

Feima Robotics Co. Ltd. SLAM Scanning Quick-Start Guide



SLAM200
300m, 32 Channel

SLAM200E-32
120m, 32 Channel

SLAM200E-16
120m, 16 Channel



SLAM1000



SLAM2000

Documents

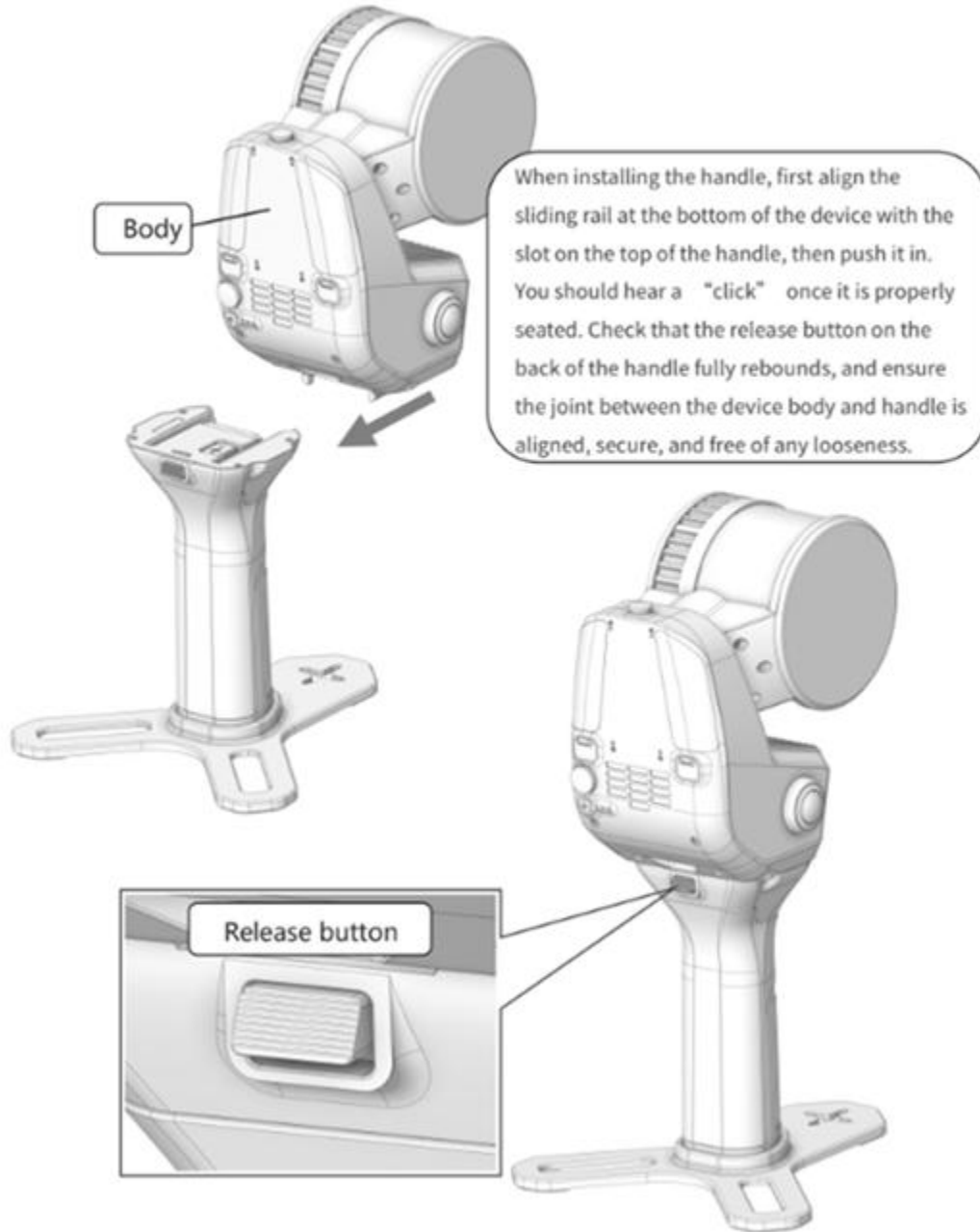
- [SLAM200 Docs](#)
- [SLAM200E Docs](#)
- [SLAM2000 Docs](#)
- [SLAM1000 Docs](#)
- [SLAM Backpack Docs](#)
- [SLAM Vehicle Mount Docs](#)
- [SLAM GO POST PRO Software Docs](#)

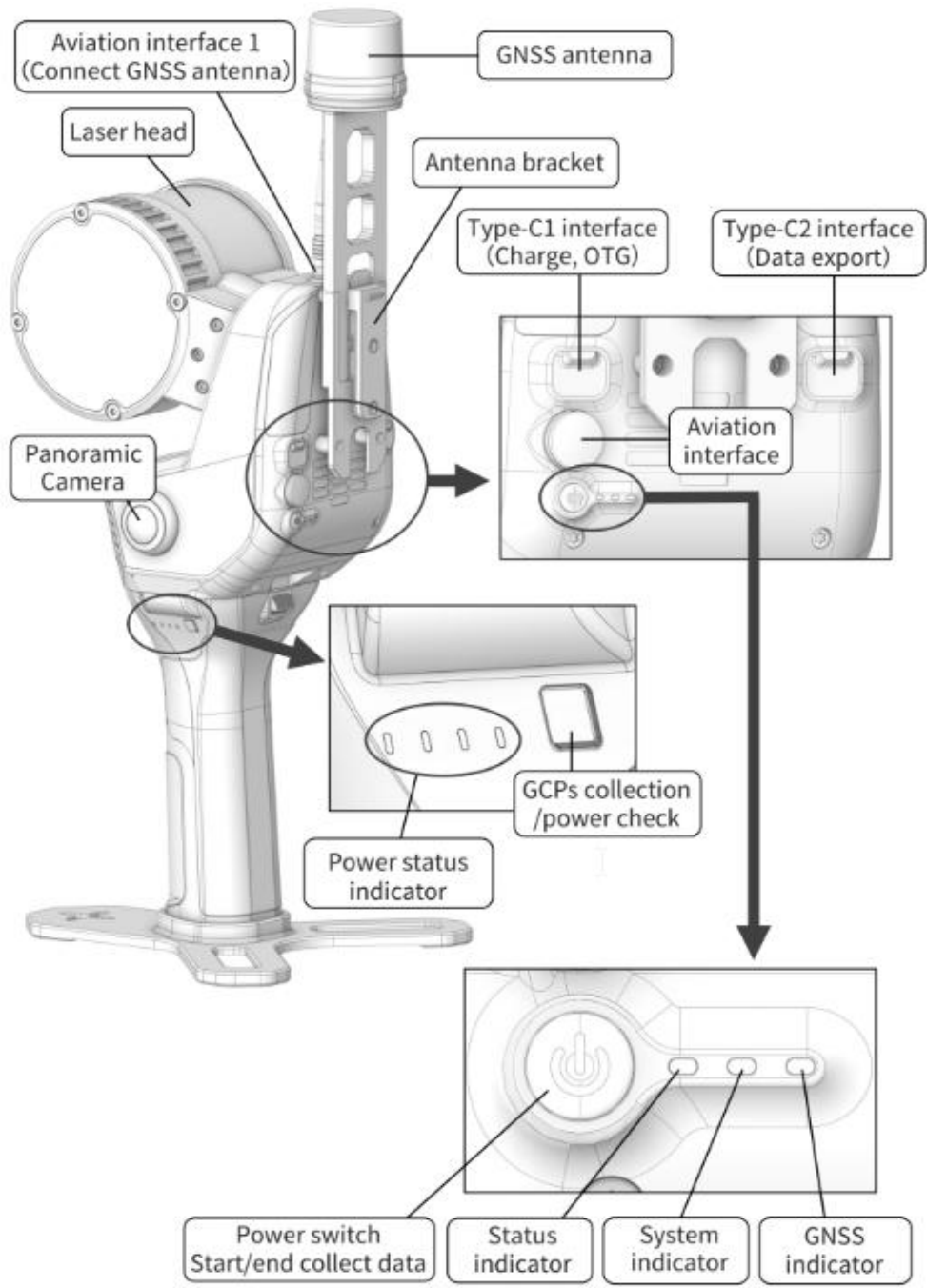
Software

- [UAV Manager Installer](#) – This Contains SLAM GO Post, the post processing software
- [SLAM GO Apple iOS App](#)
- [SLAM GO Android App](#)

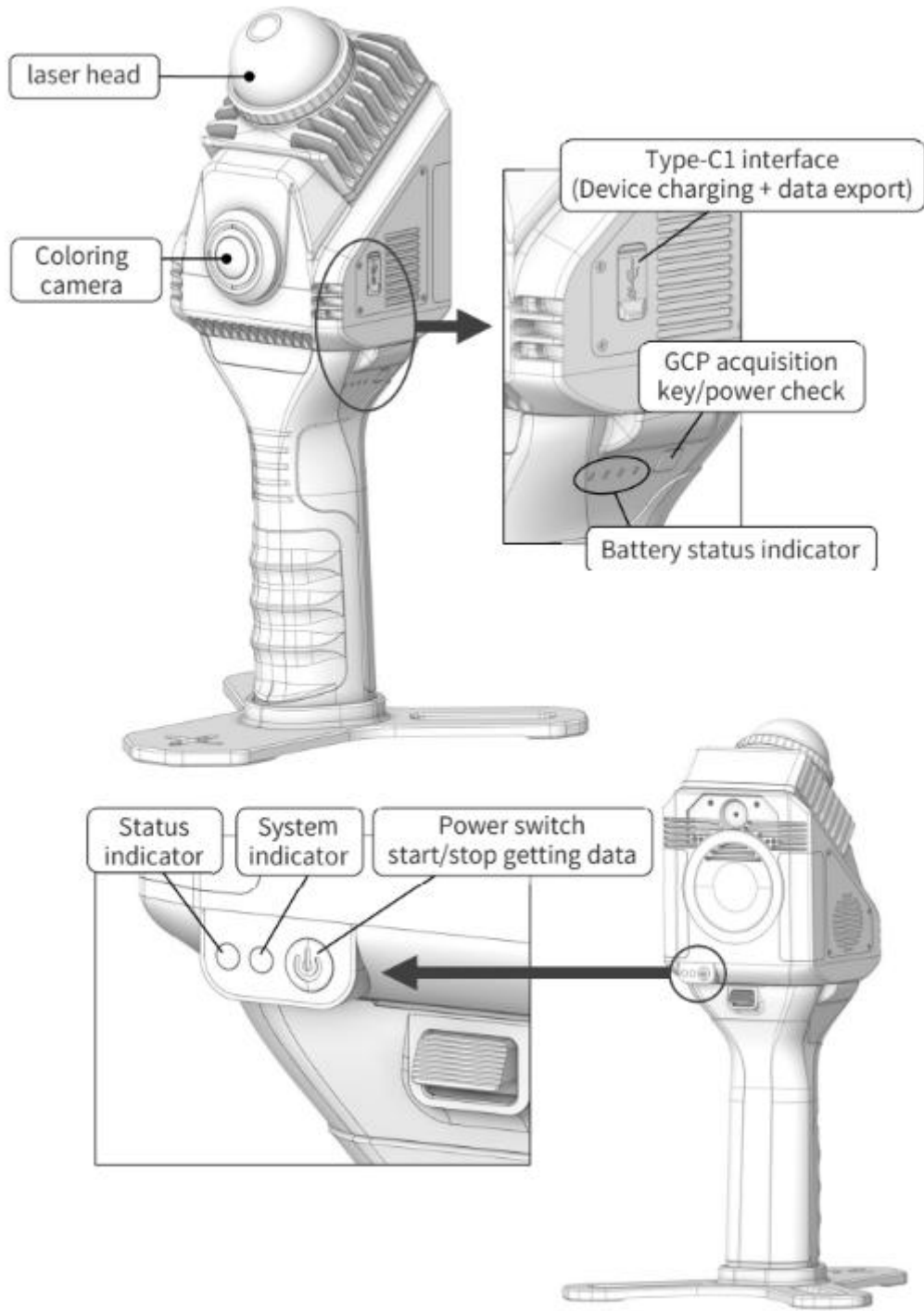
SLAM200 and 200E Components

Assemble

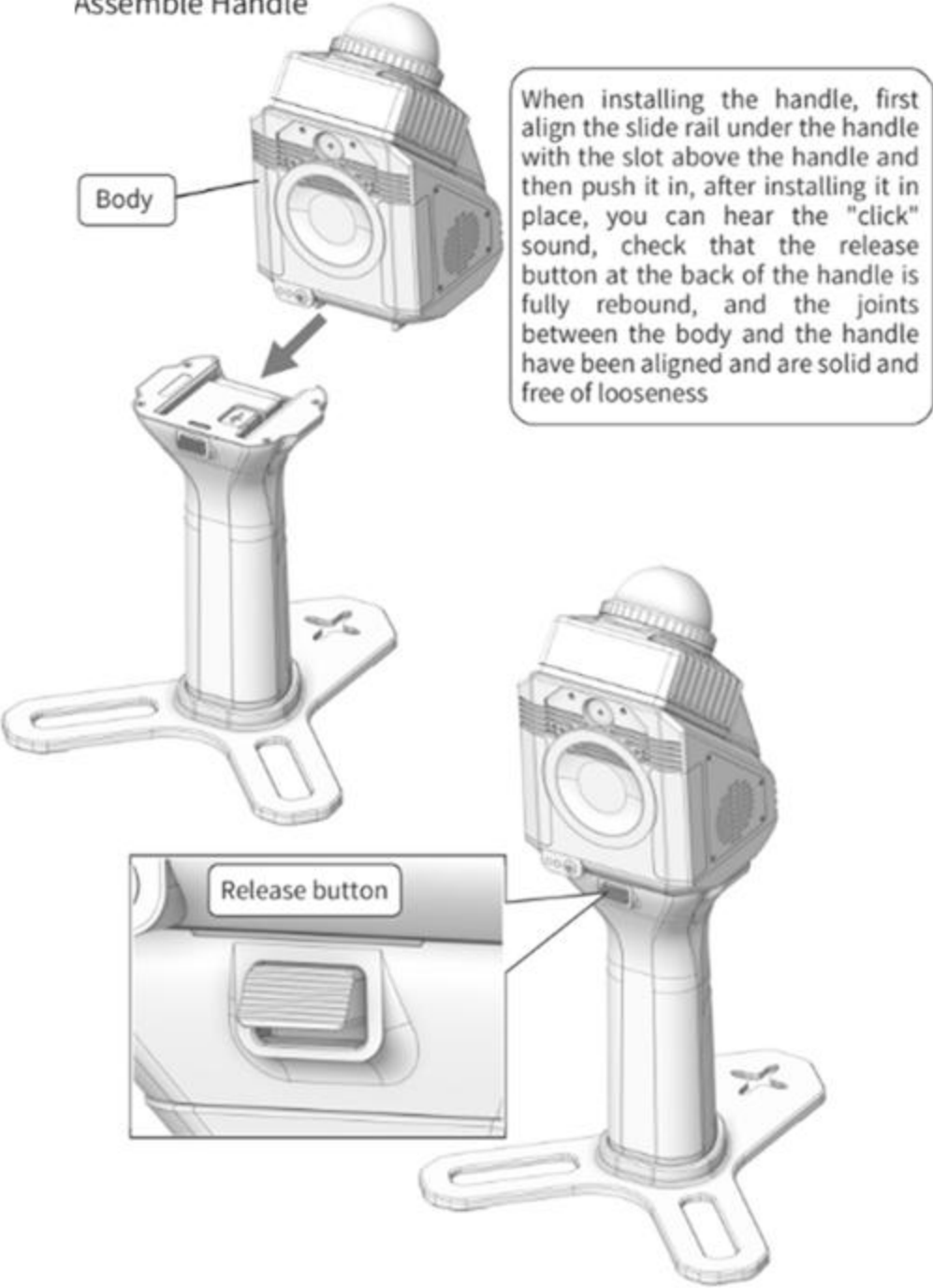




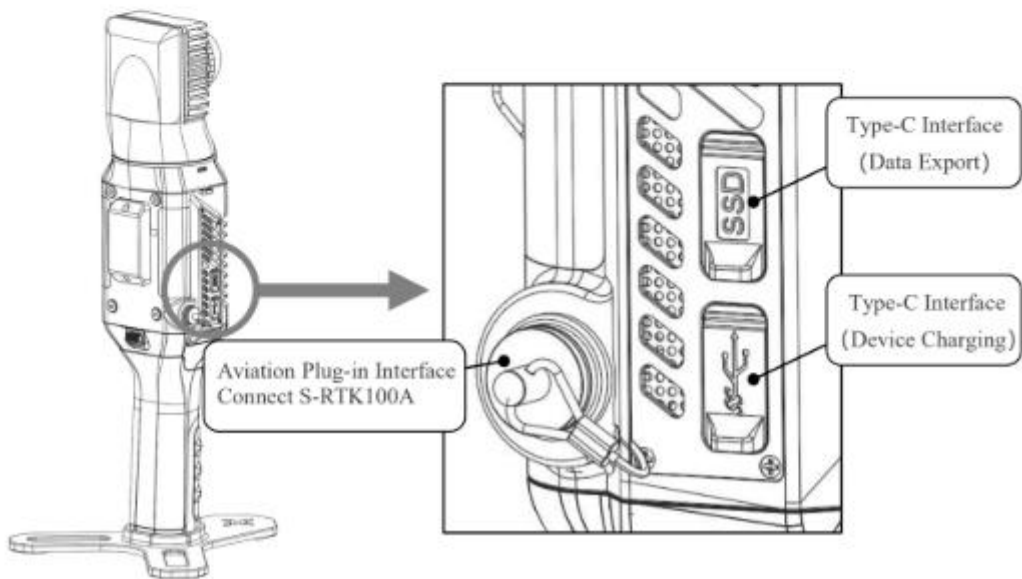
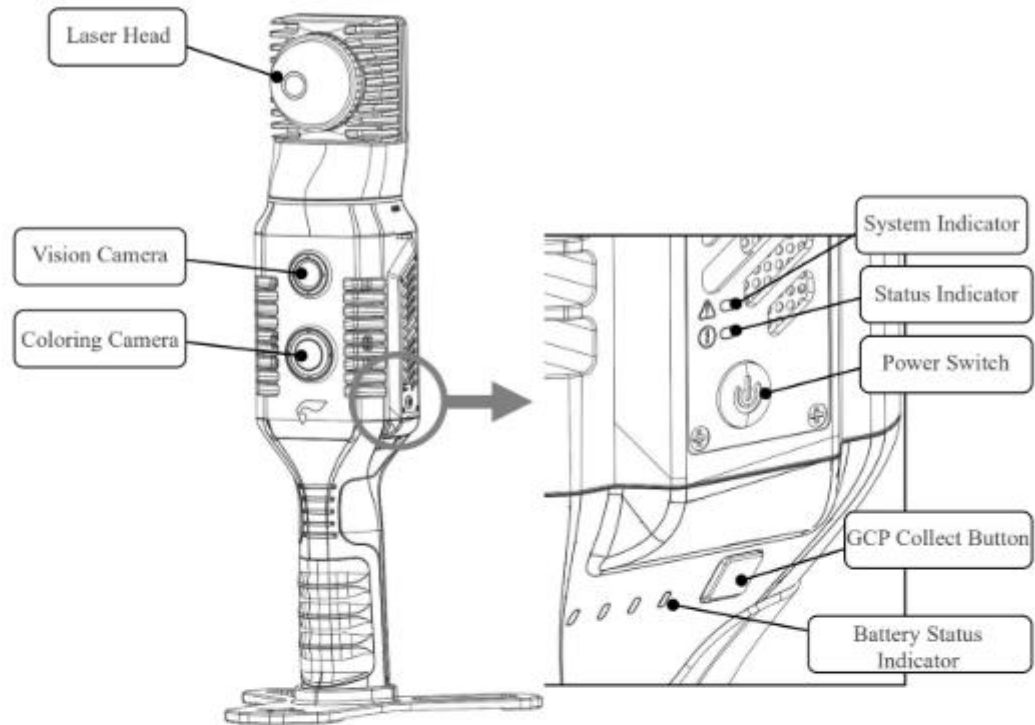
SLAM1000 Components



Assemble Handle

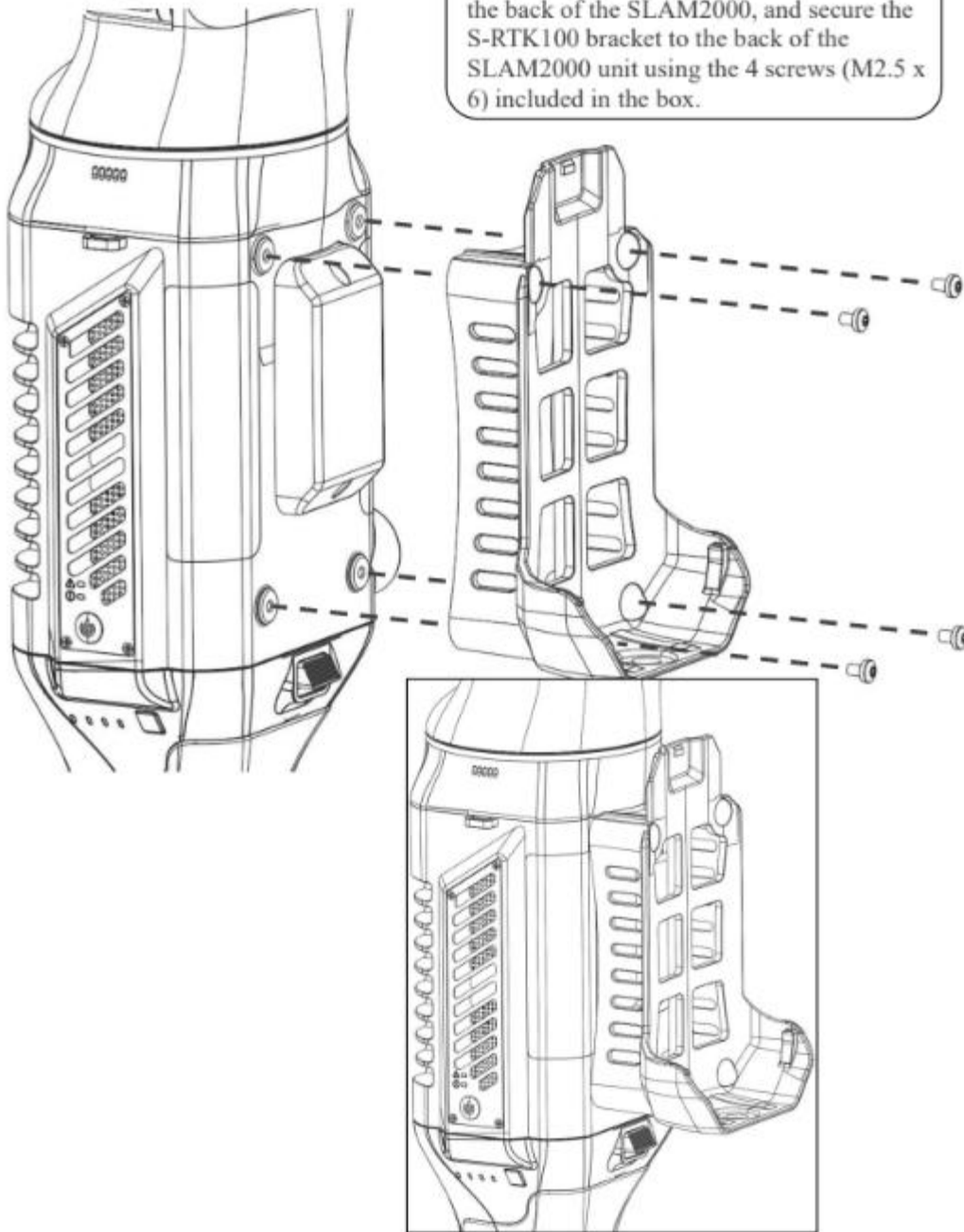


SLAM2000 Components



Installation of S-RTK100A
(Optional)

Align the screw holes of the S-RTK100 bracket with the pre-drilled screw holes on the back of the SLAM2000, and secure the S-RTK100 bracket to the back of the SLAM2000 unit using the 4 screws (M2.5 x 6) included in the box.



Introduction

The Feima SLAM series scanners are mobile LiDAR mapping systems used for capturing 3D spatial data.

These systems integrate LiDAR sensors, cameras, GNSS positioning, and inertial navigation to produce high-density point clouds.

System Overview

All SLAM scanners operate using the same architecture:

Scanner → SLAM GO mobile app → SLAM GO POST processing software

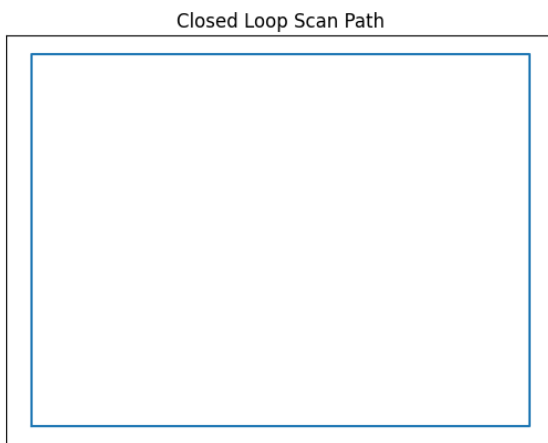
The mobile app controls the scanner and displays real-time point clouds while the desktop software processes the raw scan data into exportable files, including point clouds, 360 panoramas, and 3D Gaussian Splats.

SLAM LiDAR Data Collection Methodology

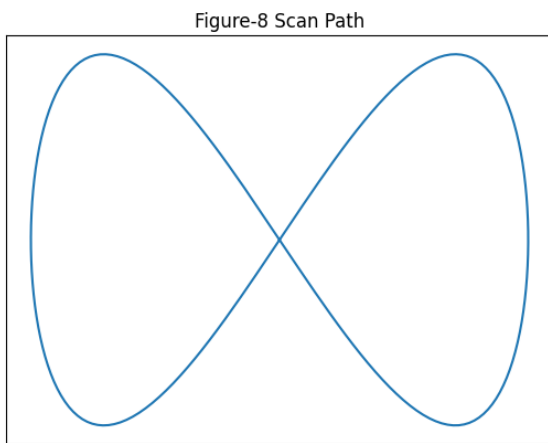
- Always start the scan and end the scan by letting the scanner sit for ~60 seconds for calibration.
- Walk slowly and smoothly.
- Make a loop around your target area.
- Ground Control Points (GCPs) help improve the accuracy of your project, using RTK and the scanner you can create new RTK points, or use existing.
 - GCPs should be distributed evenly throughout projects in a checkerboard fashion, capturing differences in heights / terrain.
 - Existing GCPs must be marked, and then re-recorded with the Scanner by lining up the crosshair on the base plate to the target center, or survey nail.
 - The position of the existing points will be imported in post processing.
- Close the loop and start and stop in the same location.
- Keep the scanner upright.
- Avoid large featureless areas.
 - Using figure-8 patterns can help with long corridors or roads.
- The longer that the scanner is running, the more errors accumulate, breaking large areas into multiple scans improves matching and accuracy.
- Minimize vibrations, and DO NOT DROP. This can damage the scanner and data collected.

Example Methodologies

- Closed Loop Scan Path (recommended for SLAM accuracy):



- Figure-8 Scan Path (useful in open environments):



- Example GCP Layout



Software Installation

SLAM GO – Mobile Scanner Control App

- Install SLAM GO App on your mobile device.
 - [SLAM GO Apple iOS App](#)
 - [SLAM GO Android App](#)
 - (IMPORTANT) When installing you must accept all device permissions for the scanner to connect.

SLAM GO POST – Desktop Post Processing Software

Installation Steps:

1. Download UAV Manager
2. Install UAV Manager and SLAM GO POST on your computer.
3. Connect Hardware Dongle included with scanner to unlock the software license, and to be able to use the software

Scanner Assembly

Assembly Steps:

1. Attach base plate
2. Attach battery handle
3. Install GNSS antenna
4. Connect antenna cable (if equipped)

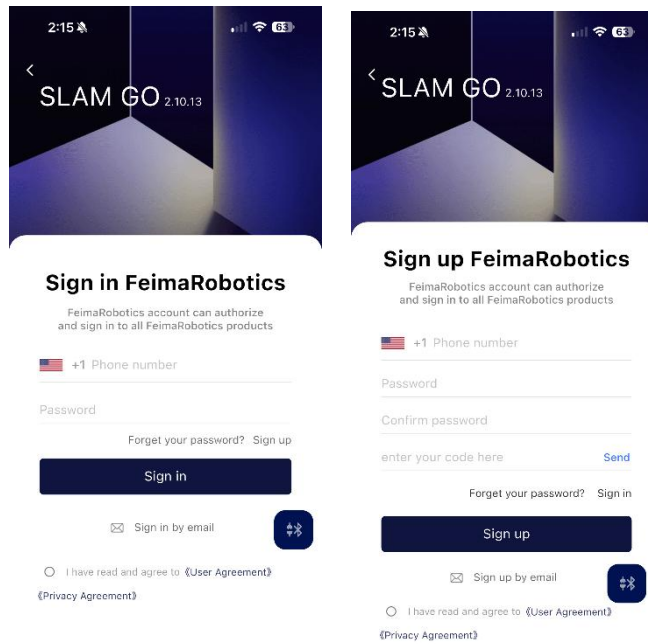
Pre-Scan Hardware Checklist:

- Site inspected prior to scan
- Data collection path planned
- Battery charged
- Antenna connected
- Base plate attached
- Device powers on successfully
- RTK connected

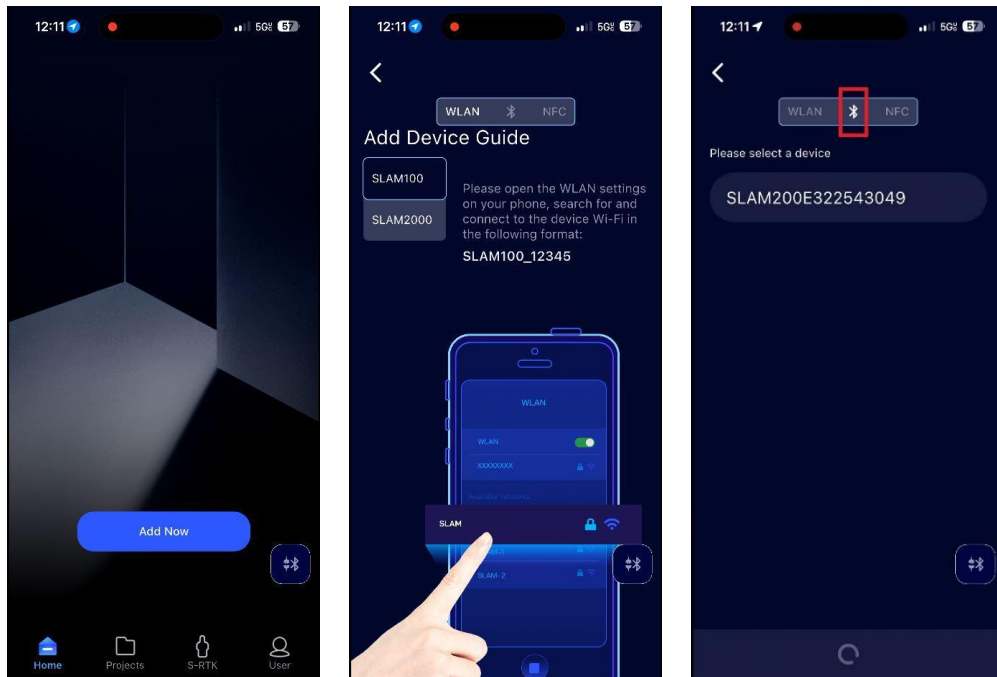
Connecting the Scanner

Pairing the scanner with the SLAM GO mobile app.

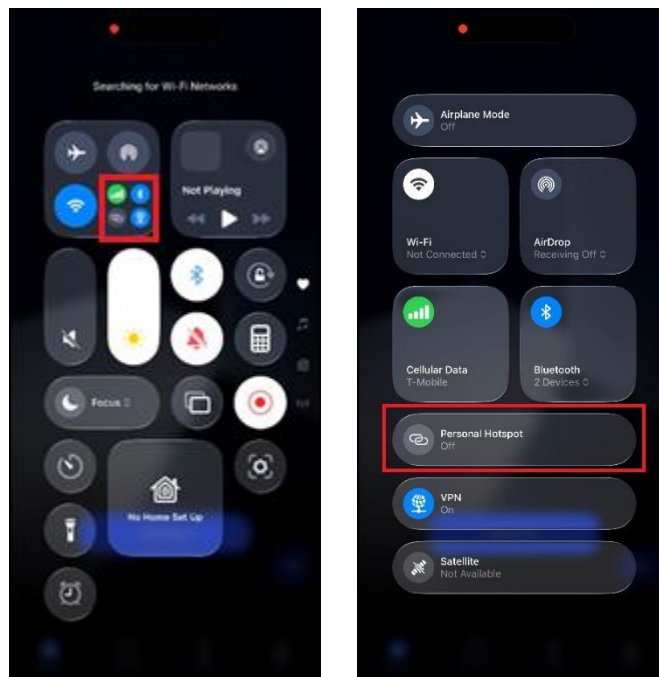
- Open App and Login/ Register for an account



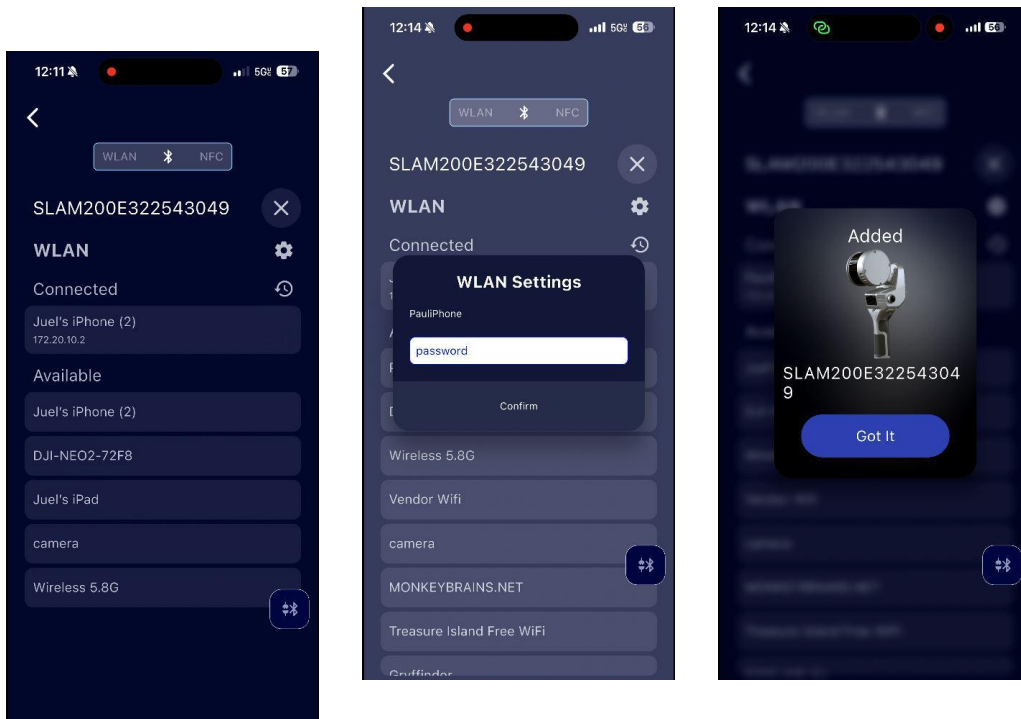
- Tap “Add Device”, tap the blue tooth icon on the top center of the menu



- Enable mobile hotspot. (required for registration and RTK corrections)



- Select the scanner and connect via hotspot.

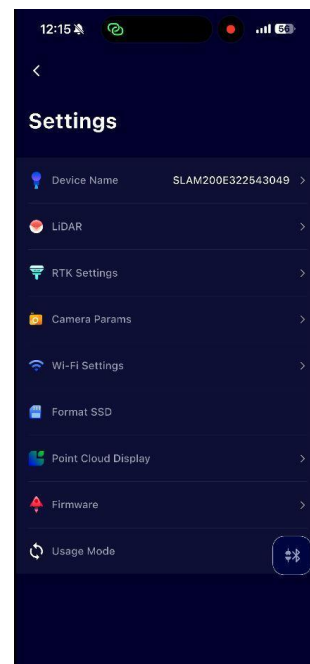
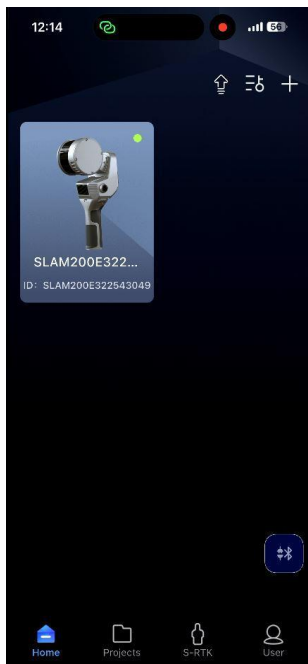


- If you do not see the “Added” screen, try the following steps:
 - Ensure that all permissions were accepted when installing the app.
 - The Wi-Fi hotspot should not contain any special characters or spaces in the name.
 - Try uninstalling and reinstalling the App.

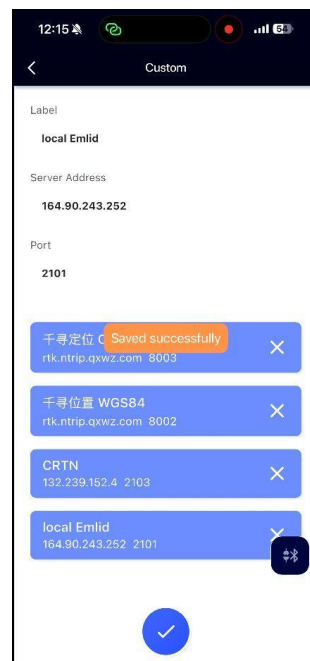
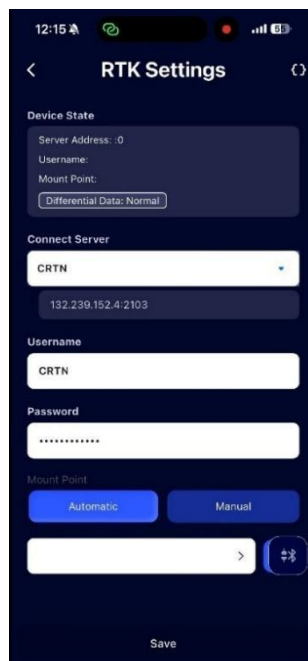
RTK / NTRIP Configuration

RTK improves georeferencing and prevents misalignments.

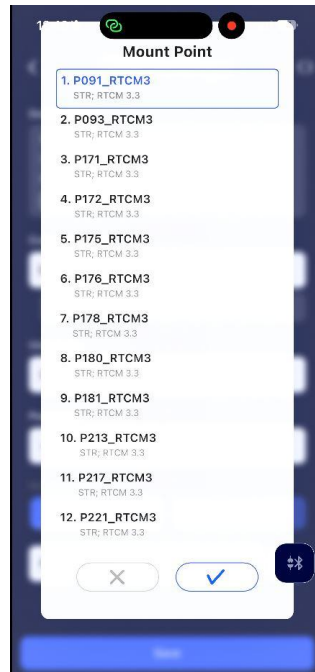
- Select the Scanner.
- Open Device Settings (three bar icon).
- Select RTK Settings.



- Choose Custom Server and enter NTRIP credentials.



- Select Mount Point (manual or automatic depending on service)

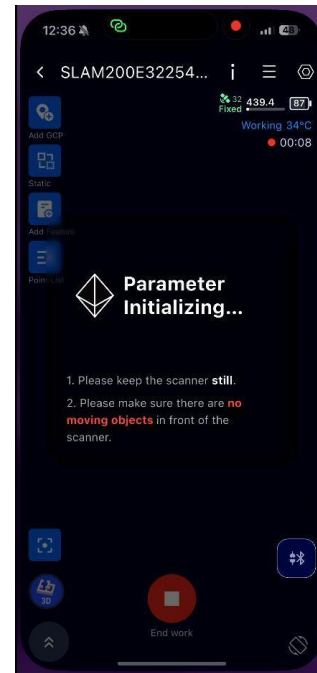


Starting a Scan

Start the scanning process by pressing “Start Work” on the app or pressing the power button once. You will be prompted with an initialization screen, and the device must be calibrated by leaving it still for approximately 60 seconds prior to moving it.

Calibration Requirements

- Scanner must be placed on stable surface, or stationary position if vehicle mounted.
- Must not have any moving objects near the front (cars, people, etc.)
- It must be a minimum distance of ~0.4 m or 2 feet away from objects directly in front of the scanner.



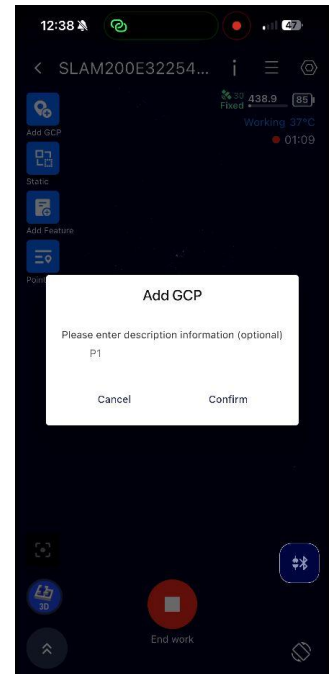
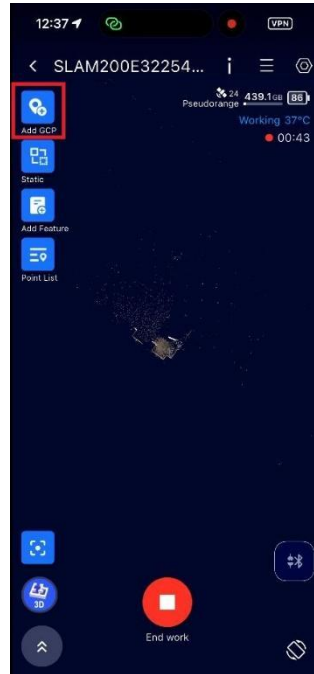
Ground Control Points (GCP)

Ground control points improve geographic accuracy.

Recommended minimum: 3 GCPs

Steps

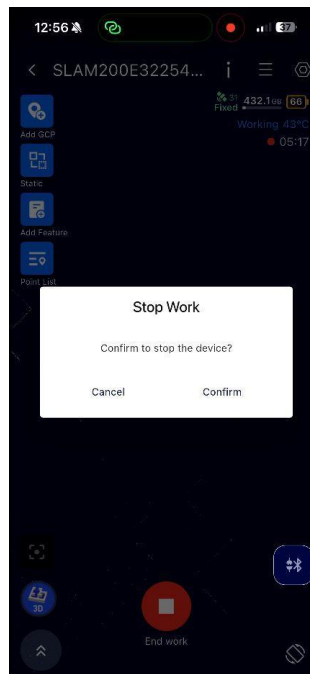
1. Place scanner base crosshair over target.
2. Press Add Control Point or press the battery button on the handle.
3. Wait for the scanner to beep.
4. Continue scanning.



Ending a Scan

To finish the scan:

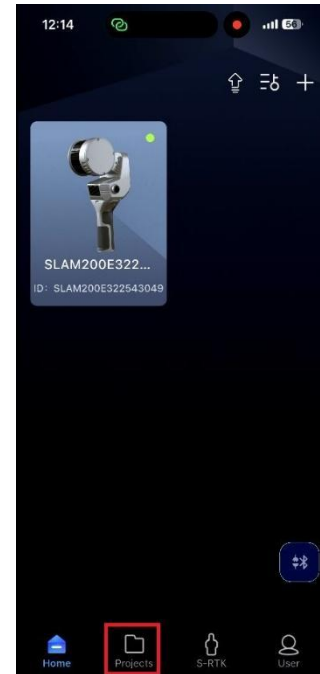
1. Return the scanner to starting location if possible.
2. Place the scanner on the ground or stop the vehicle it is mounted to.
3. Press Stop button on the App or press the power button once on the scanner.
4. A preview will be generated of the data, so you can quickly assess coverage.



Viewing / Editing Scans

You can view and edit completed projects using the projects tab. This includes changing the name, details, Coordinate Reference System,

- Exit the scanner screen.
- Go back to the main menu.
- Tap the Projects tab.
- Tap on the project and tap edit



11. Data Download

- Connect the scanner to your computer using the USB-C cable provided.
- The scanner will connect to the computer as a USB hard drive and doesn't require the device to be powered on.
 - Ensure you connect the USB to data export port, and not the charging port..
- Each scan produces a folder:
 - SN_XXXXX
- Copy this folder to the processing workstation.

Best Practices

Field Best Practices

- Maintain smooth walking speed
- Close loops frequently
- Use GCPs for large projects
- Divide very large areas into multiple scans

SLAM1000 Specific Notes

- The SLAM1000 is optimized for handheld indoor and outdoor scanning.
- Typical workflow:
- Calibration → Walk scan → GCP collection → Stop scan → Download data.

SLAM2000 Specific Notes

- The SLAM2000 includes enhanced LiDAR coverage over the SLAM1000 and camera colorization.
- Recommended scan durations are under 25 minutes to minimize drift.

SLAM200 and SLAM200E Specific Notes

- The SLAM200E includes integrated GNSS and dual panoramic cameras for real-time colored point cloud generation.
- The SLAM 200E 16 or 32 channels, and has a range of approximately 120m or 393ft
 - 16 channel (lower density of points, lower travel speed.
 - 32 channel higher density of points, higher travel speed.
- The SLAM200 has 32 channels and an approximate range of 300m or 984ft.

1 – Page SLAM Field Quick Reference Guide

PRE-SCAN CHECKLIST

- Site inspected prior to scan
- Data collection path planned
- Battery charged
- Antenna connected
- Base plate attached
- Device powers on successfully
- SLAM GO App Connected
- RTK connected and fixed

SCANNING

- Place scanner in stationary position for calibration
- Clear moving objects
- Wait ~60 seconds
- Walk smoothly
- Maintain closed loops
- Keep scanner upright
- Capture GCPs

STOP SCAN

- Return to starting location if possible
- Press Stop Work
- Verify preview model

DATA DOWNLOAD

- Connect USB-C cable to data port on scanner and connect to computer
- Copy SN_XXXXX folder to computer
- Backup data

PROCESSING

- Import into SLAM GO POST
- Apply RTK / GCP
- One Key Solve
- Export LAS / LAZ / E57