



Sound Velocity Corrections Based on Time and Position

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One of the updates included in the 2015 June & July Supplemental release is the updated Sound Velocity Program (Soundv.exe version 15.0.1.0). This update now allows you to save the VEL file with an embedded Position, Time and Date. This option coincides with the new option in MBMAX64 to apply a sound velocity correction based on Time or Time and Position.

To open the Sound Velocity Program:
Processing → Sound Velocity → Sound Velocity

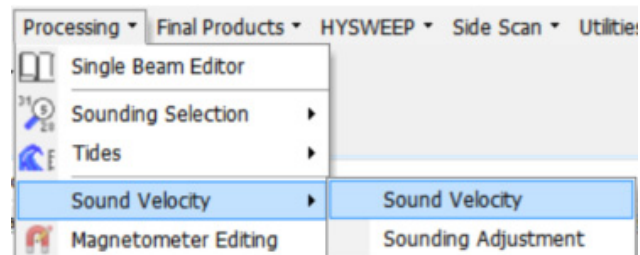
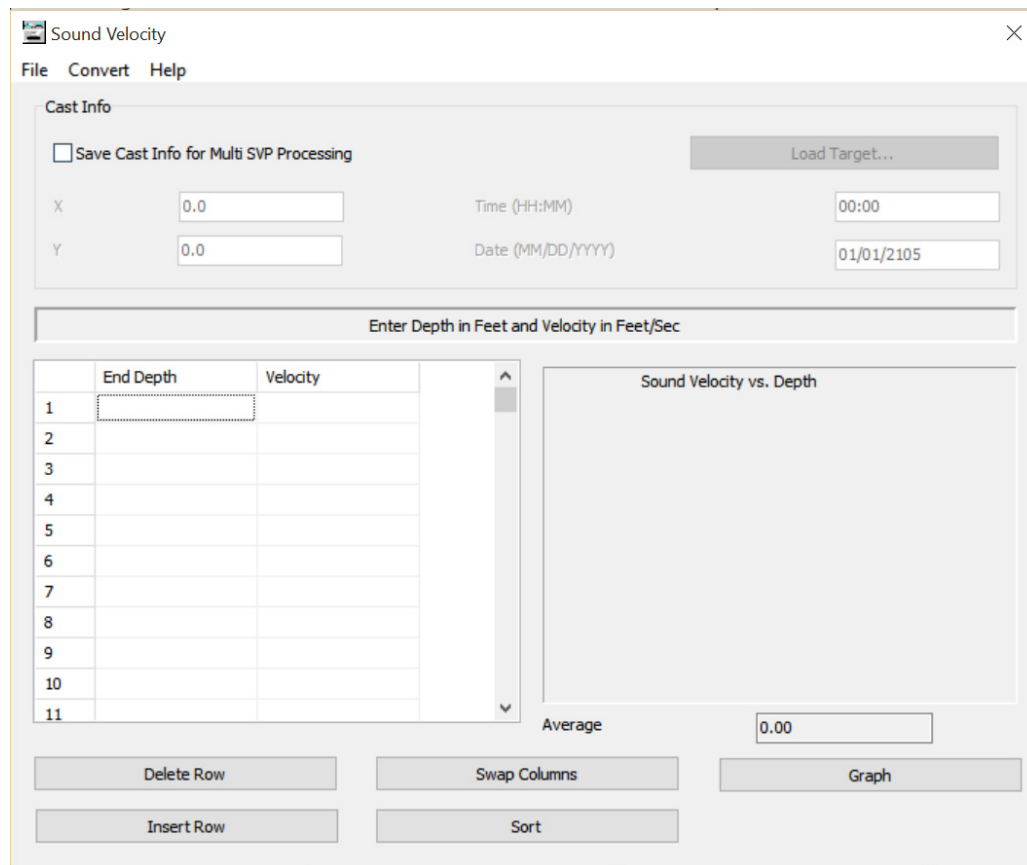


FIGURE 1. New SOUND VELOCITY Interface



The updated SOUND VELOCITY program now has an option to “Save Cast Info for Multi SVP Processing”.

1. **Enter your depth/velocity pairs.** You can still manually enter in the depth and velocity, open an existing VEL or import a text file.

2. **Select the “Save Cast Info for Multi SVP Processing” option.** The remaining items in the Cast Info section will be editable.
3. **Enter X, Y, Time and Date:**
 - Here you can manually enter the X, Y, Time and Date.
 - An option to load a target is also available (see the next section). This option only provides the X and Y, you still have to manually enter the Time and Date.

When entering a Time and Date follow the format listed or the program will not work properly.
Example: Time - 6:30am (06:30) or 6:30pm (18:30), Date - October 1, 2015 (10/01/2015).
4. **Save the corrections file.** Once all the information is entered correctly, select FILE-SAVE or FILE-SAVE AS. A “Save” overwrites the original file. A “Save As” creates a new file. The default naming convention for “Save As” is SVP_HHMM_MMDDYYYY.VEL. However, the name can be anything you would like.

USING THE “LOAD TARGET” OPTION

1. **Enable “Save Cast Info for Multi SVP Processing”.**
2. **Click [Load Target...].**
3. **Choose the target file associated with the SV data and click [OK].** The X and Y automatically populate.

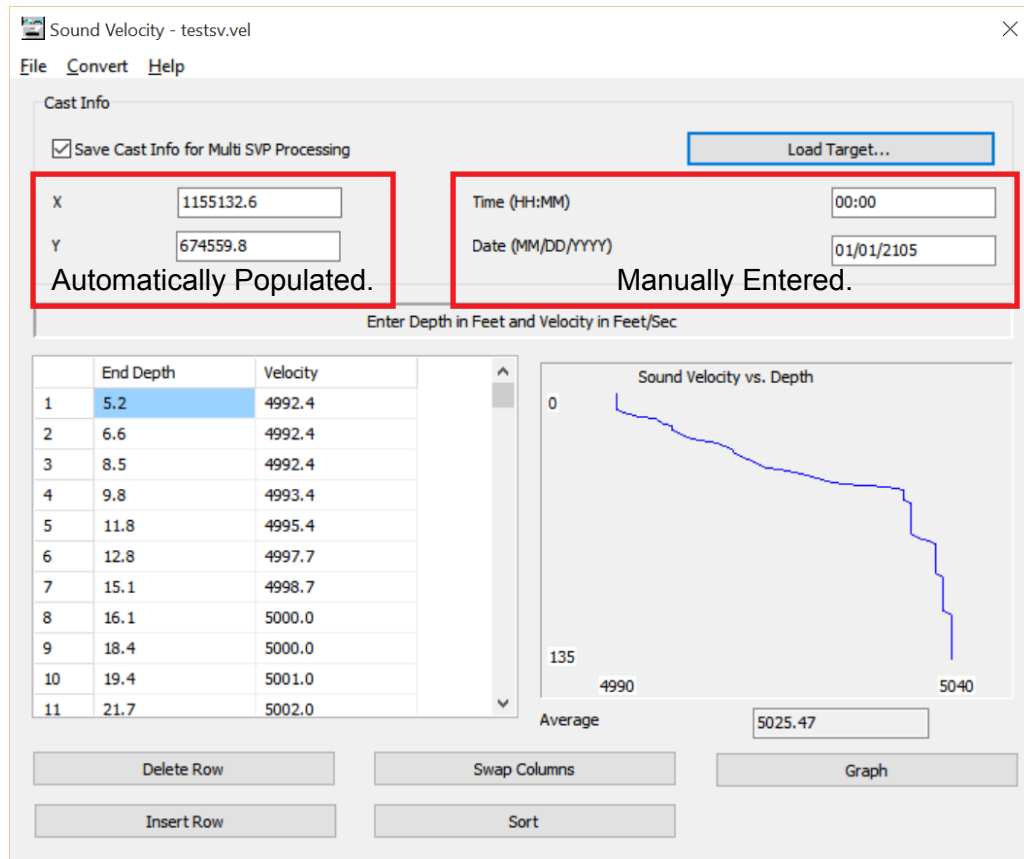
FIGURE 2. Importing Sound Velocity Profile Cast Information from a Target File

The screenshot shows the 'Sound Velocity - testsv.vel' application window. The 'Cast Info' section is active, with the checkbox 'Save Cast Info for Multi SVP Processing' checked. The 'Load Target...' button is highlighted. Below this, there are input fields for X (0.0), Y (0.0), Time (HH:MM) (00:00), and Date (MM/DD/YYYY) (01/01/2105). A table titled 'Enter Depth in Feet and Velocity in Feet/Sec' contains 11 rows of data. To the right, a 'Load Target...' dialog box is open, showing a list of SVP files: 'SVP #3', 'SVP #1', and 'SVP #2', with 'SVP #3' selected. The main window also features a graph titled 'Sound Velocity vs. Depth' and an 'Average' value of 5025.47.

	End Depth	Velocity
1	5.2	4992.4
2	6.6	4992.4
3	8.5	4992.4
4	9.8	4993.4
5	11.8	4995.4
6	12.8	4997.7
7	15.1	4998.7
8	16.1	5000.0
9	18.4	5000.0
10	19.4	5001.0
11	21.7	5002.0

4. **Enter the Time and Date.** Remember to enter the correct format.

FIGURE 3. Entering the Cast Information



5. **Save the corrections file.** The new file created now has a new first line with position, time and date (Figure 4).

FIGURE 4. Resulting SV Corrections File

```

SVP_1830_10012015.VEL - Notepad
File Edit Format View Help
FTP NEW 3 41.311027477 -72.185321554 18:30 10/01/2015
5.2 1521.68
6.6 1521.68
8.5 1521.68
9.8 1521.99
11.8 1522.60
12.8 1523.30
15.1 1523.60
16.1 1524.00
18.4 1524.00

```

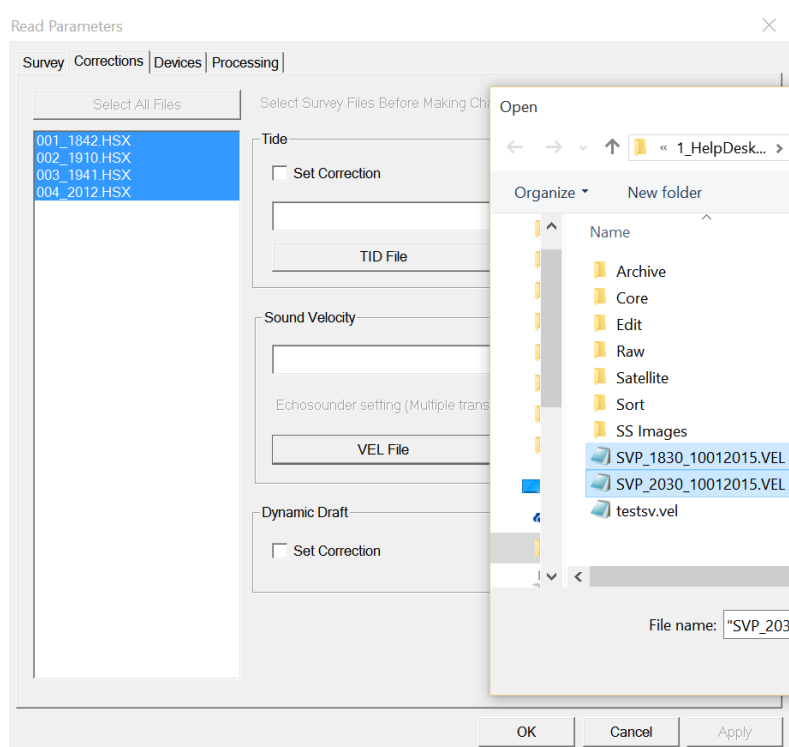
AS A SIDE NOTE: HYPACK® always stores sound velocity data in meters, *even if you are working in feet.*

USING MULTI SVP OPTION IN MBMAX64

You must have version 15.0.13 or later installed to get the additional processing option based on time and position. This version is in the June Supplemental and a newer version is in the July Supplemental. Both give you the new option.

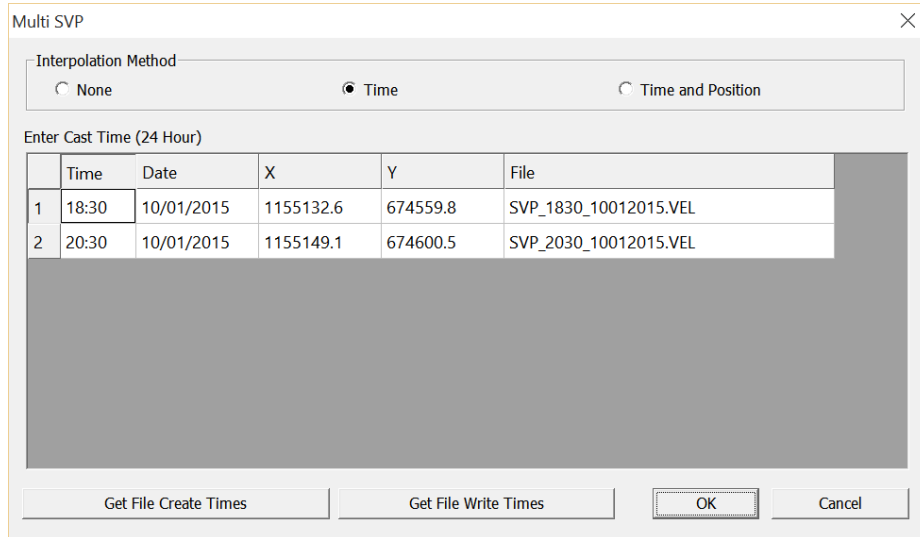
1. **Open MBMAX64** (version 15.0.13 or later).
2. **Load the multibeam data.**
3. **Load your Sound Velocity files.** In the Read Parameters Window, select the Corrections Tab. Choose “VEL File” and select multiple VEL files. The Multi SVP window opens.

FIGURE 5. Loading Multiple SV Corrections Files



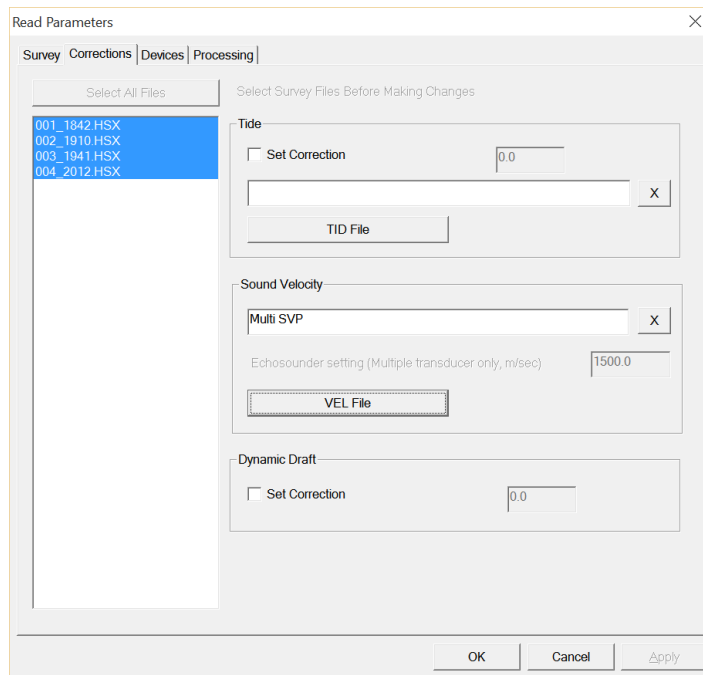
4. **Edit the time, date and position as needed.**
5. **Choose an Interpolation Method and click [OK].** These are new options: None, time, or time and position.

FIGURE 6. *Selecting the Interpolation Method*



Multi SVP is now listed under Sound Velocity.

FIGURE 7. *Multiple Sound Velocity Profiles Assigned to the Selected Files*



If you decide not to use the Multi SVP's already selected, just click the sound velocity [X] and then [VEL File] again to choose another file or files you would like to use.

I hope this additional information helps you all and please remember to contact help@hypack.com if you have any question or concerns.