



## Using a Boat File in MBMAX64

By Mike Kalmbach

Device offsets are hard to come by. Precise measurement of location (IMU, sonar, etc.) relative to the boat reference point. Precise location of the reference point in x, y and z. Multibeam sonar angles from patch testing. When you've got the numbers right you want to make sure those numbers get used every processing run.

So that's the topic, getting offsets right. Jumping ahead a bit to the Device page in MBMAX64 Read Parameters we see lots of offsets (Figure 1).

**FIGURE 1.** Device Offset Information. Location and Angles.

The screenshot shows the 'Read Parameters' dialog box with the 'Processing' tab selected. The 'Navigation' section contains the following offsets: HYPACK | X=-0.800 | Y=0.530 | Z=-2.110 | Latency=0.000. The 'MRU' section contains: Odom | X=0.000 | Y=0.000 | Z=0.420 | Pitch=0.00 | Roll=0. The 'Alternate Device for Heave' is set to 'No'. The 'Heading' section contains: Odom | Yaw=0.00. The 'Tide' section contains: HYPACK. The 'Sonar Head 1' section contains: Odom | X=1.710 | Y=-1.850 | Z=0.650. The 'Sonar Head 2' section contains: Odom | X=1.290 | Y=-1.850 | Z=0.650. The 'Patch Test' section contains two entries: Yaw=2.00 | Pitch=-1.50 | Roll=-30.20 | GPS Latency=0.000 and Yaw=2.00 | Pitch=-1.50 | Roll=29.95. The 'Offsets From MBMAX Boat File' section has 'Load' and 'Save Current Offsets...' buttons, and an unchecked checkbox for 'Always Load Offsets From Boat File'.

Offsets originate in Hardware setup on the boat computer. Hardware saves to HYSWEEP.INI in the active project. HYSWEEP® SURVEY picks up offsets from the INI file and saves to the header of HSX raw data files.

In processing, offsets can be changed a number of ways. New offsets may be keyed in. Patch test offsets might come from an MBMAX64 calibration run. Modified offsets may have been saved to edited HS2x files then included in reload. Or, following the topic of this article, offsets may have been loaded from an MBMAX64 Boat File.

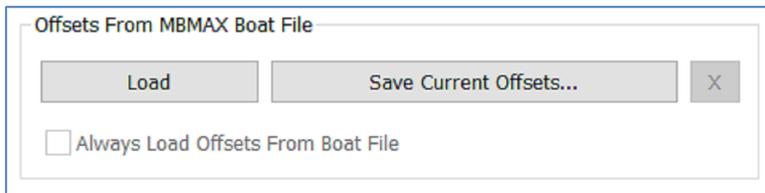
The Boat File overrides offsets using a file on the processing computer. That is, the computer where MBMAX64 is run from. Which may differ from the boat computer. Most likely different. So a choice is provided; to use offsets from data files or to use offsets from a Boat File.

(To be clear, the Boat File is entirely optional and I suspect the vast majority of HYSWEEP® users do not use it.)

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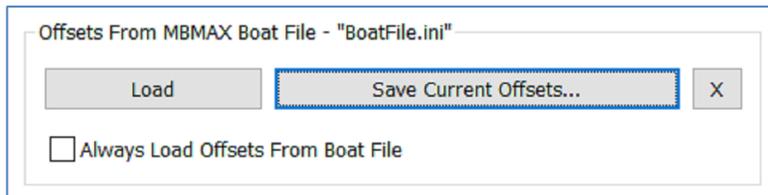
Concentrating on the Boat File section, this is how it looks if you are not using a boat file.

**FIGURE 2.** *Not Using a Boat File*



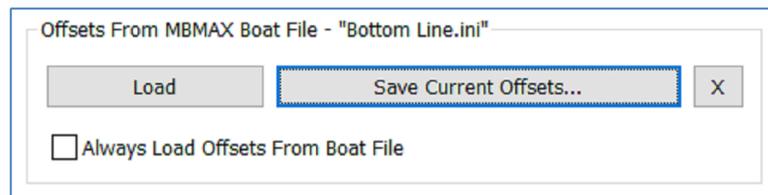
To start using a Boat File, make sure offsets are correct then click [Save Current Offsets]. You have the choice of where to save the Boat File and what to name it. Default name in BoatFile.INI.

**FIGURE 3.** *Offsets Saved to the Default File Name - BoatFile.INI*



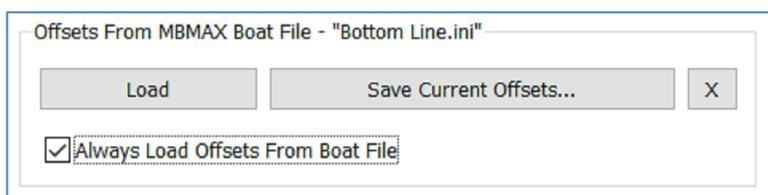
If you wish to save multiple offset configurations for a boat or to save offsets from multiple boats just change the name. Here we named it for the survey vessel "Bottom Line".

**FIGURE 4.** *Offsets named after S/V Bottom Line*



You're now ready to use the Boat File next edit session. Simply click [Load] to load offsets from the Boat File. Easy as that as long as you don't forget to click. If you are forgetful that way, check "Always Load Offsets From Boat File" and it's done automatically.

**FIGURE 5.** *To Automatically Load Offsets From the Boat File*



Finally, the [X] button clears settings and the Boat File is forgotten.