This manual provides a step-by-step guide on how to set up, connect, and perform field surveying using the GLRM GNSS receiver in combination with the Locus GIS application.

NTRIP Client Mock Location

The Mock Location provider replaces the default location data from the internal GPS sensor of the device with high-accuracy, corrected coordinates from the external GLRM GNSS receiver. This allows any location-based application, including Locus GIS, to receive and display these enhanced coordinates without requiring additional configuration within the app.

To ensure proper communication between the GLRM GNSS receiver and Locus GIS, configure the GL Connect app as follows:	GL Connect
1. Open the GL Connect app.	GL Store 🔀
2. Navigate to the "Connection" tab.	BLE Connection
3. Enable the following options:	Background
 Background Execution – Allows the app to run continuously in the background. NTRIP Client – Activates real-time correction data streaming via an NTRIP connection. Mock Location – Enables the app to provide corrected GNSS coordinates to other applications by overriding the internal 	Configure ndiridual parts of this app to run in the background. background execution: Intrip client: Mode location: selected forder: no folder selected Map Control Configuration Connection Map To File: Intrip Client Map To File: Intrip Client Intrip C
GPS location. 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. 	Settings Q Contract information Image: Intervent Arge ments: Extension and device care Device protector Image: Intervent Status Image: Intervent Status Image: Intervent Status Image: Intervent Arge ments: Image: Intervent Arge ments: Image: Intervent Arge ments: Image: Image: Intervent Arge ments: Image: Image:
Allowing Mock Location Access After unlocking Developer Options, follow these steps to enable mock location functionality:	Constrained Constrain
 Return to the device's Settings menu and open the newly available Developer Options section. 	Categorian name Heccore agreem activity and analyze it taker to Herrore agreem activity act
2. Scroll down to find the Allow Mock Modem tab.	
3. Enable the settings.	

To allow your device to use corrected GNSS data from an external NTRIP client, follow these steps:	Settings Q, < Developer options
 Navigate to Developer Options (previously unlocked). 	Some trie - App Diment States and Core Storage - Menory - Storage - Menory - Storage - Menory - Max visible datasets Apps
2. Tap on Select mock location app.	Ceneral management Ceneral management Started data Started data
 From the list of available apps, select GL Connect. 	Transmission of a contract data for the user Transmission of the contract data for the user Transmission of
	Software update Downkow are testal Force full GNSS measurements Treak at direct somethic date syndre Downkow User manual Bearman
	Lean more Remote support Remote support Remote support
	About tablet Main Comparison of the second
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	Settings Q Nothing
positional data streamed from the GLRM GNSS receiver.	Battery and device care Biousge - Menory - Biousge - Menory -
You can now open your preferred survey or GIS	Apps Default regor - Ago settings
application — such as Locus GIS — and begin surveying without any additional configuration. The app	General management Language and keybaard - bate and time
external receiver instead of the internal GPS.	Tacessoing
	Software update Desetted and Install User manual Lawn nove
	Remote support Remote support
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Working with Locu	s GIS
Locus GIS is a professional mobile GIS application design collection, editing, and management of geospatial data div industries, including surveying, environmental monitoring,	ned for Android devices, enabling efficient rectly in the field. It supports various agriculture, forestry, and urban planning.
To begin working with Locus GIS, you must first create a new project:	🗱 LOCUS CIS
1. Open the Locus GIS app.	Projects Layers
Tap the Menu icon in the top-left corner of the screen.	App manager GNSS manager
3. Select the "Projects" tab from the menu.	Locus Store
 Tap the "+" green (plus) icon to create a new project 	Settings About app / Helpdesk
 In a new tab, press on "New empty project" in order to access the project settings 	Rate it

Defining Project Settings	
	× New project
In the Project Settings window, configure the following basic information for your new project:	kon & name
1. Project Name – Enter a clear and descriptive	Description Gottinute reference system WGS 84 / Pseudo-Mercator
name for your project.	Type of coordinates By project
 Description (optional) – Provide additional details about the project's purpose, location, or scope. 	
 Coordinate Reference System (CRS) – Select the appropriate CRS for your project. This defines how geographic data is projected and ensures consistency with your external data sources (e.g., EPSG:31287 – MGI / Austria GK West). 	
Change the Coordinate Reference System (CRS):	
Tap on the name of the predefined CRS to open the list of available coordinate systems. From there, select the CRS that matches your project requirements.	Image: Coordinate reference system Filter austria COORDINATE REFERENCE SYSTEM Image:
	EPSG: 31253 / Austria GK East Zone MGI EPSG: 31254 / Austria GK West MGI
	EPSU: 31233 / Austria GK Central
Customize the Project Icon:	
To personalize your project, tap on the default icon located next to the "Icon & name" field. You can choose from a variety of symbols to visually distinguish the project.	New project Icon & name GLRM Demo Description Coordinate reference system To a contract of project
Finalizing Project Creation	THE LINGS / AustralianDer
Once you have configured all necessary parameters (project name, description, coordinate reference system, and optional icon), tap the "Confirm" button to complete the setup and create the new project.	By project ✓ By project ✓ WGS (x.*') WGS (x* x.x') WGS (x* x.x')
You will then be directed to the main project workspace, where you can begin adding layers, collecting spatial data, and managing attributes.	WGS (+/- x.x) UTM
	DISCARD CONFIRM

Creating Layers in Locus GIS			
After setting up your project, the next step is to create vector data layers, which are essential for collecting and presenting spatial information in the field.	← Project 'GLRM Demo' Basic : Acorem :		
Each layer defines a specific geometry type—such as points, lines, or polygons (areas)—and the associated attributes (metadata) that will be recorded for each feature.	New project layer + New empty layer Define and create whole new layer New layer(c) from temptate		
To create a new laver:	+ Crear ayor(s) non compose Crear ayor(s) defined by template file Files		
 In your open project, tap the Menu icon (top left corner). 	Import SLIP file Create new layer from imported SHP Display file Display file Maps		
2. Select the "Layers" tab.	Add map as overlay Place another map layer as overlay above current base map		
 Tap the green "+" button to create a new vector layer. 			
Configuring the Basic Settings of a New Layer			
When creating a new vector layer in Locus GIS, the Basic tab of the layer creation dialog allows you to define key parameters:	New data layer CONFIRM BASIC ATTRIBUTES Name Name of layer Layer status		
 Name of Layer: Enter a clear and descriptive name for the layer that reflects the type of features it will contain (e.g., "Tree Inventory", "Parcel Boundaries"). 	Editable GEOMETRY Type Point Line Polygon ETRSB9 EP96: 3416 / Austria Lambert		
 Charset encoding: This defines the character encoding used in the underlying SpatiaLite database. 	OTHER Charlet encoding UTF-8		
Note: We recommend using the default UTF-8 encoding for compatibility and multilingual character support.			
3. Type: Select the geometry type for the layer:			
 Coordinate Reference System (CRS): Defines the spatial reference system in which the data will be stored. 			
In the "Attributes" tab of the layer creation dialog, you can define the data fields (form entries) that will be used to describe each collected feature.	New data layer CONTRIM : BASIC ATTRIBUTES LABELS STYLE		
	No attributes		

Suppo	rted Attribute Types in Locus GIS		
When o are ava	creating attributes for a layer, the following types ailable:	X Add attribute	
1.	Text – For plain text (e.g., names, notes).	Integer number Decimal number	
2.	Integer – Whole numbers (e.g., ID, quantity).	Ves/No Enumeration	
3.	Decimal – Real numbers with decimals (e.g., measurements).	Automatic numbering Feature properties	
4.	Date – Date and time; defaults to current but can be edited.		
5.	Yes/No – Boolean field for binary values.		
6.	Enumeration – Drop-down list with predefined values.	NEXT	
7.	Automatic Numbering – Auto-incremented integer (e.g., feature ID).		
8.	Feature Properties – Auto-filled values like coordinates, length, or area based on geometry type.		
Label	Settings in Locus GIS		
Labels	show feature info directly on the map.	New data layer V o	STYLE
To set t	them up:	Display labels	
1.	In Layer Settings, open the Labels tab.	Count Text size Text color	-
2.	Enable labels.	- 12 + Outline	
3.	Choose attribute to display.	Background	
3. 4.	Choose attribute to display. Adjust style:	Background	-
3. 4. •	Choose attribute to display. Adjust style: Text size: use + / – Text color: select via color picker Improve visibility with outline or background	☐ Draw background	
3. 4. • • •	Choose attribute to display. Adjust style: Text size: use + / – Text color: select via color picker Improve visibility with outline or background	Background Draw background	

Starting Field Work

- 1. Turn on the GNSS receiver.
- 2. Ensure Mock Location is enabled and configured correctly.
- 3. Open Locus GIS it will automatically use the corrected position from the receiver.

You're now ready to begin data collection in the field.



Mapping new point, lines, or polygons

- 1. Tap the "+" button and select the layer you want to use for saving the new feature.
- 2. Choose how to set the feature's location:

For Point Layers:

- My Location Uses the current GNSS position.
- Screen Center Uses the coordinates at the center cross of the map view.
- Coordinates Manually enter specific coordinates.



Adding Attachments to Features

You can enrich a mapped feature with additional media or notes:

- 1. Tap "Add attachment" in the feature form.
- 2. Choose from the available options:
- Take photo / Select photo
- Record audio / Select audio
- Record video / Select video
- Draw a sketch

These attachments are saved with the feature and can be viewed later directly in the project.



- Select photo
- Record audio
- Select audio
- H Record video
- Select video
- Jraw a sketch

Mapping Lines or Polygons Train track . When adding a new line or polygon feature, you can Coordinates 623320.518 | 481339.741 0 Sateliter 0 | 0 × define vertices using one of the following methods: - 0.000 m @ 2.655 ∞ Record new line/polygon - Automatically • 0 records the geometry by tracking your device's movement. My Location - Adds each vertex based on your current GNSS position. Screen Center - Adds vertices using the coordinates at the center cross of the map. (0) Coordinates - Manually enter precise • coordinates for each vertex. ©Γ • 1 • ## 3 Middle point Positi Screen Choose the method that best suits your mapping scenario. **Recording Profiles for Lines and Polygons** Lines and polygons are recorded using a recording profile, which defines how the geometry is captured. Length (km) → 0.0000 - 🔊 0:06 To access or edit a profile: 2.667 ... N 0 1 Speed Go to App Settings > Recording > [select profile] 0 0.1^{km} Here you can: + Add attachment Edit the profile name • Delete the profile if no longer needed To create a new profile, go back to App Settings > Recording and tap the add (+) button. Recording profiles control parameters like logging intervals, trackpoint recording conditions, and moreensuring flexible data capture based on your needs. **Exporting a Project in Locus GIS** To export your current project: GLRM Demo 2 1. Open the Menu tab. Close Export 2. Tap on the name of the active project to select it. Edit Free monitoring Sample project mo Delete 3. Press the settings icon, next to the project name to open project settings. From there, you can proceed to export your project in supported formats.

Choose your preferred export format from the list:	X Projects Q
• SHP (Shapefile)	Openned project GLRM Demo 3 kayers :
• CSV	Sample projects Power network Sample project with power lines and elements
• KML	Tree monitoring Sample project molitoring trees
• ZIP	
QGIS 3 project format	Export project
• Template (to reuse the project structure)	Export as SHP Export as CSV
Select the format that best suits your workflow or target application.	Export as KML Export as ZIP Export as ZIP Export to CIIE 2
	Export as template