Rover setup

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GNSS rover on a pole, using network RTK or your own base.

Date _____ Site _____ Crew _____ Mount point _____

BEFORE YOU LEAVE

- [ ] Charge the receiver, data collector or phone, and a spare battery. [1]
- [ ] Adjust the pole's bubble (circular level) before every job. [1]
- [ ] Have your corrections ready: caster, port, mount point, user name, password. Or your base plan. [1]
- [ ] Check that cell data reaches the site if you use NTRIP. [1]

SET UP

- [ ] Use a fixed-height pole. Check it really is that height (worn or loose feet change it). [1]
- [ ] Enter the antenna height: ground mark to the bottom of the receiver. The app adds the antenna offset. [2]
- [ ] Pick the project's coordinate system, datum and geoid. Match the base or network. [3]
- [ ] Set the elevation mask to 10–15°. [1]
- [ ] Get a GNSS position first, then connect to the caster (VRS and "nearest" mount points need it). [4]
- [ ] Wait for FIX. Do not store points in FLOAT. [1]

COLLECT

- [ ] Shoot a known point before new work, now and then during, and before you leave. [1]
- [ ] Pole plumb: bubble centered while storing. Use a bipod for tighter work. [1]
- [ ] Stay away from multipath: buildings, fences, vehicles, metal roofs. [1]
- [ ] For ±0.04–0.06 m H (NGS class RT3): ≤12 mi to base, PDOP ≤ 4, ≥5 satellites, 15 one-second epochs. [1]
- [ ] For ±0.02–0.04 m H (RT2): ≤9 mi, PDOP ≤ 3, ≥6 satellites, 1 minute, and a repeat shot 4 hours later. [1]

WRAP UP

- [ ] Final check shot on a known point. [1]
- [ ] Export points and note the network, mount point and antenna height you used. [1]

SOURCES (CHECKED OCT 28, 2026)

[1] NGS User Guidelines for Single Base Real Time GNSS Positioning, v2.1 (Aug 2011) https://geodesy.noaa.gov/PUBS_LIB/NGSRealTimeUserGuidelines.v2.1.pdf

[2] Emlid docs, Reach RS3: How to set up antenna height for RTK https://docs.emlid.com/reachrs3/rtk-quickstart/antenna-height-rtk/

[3] Emlid docs, Reach RS3: Averaging base position in FIX (placing the base) https://docs.emlid.com/reachrs3/base-setup/setting-up-base-over-known-point/averaged-in-fix/

[4] RTKdata docs: DJI Pilot 2 RTK setup (wait for a GNSS position before connecting, or the caster gets 0,0) https://docs.rtkdata.com/integration-hub/ntrip-clients-and-field-software/dji-pilot-pilot-2

Follow your own equipment manual if it differs. Latest version: findrtk.com/tools/checklists