

## Using the GLRM Receiver with GeoAce on iOS

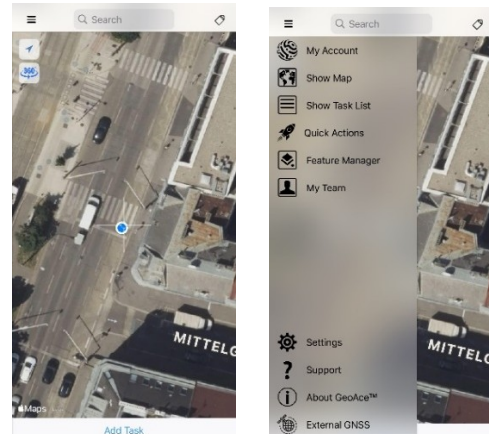
GeoAce is a mobile surveying app designed to turn smartphones and tablets into professional-grade GNSS survey tools. It supports external GNSS receivers for improved positioning accuracy and integrates features such as NTRIP correction, point collection, and coordinate system management. When combined with the GLRM receiver, GeoAce enables high-precision geodata collection on iOS devices. The GLRM receiver communicates via Bluetooth and delivers corrected GNSS positions through standard NMEA output.

### Connect to the External GNSS Receiver (GLRM)

To begin using the GLRM receiver with GeoAce on iOS, open the GeoAce app and tap the three horizontal lines (≡) in the top-left corner of the screen to access the main menu.

From the menu, select External GNSS to begin setting up your connection to the GLRM receiver.

In the next step, you'll be prompted to pair with your external GNSS device via Bluetooth.



### Pair with the GLRM Receiver

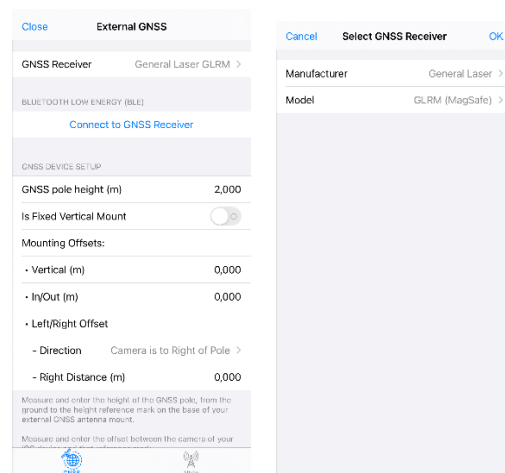
Once you're in the External GNSS menu, proceed as follows:

1. Tap on the "GNSS Receiver" field.
2. In the list of available manufacturers, select General Laser.
3. Choose the model GLRM.
4. Press OK to confirm your selection.

After selecting the receiver, tap "Connect to GNSS Receiver" under the Bluetooth Low Energy (BLE) section. GeoAce will now search for available devices and attempt to establish a Bluetooth connection with the GLRM receiver.

Once successfully connected, the name of the receiver will be shown, and the app will begin receiving live NMEA data from the GLRM.

You can now proceed to define your pole height and optional mounting offsets if you're using a setup with a surveying pole or bracket



### Set Up NTRIP Corrections

To achieve high-precision positioning, you need to configure an NTRIP correction service. Follow these steps:

In the GeoAce interface, tap the Ntrip icon in the bottom right corner.

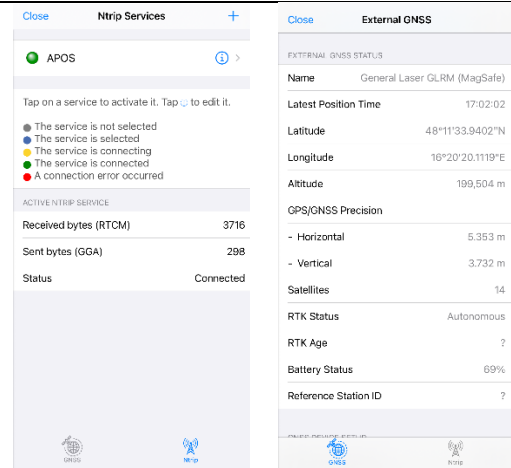
Tap the “+” symbol to add a new NTRIP profile.

Enter your NTRIP credentials:

1. Caster IP / URL
2. Port
3. Username
4. Password
5. Mountpoint

Save the configuration and select the service to activate it.

Once the connection is successful, the service status will turn green, and you’ll see data under Received bytes (RTCM) and Sent bytes (GGA). This indicates that the GNSS receiver is now receiving correction data from the reference station network.



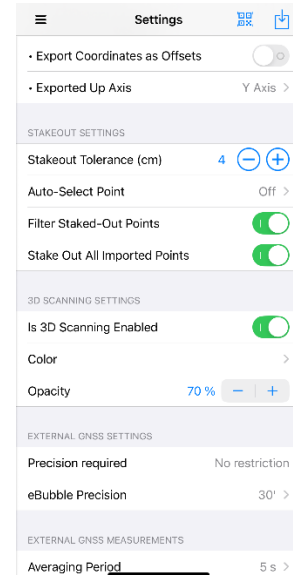
### Enable Point Cloud Collection via LiDAR (with ScanAce)

If you're using an iPhone or iPad equipped with a LiDAR sensor, and you also have the ScanAce app installed, you can enable point cloud data collection directly within GeoAce for enhanced 3D documentation.

To activate this feature:

1. Go to the Settings menu in GeoAce.
2. Scroll down to the section 3D Scanning Settings.
3. Toggle “Is 3D Scanning Enabled” to ON.
4. Optionally, you can adjust “Color” and “Opacity”.

This allows you to capture GNSS-referenced point cloud data in parallel with your geospatial survey tasks, making it ideal for documentation of built environments, excavation areas, or structural surveys.

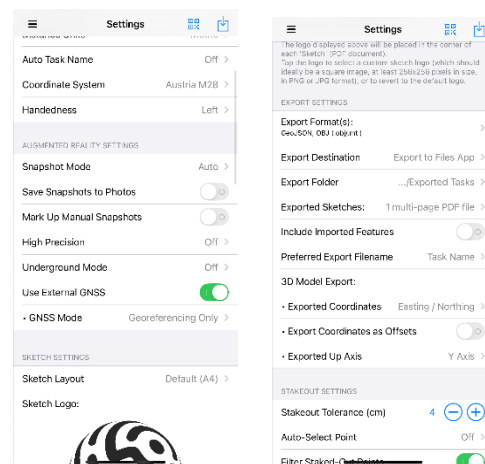


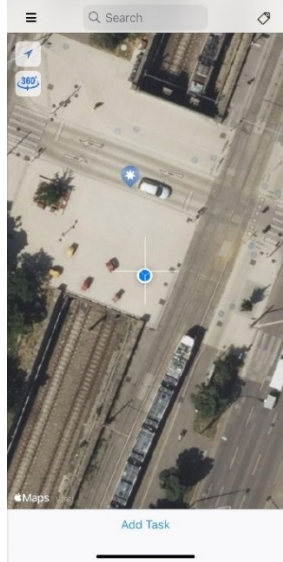
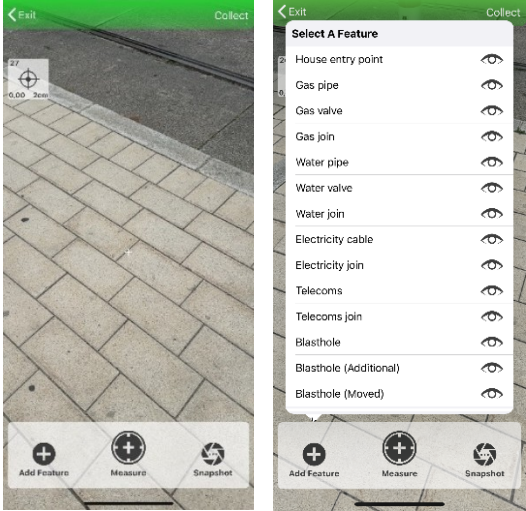
### Customize Export Settings

GeoAce allows you to tailor how your project data is saved and exported. These settings are useful for organizing output formats, naming conventions, and coordinate references.

To adjust these preferences:

1. Open the Settings menu.
2. Scroll down to the Export Settings section.
3. Configure the following:
  - Export Format(s): Choose between formats such as GeoJSON, OBJ (.obj/.mtl), or multi-page PDF reports.



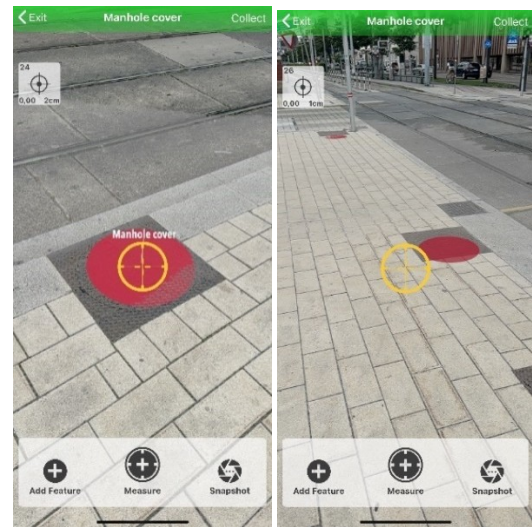
<ul style="list-style-type: none"> <li>• <b>Export Destination:</b> Set whether files are saved to the Files App or another location.</li> <li>• <b>Export Folder:</b> Choose or define a directory such as /Exported Tasks.</li> </ul> <p>These options allow for flexible and standardized data handling—especially useful when collaborating with others or importing/exporting between different GIS systems.</p>	
<p><b>Start Collecting Data</b></p> <p>Once your project is set up, the GLRM receiver is connected, and NTRIP corrections are active, you're ready to start surveying.</p> <p>Return to the main map view. Your current location—based on high-precision GNSS data—will be shown on the screen. To begin data collection, simply tap “Add Task” at the bottom of the screen.</p> <p>This will allow you to:</p> <ol style="list-style-type: none"> <li>1. Capture points or areas</li> <li>2. Add field observations</li> <li>3. Record GNSS-based measurements directly into your project</li> </ol>	
<p><b>Selecting Features to Collect</b></p> <p>Once you tap “Add Task” and enter the data collection screen, GeoAce allows you to specify exactly what type of object or utility you're recording.</p> <p>Tap on “Add Feature”, and you'll see a list of predefined feature types such as:</p> <ul style="list-style-type: none"> <li>• Gas pipe, Water valve, Electricity cable</li> <li>• Telecoms, Blasthole, House entry point, and many others</li> </ul> <p>Each feature corresponds to a real-world object or utility element. This helps maintain structured data collection and enables consistent classification across your survey.</p> <p>Once selected, you can proceed to Measure the point with the GNSS receiver or take a Snapshot for documentation.</p>	

## Aiming and Capturing Features

After selecting a feature type (e.g., manhole cover), you will enter the collection mode. In this mode:

- A yellow targeting cross appears at the center of the screen.
- Align this cross precisely with the real-world location of the object you wish to capture.
- As you aim, a red circle highlights the selected feature area.

Once the target is aligned, tap “Measure” to record the GNSS-based position of the object. You can also use the “Snapshot” button to take a photo for documentation, or “Add Feature” to begin collecting a different object type.



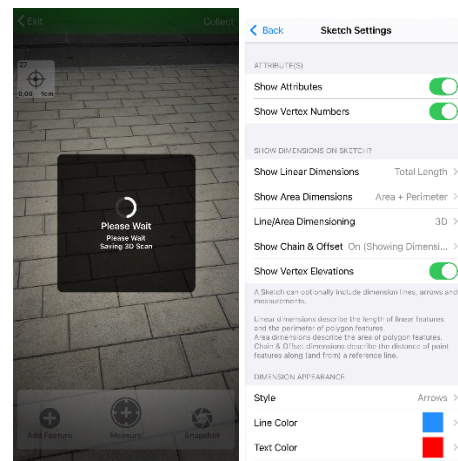
## Finishing and Saving Your Survey

Once you've collected all the necessary features and measurements—including optional 3D scans—tap “Exit” in the top left corner of the collection screen.

The app will then process and save your collected data, including:

- GNSS-measured coordinates from the GLRM receiver
- Feature metadata
- 3D point cloud scans (if enabled)
- Associated photos or snapshots

Before exporting, users can fine-tune how their final report (or “sketch”) will appear by adjusting Sketch Settings. This includes both visual and dimensional parameters.



## Exporting and Saving the Project

After finishing data collection, including features, measurements, snapshots, and optional 3D scans, GeoAce will automatically export the entire project to the designated export location.

Your final dataset will include:

1. High-accuracy GNSS measurements from the GLRM receiver
2. Annotated sketches with dimensions and attributes
3. 3D models or scans (if enabled)
4. Photos and task metadata

