MAVLink Autopilot Updates

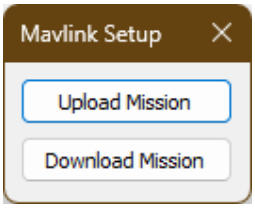
By Daniel Tobin

Over this past quarter, HYPACK has been working closely with Seafloor Systems to refresh and update our MAVLink autopilot driver.

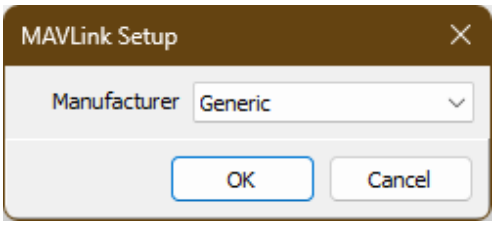
SETUP

The first thing most users will notice is the updated MAVLink setup dialog in the HYPACK Hardware Setup.

Original MAVLink Setup Dialog



Updated (Current) MAVLink Setup Dialog



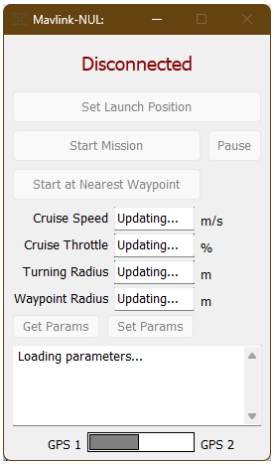
We removed the [Upload Mission] and [Download Mission] buttons from the MAVLink setup dialog. The [Upload Mission] button was redundant because, when you start a survey and click the [Start Mission] button, HYPACK® will upload the current survey line plan to your device as the current mission. We struggled to find a use case for the [Download Mission] button, thus making it irrelevant.

In place of these buttons, we now have a manufacturer selector. Currently, aside from Generic, the only other manufacturer on the list is Seafloor Systems since their setup involves some minor UI adjustments to the Survey interface.

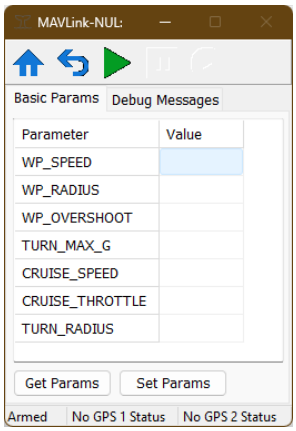
SURVEY

The MAVLink Survey interface was also updated.

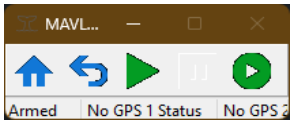
Original MAVLink Survey Interface



Updated (Current) MAVLink Survey Interface



First, we've added a row of device controls to the very top of the interface. From left to right they are: Set home, return to home, start mission, pause (loiter), and start mission from nearest waypoint.



If you like, you can shrink the window down to only display the controls and vessel status.

The parameters were reorganized into a table in the Basic Params tab, and now display the proper MAVLink parameter names. The debug messages were moved to the Debug Messages tab. Your vessel and GPS status are now displayed at the bottom of the MAVLink Survey interface.

Under the hood, there were also a number of bug fixes and UX tweaks to make the driver more intuitive.

THE TRIP

Seafloor Systems' main office in El Dorado Hills, CA, is a quick 8-hour flight from our office in Middletown, CT.

We took out an EchoBoat-240, where Tyler Atkinson of Seafloor Systems reviewed his usual workflow with the old driver. We collected notes and made some updates to the code, and were able to test those updates live - a rare treat for a programmer!

TRIP PHOTOS

Inspecting the boat and planning our day at the Seafloor office.

Tyler Atkinson (Seafloor Systems) and Jerry Knisley (HYPACK) photographed.

Powering on and connecting to the vessel on-site (Tyler and Jerry).

Remotely controlling the vessel, visible as a blurry yellow blob on the water (Tyler again).