with TVU.
- > TPU (Total Propagated Uncertainty) - Cell is green if both TVU and THU meet uncertainty limits.

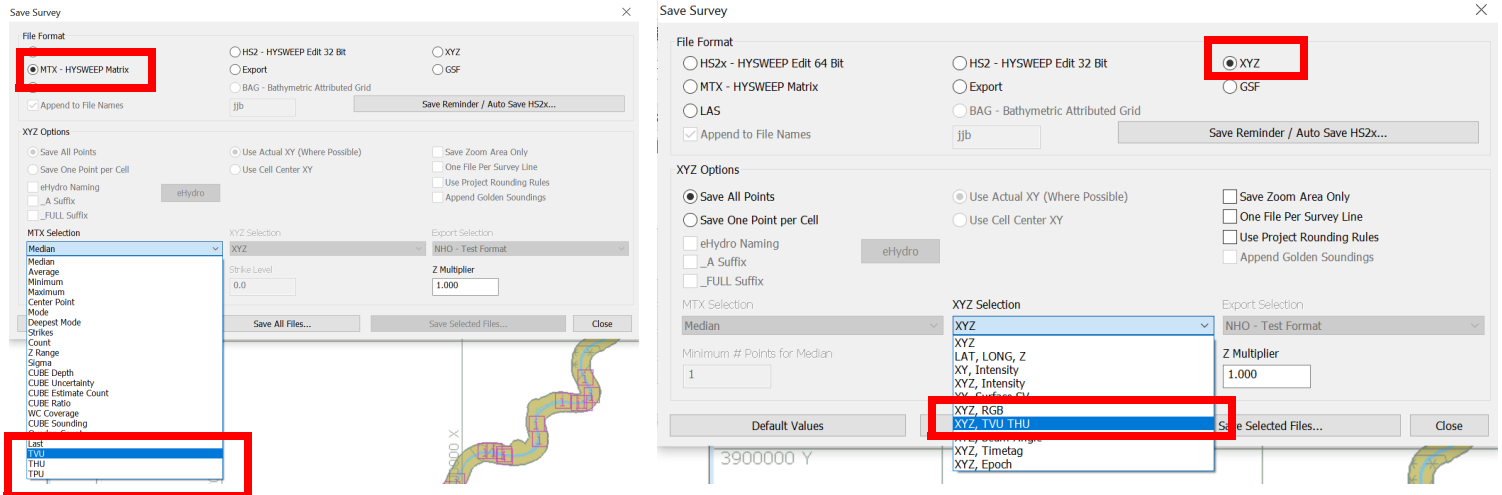
Note that you must have Calculate TPU checked and an accuracy standard selected in File -> Read Parameters. Otherwise coloring is all red.

- **Added TVU, THU, and TPU to MTX and XYZ Selection options when saving to MTX and XYZ files, respectively.**

For MTX files, you can select among TVU, THU, and TPU. The uncertainty coding replaces Z.

For XYZ files, you can select between XYZ, TVU and XYZ, THU. Use the Z multiplier to scale up small TVU and THU values if needed. The output files can be loaded elsewhere for contouring, analysis, etc. Although depth is not included in the output, the files are

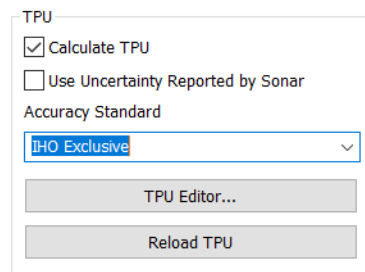
saved as *.XYZ, with TVU or THU replacing depth Z.
Coloring is the same as in the matrix, 0 = red, 1 = green.



- The TPU checkbox has been added to the Sweep tab in the Search and Filter Options window. This option filters and removes soundings outside TVU or THU limits.

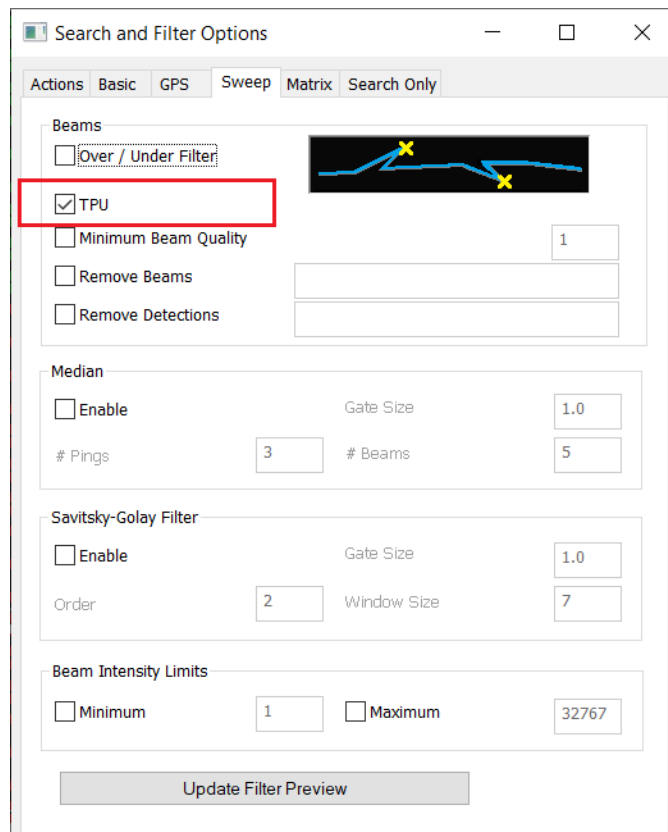
To use this option:

1. First, make sure MBMAX64 is calculating TPU. From the top menu, click File -> Read Parameters, then in the Read Parameters window, check Calculate TPU and select an accuracy standard.



2. Click Edit -> Search and Filter Options to open the Search and Filter Options window.
3. Click the Sweep tab, check the TPU box, then click the [Update Filter Preview] button.

The soundings outside TPU limits are marked with a yellow X.



4. To apply the filter, go to the Actions tab, then click [All Files] or [Selected Files] to apply the filter to all data or to soundings on selected lines, respectively.

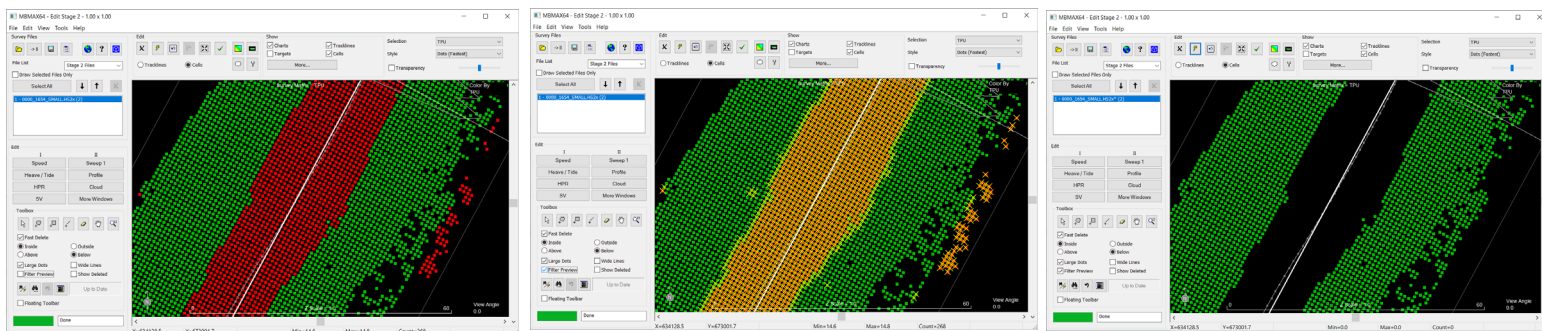
Note: Use the Undo icon in the left menu Toolbox to reverse this operation.

The following images show how the TPU filter is applied.

Left - Out to 20 or so degrees from the nadir, red shows that the TVU exceeds limits. At the edge of the swath, the THU exceeds limits.

Center - Filter preview is applied and marks all soundings that exceed TPU limits with a yellow X.

Right - These soundings are removed after the filter is applied.



- Added the IHO Exclusive Order accuracy standard to the Read Parameters window -> Survey tab -> Accuracy Standard dropdown. The accuracy standard sets TPU limits. That is, TVU and THU should be less than the selected standard.

The screenshot shows the 'Read Parameters' dialog box with the 'Survey' tab selected. The 'Survey' section includes radio buttons for 'Depth Mode' (selected) and 'Elevation Mode', a date field '16:54:55 04/11/2023', checkboxes for 'Load Sidescan (if available)' (checked) and 'Load Multidetector (if available)' (unchecked), a text field 'Gowanus_New', and buttons 'Details' and 'Memory Test...'. The 'Matrix' section has a text field 'Cells 1.0 x 1.0 | Cloud Sections 300 x 300 | Auto Size to Data | Rotate to Survey Line' and an 'Edit...' button. The 'Auto Processing' section has checkboxes for 'Auto Stage 2', 'Auto Save and Exit', 'Apply Filters', 'POSPac', and 'True Heave', each with a corresponding 'Setup...' button. The 'TPU' section has checkboxes for 'Calculate TPU' (checked) and 'Use Uncertainty Reported by Sonar' (unchecked). The 'Accuracy Standard' dropdown menu is open, showing a list of options: 'IHO Exclusive' (highlighted), 'Not Specified', 'IHO Exclusive', 'IHO Special Order', 'IHO Order 1A', 'IHO Order 1B', 'USACE Hard', and 'USACE Soft'. The 'OK' button is highlighted with a blue border.

Read Parameters

Survey Corrections Devices Processing

Survey

☒ Depth Mode ☐ Elevation Mode ☒ Load Sidescan (if available)

16:54:55 04/11/2023

☐ Load Multidetector (if available)

Gowanus_New

Details Memory Test...

Matrix

Cells 1.0 x 1.0 | Cloud Sections 300 x 300 | Auto Size to Data | Rotate to Survey Line

Edit...

Auto Processing

☐ Auto Stage 2 ☐ Auto Save and Exit ☐ Apply Filters ☐ POSPac ☐ True Heave

Setup... Setup... Setup...

TPU

☒ Calculate TPU ☐ Use Uncertainty Reported by Sonar

Accuracy Standard

IHO Exclusive

Not Specified

IHO Exclusive

IHO Special Order

IHO Order 1A

IHO Order 1B

USACE Hard

USACE Soft

OK Cancel Apply

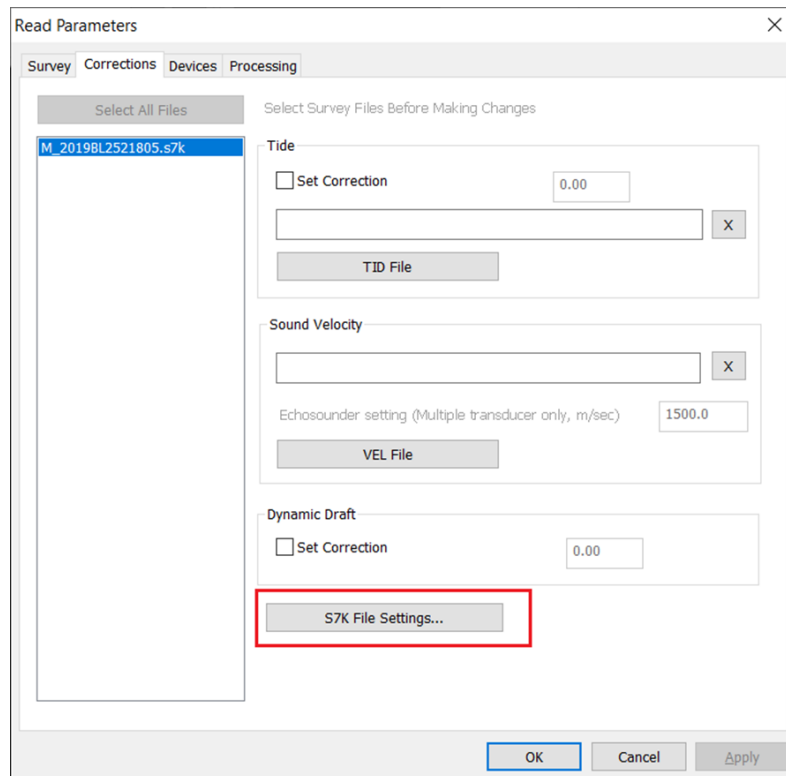
- Added the checkbox “Use Uncertainty Reported by Sonar” to the Read Parameters window -> Survey tab -> TPU section.

The screenshot shows the 'Read Parameters' dialog box with the 'Survey' tab selected. The 'TPU' section is visible, and the checkbox 'Use Uncertainty Reported by Sonar' is checked and highlighted with a red box. Other options include 'Calculate TPU' (checked), 'Accuracy Standard' (set to 'IHO Special Order'), and buttons for 'TPU Editor...' and 'Reload TPU'. The 'Survey' section includes 'Depth Mode' (selected), 'Elevation Mode' (unselected), 'Load Sidescan (if available)' (checked), 'Load Multidetector (if available)' (unchecked), and a text field containing 'Gowanus_New'. The 'Matrix' section shows 'Cells 1.0 x 1.0 | Cloud Sections 300 x 300 | Auto Size to Data' and an 'Edit...' button. The 'Auto Processing' section has several unchecked checkboxes: 'Auto Stage 2', 'Auto Save and Exit', 'Apply Filters', 'POSPac', and 'True Heave', each with a corresponding 'Setup...' button.

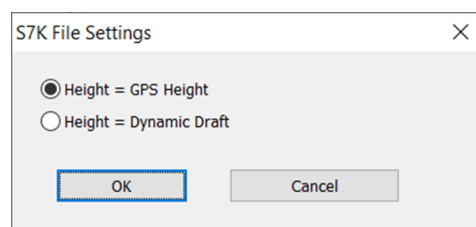
Some MBES systems report a range uncertainty, which were previously automatically used in TVU (Total Vertical Uncertainty) calculations in MBMAX64. With the new checkbox, users can now choose the option they want to use:

- > Check “Use Uncertainty Reported by Sonar” to use the uncertainty value from the sonar in the TVU calculation. When this option is checked, TVU will be partly dependent on sonar reporting of uncertainty. Note that uncertainties may vary depending on HYPACK software and device firmware versions.
- > Uncheck “Use Uncertainty Reported by Sonar” to use the standard TVU calculation and ignore the uncertainty value. When this option is unchecked, TVU and THU values in editing are identical or very close to those shown in the TPU editor estimation graphs. By default, “Use Uncertainty Reported by Sonar” is unchecked.
- **Additional updates have been made to TVU and THU values:**
 - > TVU and THU are now saved to two decimal places when saving to XYZ, TVU, and THU formats.
 - > TVU and THU are now shown to two decimal places in Sounding Info.
 - > TVU and THU color maximum are now shown to two decimal places.

- **Bug fixes. These apply to calculations using uncertainty reported by the sonar:**
 - > Fixed missing conversion from work units to cm when reading uncertainty from HSX files.
 - > Fixed missing conversion from cm to meters in TPU calculations.
- **Added the [S7K File Settings...] option in the Corrections tab of the Read Parameters window, which allows users to set the S7K height mode.**



Click [S7K File Settings...] to open the S7K File Settings window and select between GPS Height and Dynamic Draft. This option is useful when determining depth for S7K files logged from underwater vehicles (ie: AUV, ROV), however this works for vehicles both above and below the water



- > This button is only enabled when loading S7K files.
- > Only S7K files from Reson and NORBIT are loaded (Remember, S7K files generated by PDS software are not supported).
- **Added the Append Golden Soundings option in the Save Survey window.** Users can now append golden soundings to final (gridded) XYZ output files by checking this option. If you're saving cell averages to XYZ and a cell contains a golden sounding, golden sounding depth will override average depth. For more information, refer to [Golden Sounding Update in MBMAX64 by Mike Kalmbach](#).

To append the golden soundings to an XYZ file, from the 64-bit HYSWEEP EDITOR:

1. Click File -> Save Survey.
2. Under File Format, select XYZ.
3. Under XYZ Options, select Save One Point per Cell, then check Append Golden Soundings.
4. Click [Save All Files...]. In the Save As window, give your XYZ file a name, then click [Save].

The screenshot shows the 'Save Survey' dialog box with the following settings:

- File Format:**
 - ☐ HS2x - HYSWEEP Edit 64 Bit
 - ☐ HS2 - HYSWEEP Edit 32 Bit
 - ☒ XYZ
 - ☐ MTX - HYSWEEP Matrix
 - ☐ Export
 - ☐ GSF
 - ☐ LAS
 - ☐ BAG - Bathymetric Attributed Grid
 - ☐ Append to File Names
 - File name:
 - Button: Save Reminder / Auto Save HS2x...
- XYZ Options:**
 - ☐ Save All Points
 - ☒ Save One Point per Cell
 - ☐ eHydro Naming (with eHydro button)
 - ☐ _A Suffix
 - ☐ _FULL Suffix
 - ☒ Use Actual XY (Where Possible)
 - ☐ Use Cell Center XY
 - ☐ Save Zoom Area Only
 - ☐ One File Per Survey Line
 - ☐ Use Project Rounding Rules
 - ☒ Append Golden Soundings (highlighted with a red box)
- MTX Selection:** Average
- XYZ Selection:** XYZ
- Export Selection:** NHO - Test Format
- Minimum # Points for Average:** 1
- Strike Level:** 0.0
- Z Multiplier:** 1.000
- Buttons at the bottom: Default Values, Save All Files..., Save Selected Files..., Close

Note that which golden soundings are appended is dependent on whether the “Link Golden Soundings to HYPACK Database” option is checked in the Edit -> Settings menu:

- > Unchecked: Golden sounding flags are kept in edited HS2x files but not exported to the database. When saving to XYZ, only the soundings from loaded files are appended.

- > Checked (default): Golden sounding flags are kept both in the edited HS2x and the HYPACK Golden soundings database. When saving to XYZ, the HYPACK golden soundings in the database are appended.

Settings

Update Mode

☒ Auto ☐ Manual

Updates the Survey Immediately Whenever Data is Changed. Might be Slow With Large Surveys.

Update the Survey by Clicking the Update Button. The Button Turns Red When Updates are Pending.

Survey Data

☒ Delete Soundings Between Deleted Position Points

Custom Edit Folder

☐ Enable

Time Format

☒ HH:MM:SS ☐ Seconds Past Midnight

Other

☒ Include Type (HS2, XYZ) in LOG File Name

☒ Link Golden Soundings to HYPACK Database

☒ New Style Open / Save

Beam Calcs...

Default Values

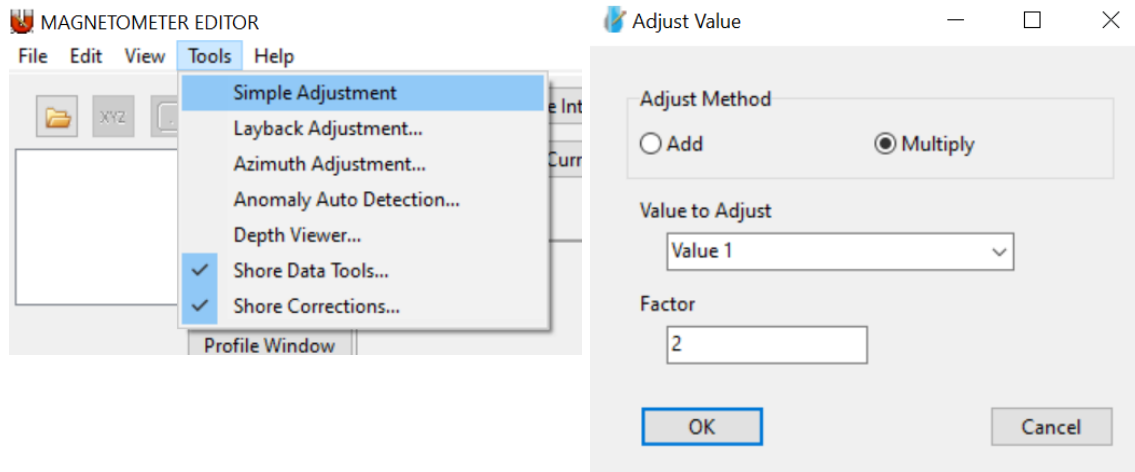
OK Cancel

PROCESSING OTHER DATA TYPES

MAGNETOMETER EDITOR

- **The Magnetometer Editor now supports data values beyond two decimal places.**
The number of decimal places will depend on the difference between max and min value range, so users should be able to see small differences with sensitive sensors.
- **Added the Adjust Value dialog, which allows users to manually change units of values or add offsets to correct data from the device.**
To use this tool, click Tools -> Simple Adjustment, and the Adjust Value window will

appear.



Select between Add or Multiply. Add allows you to add an offset, while multiply applies a multiplier to the data from the device. Enter the value of the offset or multiplier to the Factor field. Select the data you want apply this offset or multiplier to from the Value to Adjust drop down. Click [OK] to save these settings.

Some examples:

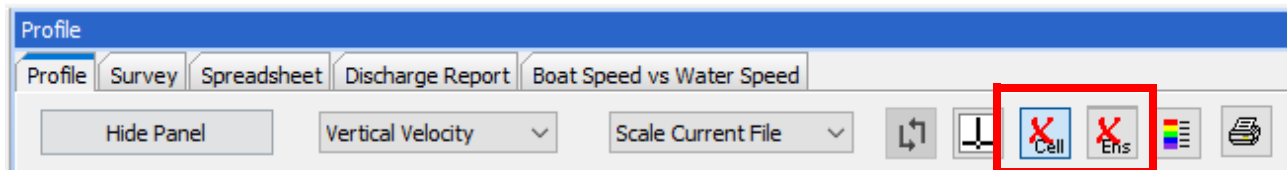
- > To convert data in mg to ug, select Multiply and type 1000 in the Factor field.
- > To convert data in meters to feet, select Multiply and type 3.28084 in the Factor field.
- > To convert data in Celsius to Fahrenheit, add 32 as the factor, then multiply with 1.8 as the factor.
- **TIN DXF now supports more decimal places for small values.** These changes support the YSI and Mag dll SMI outputs 3 decimal places for the SMI records, i3XO bin files, and Echomapper log files.

ENVIRONMENTAL EDITOR

- **The Environmental Editor now supports data values beyond two decimal places, and the Adjust Value dialog has been added as well.** Refer to the Magnetometer Editor section for more information.
- **Some additional updates have been made to the Profile Window:**
 - > Improved autoscaling for small values so the smallest range is less than the previous minimum of 0-5. This is to support the very small values (0.001 - 0.000x) that most environmental sensors record.
 - > Window is automatically rescaled when range values go to three decimal places to prevent values on the right axis from being clipped.
 - > Labels for displayed values are now shown at the top of the graph in the color corresponding to the data.
- **In the Spreadsheet window, column widths are now automatically adjusted to fit the header name when you click on the header for that column.** The window also keeps the new column width.

ADCP PROFILE

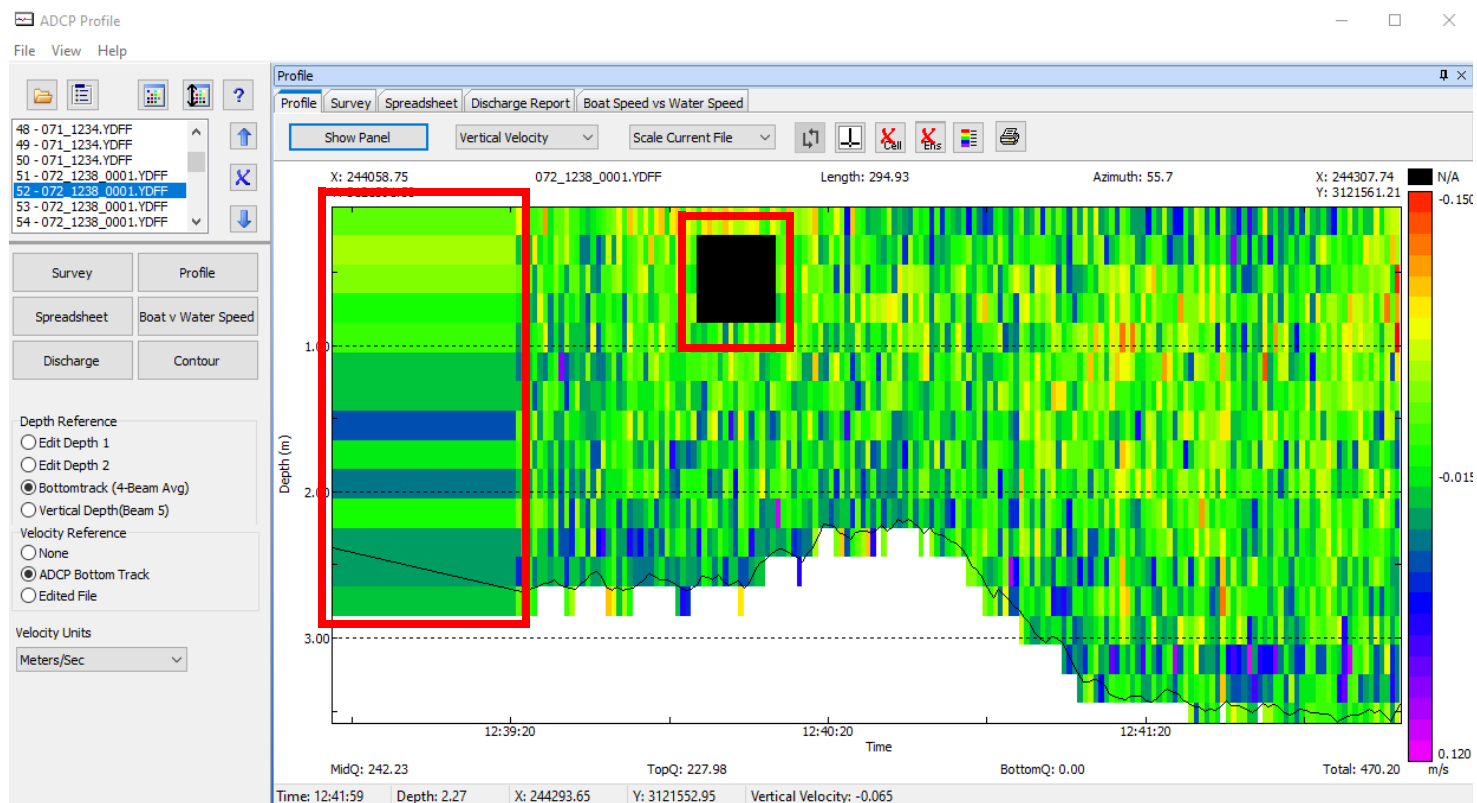
- Added the **Delete Cell** and **Delete Ensemble** functions to the **Profile** tab toolbar to edit raw data. For more information on using these features, refer to [Cleaning Up Data in ADCP Profile by Ken Aiken](#).



To use either of these new features:

1. Click the Delete Cell or Delete Ensemble button. The button will turn blue when enabled.
2. Click anywhere in the profile to delete cells/ensembles.

The image below shows an example of deleted ensembles (left) and cells (right) boxed in red.



NOTE: These edits currently cannot be saved. Closing ADCP Profile and reopening it will reset these changes.

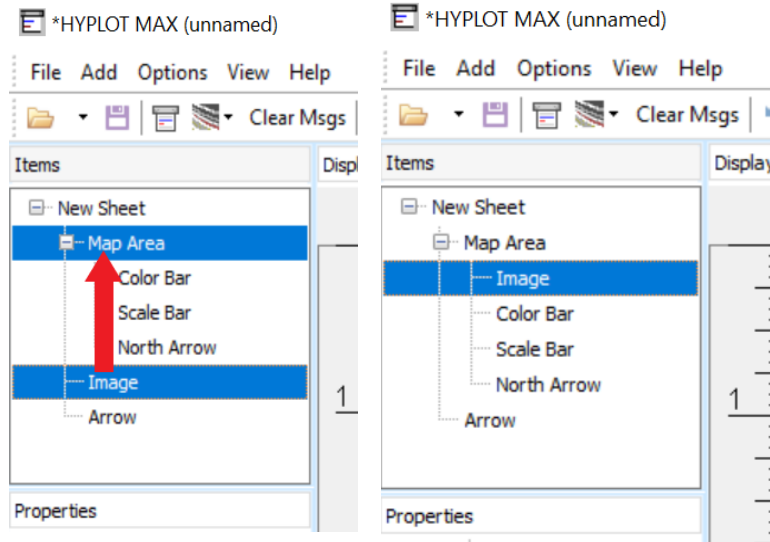
FINAL PRODUCTS

HYPLOT MAX

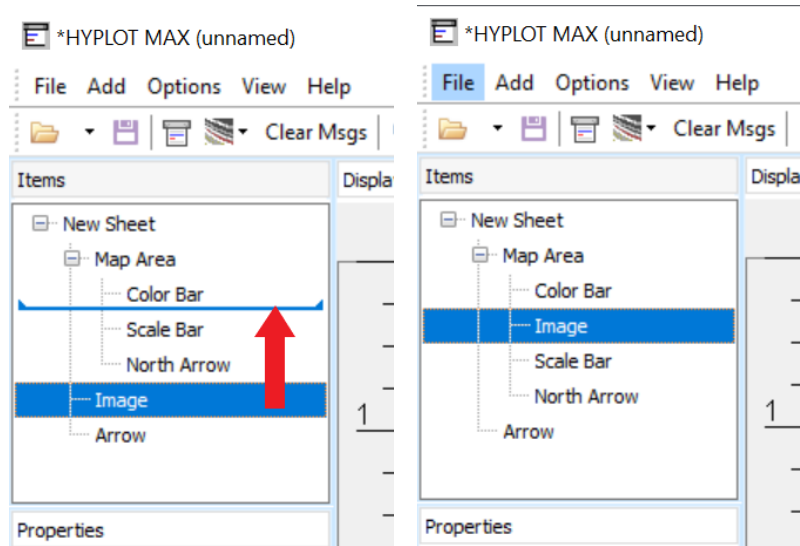
- Users can now group and reorder items by clicking and dragging the item name in the Items tree view. This includes title blocks, map areas, map items, and plot items.

NOTE: Map items (color bar, compass, north arrow, or scale bar) can only exist as child items of a map area. While you can add map items to different map areas or reorder them within a map area to change the draw order, you cannot move them outside of a map area.

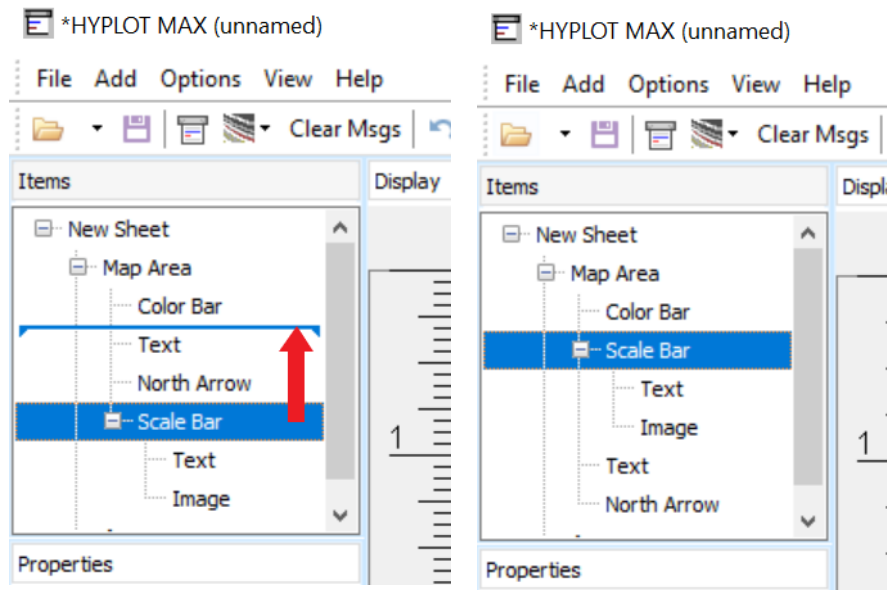
- > **Group items by nesting them under a parent item.** To nest items, from the Items tree view on the left, click and drag an item and drop it on top of the designated parent item's name (cursor must be on top of the name). The item will be added to the top of the list of child items.



If there are already multiple child items, drag the item to the desired position (cursor must be next to the names) and drop the item when a split line appears.



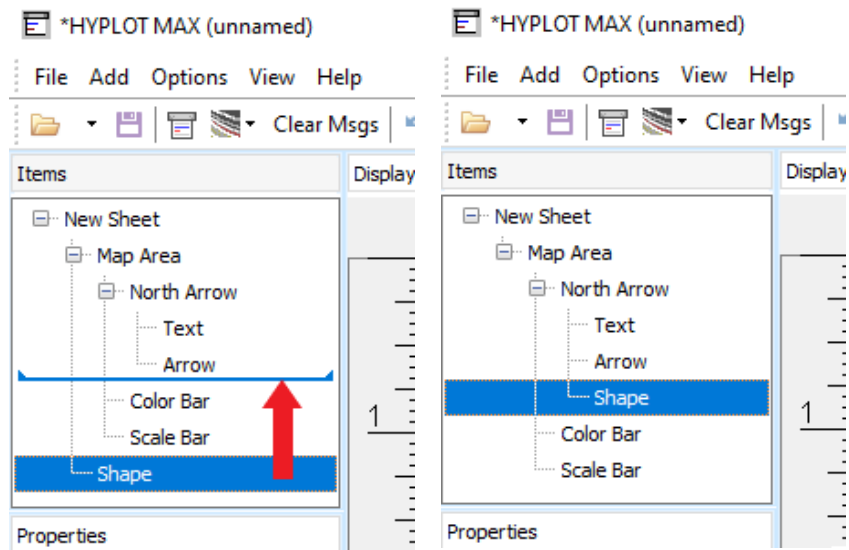
- > **Child items move with their parent item but also move independently.** Multiple nesting levels are supported and interesting combinations are possible like having a map as a child of a text element.



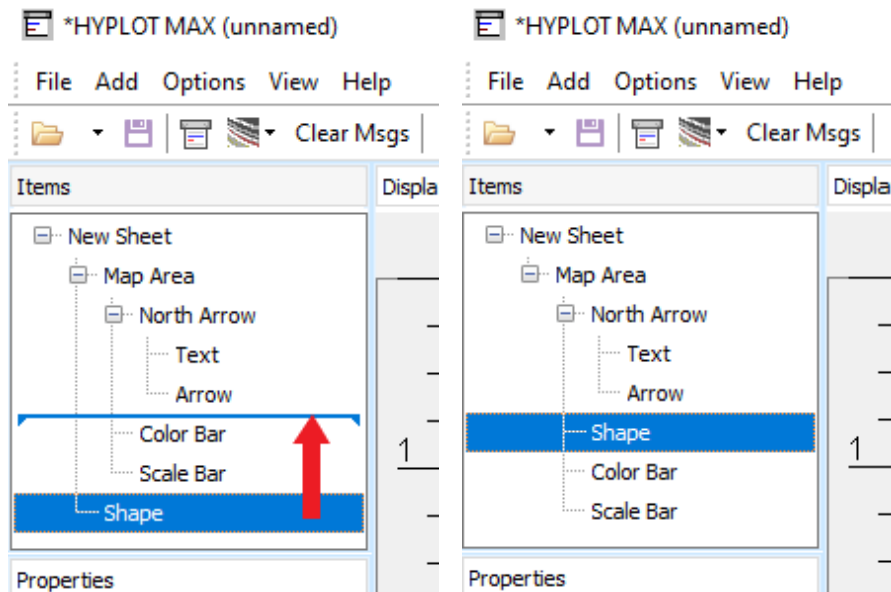
- > You may have noticed from the previous two examples that the split line has ends that may curve up or down. The ends curve in the direction of the item that will be a sibling of the item you are dragging. These curves are especially useful when you are positioning an item before or after an expanded item with children.

In this first example, the Shape item will be positioned between the Arrow and Color Bar items.

- To designate Shape as a sibling of Text and Arrow (and a child of North Arrow), click and drag Shape between Arrow and Color Bar, and drop when the ends of the split line curve up.

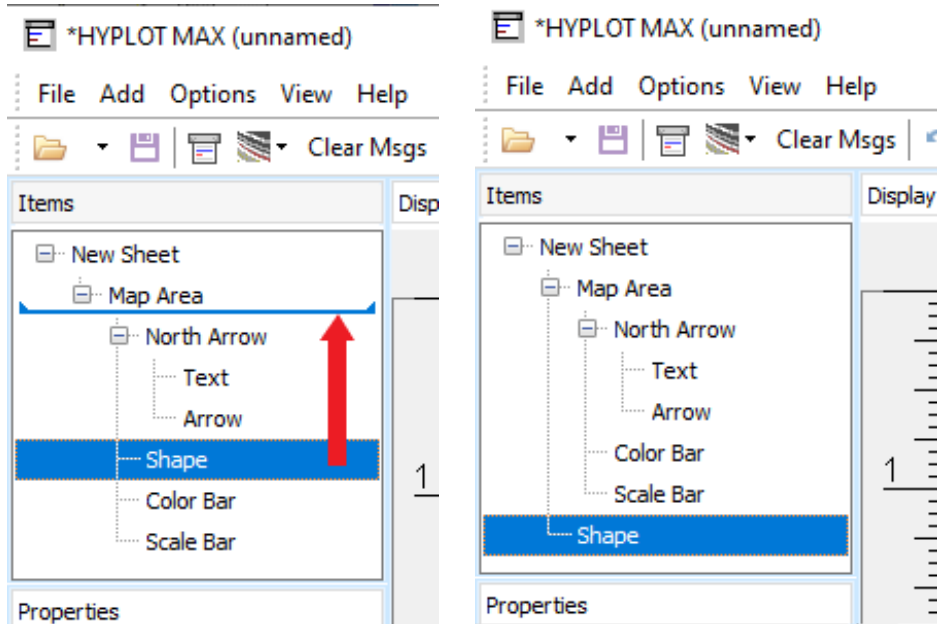


To designate Shape as a sibling of North Arrow, Color Bar, and Scale Bar (and a child of Map Area), click and drag Shape between Arrow and Color Bar, and drop when the ends of the split line curve down.

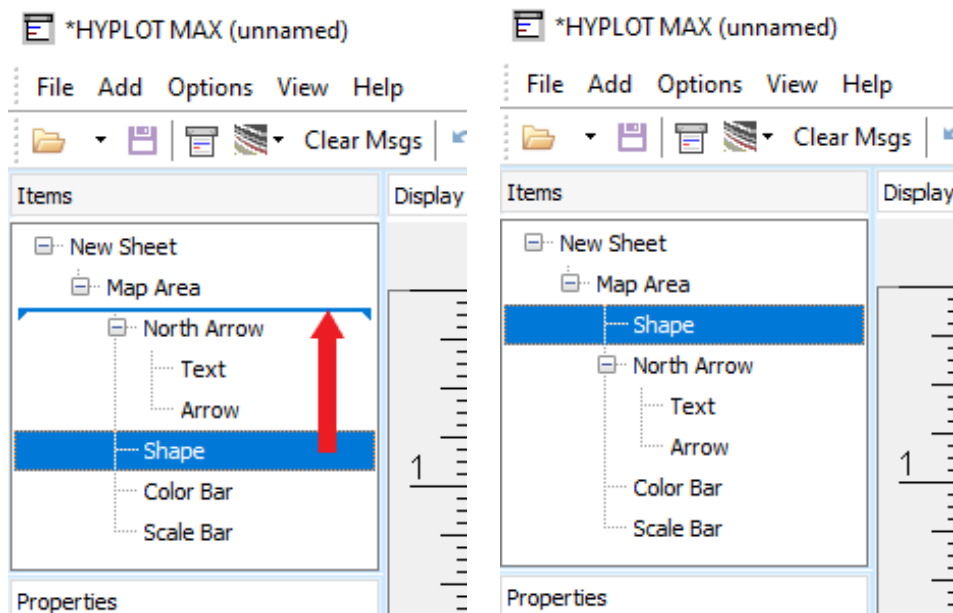


In this second example, Shape will be positioned between Map Area and North Arrow.

- If the curved ends point up, Shape becomes a sibling of Map Area (child of New Sheet), and is positioned after Map Area and its expanded children.

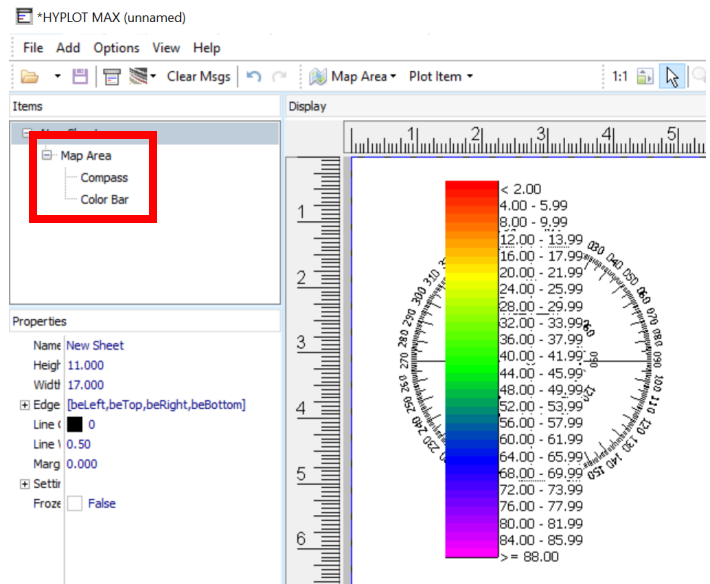
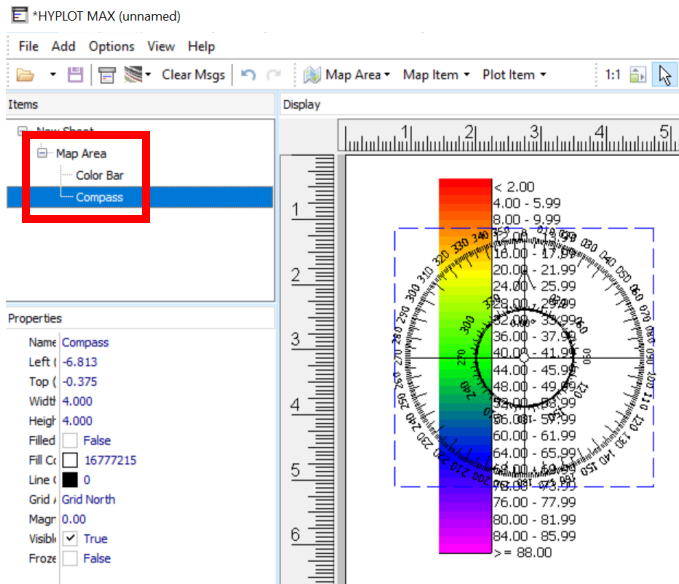


- If the curved ends point down, Shape becomes a sibling of North Arrow (child of Map Area).



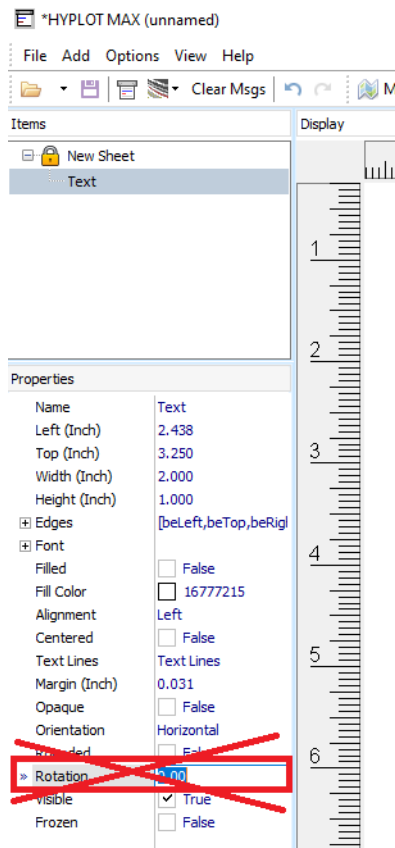
- > **Reordering items affects the order they are drawn on the plot.** Items at the top of the list are drawn before the items below them. The example image below shows the order map items are listed and how that corresponds to the draw order in the plot. When Color Bar is listed above Compass, Color Bar is drawn first and Compass is drawn on top. When Color Bar is listed below,

it is drawn on top of Compass.

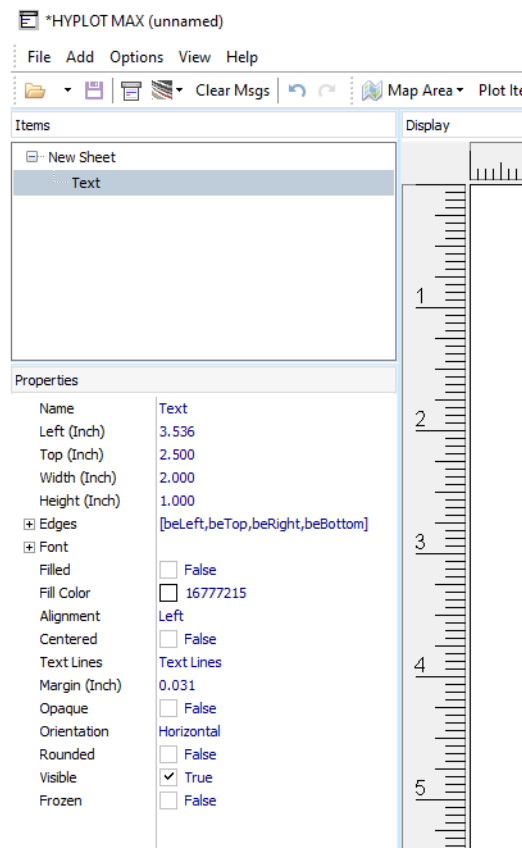


- Removed the Rotation option for Text plot items. A Text plot item consists of a textbox with text inside. At this time, HYPLOT MAX cannot support the rotation of both the textbox and text.

BEFORE



AFTER



However! You can still rotate the text itself by using the **Orientation** option in the **Properties** menu. Choose between Horizontal, Vertical Up, and Vertical Down. You may need to readjust the textbox to fit the text in the new orientation. An example of each option is shown below:

