

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 \rightarrow Sound Velocity \rightarrow Sound Velocity

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10	Single B	eam Editor				
21 22 1 21 1 21 1	Soundin Tides	g Selection	•			
	Sound V	elocity	•	Sour	nd Velocity	
A	Magneto	meter Editing		Sour	nding Adjustme	nt

FIGURE 1. New SOUND VELOCITY Interface

Save C	ast Info for Mult	ti SVP Processing			Load Target	
x	0.0		Time (HH:	:MM)	00:00	
Y	0.0		Date (MM	/DD/YYYY)	01/01/2105	
		Enter	Depth in Feet and	Velocity in Feet/Sec		
En	d Depth	Velocity	^	Sound	d Velocity vs. Depth	
1						
2						
3						
4						
5						
5						
/						
3						
3 9 10			~			
3 9 10				Average	0.00	
3 9 10 11				Average	0.00	

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

Eile <u>C</u>	ind Velocity - testsv Convert <u>H</u>elp	v.vel			×	
Cast	Info					
	Save Cast Info for Mu	ulti SVP Processing		Load Target		- 🗆 X
x	0.0		Time (HH:MM)	00:00	SVP #3 SVP#1	
Y	0.0		Date (MM/DD/YYYY)	01/01/2105	SVP#2	
		Ent	er Depth in Feet and Velocity in Feet/Sec		_	
	End Depth	Velocity	A Sound Ve	locity vs. Depth	-	
1	5.2	4992.4	O L	,		
2	6.6	4992.4				
3	8.5	4992.4				
4	9.8	4993.4				OK Cancel
5	11.8	4995.4		L		
6	12.8	4997.7				
7	15.1	4998.7)		
8	16.1	5000.0		<u>ነ</u>		
9	18.4	5000.0	135			
10	19.4	5001.0	4990	5040		
11	21.7	5002.0	Average	5025.47		
	Delete Row		Swap Columns	Graph		
	Insert Row		Sort			

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

FIGURE 3. Entering the Cast Information

Sou	nd Velocity - testsv	v.vel		×
Cast	Info			
⊡ s	Save Cast Info for M	ulti SVP Processing	Load Target	
х Y Дт	11551 67455	132.6 19.8	Time (HH:MM) 00:00 Date (MM/DD/YYYY) 01/01/2 Manually Entered 01/01/2	105
	atomatically	r opulateu.	Walidally Effered.	
		Enter	epth in Feet and Velocity in Feet/Sec	
	End Depth	Velocity	A Sound Velocity vs. Depth	
1	5.2	4992.4	0	
2	6.6	4992.4		
3	8.5	4992.4		
4	9.8	4993.4		λ.
5	11.8	4995.4		
6	12.8	4997.7		
7	15.1	4998.7		1
8	16.1	5000.0		5
9	18.4	5000.0	135	
10	19.4	5001.0	4990	5040
11	21.7	5002.0	Average 5025 47	
	Delete Row	1	Swap Columns Graph	
	Insert Row	1	Sort	

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.
- 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.

Survey Corrections Devices Pro	cessing	
Survey Corrections Devices Provide Select All Files 001_1842 HSX 002_1910 HSX 003_1941 HSX 004_2012 HSX 004_201	Select Survey Files Before Making Ch. Tide Set Correction TID File	Open ← → ✓ ↑
	Sound Velocity Echosounder setting (Multiple trans VEL File	Edit Raw Satellite Sort SS Images SVP_1830_10012015
	Dynamic Draft	Generation of the state of the

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
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	· None		• 1	lime .	C Time and Position	
e	r Cast Tim	e (24 Hour)			51	
	Time	Date	X	Y	File	_
	18:30	10/01/2015	1155132.6	674559.8	SVP_1830_10012015.VEL	
	20:30	10/01/2015	1155149.1	674600.5	SVP_2030_10012015.VEL	

Multi SVP is now listed under Sound Velocity.

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

rvey Corrections Devices F	rocessing	
Select All Files	Select Survey Files Before Making Changes	
001_1842.HSX 002_1910.HSX 003_1941.HSX 004_2012.HSX	TID File	<
	Sound Velocity Multi SVP Echosounder setting (Multiple transducer only, m/sec) 1500.0	(
	Dynamic Draft Set Correction 0.0	

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 <u>help@hypack.com</u> if you have any question or concerns.