



EMESENT COMMANDER 1.5.2 RELEASE NOTES

DOCUMENT NUMBER: RN-008
REVISION NUMBER: 1.0
RELEASE DATE: 31 OCT 2024

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Using this manual

Hovermap is a powerful system that can be used as a Lidar mapping payload but also as an advanced autopilot for drones. It is therefore recommended to read the user manual thoroughly to make use of all its capabilities in a safe and productive way.

Disclaimer and safety guidelines

This product is not a toy and must not be used by any person under the age of 18. It must be operated with caution, common sense, and in accordance with the instructions in the user manual. Failure to operate it in a safe and responsible manner could result in product loss or injury.

By using this product, you hereby agree that you are solely responsible for your own conduct while using it, and for any consequences thereof. You also agree to use this product only for purposes that are in accordance with all applicable laws, rules and regulations.

The use of Remotely Piloted Aircraft Systems (RPAS) may result in serious injury, death, or property damage if operated without proper training and due care. Before using an RPAS, you must ensure that you are suitably qualified, have received all necessary training, and read all relevant instructions, including the user manual. When using an RPAS, you must adopt safe practices and procedures at all times.

Warning

Always be aware of moving objects that may cause serious injury, such as spinning propellers or other components. *Never* approach a drone while the propellers are spinning or attempt to catch an airborne drone.



Overview

Emesent Commander is a cutting-edge application for mission planning and execution that is designed to interact seamlessly with your Hovermap. Whether you are an experienced user or new to the field, Commander simplifies mapping, pilot assistance, and autonomous mission planning and control. With its user-friendly workflow prompts and built-in failsafes, Emesent Commander offers unmatched ease of navigation and live point cloud visualization through its intuitive touchscreen interface, allowing you to perform your mission confidently.

The Hovermap app is no longer supported and will not work with the latest Emesent Cortex software.

Available Versions

Emesent Commander is offered in two versions, each providing the same robust support for Hovermap, ensuring a seamless and highly compatible performance across multiple platforms.

Platform	Emesent Commander App
Freefly Astro	Commander
DJI Matrice 350	Commander
DJI Matrice 300 DJI Firmware v5 and above	Commander
DJI Matrice 300 DJI Firmware v4 and below	Commander 210
DJI Matrice 210	Commander 210



Supported Devices

Emesent Commander is supported on Android devices, which meet the minimum and recommended specifications required to run the application.

Device	Minimum Version
Samsung Galaxy Tab Active4 Pro 5G (recommended tablet specifications)	Android 10.0.0
Samsung Galaxy Tab Active Pro 4G (minimum tablet specifications)	Android 10.0.0
Samsung Galaxy S23 (minimum smartphone specifications)	Android 13.0.0
DJI RC Plus Remote Controller	Android 10.0.0
Freefly Pilot Pro Controller	Android 13.0.0

You can install and operate the application on an Android smartphone or tablet with similar or higher capabilities. However, it is advised to use the device with the recommended specifications listed above as it has been thoroughly tested for installing and operating the app to ensure a smooth and reliable user experience.



Emesent Commander Releases

Scroll down to review notes from previous Emesent Commander releases.

- [Emesent Commander 1.5.2 \(Current\)](#)
- [Emesent Commander 1.5.1](#)
- [Emesent Commander 1.5](#)
- [Emesent Commander 1.4](#)
- [Emesent Commander 1.3](#)
- [Emesent Commander 1.2](#)
- [Emesent Commander 1.1](#)



Emesent Commander 1.5.2 (Current)

Fixed in this release

- Vehicle RTK Performance Improvements
 - Enhanced RTK performance for improved positioning accuracy and stability across various operational conditions
- Vehicle RTK Path History Display
 - RTK path history is now disabled by default for vehicles, helping to declutter the interface and improve focus on real-time data.



Emesent Commander 1.5.1

This update **removes the restrictions** for Freefly Astro users and is compatible with all supported platforms.

Fixed in this release

- Fixed the issue of frequent communication dropouts between Emesent Commander and Emesent Cortex despite stable Wi-Fi connections on Android devices due to outdated GRPC dependencies. This upgrade also improves stability during extended sessions.
- Fixed an issue where the Hovermap failed pre-scan checks when using Backpack RTK and Vehicle RTK setups, leading to errors and inability to initiate scans. Corrections were made to the mission logic to prevent autonomy missions from triggering during RTK mapping operations.
- Fixed an issue where the battery status is incorrectly displayed as 100% during Vehicle RTK or Backpack RTK missions even though battery information is unavailable from these RTK units.
- When Freefly Astro is detected, the FPV feed is now hidden by default and the point cloud is displayed in the Main View. The FPV feed can be manually enabled via the Application settings when Auterion is closed.
- Emesent Commander now remains active even without user interaction to ensure the point cloud is populated in the Main View.
- Reduced unnecessary calls during mapping and RTK missions to improve optimization. This update helps lower the load on less powerful tablets, enhancing performance during longer missions. Note that while this improvement helps delay performance issues, it may not completely eliminate them on lower-spec devices.



Known Issues

- When using Freefly Astro, enabling the FPV feed via the Application Settings while Auterion is being run may result in FPV feed stuttering.
- When a mission has started, and the phone or tablet is locked, Emesent Commander may enter sleep mode, resulting in incomplete data and gaps in the point cloud visualization. While the Hovermap will continue to capture data, it may not be rendered in the app. To ensure you can visualize all captured data, do not lock your device while the mission is in progress.
- When initiating a scan offload via the Web UI accessed through the application, users may encounter a situation where the download begins but subsequently fails. To mitigate this issue, it is recommended to use a web browser to access the Web UI and download the scan from there.
- After upgrading the Hovermap and connecting it to a DJI M210, Emesent Commander displays a "Not available for connected platform" notification. However, the connection is established correctly following a restart of the app, the Hovermap, and the remote controller.
- The documentation for the RC Plus controller indicates the possibility of calibration (independent of the drone), as outlined here: https://dl.djicdn.com/downloads/DJI_RC_Plus/20230518UM/DJI_RC_Plus_User_Manual_EN_v2.0.pdf
DJI has not enabled integrators to add this feature to their apps and will need to be completed in the DJI native app.



Emesent Commander 1.5

Attention Freely Astro users: This update is **NOT RECOMMENDED** for your device. We will soon release a version compatible with Astro, which includes the same updates as this version. If you are unsure about which update applies to you, please contact **Emesent Technical Support Services** at customer-success@emesent.io.

- [Major Changes](#)
- [Known Issues](#)

Major Changes

RTK (Real-Time Kinematics) Status

In this release, RTK status information is now accessible in Emesent Commander, allowing users to easily monitor key details when using Vehicle RTK or Backpack RTK, including:

- RTK Status (Fixed, Float, Single, No GPS, Offline)
- number of satellites in use by the GNSS receiver
- the GNSS receiver's reported location and precision

With RTK information directly available in Emesent Commander, users can stay updated without switching to the GNSS receiver's native application to check for information.

Mission Report

Emesent Commander now includes a Mission Report feature that allows for annotating and reviewing scans directly within the app before offloading data. Users can access key mission attributes on the Mission Report page, gaining valuable insights into mission performance. Detailed notes can also be added to the selected scan, enhancing documentation for thorough analysis and reporting.



Robot path saved even during loss of connection

With this update, Hovermap automatically saves the robot's path even if the connection is lost. Users can view the complete path in Emesent Commander, ensuring that no segments are missing in the path data due to a temporary loss of connectivity.

Multi-language Support

Multi-language Support, previously released in beta, is now fully featured. With this update, users can now enjoy enhanced functionality and stability.



Emesent Commander 1.4

Major Changes

Multi-language Support (Beta Release)

This feature is in Beta and may undergo further refinement. For questions and feedback, contact Emesent Technical Support Services at customer-success@emesent.io.

The Emesent Commander offers comprehensive multilingual support for nine major markets, enhancing accessibility and user experience for our global audience. This update introduces localized language options to cater to users in key regions, ensuring a seamless and comfortable experience in their preferred language.

Supported Languages

- English (existing language)
- Spanish
- French
- German
- Simplified Chinese
- Japanese
- Italian
- Russian
- Portuguese (Brazil)

Imperial Measurement System Support

The Emesent Commander now supports the imperial system alongside the metric system. This enhancement gives users the flexibility to select their preferred unit of measurement directly within the application settings. Easily switch between meters and feet with a simple toggle for optimal usability across different regions and contexts.



Map Widget Integration (DJI only)

The Emesent Commander app has been seamlessly integrated with the Map Widget, changing how users navigate and visualize scanning operations. This integration allows users to access high-quality mapping data and powerful visualization tools.

The Map Widget provides real-time mapping capabilities, for DJI users when the remote controller is connected. This enables users to monitor drone telemetry data overlaid on a map, ensuring situational awareness even without a reliable connection. This capability is essential, particularly in Pilot Assist and Autonomous missions, where precision and operational insight are critical.

In addition, the Overlay feature facilitates seamless transitions between the map, first-person view (FPV), and point cloud view, ensuring a comprehensive understanding of the operational environment.



Emesent Commander 1.3

Major Changes

Android Smartphone Support

The Emesent Commander app is now compatible with Android smartphones. When launched, the app automatically detects the device type being used. On a smartphone, the app presents a streamlined interface that has been optimized for smaller screens. This interface allows you to perform scanning missions in Mapping mode. In addition, the smartphone version also allows you to start and stop scans, turn on Observer Mode, access the Web UI, download logs, and configure application settings.

Minor Changes

- An important update has been introduced to enhance user safety during Mapping mode missions on compatible robots. Previously, users could start Mapping mode missions without being aware that Hovermap's **Shield** protection and Assisted Flight were not enabled. This is often not desirable, particularly in GPS-denied environments.

With this update, users will now receive a confirmation message when they initiate a Mapping mode mission on a compatible platform. This aims to ensure that users only choose a Mapping mode mission when they do not require **Shield** protection and Assisted Flight. By selecting Mapping mode, users are aware that they won't have the assistance of **Shield** protection, which could expose the drone to risks in GPS-denied environments. They can either proceed without **Shield** or cancel and plan an Autonomous mode mission to provide additional protection against obstacles.



- A new **Network Settings** window has been added to the system for managing and configuring network connections. The screen displays the existing network connection, which can be changed through the **Network Settings** screen (accessed via the **Menu Options**) or the **Connectivity** page of the **Mission Workflow**. The list of available or inactive networks displays any previous connections based on the availability of the Wi-Fi network.
- Users can now view the task ID when setting tasks for a mission. This enhancement improves mission tracking and management by providing users with a clear indication of tasks in the Task Manager.
- When performing a mission in Autonomous mode, once the scan has started and the robot is armed, the **Shield Indicator** automatically displays while taking off to ensure any obstacles can be seen. During arming and take-off, audio is not played if obstacles are reported below the robot.
- The **Follow Robot** function, which allows you to follow the Hovermap as you move through the 3D View is enabled by default.
- The display notification for an active failsafe has been improved. When a failsafe is triggered, it will be displayed as a notification in the **Active Failsafe** area beside the **Notification** button. All other notifications (if any) are shown below the failsafe in order of severity. Once the failsafe has been completed, it will be removed from the **Active Failsafe** area and notifications are displayed as per normal operation.



Emesent Commander 1.2

Major Changes

Freefly Astro Drone Support

This release introduces support for the Freefly Astro drones utilizing the Hovermap as a payload. In addition to the drone support, Emesent Commander can be installed on the Freefly Pilot Pro tablet via an external USB storage device or the Freefly Updater app.

Minor Changes

- Attempting to start the scan with unsaved changes to the scan name on the **Scan Setup** page of the **Mission Workflow** will display a message prompt confirming whether you want to save the changes before continuing.
- The **RC Mode** selection is hidden from the **Pre-mission settings** page of the **Mission Workflow** and the **Mission Controls** in the **Main View** when connected to Astro.
- When the **Shield settings** panel is open in the **Main View** and Emesent Commander loses connection with the Hovermap, a message at the top of the panel shows that the Hovermap is disconnected and you need to re-establish the connection to continue.



Emesent Commander 1.1

Major Changes

Observer Mode

Observer Mode enables viewing of the ongoing mission in real-time on multiple Android devices simultaneously, ensuring that stakeholders, supervisors, or team members can monitor the progress from different locations or using different devices.

While observers can view the mission progress, control over mission settings or robot operation is disabled to ensure that those monitoring cannot inadvertently interfere with the ongoing operation.

Integrated Compass Calibration in Mission Workflow

Compass calibration can be done directly through Emesent Commander's Mission Workflow, ensuring the compass is accurately calibrated before takeoff, without the need to navigate through complex remote controller menus.

Emesent Commander provides a user-friendly, step-by-step guide of the calibration process with clear instructions and visual cues.

Enhanced Experience for DJI Matrice 350 Owners with RC Plus Controller

For DJI Matrice M350 drone owners, the new RC Plus controller features an optimized Emesent Commander user interface. The menu items and fonts are tailored to seamlessly adapt to the RC Plus controller's 7-inch screen, ensuring effortless navigation through the app's extensive functions and settings.

Spot: Remote Start and Stop Operation

This feature allows for the remote start and stop operation of your Spot robot (Boston Dynamics). This functionality, which can be accessed via the robot's controller or the Scout desktop software, enables you to perform pre-planned autonomous Autowalk missions.

Minor Changes

- The Point Coloring section in the Display Settings panel now features additional color ranges.



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