

Critique: [Vive Trackers](#)

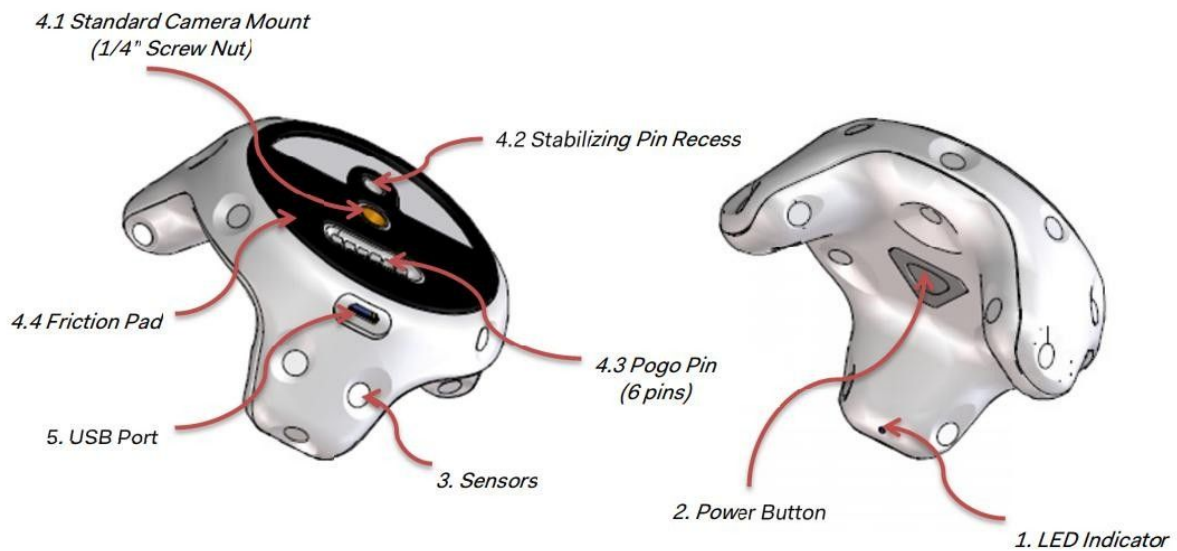
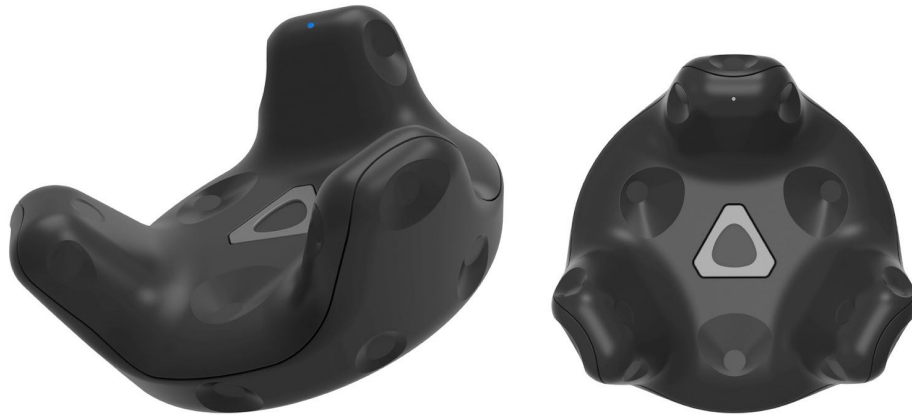


Figure: Main features

I am so glad HTC finally came out with the Vive Trackers. It was the best next step for the Vive ecosystem, even though it was not an obvious direction. Essentially, you can attach a tracker to any physical object and bring it into the virtual world. The tracker works much like the circular end of the Vive's controller. Instead of tracking your hands, however, these sensors can be

attached to objects ranging from furniture to fake weapons. You can even attach the tracker to your cat for an advanced AI system, or to visualize movement in VR...or maybe just to help [avoid running into your pets](#) when enjoying VR.

The big goal is to make you feel more immersed in VR, and the trackers can be used in one of two ways: as an extension, where the tracker attaches to the tool you want to use, or for better body tracking, where the tracker(s) is attached to the body. Instead of releasing hundreds of different controllers that replicate real world items, why not just stick a single tracked object onto the real thing to bring it into the virtual world?

Just watch this video, highlighting the creativity and limits that you can push this technology (hint: there are no limits!!): [Vive + Drone + Space Pirate Trainer](#). Or this video, where the tracker is attached to a [ceiling fan](#)! I just love these concepts. You don't even need VR to utilize the trackers, like this [projection mapping application](#) for example. There are many examples out there, it is definitely worth doing a Google search if you want to get your mind blown. It's exciting, because we the consumers and developers are part of the R&D process.

Better immersion is a big pro. Mapping a virtual gun to the standard hand controller versus mapping it to a 1:1 scale version of the gun with a tracker makes a huge difference. Things like weight distribution and being able to physically touch an object while seeing it virtually add to the immersion.



Controller inputs can also be transmitted by the Vive Tracker, with every HTC Vive controller input being mappable to any compatible accessories. From simple button presses, trackpad movements, or even rumble commands, each of these can be sent and received by the Tracker. This allows Vive Tracker accessories to be a viable replacement for the HTC Vive controller.

Price is a huge con. It will cost \$99 per tracker, which really starts adding up quickly. Even though the possibilities are endless, the consumers are the primary users. If you build a super amazing application requiring 5+ trackers, that's cool, but consumers are less likely to spend over \$500 in trackers to experience the application.

Another con is size, but that is relative and depends on the object you want to track. Tracking smaller objects like a pistol can be awkward, while tracking large furniture seems more natural.





Furthermore, you can track objects, but you need a 3D model to represent it virtually, and there aren't many publicly available, especially for consumer products. You have to model it yourself, which takes time, could get very complex, and not end up being mapped with precision... With VR and AR on the rise (again), companies should release 3D models of their products (which already exist from the design process). This in turn could end up benefiting their business. There are some exceptions of course. If you want to bring swords into the virtual world, it would be better to attach the tracker to something like a stick, so no harm can be caused.. Well minimal harm at least.

Another potential con is accidents. Swinging a baseball bat with a hi-tech blindfold can be extremely dangerous. Precautions will have to take place, and not taken lightly. You can't see spectators in the virtual world (unless maybe you put a tracker on them? Track all the things!!) and you can easily swing a bat at them.

This next statement might be a pro or con. All of the Vive Tracker's data is transmitted wirelessly to a USB 2.0 dongle, hooked up to your PC. Unlike the existing HTC Vive controllers, where all data is transmitted via the headset, the Vive Tracker will operate independently. However, one Vive Tracker could be connected through the HTC Vive's spare USB port on the headset for a cleaner look. This could be a con if you are using a lot of trackers, which for now is more rare.

The trackers don't feel like they are part of a forced ecosystem from a company to increase profits and push out competition, but instead works with an increasing amount of third party accessories. This promotes creativity in the users to come up with fascinating new ways to interact between reality and virtual reality, providing consumers and businesses with an unlimited amount of content opportunities. Vive's Daniel O'Brien said expanding the ecosystem around the Vive headset was crucial to its future development. "To foster the long-term growth of VR, we want to make it even easier for developers to prototype and market more immersive controllers and accessories," he said. The lines between physical and virtual worlds are truly becoming increasingly blurred.