Disclaimer

Not all methods mentioned in this document have been tested by Norbit and are therefore not guaranteed to work. In addition some tips if done incorrectly may damage the system. If there is any questions regarding tips discussed in this document please contact Norbit Support prior to use.

NORBIT Tips N Tricks Introduction

In the quest to ease the burdens on the field surveyor Norbit has compiled a list of Tips N Tricks. These tips are collected from users as well as Norbit engineers and contractors. Not all of these tricks have been tested by Norbit and are therefore not guaranteed to work. We do sort through the compiled tips to the best of our abilities to select ones that we think may work, are creative, or that we have been able to test. If during the course of using a Norbit system you think of a tip or trick that would benefit other users please feel free to send it to Norbit support and we may add it to this document. Keep in mind that the nature of this document means that it will be constantly changed and updated as new items are added. If at any time you would like to get an updated copy please contact Norbit support and we would be happy to send it to you.

Tips N Tricks in this document are broken out into several sections.

- Components – Tips N Tricks dealing with Norbit Hardware
- Installation Procedures– Tips to get going faster.
- Operation– Tricks to utilize on the boat.
- Miscellaneous – Random bits of knowledge.

1. HARDWARE

Wet-End

Tighten cable	Norbit Tested - To ensure a tight wet end connection gently wiggle the cable connection while tightening. For extra grip a set of pliers or channel locks can be used to gently grip the connector and tighten the connection.
Cleaning	After surveying in waters heavy with sediment it is a good idea to decouple the IMU from the sonar (iWBMS & iWBMSh) and rinse out any sediment that may have accumulated in the cavity in-between them.

SIU

Cooling	Norbit Tested – If you must keep the SIU in a location with little to no airflow, For example a small box, the heat sync will not be able to properly dissipate the heat. In these special cases Norbit recommends that a fan be pointed at the SIU to maintain proper airflow allowing the heat syncs to work properly.
SIU Cap Storage	User recommendation - Stick the dust caps from the SIU into the dust caps on the dry end of the cables. This eliminates the caps from rolling around the boat.
SIU Mounting	Norbit Tested – For additional mounting options the rubber feet at the front of the SIU can be removed exposing the other end of the holes at the top corners of the SIU. This can allow for bolting down the SIU if needed.

GNSS Antennas

Easy removal	Norbit tested – Sometimes the threads of the GNSS antenna mounting get sticky. We have found it helpful to apply a very small amount of grease to the threads. This makes removal easier.

Cables

Primary Antenna identification	If the Norbit provided GNSS antenna cables are not being utilized. Many users have found it helpful to mark the primary antenna with colored tape on both ends.
GNSS TNC Connections	A small amount if dielectric grease can be applied to the threads of the antenna TNC connectors. This makes both instillation and removal painless.

2. Installation

System Mounting.

Rapid mounting	Norbit Tested – Norbit as well as users have had great success utilizing Hollander Speed Rail® to fabricate a sonar mount onsite for a wide array of vessel typed and sizes. Contact Norbit support for additional information on utilizing speed-rail

Offsets

Offset determination (iWBMS – Applanix systems)	Norbit Tested – In some cases it is difficult to measure the offsets without a high degree of uncertainty. In these cases Norbit has found that utilizing the lever-arm offset calculations in Applanix POSMMS has given reliable results. In a pinch some users have had luck eye balling in the offsets prior to survey and utilizing MMS calculations to rectify the data post survey using PPK. **RAW POS data MUST be logged to utilize this tip . Also note that there should be at least 30min of data and there should be some vessel dynamics (turns etc) at the start and end of the data file.**
Manual GAMS values	In some cases it may be difficult to get a gams calibration to work out, such as in limited GNSS environments, or time may not allow for conduction of one prior to survey. In these cases it is possible to enter in a best guess of the distances between primary and secondary GNSS antennas, making sure to log raw INS data. Gams Values can be recalculated in POSMMS
Antenna Separation	Norbit tested – Utilizing, at a minimum, the iWBMS with Applanix Wavemaster a small antenna separation can be used. Norbit and other users have collected quality data utilizing a 1m antenna separation. This can be very handy for mounting on very small vessels.

3. Operation.

Collecting data under docked ships	Is some case a docked or moored vessel may be in the way of collecting data. In these cases changing the swath direction a few more degrees port or starboard may allow for 100% coverage to be achieved. At least it will cover more area than maintaining a zero degree pointing angle. This helps keep data clean as you only need to look further out in one direction, keeping the opposite side neat.
Site Recon	Utilizing the Norbit's swath capabilities it may be beneficial to run a couple of survey lines utilizing a very wide swath angle. This data may be too noisy for a deliverable but can be utilized to give a general feel of the area and will help identify any potential hazards, such as shallows, prior to conducting the survey with a narrow swath. In very narrow channels a full 180° swath angle can be utilized to recon the entire channel in one pass.
Survey in hazardous shallows.	To reduce the risk of striking the sonar in shallow water users can point the beam fully horizontal keeping the boat in a safe area, and shoot into the shallow. On the next pass having confirmed that there are no obstructions the vessel can go a bit further into the shallows, constantly sweeping further and further into the shallow area until the desired coverage is met.

4. Miscellaneous

Baggage Weight limits	User Tip – In some cases your Norbit kit may be over weight for the airline. In these cases you can remove the wet-end and bring it as carry on. It will fit underneath the seat in front of you. Wrap it in a jacket for extra protection.