Navsight Solution

High Performance Inertial Systems

Quick Start Guide

Document Revision NAVSIGHTQSG
Jul 1, 2020

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SBG SYSTEMS

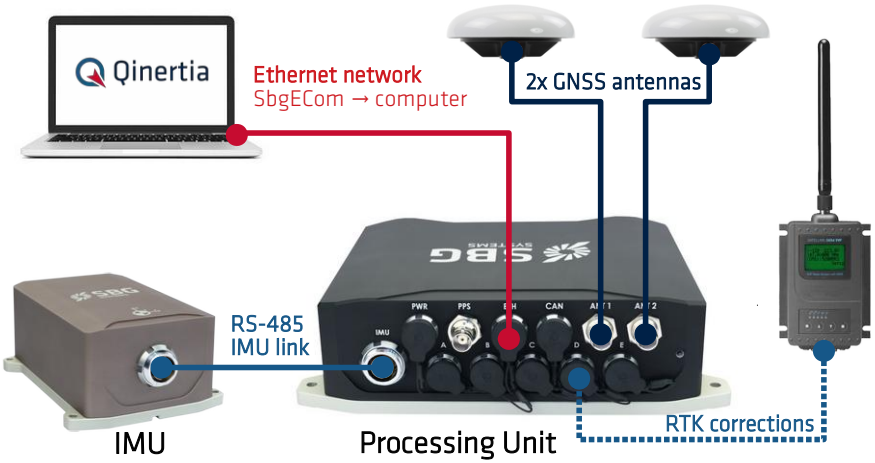
Following instructions will help you to start quickly with your new Navsight solution. Please read and follow it carefully before plugging the device or installing software.

Solution overview

Thank you for purchasing a SBG Systems product. The Navsight solution is a cutting edge navigation system dedicated to Marine, Land and Air Survey Applications. It has been designed for optimal integration with Qinertia post-processing suite, as well as popular survey software like Qinsy, Hypack, PDS and others.

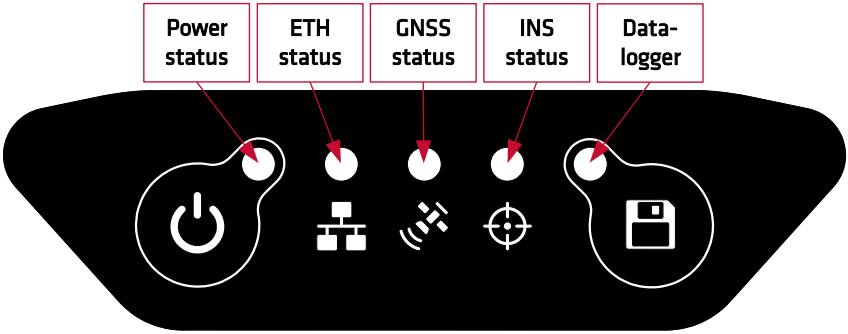
This solution is composed of:

- An IMU, used to measure all rotations and accelerations of the vehicle
- A processing unit, used to fuse its internal (or external) GNSS data with the inertial measurements to provide accurate position and orientation, even in difficult conditions. This unit also features a wide range of input and output interfaces.
- 2x GNSS antennas



Processing unit keypad

The Navsight processing unit integrates a membrane keypad that gives a quick view about sensor health and status, and allows a few common actions like power up or down, enable or disable data-logging.



Software development Kit

The Software development kit is a set of tools that enable quick and easy use of Navsight systems. Although this step is not mandatory, It should be installed prior to the first use of your system.

The SDK runs on all Windows platforms and contains the following tools:

- sbgCenter software for easy connection to the web page, real time display, recording logs and analyze the data
- sbgNetworkDiag tool, that troubleshoots all network communication issues
- Full documentation including Hardware Manuals, Technical Reference Manual and Firmware manual
- sbgECom C library and associated code examples

You can download and install the latest SDK from SBG Systems support website:

https://www.sbg-systems.com/setup

First use of a Navsight system

Connect to the Navsight web page

Using sbgCenter

The web page is the main way to configure the Navsight system, and check the system status and health. SBG Systems recommends the use of a modern web browser to get an optimal user experience.

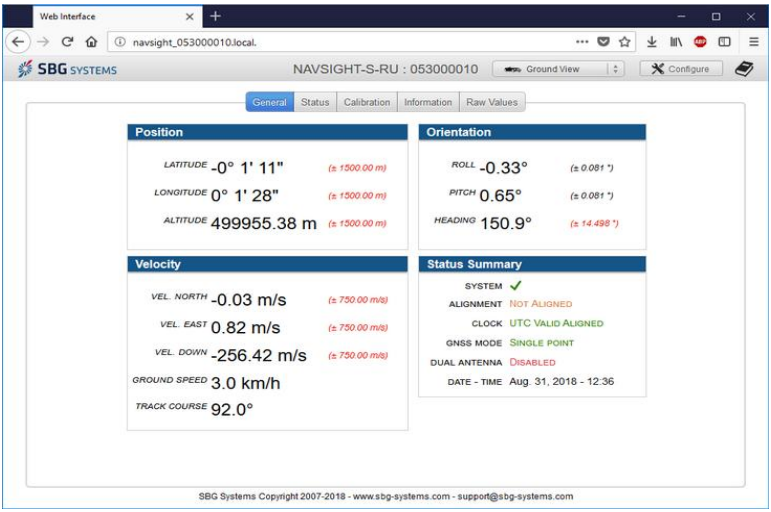
On Windows platforms, the easiest way to connect to the Navsight system is to launch the sbgCenter to scan for devices on the network. Click on  icon to scan for devices. Once connected, you can go to the web page by clicking on  icon and then clicking on "Open Configuration" button.

All platforms

On all platforms that have Zeroconf implemented, it's possible to connect to the device web page by typing directly the product name and serial number in your web browser:

http://navsight_053000010.local.

Please note the final dot (.) in the http address.



Configure your IMU setup

Navsight supports various IMUs. The first thing to do when using the system for the first time is to setup correctly the installed IMU from the web configuration interface.

Note that to obtain valid performance, you will also need to setup your mechanical installation parameters. Please refer to your application operating handbook for more details about that.

Record data for post-processing

A typical use of Navsight solution is to store the IMU and GNSS data on the datalogger for post-processing after the mission. This can be done easily by pressing button on Navsight key pad, or through the main web page, by clicking on the datalogger button.

Once the mission is finished, you can get the logged data back using the FTP server, at this address:

ftp://navsight_020000001.local.

The recorded files can be directly used by Qinertia post processing suite.

Interface with third party software and systems

Navsight solution is compatible with most popular survey software suites such as Qinsy, Hyapck, or PDS2000 using their dedicated driver.

In addition to specific drivers developed, Navsight solution is compatible with a wide range of third party devices thanks to the support of NMEA protocol as well as other protocols (ie; TSS1, SIMRAD, ...). This enables seamless integration into existing systems using those protocols.

Subsea IMU maintenance

For subsea IMU users, it is important to know that the IMU subsea connector is made in Chloroprene rubber. In order to maintain its mechanical properties, the cable plug needs to be regularly greased with a silicon compound such as Molykote 44 medium or Loctite 8021. Failing to do so can lead to the fusion of connector plug and receptacle.

A first grease application is performed in factory; however, user is responsible to take care of checking and greasing the connector.

Troubleshooting

If the Navsight system was previously used in another network with a specific configuration, it can be difficult to access the web page and other Ethernet services. You can easily sort this out by using the Navsight key pad or sbgNetworkDiag tool.

Revert to factory defaults

When the system is powered and running, it is possible to revert Navsight to its factory defaults by pressing and holding  and  buttons together for 5s.

Note: This will affect ALL parameters including sensor installation calibration parameters, output configuration and all other settings!

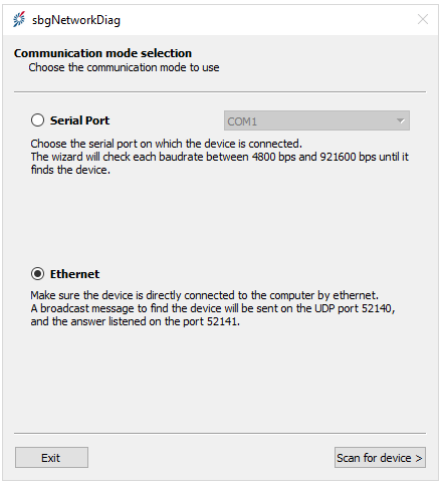
Reconfigure network with sbgNetworkDiag

This tool is intended to reconfigure easily your Navsight network settings without affecting other parameters.

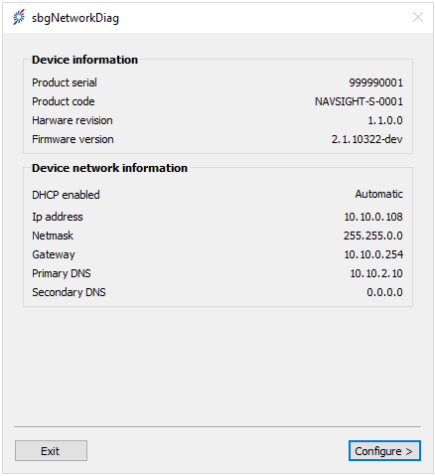
Step 1, connect to your system (Ethernet or Serial)

You can use either a direct Ethernet connection to your PC (Leaving the Navsight system on a network is not recommended for this step).

Alternatively, it is possible to use this tool through a UART connection on Navsight PORT A, B or C.

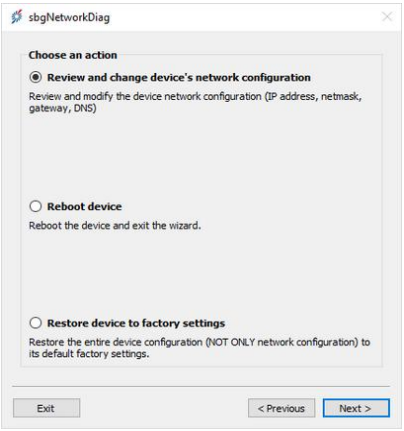


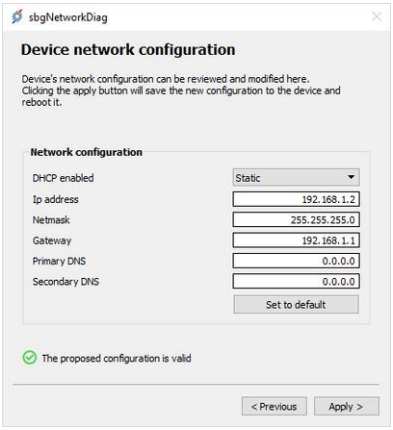
When a device is detected, sbgNetworkDiag lists the main device information and its current network configuration.



Step 2, reconfigure the network or restore settings

Once connected, you have the possibility to setup Navsight Ethernet configuration or revert it to defaults. You can also revert all settings to factory defaults and simply reboot the unit.





Find out more

You will find the full Navsight documentation within this Software Development Kit: The Operating Handbooks are a quick guides to install the unit in a specific application.

For more details, the Hardware Manual provides deep information about your solution features and explains in details how to install and use it. The Firmware Reference Manual provides low level protocol specifications as well as advanced features information.

All this documentation is also accessible on Navsight web page.

Support

If you have any trouble or question with the use of your system, feel free to contact our support team:

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