



# AIR Navbox Instructions

## **Technical Bulletin**

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# Major Changes

- Rover now starts recording navigation data immediately on initial power on. There is no need to connect to the AIR navbox with SpatialExplorer to initiate navigation data recording. Behind the scenes, rover's SystemStartup option is set to immediate. Found in *Settings* → *Rover* → *General* → *SystemStartup* is **immediate**, not **manual**.
- SpatialExplorer **can** be used as always to better monitor the system, but is required **only** to edit and switch between configuration profiles. As stated above, the system is set to record navigation data upon startup and initiate sensor collection with the press of the CPU Button.
- All data (navigation, LiDAR, camera) is stored on a microSD card.
  - **Do NOT remove the microSD card when the system is on.**
  - We recommend **ONLY** removing the microSD when the system is powered off. Do **NOT** remove the SD card while the AIR Navbox is recording data. In rare cases, you can remove it **IF AND ONLY IF** the Status-LED is blue/off/blue/off.
  - The microSD card must be formatted with the **exfat** filesystem.
- **Do NOT disconnect ANY sensor cables (LiDAR/Camera) while power is connected.** Doing so may lead to potential hardware damage.

## Status-LED

The AIR Navbox communicates via an LED sequence. Each colored sequence is indicative of specific AIR navbox stage.

State 1	State 2	State 3	State 4	LED sequence	Stage Description
red	red	red	red	Constant	AIR Navbox is powering up.
red	off	red	off	Fast Blinking	AIR Navbox is powering down.
blue	off	blue	off	Fast Blinking	AIR Navbox is missing the microSD card or has detected an improperly formatted microSD card (microSD card is required to record data to the log directory).
blue	red	blue	red	Blinking	AIR Navbox is not receiving IMU data.
blue	blue	off	off	Slow Blinking	AIR Navbox has less than 5 GB storage available.
red	red	off	off	Slow Blinking	AIR NavBox is waiting for GNSS reception.
yellow	yellow	yellow	yellow	Constant	AIR Navbox is recording GNSS/IMU data and at least one sensor enabled, but not all are actually recording data. Occurs while sensors are starting or stopping, but also when cameras triggered by distance and system is static.
green	green	green	green	Constant	AIR Navbox is recording GNSS/IMU data, but CAM/LDR are OFF.
green	green	off	off	Slow Blinking	AIR Navbox is recording GNSS/IMU data and all sensors (CAM/LDR) are recording.

# How to Use the CPU Button

In most cases, when power is connected, the AIR navbox will immediately start up and the CPU button will turn blue. During this state, the Status-LED will be a constant red. However, if the AIR navbox does not power up automatically, a single short press will be required to power on the system.

## Single Short Press

Once the Status-LED is a constant-green or is flashing green, a single short press of the CPU button will start/stop the recording of the sensors.

## Three Short Presses

Three short presses of the CPU button (with less than 2 seconds of time between presses) will stop all sensor recordings and shut the AIR navbox down.

- ★ This will also shut down an attached RIEGL sensor, however be aware that it will take a bit longer to shut down the RIEGL sensor usually takes longer to shut down. Therefore, disconnect power completely **ONLY** after the LAST device has powered off.

This content is subject to change.

If you have any questions about this document, please contact Phoenix LiDAR Systems by sending a message to [support@phoenixlidar.com](mailto:support@phoenixlidar.com).

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