FireMapper InFlight Manual

Fire Front Solutions Pty Ltd

Oct 09, 2024

CONTENTS

The FireMapper InFlight module is a SmartController module that has been specifically crafted for integration with Remotely Piloted Aircraft Systems (RPAS). This complimentary addition to the FireMapper software suite allows for the viewing of a drone's real-time location, recording of its flight paths, marking of locations and automatic upload of photos directly to the FireMapper system on either the Online Portal or the iOS & Android mobile apps without needing to stop and land the drone.

CHAPTER

ONE

COMPATIBILITY

FireMapper InFlight is compatible with the following DJI drone and SmartController models. Please make sure that both your drone and controller is supported.

Compatible drones

- Matrice 350 RTK
- Matrice 300 RTK
- DJI Mini 3 [1]
- DJI Mini 3 Pro
- DJI Mavic 3M
- DJI Mavic 3 Enterprise Series
- Matrice 30 Series

Note: [1] the DJI Mini 3 controller (DJI RC) does not support 3rd party applications. The DJI RC N1 must be used instead. However, as it does not have a screen, plug a phone in via usb cable and install InFlight on the phone. The phone will then act as the screen for InFlight.

Compatible SmartControllers:

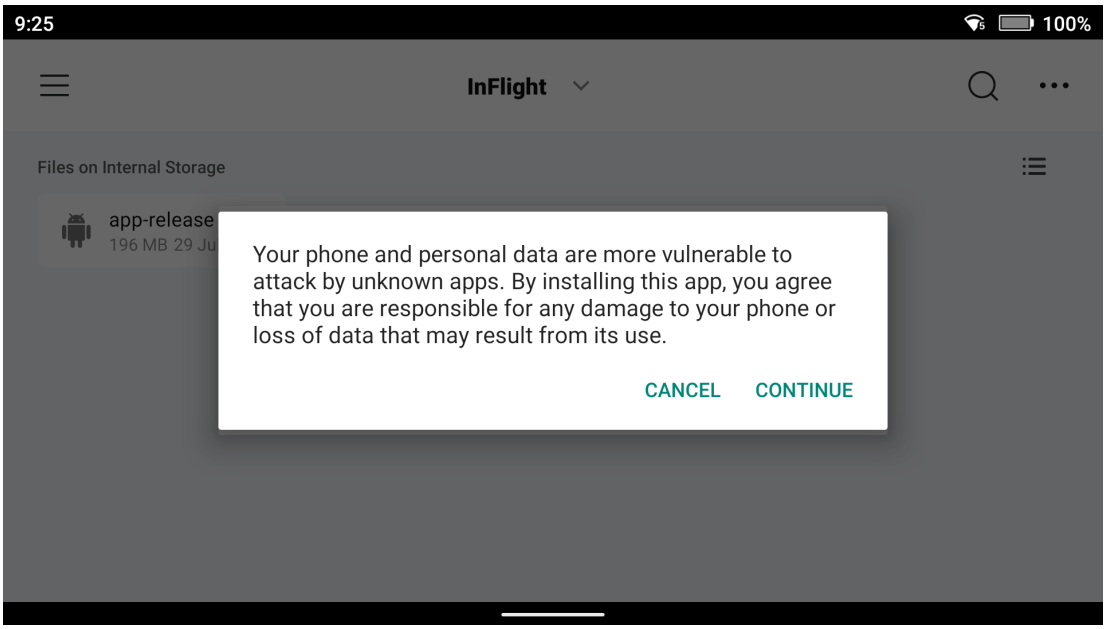
- DJI RC Pro
- DJI RC Plus
- DJI RC Pro Enterprise
- DJI Smart Controller Enterprise

1.1 Access and Download

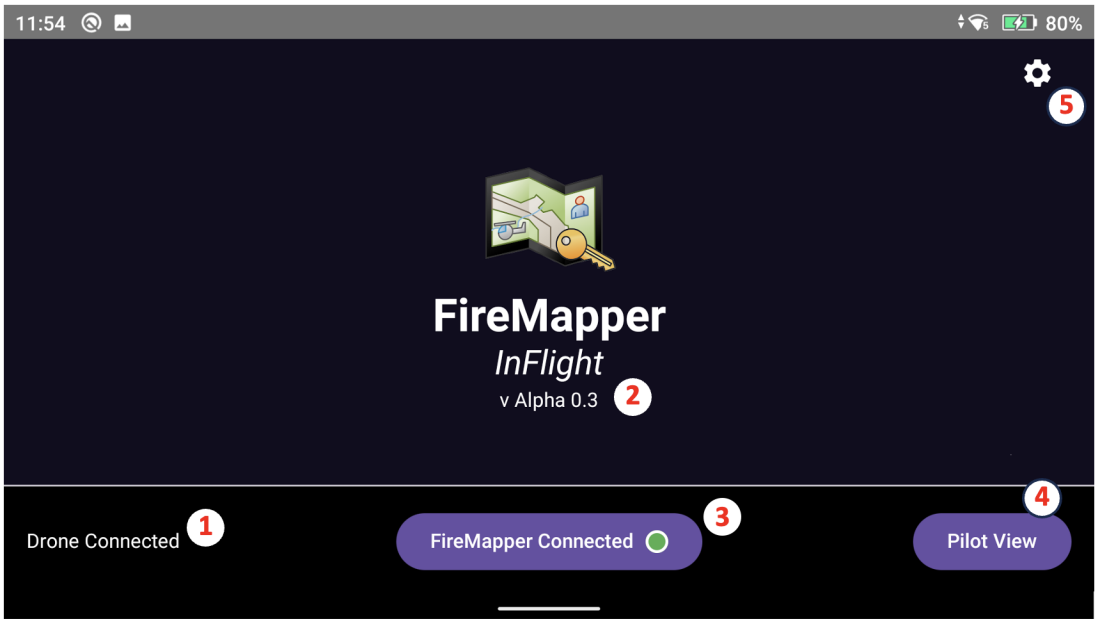
The FireMapper InFlight module is in its beta phase, but is available for preliminary download upon request. Please contact our support desk at support@firemapper.app to request the APK and setup instructions.

1.1.1 Setup

1. Download the APK file from the link provided by our support team.
2. Copy the APK to an Android device - a SmartController unless otherwise specified.
3. Browse device files to find the APK using a File Explorer app. (Files or FileManager on DJI Smart Controllers)
4. Click on the APK file to install the application. There will be a popup warning that the APK is not from a trusted source.
5. Click on the "Continue" button.



1.2 Home Screen



The home screen is the first screen displayed on your SmartController. It displays:

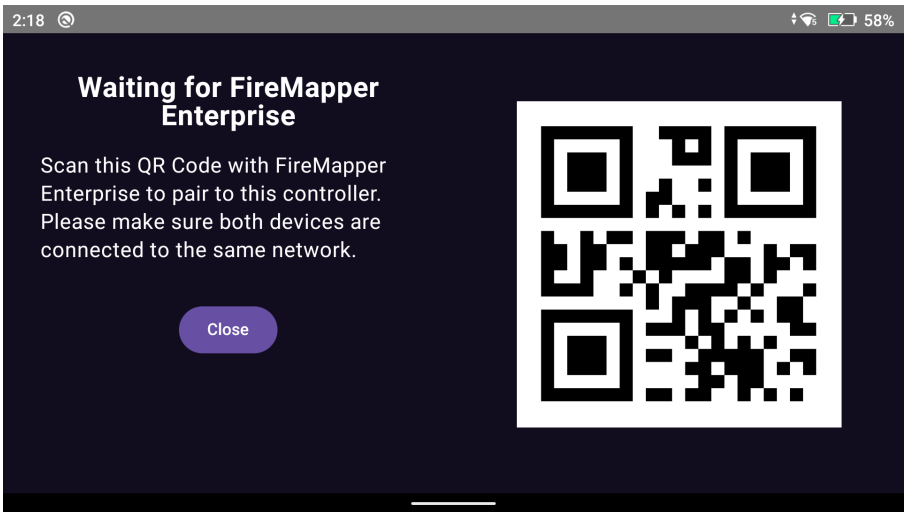
1. The drone connection status (Whether the app can detect the DJI Drone)
2. The app version
3. The FireMapper connection status. Tap this bar to view the *Pairing Screen*.
4. A shortcut to the *Pilot View* for flying the drone.
5. A shortcut to the *Settings Screen* to view logs and for further configuration in the future.

1.3 Pairing Screen

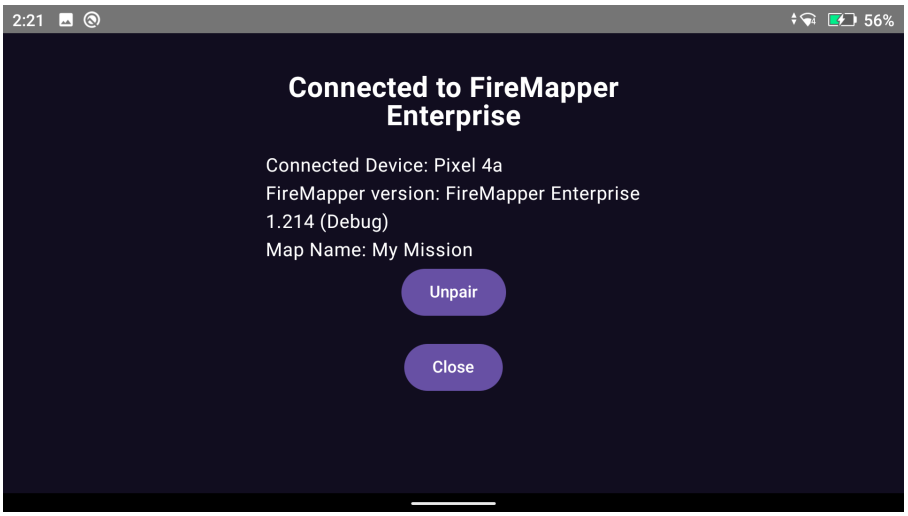
A connection must first be established between a FireMapper app on an Android mobile or tablet device and InFlight on your SmartController, before information can be sent from the drone to your map.

Follow these steps to pair:

1. Both the device and the SmartController must first be connected to the same network (eg. same hotspot, wifi modem or Starlink router).
2. The InFlight pairing screen will initially display a QR code.



3. On the Android device, log into FireMapper and then scan the above QR code.
4. On the Android device, open a shared map.
5. The InFlight pairing screen will now show the connection information including the connected map.



1.4 Pilot View

The pilot screen is where you can:

1. Mark a location using your drone's laser target (if available), camera target or the drone's position to mark an object. Your team can have access to this information to help them be more efficient in their roles and avoid lost time due to lack of information.
2. Record your drone flight path and share it with your organisation. You may want to record a boundary, fire perimeter or anything else that is important to you and your team and they'll have access to it within seconds of finishing the recording.
3. Automatically upload drone photos within seconds. Photos with camera or drone target location information will be uploaded to FireMapper and optionally made available to your organisation so your team can see the latest imagery.

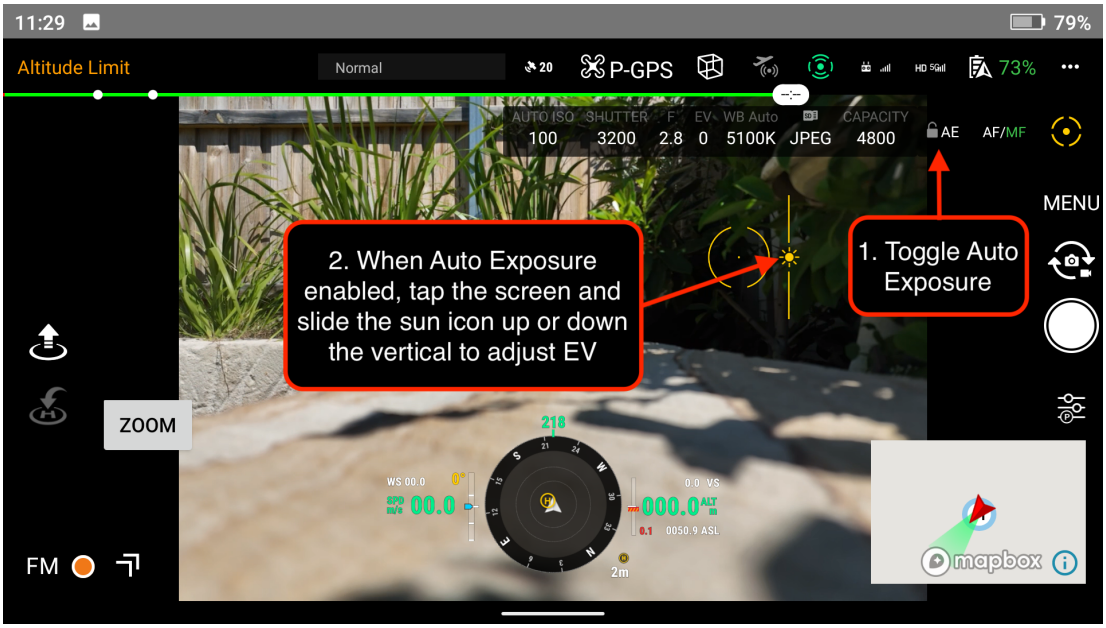
Please see Recording Data for more information on how to do this. .. note:: **Height and Speed units.** The units displayed for speed and height on the pilot screen's compass widget are dependent on the Language Settings of the Smart Controller. Set your device running InFlight to the language settings to your country (e.g. English (Australia)) to get the standard units for your country. See below.

1.4.1 Adjust Exposure

The exposure of the camera can be adjusted by

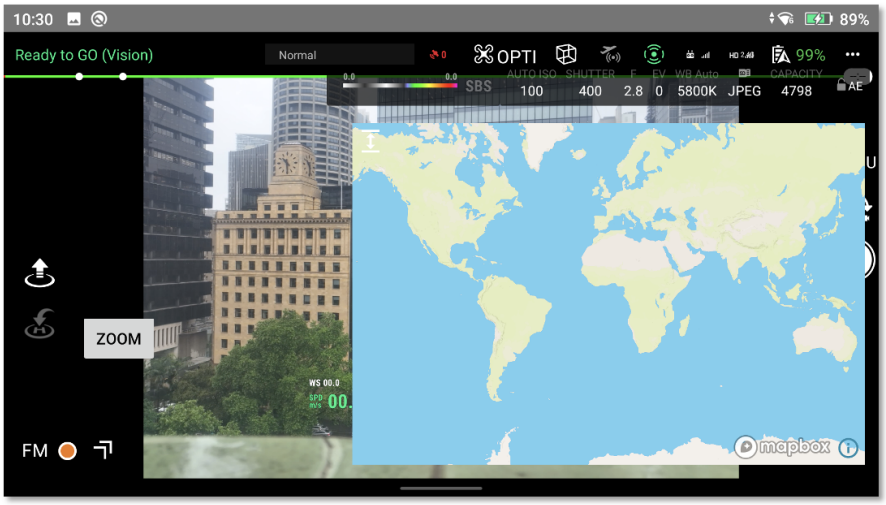
1. Tapping the “AE lock” icon in the top right corner of the screen. This will reveal the exposure slider on screen.
2. Slide the yellow “sun” icon up or down.

The camera settings will only be available if the drone is connected and the camera is active.



1.4.2 Expand Map

The map found at the bottom right of the screen can be expanded by tapping the expand icon. This will hide the compass and other widgets to give you a larger view of the map.



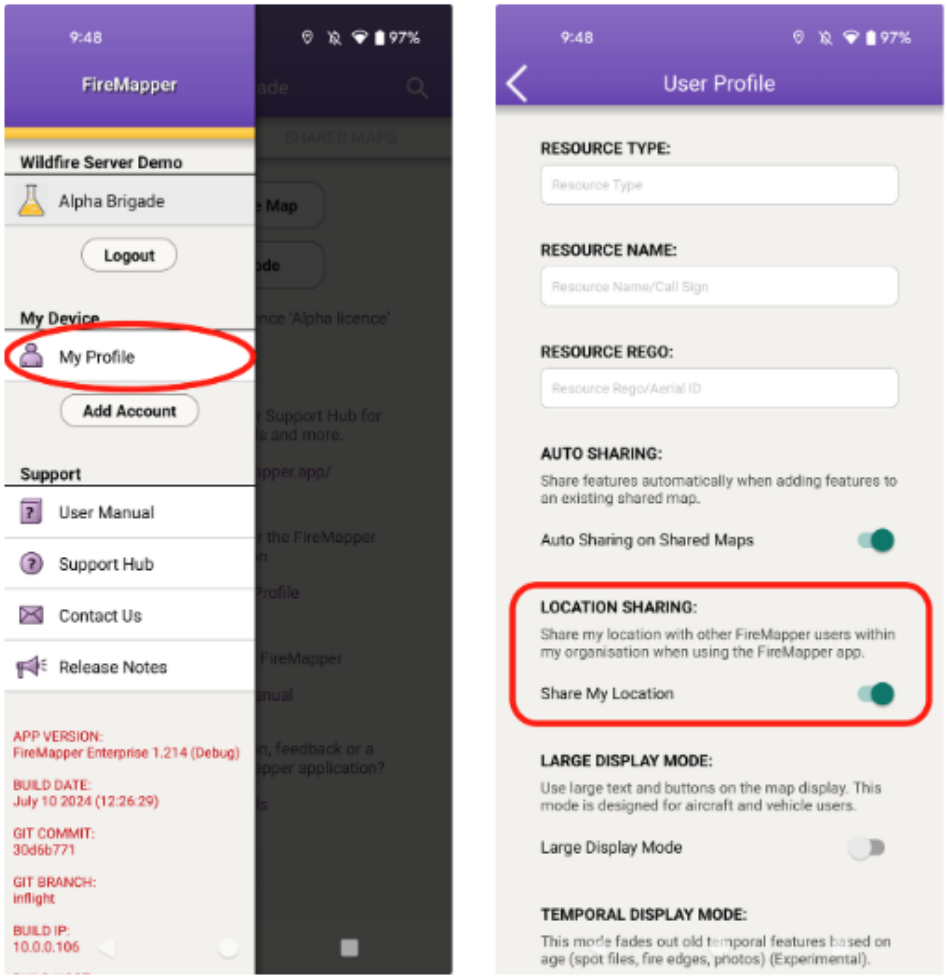
1.5 Recording Data

This page describes the process of recording data with InFlight and having it automatically display in FireMapper. The types of data that are shareable include the drone's location, photos taken, and any marked locations or flight paths.

Note: Please ensure that FireMapper is successfully *paired* with InFlight before proceeding.

1.5.1 Sharing Real-Time Drone Location

1. Configure FireMapper in the User Profile Screen to allow location sharing.



2. Then simply run InFlight on your SmartController. While paired with FireMapper, the drone's real-time location and orientation will visible on the FireMapper app and Online Portal.

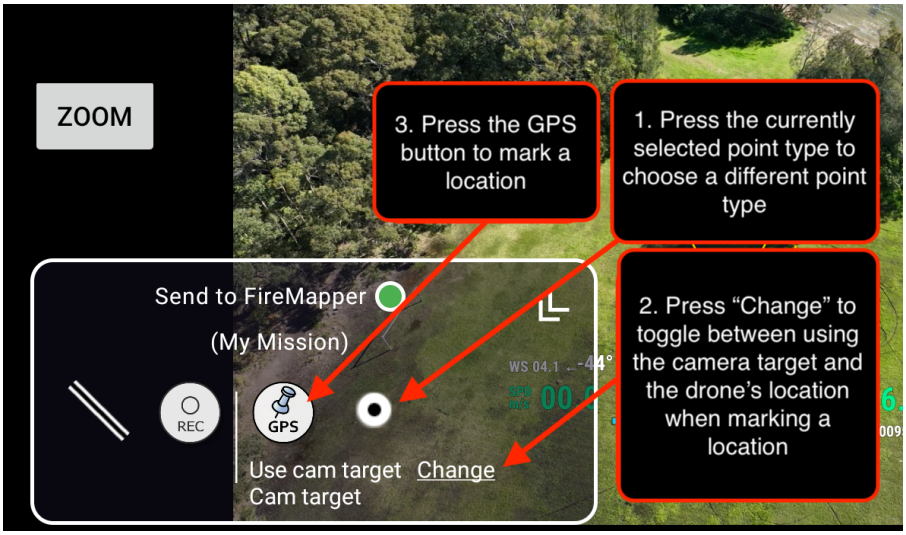
1.5.2 Uploading Photos from the Drone

Any photos taken with the drone while connected to FireMapper will automatically be uploaded to FireMapper. Simply take a photo as you normally would either with the photo button on the pilot screen, or the hardware photo button.

Thermal Image Colour Palette DJI has a variety of thermal image colour palettes. The ability to select the colour palette within InFlight will be supported in the future, but in the meantime, the DJI Pilot app can be used to select the desired colour palette. Then InFlight will use the colour palette you selected.

1.5.3 Marking Locations

Inside the Pilot View, there are buttons to select a point type and mark a location. Use of the camera target is only available when the camera pitch angle is greater than 10 degrees below the horizontal due to increasing inaccuracies outside of this range. Note that the camera target is calculated based on a flat ground assumption and may have low accuracy.



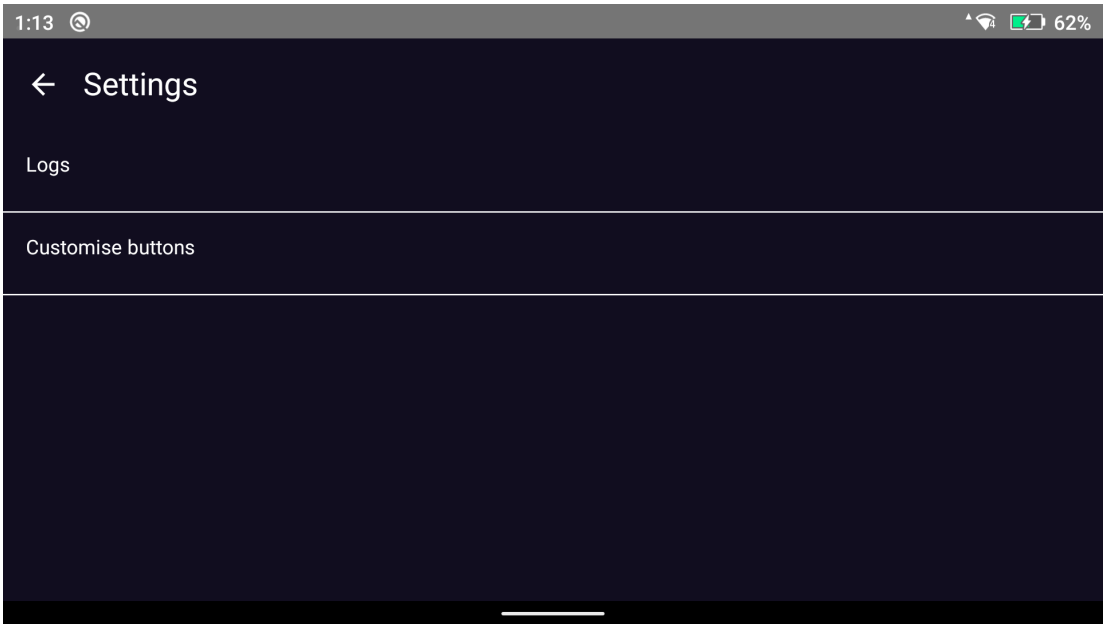
1. Select a point type (By pressing the currently selected point type icon to the right of the GPS pin button) and selecting a point type.
2. Decide whether to mark the drone’s location or the camera (or laser) target. The “change” button will allow you to switch between using the camera / laser target and drone location.
3. Press the “GPS” pin button to mark the location.

1.5.4 Recording Flight Paths

1. Select the line type you want to use by pressing the line icon to the left of the “REC” button and select your line type
2. Press the “REC” button
3. Fly the path you want to record
4. When finished press the stop record button

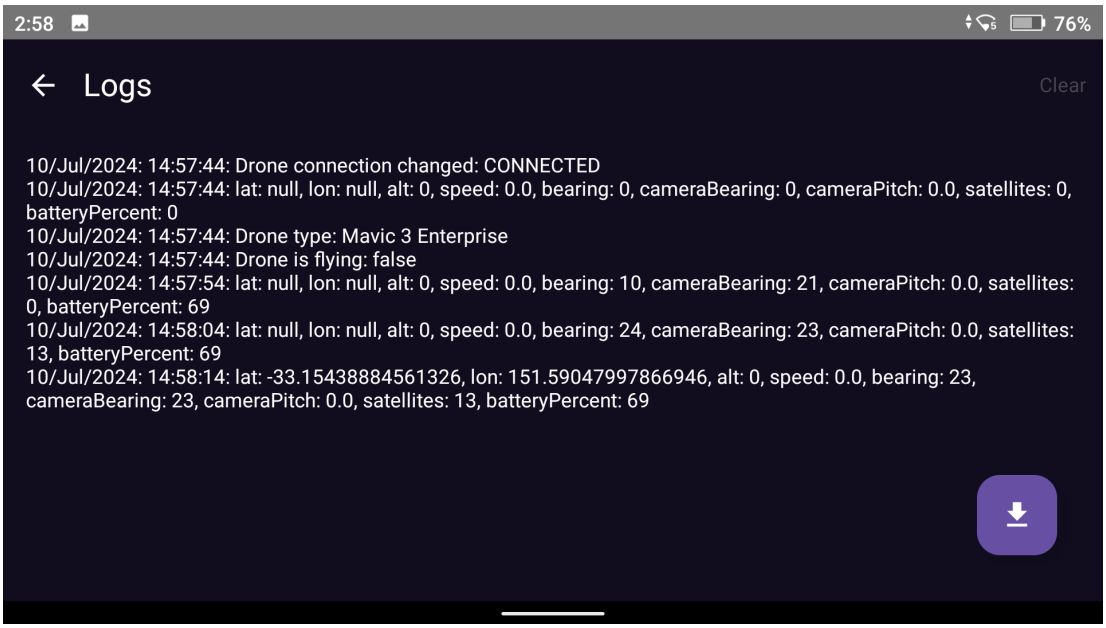
1.6 Settings Screen

The settings screen contains InFlight app logs and an option to customise controller button actions.



1.6.1 Logs Screen

This screen contains the console logs produced by the application. These may help with troubleshooting problems. Please contact us at support@firemapper.app if any problems persist.



Downloading Logs
Click the download button. The logs file will be found in the SmartController's downloads folder.

In order to access DJI flight log files on your Smart Controller, plug your Smart Controller into your computer and access the files (On Mac, you may need to use Android File Transfer to view the files)

The Flight Log files are located in `Android` → `data` → `com.firefrontsolutions.firemapper.inflight` → `files` → `DJI` → `FlightRecord` → `MCDatFlightRecords`

Clearing Logs
On the Logs screen, tap the "Clear" button to clear your logs.

Note: **Warning**: Once logs are cleared, they cannot be recovered

---

1.6.2 Customise Buttons

The C1 and C2 buttons on the controller can be set to perform the following actions:

- Centre Gimbal
- Toggle between video and photo mode
- Increase EV
- Decrease EV

Note: We will be expanding these options based on feedback.