Vive Ultimate Trackers



What Are Vive Ultimate Trackers?

The **Vive Ultimate Tracker** is HTC’s next-generation tracking device designed to improve motion tracking in VR and standalone applications. Unlike the **regular Vive Tracker**, which relies on external **base stations**, the **Ultimate Tracker** features **inside-out tracking**, meaning it uses **built-in cameras** to track its position without needing external sensors.

This makes the **Ultimate Tracker** more portable and flexible, as it doesn’t require a dedicated tracking area or base stations.

Comparison: Ultimate Tracker vs. Regular Vive Tracker

Feature	Vive Ultimate Tracker	Vive Tracker
Tracking Method	Inside-out (built-in cameras)	Outside-in (Base Stations), infrared.

Feature	Vive Ultimate Tracker	Vive Tracker
Base Stations Needed	❌ No	✅ Yes (Lighthouse)
Connection Type	Wi-Fi 6E / USB-C Dongle	USB dongle (2.4 GHz)
Battery Life	~7 hours	~7 hours
Size & Weight	Slightly smaller & standalone	Various sizes depending on the. model (1,2,3) & requires base station setup
Latency	Slightly higher due to processing	Lower latency with base stations
Connection	Built-In camera's, do not cover. Sometimes loses connection. Calibrates through mapping setup at startup. When connection is lost, move back to the centre point of callibration	Base stations, do not cover the tracker for line of sight connection, then stable. Zero point connected to headset initial calibration placement. This can be updated it TD
Best Use Case	Portable, flexible tracking without a defined play area	High-precision tracking in controlled spaces

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When to Use Each?

- **Use the Vive Ultimate Tracker if:**
  - You need **standalone, flexible tracking** without base stations & headset.
  - You’re working in **large or dynamic spaces** where base stations aren’t practical.
  - In a well-lit enviroment (but not too much direct sunlight)
- **Use the Vive Tracker if:**
  - You need **high-precision tracking** with minimal latency.
  - You’re working in a **controlled space with base stations**.
  - You need compatibility with **existing VR setups** (e.g., Vive Pro).
  - When working in low-lit spaces.

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1. Hardware Setup

A. What You Need

- **Vive Ultimate Tracker(s), preferably with straps**
- **Usb -c Hub & extension cradle**

- **PC (windows only) with Vive software installed**
- **USB-C Cable** (for wired mode, firmware updates & charging)

B. Charging & Powering On

- Charge the **Ultimate Tracker** via **USB-C** before first use.
- Press the **power button** until the LED lights up Blue.

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2. Connect to Vive Wireless Hub

1. **Install & Open the Vive Wireless Hub Software**
   - Download & install **Vive Hub** from HTC's official site.
   - Launch **Vive Hub** on your Windows PC.
2. **Pair the Ultimate Tracker** (link for steps on the Vive website, link)
   - Connect the USBDongle to your computer at least 45 cm away for decent tracking.
   - Open **Vive Hub** and go to the **settings,** choose Vive Ultimate Trackers
   - Check for **firmware update** & do them if necessary (app explains the steps) .
   - **Pair New**: Follow the on screen instructions to pair each Ultimate Tracker.
3. **Tracker Mapping**
   - click on Tracker setup & follow the **steps** on screen>

     https://www.youtube.com/embed/D53DEBVqvUY

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3. Open SteamVR

- Once trackers are **mapped in Vive Hub**, launch **SteamVR**.
- SteamVR should now detect the **Ultimate Trackers** automatically.
- You can check and adjust tracking roles under **Devices > Manage Vive Trackers** in SteamVR.

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4. Use in TouchDesigner

- Open **TouchDesigner** and use the **OpenVrChop** & set it to **Trackers** to receive position & rotation data.
- Map the data to visuals, interactions, or animations as needed.

5. Use in other software

- Use **GazeboOsc** to pick up the Tracker signals & send them to other software (e.g. Isadora) that can handle OSC.

Troubleshooting

- If SteamVR doesn’t detect trackers, temporarily **turn on the headset** or **restart SteamVR** and **Vive Hub**.
- Ensure the tracker is **properly mapped in Vive Hub** before launching SteamVR.
- Reset a tracker by holding the **power button for 10 seconds**.
- When tracking is lost, return it to the **zero point** of the callibration
- Since the **Ultimate Tracker uses inside-out tracking**, ensure there are **enough visual markers** and **light** in the environment for stable tracking. Dark furniture may cause tracking issues.
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