



UAV Mate

Quick Start Guide

Version 2.0 · uav-mate.com

Before you start

- ☐ UAV Mate charged and powered on — green LED is lit.
- ☐ A phone, tablet, or laptop to open the console.
- ☐ For base setup: your drone and its controller. For GCP work: a survey pole.
- ☐ A clear view of the sky.

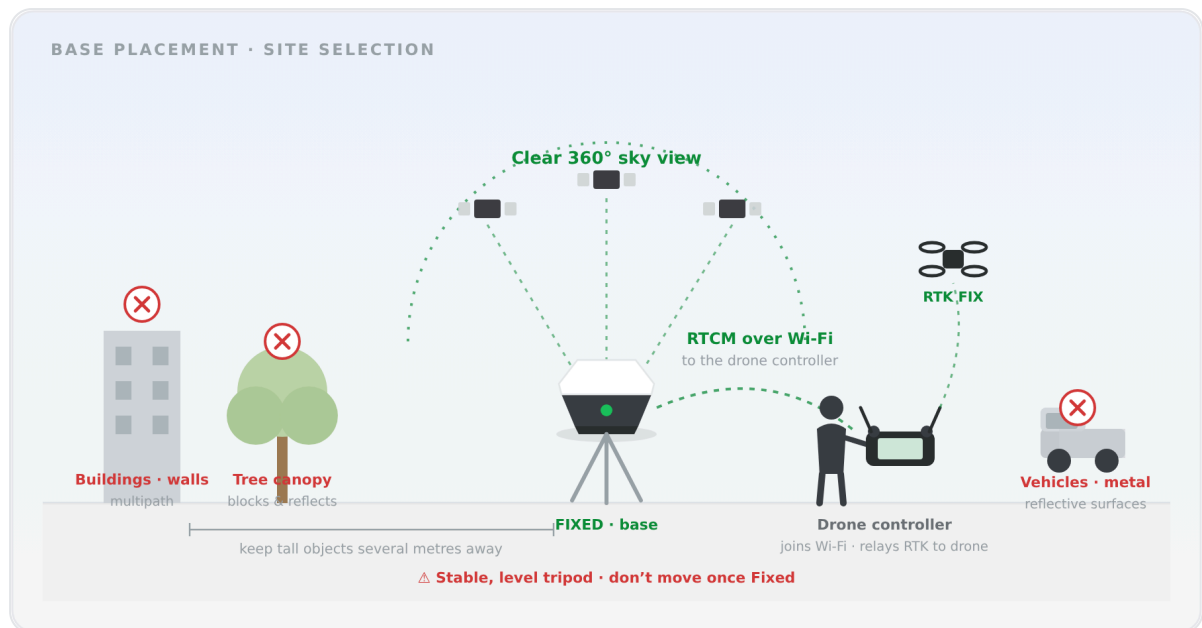
Defaults at a glance

Console sign-in	password uavmate
Wi-Fi hotspot	UAV MATE-<SN> · open – no password
Console URL	http://192.168.2.1:8080
NTRIP caster	Port 2101 · Mount RTCM3 · uavmate / uavmate123

* No internet, CORS account, or known point is required. UAV Mate gets its position from PPP and serves corrections over its own Wi-Fi.

* Power on: hold the button about **2 seconds** until the LEDs light. Charge over USB-C (about **3 hours, 20–90 %**).

Set up & placement



Base | for drone RTK

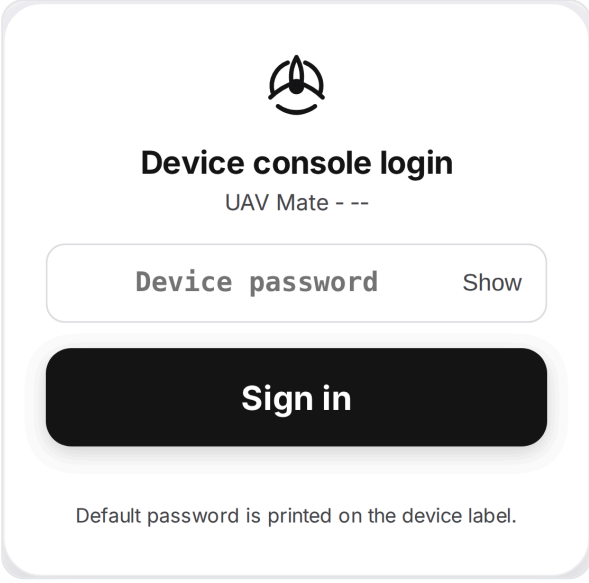
- Choose **open sky** with a clear 360° view. Keep away from buildings, trees, vehicles, and metal/reflective surfaces (multipath).
- Mount on a **stable, level tripod**. Once the base has fixed, **do not move it**.
- Set up within **Wi-Fi range** of the **drone's remote controller** — the controller joins UAV Mate's Wi-Fi and relays the corrections up to the drone.

Rover | for GCPs

- Hold the pole **vertical** over the mark — the built-in **electronic bubble** helps you level it.
- Work in the open; avoid tree canopy and tight spots beside walls.

Connect & sign in

1. On your phone/tablet, join UAV Mate's Wi-Fi: **UAV MATE-<SN>** (<SN> = your unit's serial number, on the device label). The hotspot is open — no password.
2. Open a browser to **http://192.168.2.1:8080**.
3. At the **Device console login** screen, sign in — default password `uavmate`.
4. The console opens on the **Base Station** tab. Two tabs — **Base Station** and **GCP Collection** — cover the whole workflow; the gear icon opens **Device** settings.

The image shows a login screen for the UAV Mate device console. At the top is a logo consisting of a stylized 'A' with a circle inside. Below the logo is the title 'Device console login' and a subtitle 'UAV Mate - --'. There is a text input field labeled 'Device password' with a 'Show' button to its right. Below the input field is a large black button with the text 'Sign in' in white. At the bottom of the screen, a note states 'Default password is printed on the device label.'

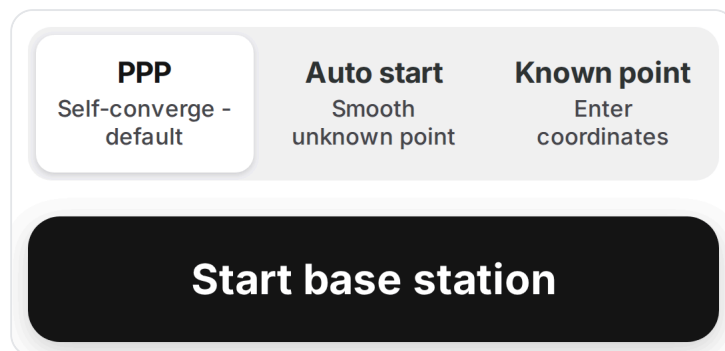
Device console login — the password is **uavmate**.

Set up a PPP base station

On the **Base Station** tab.

1 Choose the start mode & start

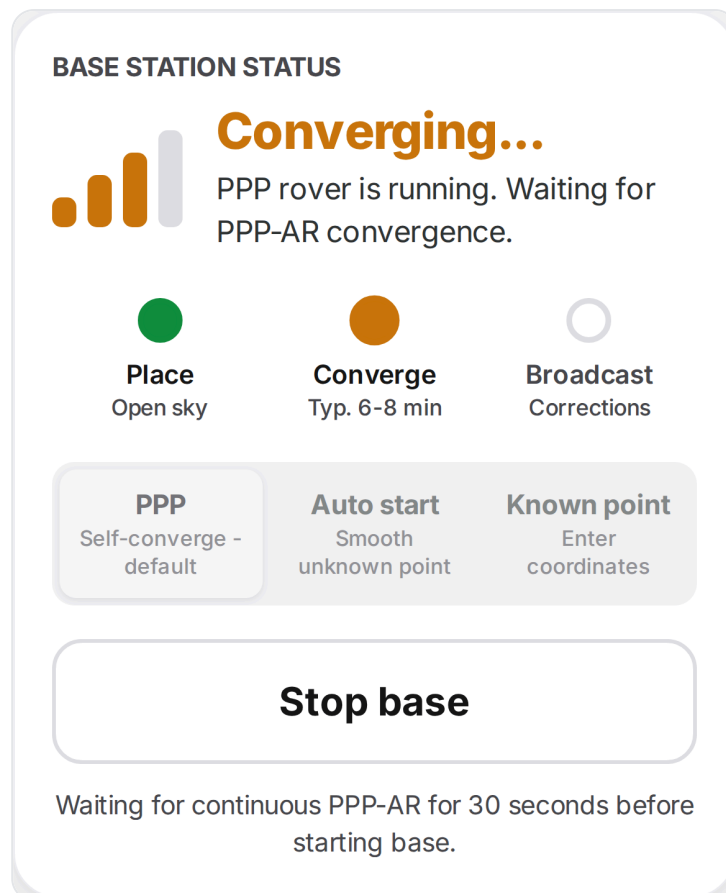
Keep **PPP (Self-converge)** selected — the default; no known point and no internet are needed. To use a surveyed mark instead, choose **Known point** and enter its coordinates. Then tap **Start base station**.



PPP self-converge is the default — just tap **Start base station**.

2 Converge

Keep the unit still. The status card walks through **Place** → **Converge** → **Broadcast** and shows live progress. Convergence typically takes **6–8 minutes** under open sky — a good window to set up your drone.



⚠ Do not move the tripod after the base has fixed.

3 Broadcasting — record the position

Broadcasting starts **automatically** once converged — the base sends **RTCM** corrections over its private Wi-Fi, and static RINEX logging runs alongside. The fixed base position appears below the status card (**ITRF2020, current epoch; typ. H 1.5 cm / V 3.0 cm**) — **Copy it or write it down** for your flight-planning software.

Base position - ITRF2020
Fixed at 14:32 - write down or screenshot

Copy

Latitude
31.2304012°

Longitude
121.4737895°

Ellipsoidal height
24.531 m

Accuracy: H 1.5 cm - V 3.0 cm - ITRF2020, current epoch

The fixed base position — tap **Copy** to save it.

Connect the drone's controller

The corrections reach the drone **through its controller**, not the drone directly:

1. On the **drone controller**, join UAV Mate's Wi-Fi (**UAV MATE-<SN>**).
2. In the flight app, open **NTRIP / RTK** and enter:

Host / IP	192.168.2.1
Port	2101
Mountpoint	RTCM3
Username	uavmate
Password	uavmate123

3. Connect and confirm the drone shows **RTK Fix**. You're ready to fly.

Other correction links. Feeding a radio-equipped rover, or working beyond Wi-Fi range? In the **Broadcast** card choose **Internal radio (UHF)** — match the rover's channel, protocol and air baud — or **External NTRIP server (4G)** to push corrections to an internet caster (SIM required).

Collect ground control points

On the **GCP Collection** tab. One unit plays one role at a time — if the base is broadcasting, tap **Stop base** first.

1 Choose a correction source & start

L-Band PPP (no base needed) · **CORS** — your NTRIP account over 4G (SIM required) · **Radio** — from an external base. Then tap **Apply & Start Rover**.

CORRECTION SOURCE

Current: L-Band PPP ▼

Where corrections come from

L-Band PPP (no base needed) ▼

Active source: L-Band PPP. Rover start command sent.

Apply & Start Rover

2 Wait for Fixed, then collect

Enter a **Point ID** and the **antenna height** (ground mark to antenna reference — stored heights are reduced automatically). When the status shows **Fixed**, put the pole tip on the mark and tap **Collect point** — **5 s**. Hold the pole steady for the 5-second occupation.

SOLUTION STATUS

**Fixed**
Centimetre accuracy via L-Band PPP. Hold steady and tap Collect.

Horizontal accuracy
-- cm

Vertical accuracy
-- cm

Current position - live - ITRF2020
Waiting for backend position?

Point ID

Antenna height (m)

Vertical distance from the ground mark to the antenna reference point (pole height). Stored heights are reduced to the ground mark.

Collect point - 5 s

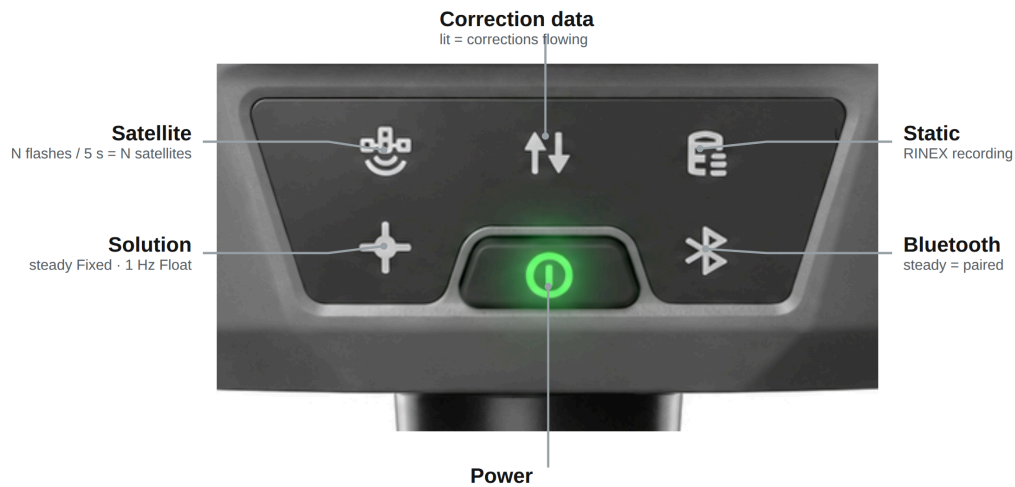
Receiver solution is fixed, but rover mode is not active.

3 Export

Repeat for each point, review the **Collected points** list, then **Export CSV**.

⚠ GCPs can only be saved on a Fixed solution.

Read the LEDs



LED	WHAT IT TELLS YOU
Satellite	Flashes N times per 5 s = N satellites tracked.
Correction data	Lit = receiving / broadcasting corrections.
Static	Lit = static raw-data (RINEX) recording.
Solution	Steady = Fixed · flashing 1 Hz = Float · off = no fix.
Bluetooth	Steady = paired.
Power button	Hold ~2 s = on · hold ~5 s = off.
Battery display (bottom)	Each segment $\approx 25\%$. Slow flash = 20–10 % · fast flash = < 10 %.

Solution status — at a glance

STATUS	MEANING	ACTION
● Fixed / Broadcasting	Centimetre, survey-grade	Good to broadcast / measure / fly
● Converging / Float	Improving, not yet accurate	Keep still under open sky — wait
● Single / Acquiring	No corrections yet	Check sky view and the correction source

Key numbers

PPP convergence	typ. 6–8 min
PPP positioning accuracy	H 1.5 cm / V 3.0 cm
Reference frame	ITRF2020, current epoch
Battery runtime	up to 10 h (7000 mAh)
Storage · static logging	8 GB · RINEX 3.x, 1 Hz, max 2 h
GCP occupation	5 s per point · CSV export

Coordinates & datum: PPP gives coordinates in **ITRF2020, current epoch**. To match a national datum (e.g. GDA2020, NAD83, ETRS89, CGCS2000) you must transform frame and epoch — see the User Manual.

Safety: keep clear of the antenna while the radio transmits (≥ 20 cm for Wi-Fi/cellular, ≥ 47 cm for UHF) and don't use in a thunderstorm. Full safety and regulatory information is in the User Manual.

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