TS GNSS Alb

User manual | 4.0 build 484 | Rev 1.0

01 Getting started and organisation

This manual guides operators through TS GNSS Alb 4.0 build 484. It uses application menu labels; some technical terms remain in English in the Albanian interface.

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1. Install the current APK from position.gnss.al/downloads.html. Update over the existing installation and make a backup first.
2. Select Shqip / English. Open Licenca and use the online connection for activation/checking. Verify device date, time and validity.
3. In Komunikimi choose GNSS or TPS / TS. Grant Bluetooth, nearby-device, location or USB access when Android requests it for the selected transport.

02 Project and coordinates

1. Projekt > Projekt / EPSG: create or open the job. Use a site/date-based name. Select CRS/EPSG before importing or measuring.
2. Check units, East/North order and the vertical reference. In Geoid / Sistem Vertikal choose the model and parameters that apply to the project.
3. Set the prefix, starting number and increment under Numërimi i pikave. Key In Koordinata adds or edits known points; check E, N, elevation and code.
4. Measure or enter a control point and compare it with the known value. Check horizontal position and elevation separately before production.

Local systems and calibration

Site Calibration uses source/target coordinate pairs. One pair gives translation; two or more allow a horizontal similarity fit. H/HV distinguishes horizontal from height-enabled calibration. Review residuals and use additional points for independent checks.

Do not merely change the EPSG label to turn local coordinates into national coordinates. Konvertim Koordinatash needs valid source and target CRSs. After calibration explicitly check each intended workflow, including mapping and stakeout.

H, h and Z are not always the same quantity. Do not apply geoid or antenna-height correction twice. Retain the vertical-reference description with the project.

03 GNSS connection and corrections

1. Komunikimi > GNSS or Menaxheri i pajisjeve: select brand, model and transport. Use the actual receiver profile.
2. For Wi-Fi/TCP enter the receiver output IP and port. For Bluetooth choose the correct device. For USB grant access and set serial parameters for the profile. Connect manually.
3. Open GNSS Receiver and confirm observation time, coordinates and status are updating. A connected transport without fresh observations is insufficient.
4. Base / Rover > Rover: configure the correction source. For NTRIP enter host, port, username, password and mountpoint. Start the connection and check correction flow and age.
5. For a local base configure coordinates, antenna height and radio/NTRIP output for the instrument. Check acknowledgement/readback where available and verify the rover on a known point.

Pre-survey checks

Set antenna height and method under Antenë. Review FIX/FLOAT/SINGLE, satellite count, PDOP, H/V and correction age. Do not confuse phone GPS with the RTK receiver.

> Do not assume selecting a radio, IMU or PPP option has activated it in the receiver. Require device-status confirmation and field checks.

04 GNSS observations

Point survey

1. Open Matje/Piketim > Matje > Matje Pikash. Check the active job, code, point name and antenna height.
2. Hold the antenna according to the declared method. Wait for the Survey Settings conditions: solution, epochs, H/V, PDOP, satellites and age.
3. Take and store the observation. Check the result in Pikat and on the map. For coded survey use Matje me kode GNSS and the code library.

Tool	Use
Auto Survey	Set time/distance interval, prefix and conditions. Start/stop recording and inspect stored points.
Control Point	Set epochs/time and a reference if available. Review mean, RMS and differences from the known point.
Offset Survey	Use a fresh base observation and grid offsets; check the ΔZ sign and the new point method.
IMU / Tilt	Only with a valid profile and data. Initialise according to the receiver and check pole-tip results on a control point.

The app epoch interval does not necessarily change receiver output frequency. Investigate observations rejected by quality conditions; do not relax tolerances merely to force point storage.

05 Total station

1. Choose TPS / TS and the instrument in Menaxheri i pajisjeve. Connect using the profile transport. For Bluetooth–RS232 adapters also check instrument-side port and baud rate.
2. In EDM / Prism set prism or RL mode, prism constant and target height. Check instrument height, angular units and atmospheric settings for the job.
3. Station Setup: choose station coordinates and backsight point. Sight the backsight, observe it and check orientation/closure before saving.
4. Free Station / Resection: select well-distributed control points and take observations. Review residuals and check an independent point.
5. Matje TPS stores HA, VA, SD and coordinates according to the station setup. Set name/code, sight and observe, then check the stored point.

Control and special functions

Reference Line uses control points for line-relative survey or stakeout. Matje me kode TPS provides quick codes. Offset, remote-height, search/tracking or Turn To functions depend on profile capabilities; verify their effect on the instrument.

> The last station setup is a recall aid, not evidence that the instrument has not moved. Re-establish and check the setup after changes to position, levelling, height or orientation. Native camera support is not guaranteed for every instrument.

06 Stakeout and CAD

1. Import or create design elements and verify CRS, units and elevations. Select a point from the list or map.
2. Use Stakeout Pikë or Stakeout TPS and read distance, directions and vertical difference. Verify the GNSS solution or TPS setup before following guidance.
3. Approach the target; check tolerances and cut/fill sign. Store the result/as-built where offered and compare it with the design.
4. Stakeout Vijë uses endpoints, station and offset. Piketim Harku supports three points or two points plus radius/centre. Check the arc side and direction.

CAD and layers

Harta / Layers and CAD Viewer display job entities. Check visibility, selectable and snap for relevant layers. CAD Draw builds points, lines and polygons from job points; CAD Layers stores layer properties.

After DXF import, review warnings and the proposed transformation. Stake only the intended element. Use configured WMS as visual background; a map background does not replace verified design data.

> AR graphics provide orientation. Final placement must rely on checked coordinates, observations and tolerances.

07 Roads and surfaces

DTM and cut fill

1. Open DTM / Surfaces in a metric project. Name the surface and select E/N/Z points. Use CAD entities with elevation at every vertex for boundaries, holes and breaklines.
2. Check the area before building. Without a boundary the convex hull is used; it may include unwanted areas. Save the surface and inspect it.
3. In Excavation select the reference level or design surface provided by the form and use LLOGARIT CUT / FILL. Review common coverage and the report; RUAJ RAPORT and EKSPORT CSV retain results.

Road alignment and sections

Road Design, Horizontal Alignment, Vertical Profile and Cross Sections use the road definition. Set origin, azimuth and starting station, then elements, profile, sections and superelevation in the form. LandXML import reports warnings for components that can be retained.

Check that tables cover the start/end. Select the endpoint policy; negative offset is left and positive is right relative to the alignment. RUAJ RRUGËN saves the design; MAT / KONTROLLO compares a point; RUAJ PIKAT NË JOB generates the corresponding job points.

> Cross-section views may use vertical exaggeration. Entered superelevation and design parameters do not certify compliance with road-design standards.

08 Position and camera modules

1. Sistem > Position / Cloud: enter the server and Web/CORS account. Complete 2FA if requested. Check the displayed company and permissions.
2. Check Auto Sync, queue and last-sync status. Sync tani requests a manual sync. Do not assume a job is uploaded while errors or queued work remain.
3. Open the appropriate job in Projektet online. Historiku shows revisions; restore and archive apply to the selected job according to permissions.
4. Përdor CORS në NTRIP transfers the account configuration to corrections. Verify the mountpoint and receiver connection.

MeshyAndI

In GNSS mode open Matje/Piketim > Matje > MeshyAndI. The logo and project menu precede the camera. For shape capture, gradients, volumes and PDF/DXF use the MeshyAndI 0.23 manual on the same documentation page.

MeshyAndI projects and survey jobs have separate data workflows. A local scan does not automatically inherit the survey CRS. Also retain the scan ZIP when desktop processing is required.

Bathymetry

Komunikimi > BATIMETRI selects the position source and echosounder. Sonar uses a secondary transport; check draft, offset, sound velocity and timing. Verify depth in a known case before recording.

09 Import export and backup

1. Projekt > Import: choose format and file. The app previews points, DXF or LandXML. Read warnings before applying.
2. Check point names, E/N/Z, units, layers and scale/rotation/ΔE/ΔN/ΔZ where offered. Do not accept a partial import without identifying omitted data.
3. Projekt > Export: select a supported format and Android destination. Open the result in the receiving program and compare several control points.

Format	Note
CSV / TXT	Points and attributes according to the export schema. Check separator and column order in the receiving program.
DXF	Supported points and CAD entities; check units and layers after transfer.
XML / LandXML / RXL	Content depends on the exporter and project components. These formats are not interchangeable for every object.
DWG / SHP / KML / KMZ	Do not treat these as native exports of this dialog. Use checked conversion in an appropriate application.

Backup and restore

Backup / Restore > RUAJ BACKUP TË PUNËS creates a ZIP. Copy it off the phone. HAP BACKUP PËR RIKTHIM allows inspection and a new job name, then RIKTHE DHE HAP PUNËN restores it. Restoring does not validate station setup or instrument connection; recheck them in the field.

10 Troubleshooting and handover

Problem	Action
Connected with no coordinates	Check profile, IP/port or baud rate and active receiver output. Inspect observation time and diagnostics.
NTRIP without FIX	Check credentials, mountpoint, RTCM flow, GGA where required and sky visibility. Internet connectivity is not equivalent to FIX.
Wrong elevation	Check antenna/prism height and method, geoid, base and vertical CRS.
Large TPS discrepancies	Check station, backsight, heights, prism constant and RL/prism target. Reobserve a control point.
Cloud pending	Check internet, session, queue and error. Make a local backup before troubleshooting.
Inactive licence	Check date/time, internet and device code. Request a check or renewal; do not clear app data as the first remedy.

For handover retain the project/backup, export, coordinate and vertical systems, instrument details, heights, date and control observations. Verify that the exported file opens and contains the expected point/entity count.

Support: info@gnss.al · +355 67 466 3188. Current downloads and documentation: position.gnss.al/downloads.html and position.gnss.al/documentation.html. When requesting help, include the product, version, device model and steps that reproduce the issue. Do not include passwords or licence tokens in screenshots.