

GPS LOGGER QUICKSTART

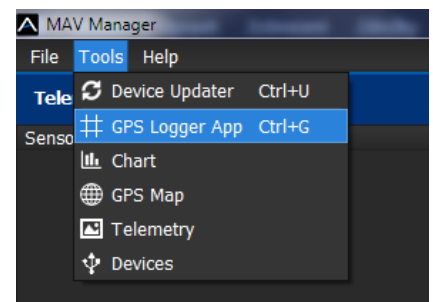
The GPS Logger App for DC/DS transmitters is able to display current model position on top of a graphical map background.

It is possible to define several fly zones as well as restricted areas, each with different shape (circles, rectangles and basic KML files are supported). You can also define an optional alarm at entering/leaving each zone.

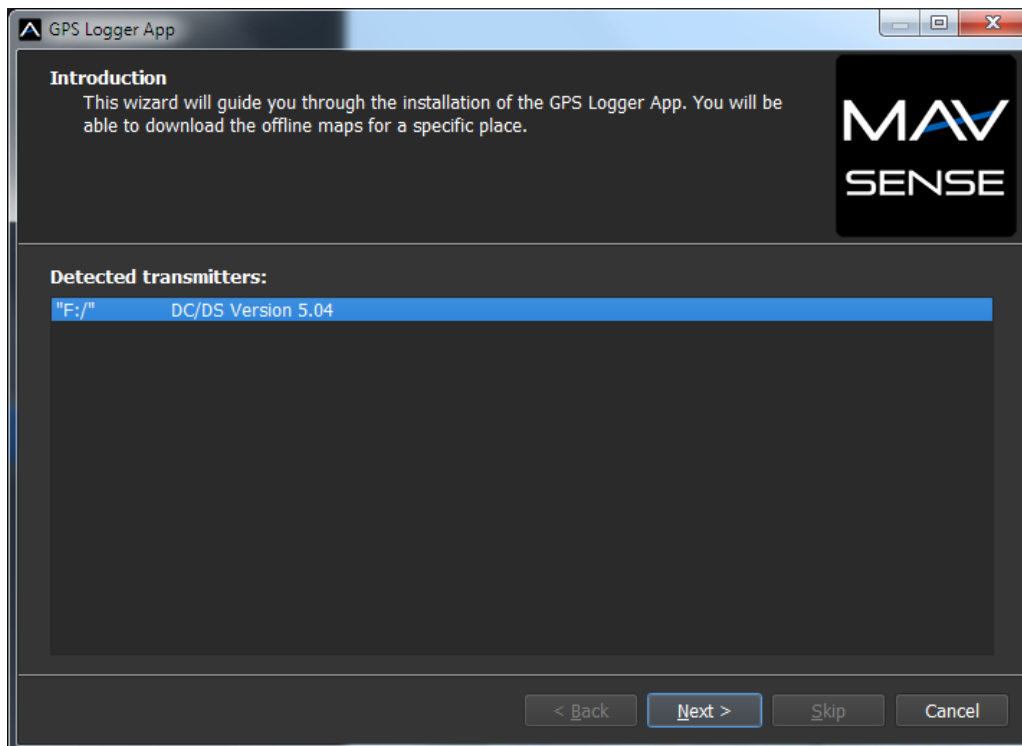
GPS LOGGER APP INSTALLATION

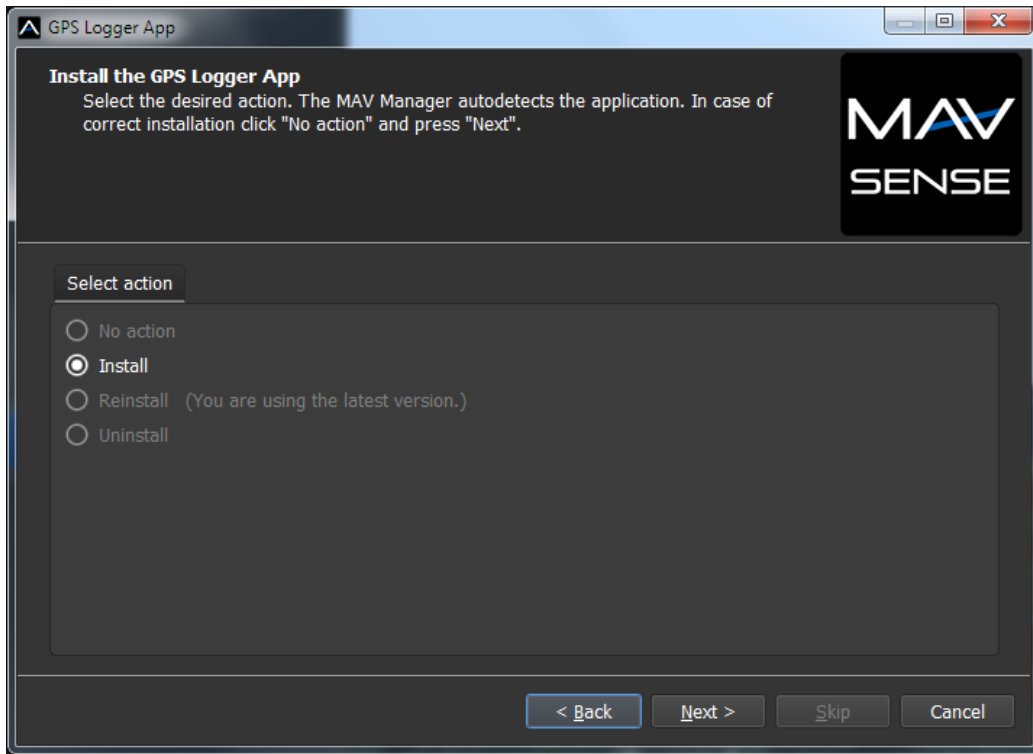
Prepare the Tx and background map:

1. Download and install the MAV Manager software from your dealer's website (min version 1.2.0).
2. Connect your DC/DS transmitter to the computer using the USB cable and establish connection through the "**System » USB**" menu.
3. In the MAV Manager, open the "**Tools » GPS Logger App**" menu.

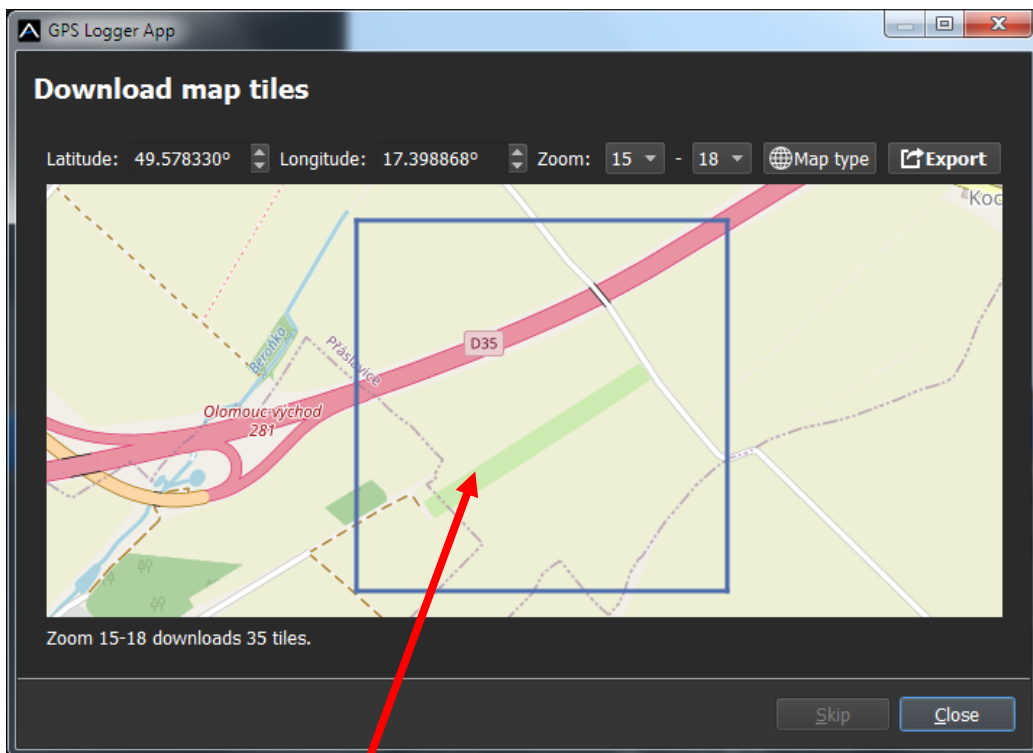


4. Choose the correct transmitter and click **Install GPS Logger App**. After the installation is complete, you will be able to choose the portion of a map for downloading to your transmitter.



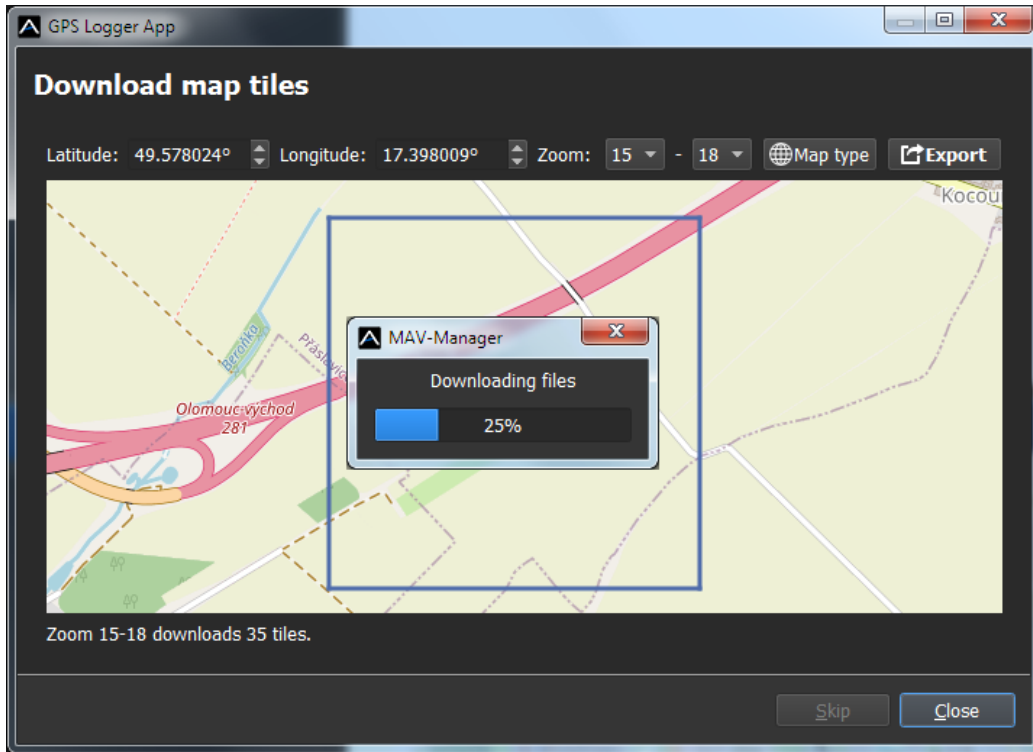


5. Click on the map or type the GPS coordinates directly. Choose the zoom factor for exported maps (more than 5 levels range is not recommended due to excessive number of files) and click the **"Export"** button. The blue square in the picture represents the area that will be covered by the exported map images. You can choose one area after the other, each time confirmed by pressing the "Export" button. We recommend to download map tiles using a range of zoom factor between 14-18. You will get a decent level of detail and number of images will not explode. Please note that large number of images in the transmitter (more than approx.. 1000) has impact on the speed due to file system limitation.



Exported area

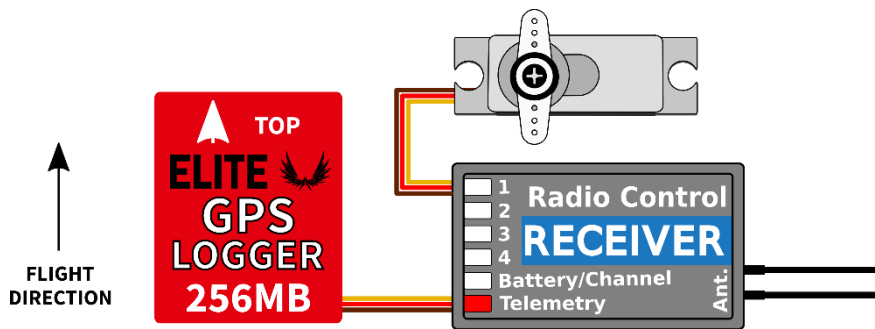
- The map tiles will be downloaded to your transmitter.



- After the download is complete, disconnect the transmitter from your computer.

Prepare the GPS Logger:

- Connect the GPS Logger to your Duplex receiver. Use the receiver port marked "Ext." or "E1/E2". The port must be configured to the **EX Bus** protocol.



- Power up the receiver with GPS LOGGER attached. The red LED flashes once to indicate correct initialization. After a few seconds (or minutes if the device has been unpowered for more than a day), the device reports "3D position fix".
- From this moment on, the device can start logging depending on the condition set in the configuration. The logging is indicated by a flashing LED synchronously with the sampling rate.

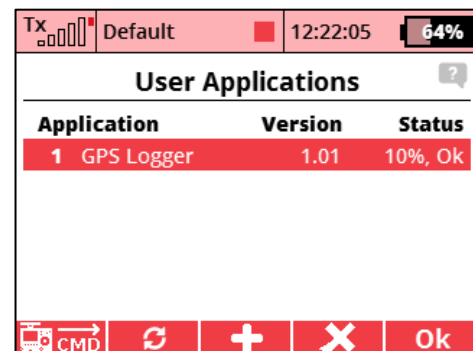
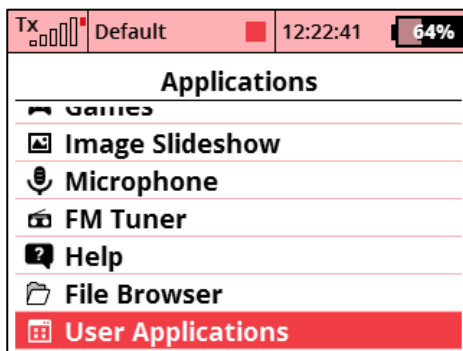
Installation Notes:

- Place the device on top of the plane, so that the internal patch antenna is not shielded in any direction. Shielding materials, such as metal, carbon or anything conducting, can reduce the performance of position detection.
- Make sure that the 2.4GHz antennas are located at least 20cm (8 Inches) or more from the GPS LOGGER. Try to avoid any mechanical stress on the sensor and avoid any close contact with components producing heat (such as engines or speed controllers).
- Use a soft double-sided adhesive tape, or Velcro as an alternative.
- For good performance of the integrated magnetometer, it is necessary to install the device at least 20cm (8 Inches) away from magnetized objects and cables powering servos/motors. In addition, please align the arrow printed on the sensor with the direction of flight.

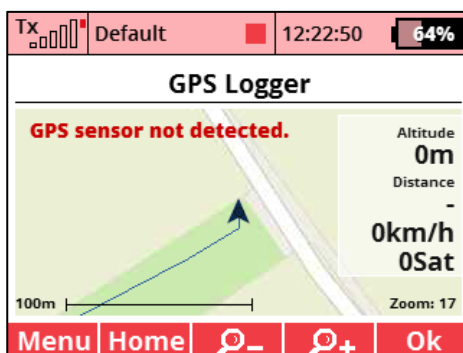
CREATING FLIGHT ZONES

Launch the App:

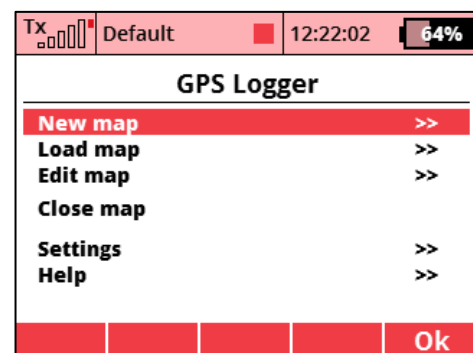
1. In the transmitter, locate the "**Applications » User Applications**" menu.
2. If the application "**GPS Logger**" is not listed in the menu, press the **F(3) "+"** button and choose the "**GPS-Log**" App from the list of available applications.



3. Launch the app by pressing the 3D button over it. If the connected GPS sensor has valid position data, you will see your current position on the map.



Model arrow and the path travelled.



Application menu.

4. By pressing the **F(1) Menu** button, you will enter the application **main menu**.

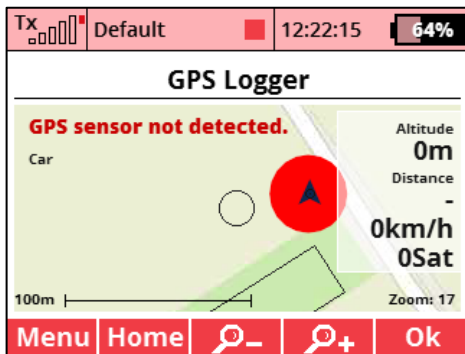
- By pressing the **F(2) Home** button, you can set your home position (launch/landing site). Several parameters, such as distance and relative altitude, are calculated based on the home position.

Main menu:

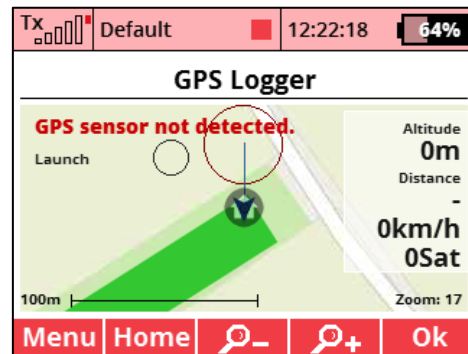
In the GPS Logger App main menu, you are free to create arbitrary number of map configurations. The configuration can be edited, saved and later loaded. If you download the configuration JSN file to your computer (located in "Tasks" folder), you can even distribute it among several transmitters which use the same App.

Each map configuration consists of objects, so called zones with different shape:

- Circle** - zone is defined by a center point (GPS coords) of the zone and its radius.
- Rectangle** - zone is defined by a starting point and a second point which specifies direction of the rectangle. Additionally, you can specify the length (direction alongside the two points) and width (perpendicular to length).
- KML file** - zone is defined by a single polygon stored in a *.KML file in "Apps/GPS-Log/KML" folder. The file can be created by Google Earth or Google Maps application. We recommend to create only files containing simple polygon with a few control points.



Circular restricted zone.

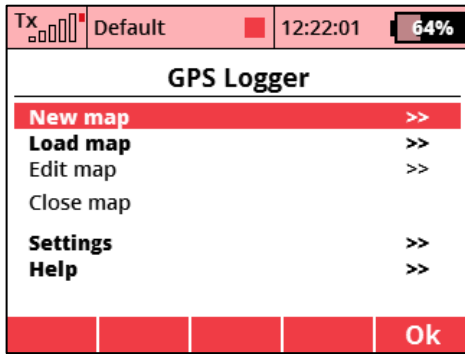


Rectangular fly zone and Home position.

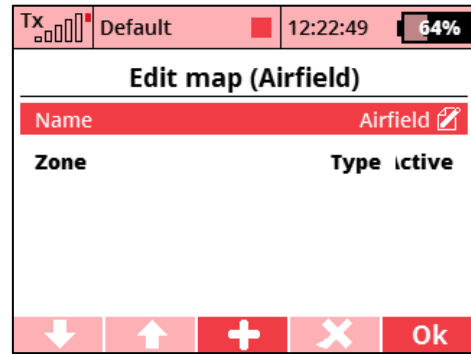
For each zone you can specify the following parameters:

- Flight zone/Restricted zone** - these types are distinguished by different colors and alarms.
- Minimum and maximum altitude** of the zone - represent borders in vertical direction. Altitude is relative to the Home position.
- Audio after entering/leaving** - set an audible alarm to know that the model has crossed the borders of the zone.
- Proximity warning** - the alarm beeps will start reporting low distance as soon as the model travels close to the zone and in its direction.

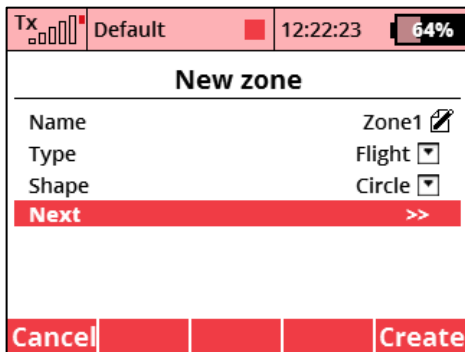
MAP CONFIG CREATION EXAMPLE



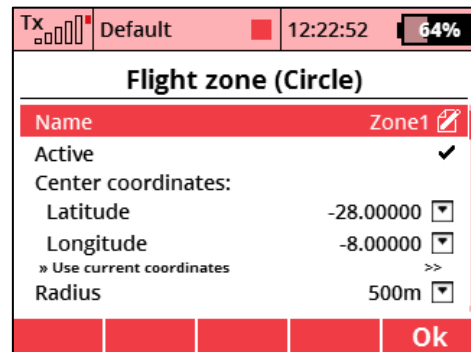
In the application menu press the “New map” option.



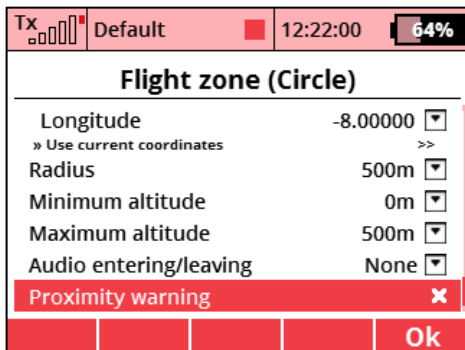
Fill the name of the map configuration. Press the F(3) + button to create a new zone.



Fill in the zone name, type (flight/restricted), shape (rect, circle or KML file) and press “Next”.



Set the zone coordinates, dimensions and additional params, such as alarms.



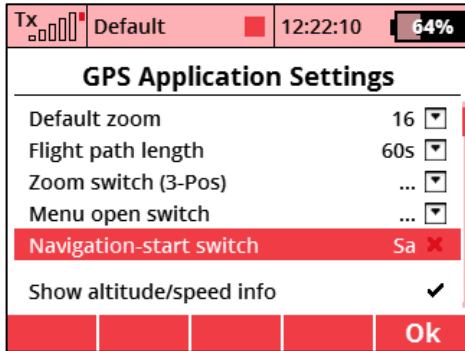
Set the zone coordinates, dimensions and additional params, such as alarms.

Note: If you launch the App without the GPS sensor connected, you can move the model icon using the transmitter sticks. After that you can easily press “Use current coordinates” without being physically at that place.

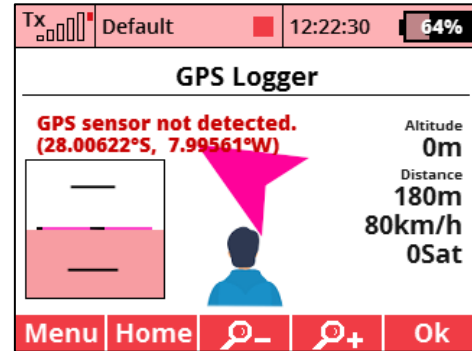
VOICE NAVIGATION TO HOME POSITION

The GPS Logger App offers a function to switch between the map view and the navigation screen. If the navigation screen is active, an arrow is shown on the screen. It displays the model flight direction with respect to the pilot. You can easily see if the model flies away or towards the pilot. Further on, the voice navigation is also active, which helps to get the model back on the track towards the pilot.

On the navigation screen, also the artificial horizon is shown. It is compatible with EX5 or REX Assist, as it shows the model attitude according to the telemetry from these devices.



In the App settings, assign the "Navigation-start switch".



If the map is shown on the transmitter main screen, you can activate the switch. The navigation screen appears and also voice navigation will be active.