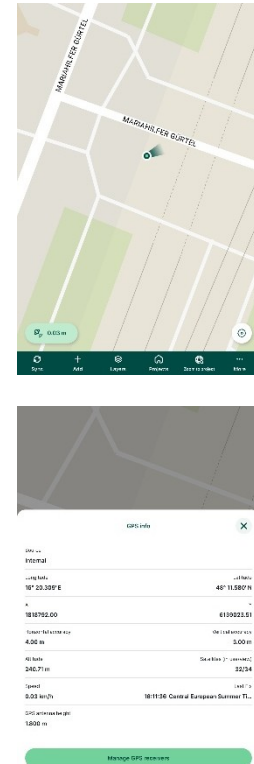


Using the GLRM Receiver with Mergin Maps

Mergin Maps can also be used with the GLRM receiver to achieve high-accuracy GNSS positioning in the field. On Android devices, there are two main ways to connect an external GNSS receiver like GLRM to a mobile app. The first method is to connect the external receiver directly through the app, if the app supports external GPS input. The second—and more universal—approach is to connect the GNSS receiver to the mobile device using a companion app (such as GL Connect), which provides a mock location system-wide. This method configures Android to replace its internal GPS position with the corrected location received from the external device. Apps like Mergin Maps will then use this high-accuracy position automatically, without needing direct integration with the GNSS hardware.

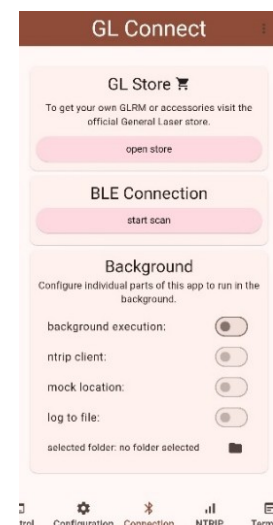
After creating a project in Mergin Maps, return to the main map view to check your current position. The app will display your approximate location on the map using the active GPS source. To access more detailed positioning information, tap the satellite icon in the bottom left corner of the screen. This will open a panel showing advanced GNSS data, including the number of satellites in view, horizontal and vertical accuracy, current coordinates, and altitude.

At this stage, Mergin Maps is ready to receive location data; however, to use the high-precision GNSS positions from your GLRM receiver, you need to set up GL Connect as a mock location provider, as described in the following steps.



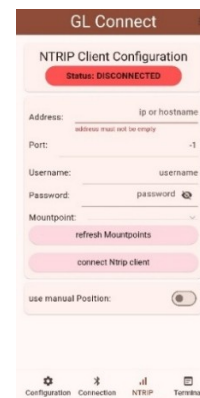
To ensure proper communication between the GLRM GNSS receiver and QField, configure the GL Connect app as follows:

1. Open the GL Connect app.
2. Navigate to the “Connection” tab.
3. Enable the following options:
 - **Background Execution** – Allows the app to run continuously in the background.
 - **NTRIP Client** – Activates real-time correction data streaming via an NTRIP connection. Please note: this option becomes available only after completing the NTRIP configuration in GL Connect.
 - **Mock Location** – Enables the app to provide corrected GNSS coordinates to other applications by overriding the internal GPS location. Please note: this option becomes available only after selecting GL Connect as the mock location app in your Android device’s developer settings.



Adding an NTRIP Profile in GL Connect

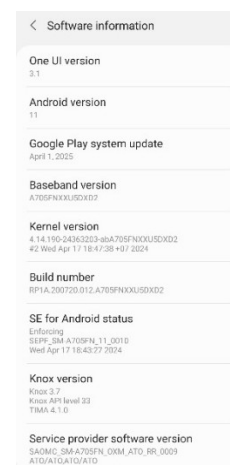
From the GL Connect main screen, navigate to the NTRIP section. Enter the required connection details, including the server address, port, username, and password. Then, select the appropriate mount point from the list. Once all fields are completed, initiate the connection by tapping Connect to NTRIP Client.



Enabling Developer Options on Your Android Device

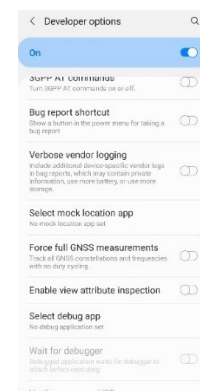
To allow the use of Mock Location with external GNSS receivers, you first need to unlock the Developer Options on your Android device:

1. Open your device's Settings.
2. Scroll down and select About Phone (or About Device, depending on your Android version).
3. Locate the Build Number entry.
4. Tap the Build Number repeatedly (approximately 7 times) until you see a message confirming that Developer Options have been unlocked.
5. Return to the main Settings menu, where you will now find a new section called Developer Options.



To allow your device to use corrected GNSS data from an external NTRIP client, follow these steps:

1. Navigate to Developer Options (previously unlocked).
2. Tap on Select mock location app.
3. From the list of available apps, select GL Connect.

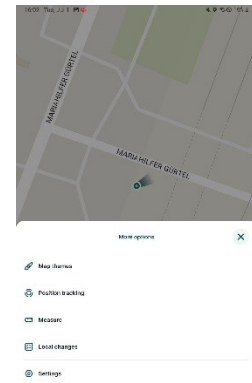


Once the mock location app is selected and active, all applications on your Android device that use location services will automatically receive the high-accuracy positional data streamed from the GLRM GNSS receiver.

You can now open Mergin Maps and begin surveying without any additional configuration. The app will use the corrected coordinates provided by the external receiver instead of the internal GPS.



Once all components are properly configured—your GLRM receiver is connected and GL Connect is set as the mock location provider—you can return to the Mergin Maps app to finalize setup. From the main menu, tap the three-dot “More” icon in the bottom right corner, then select Settings. In the settings menu, you can enter the antenna height to ensure vertical accuracy is correctly accounted for in your position data.



After entering the antenna height, return to the main map view. If everything was set up correctly, you should now see improved positional accuracy, reflecting the high-precision GNSS data provided by your GLRM receiver.

