



Sounding Styles

By Bill Bergman

HYPACK has always had quite a few options for configuring how soundings are presented. The latest version has extended this set by adding a Russian drawing Style and the IHO rules for Truncation. The graphic below demonstrates part of this variety by varying the Style and Truncation options on an Edited All format data set.

FIGURE 1. Example display: These all use 2 decimal Resolution, Perpendicular Orientation and Color by Depth

Style:	USACE	IHB	IHM	Pixel	Russian
Truncation	None	Tenth	ROK		IHO
	20.22	20 ₂₀	20 ₂₂	•	20.20
	20.14	20 ₁₀	20 ₁₄	•	20.10
	20.05	20 ₀₀	20 ₀₅	•	20.00

THE WHATS AND WHEREFORES OF SOUNDING OPTIONS

Initially a sounding is a numeric value which ultimately is displayed as text. These qualities are the impetus for the available options. On the numeric basis, we derive options for Resolution or how many decimals to display, Truncation, which is altering or rounding the value itself, and the 'Negative Soundings get +' option which changes the values' sign. The new IHO rounding rules are in this group. The rules are somewhat complex but effectively always round the sounding in a conservative fashion. A summary* of the rules is at the end of this document for the curious.

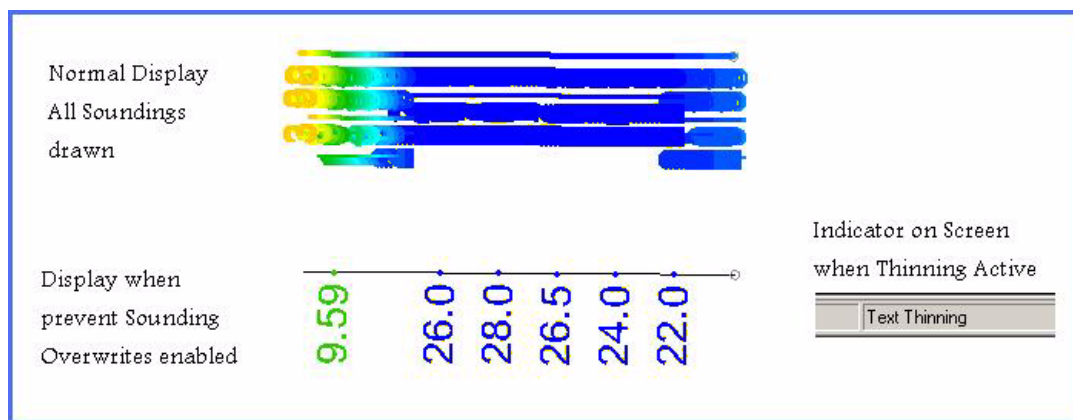
The remaining options are really attributes belonging to the text display. These include Orientation or Angle of rotation, Color, Font Characteristics, Visibility and Style. Style in sounding display is generally concerned with the placement of the text in relation to the real world location of the sounding, and to the use of sub-scripting on the fractional portion of a sounding. The new Russian Style is in this category. It places a 1mm dot on the actual sounding location, displaying the text off to one side. The picture below shows the Soundings Dialog from the HYPACK Shell.

VISIBILITY CONTROL

One option, named 'Hide Soundings over', allows one to arbitrarily suppress the display of a sounding based on its relationship to a threshold value. This is useful to remove depths from the display which are uninteresting from the standpoint of being too deep. This is reasonable as many times it is the shallow water one is most concerned with.

Text thinning is an option which can also suppress sounding display, but is more temporal than absolute like the method above. That is, as one changes the zoom level or even the rotation angle, different soundings will be displayed based upon available screen real estate. If drawing a sounding would cause it to overwrite with an already drawn sounding then it is passed by. The mechanism is fairly simple to understand and works well.

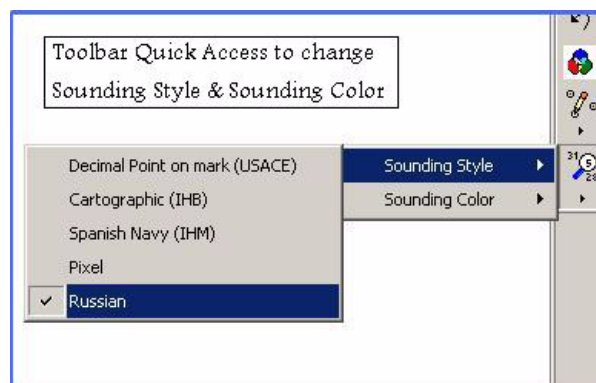
***FIGURE 2.** Text thinning: Available in Shell & Hyplot*



MISCELLANEOUS

There is a quick way to access two of the most often changed sounding properties. These work identical to the options in the Soundings Tab of the Settings form but save a number of mouse clicks which ultimately saves time.

***FIGURE 3.** Quick Access*



IHO (INTERNATIONAL HYDROGRAPHIC ORGANIZATION) ROUNDING RULES

- Soundings less than 0, known as Drying Heights, are rounded up to the nearest 1/10.
- Soundings less than the Nearest Tenth Edit are rounded to the decimeter.
- Soundings above the Nearest Half Edit are rounded to whole numbers.
- Soundings Above Nearest Tenth and Below Nearest Half Edits are rounded to nearest 1/2.

FIGURE 4.

The image shows a software settings dialog box titled "Settings" with several tabs: General, Soundings, Seabed ID, Track Lines, Charts, Targets, Grid, and Planned Lines. The "Soundings" tab is active. The settings are as follows:

- Orientation: Perpendicular to planned line (dropdown)
- Angle: 0 (text input)
- Style: Russian (dropdown)
- Size: 5 (text input)
- Color: Color by Depth (dropdown) with a "Color Table" button
- Resolution: 2 Decimals (dropdown)
- Truncation: None (dropdown)
- Nearest Tenth <: 22 (text input)
- Nearest Half <: 33 (text input)
- Plot: High frequency (dropdown)
- Options section:
 - Negative Soundings get +
 - Hide Soundings over: 15.00 (text input)
 - Prevent Sounding Overwrites
- Font... button with a preview box showing "13.63"
- Buttons at the bottom: Set as Default, OK, Apply, Cancel, Help