



roto



Welcome to the Roto family!

It's great to have you join us.

We've spent the last six years creating Roto. **We can't wait to tell you why...**

In 2014 when Facebook acquired Oculus, we were excited that virtual reality had a new momentum, a fresh start that would inspire technologists around the world to overcome the (huge) challenges ahead and ultimately start building an ecosystem whereby we could transport ourselves and feel truly present inside a digital world.

We recognised early on that whilst VR allows us the freedom to do amazing things like fly

spaceships and shoot zombies, in the real world (in reality) most people would probably prefer to sit down while they were doing it. For example, most people already choose to sit down to watch movies, work and play games, so why would human nature change just for VR?

So, we set out to solve the problems of exploring and experiencing 360-degree content whilst seated.



EXPLORATION

The biggest challenge to exploring an infinite computer world whilst sitting down is the control method.

As some headsets are tethered to a PC (arguably the best VR experiences are PC-based), users can't physically rotate around in a swivel chair because they get tangled up. So, users sit still, which when combined with moving imagery inside a headset, can cause motion sickness.

Cutting a (very) long story short, we figured out that several new technologies needed to be built to form a single solution

INTERNAL MOTOR

Even without tangling cables, people don't actually swivel around in their chair - we think it's because it either doesn't feel natural to do so, or perhaps people aren't incentivised enough in the VR experience to overcome their general laziness. So (!) we built an internal motor inside the Roto base to do the turning for you.

[FUN FACT] Roto's top speed is 22.5RPM. Roto has a motor safety cut-off feature to detect if the base itself is moving (it shouldn't be moving!). Unfortunately, this means Roto won't work on a cruise ship.

RUMBLE

Immersive VR includes great visuals, great sound, but also the sense of touch. Roto boasts the latest in haptic (rumble) technology. Sure, you need to connect it up, but once you have, it's incredible! Two strong vibration sensors are located on the back and underside of the seat for maximum immersion.

[FUN FACT] CEO Elliott Myers (and his team) built the first rumble steering wheel for the games market back in the 90s, also the first force-feedback wheel, the first force-feedback joystick, the first 3D games controller (called Gametrak) and the first ultrasonic games controller.

But this is just the beginning. Roto has been built for the long term and is incredibly versatile:

Bring accessories such as steering wheels or joysticks (HOTAS) into your 360-degree experience using the various table mounts

Use your Keyboard and mouse in 360 VR (sure there's not much you can do yet with this feature, but trust us, it's about to get exciting)

Charge your motion controllers (or phone) using the Control Box (underneath the seat)

INTELLIGENT HEADTRACKING

Having an in-built motor is one thing, but how should it be controlled?

Sure, it's cool when a movie director force-turns you at a jump-scare (coming soon!), but we also wanted to give you the ability to explore what you want, when you want and wherever you want - intuitively. The Roto Headtracker clips onto any headset and when activated, Roto auto-turns you to wherever you look. This feature was really difficult to develop, especially making it reliable, safe and feeling smooth, but we think the results are magical and we hope you agree!

[FUN FACT] There's an Infrared safety feature built inside the Headtracker. If it doesn't detect your head is nearby, it won't activate. And if you remove your headset, it will automatically deactivate.

CABLE MAGAZINES

Located inside the Roto base, this high-tech component feeds HDMI, USB and power signals through Roto whilst it spins around - no more tangling cables!

[FUN FACT] It took us over two years to develop this component for Oculus Rift and HTC Vive (Oculus Quest-Link cable is now also supported). Fortunately, it won't be long before our upgrade Magazine is available for Oculus-S and Index.

TOUCH PEDALS

How to walk whilst comfortably seated? We placed a digital Touch Pedal underneath each foot to represent a left and right footstep. This feature requires developer support. At the time of writing, Vox Machinae from Space Bullet (an awesome multiplayer mech-warrior game) is the only experience that natively supports Roto and the Touch Pedals.

[FUN FACT] There's over 1,000 components and 16 circuit boards that make up a single Roto.

If there's anything else you'd like see or get from your Roto, please message us!

INSTRUCTIONS

For full instructions on how to set up the chair, you can click here to see our setup instructions. If you do have any questions on this, please contact our customer support team on customersupport@rotovr.com. Here's some extra pointers:

HEADTRACKER

The Headtracker mounts to any part of the HMD, however we recommend it sits flat on the very top of your head (if possible).

The battery life in the Headtracker is around 8-10 hours and can be charged with a micro USB-B cable.



ROTO SEAT

The seat is made of PU leather with internal foam for comfort. Inside the armrests are slots in which the side tables can be inserted (designed as joysticks support but useful for other things such as stowing motion controllers).

The armrests also have a recess location to stow the Headtracker and emergency button (optional).

The seat headrest is removable to enable better tracking between headsets and any room sensors.



RUMBLE

The rumble is triggered using low frequency audio coming out from the software.

Developers can also dynamically control the rumble using our Software Development Kit (SDK).

The seat itself has been designed internally to maximise the feeling impact of the vibrators, for example using materials that provide resonance effects. Some of our favourite experiences with rumble are Jurassic World (Oculus Go), Lucky's Tale (Oculus Rift) and Elite Dangerous (Vive or Rift).



CONTROL BOX

The Control Box is Roto's control centre and is where you need to connect your headset and any accessories. You can even charge your motion controllers (or phone!).



COMPATIBLE HEADSETS

HTC Vive, Oculus Quest, Oculus Go, Oculus Rift CV1

GAMING RECOMMENDATIONS

Jurassic World: Oculus Go (awesome with headtracking and rumble). We use this as our primary demo experience.

Lucky's tale: Oculus CV1 (awesome with headtracking and rumble) – magical experience with Roto, it's a brilliant and beautiful platform game, ideal with Roto's headtracking (especially as the in-game camera moves with the character – it's pretty much the perfect VR experience!).

Serious Sam: (Vive or Oculus CV1) just amazing! This experience with Roto (we think) shows how locomotion should be handled in VR. The game is also great fun (and quite jumpy). You must try it!

Half Life: Alyx (Vive or Oculus CV1) because it's the top selling game. Headtracking is ideal (rumble not so much because of the low rumblings throughout the game)

Boneworks: (Vive or Oculus CV1) top game, designed for seated play and Roto makes everything comfortable and immersive.

Google Earth (Vive): because you feel so free to do what you want. Without Roto you feel constrained.

Gun Jack: easy, great fun, just works great with both headtracking and rumble (need a gamepad last time we checked)

Beat Saber (any): top game. There's a 360 degree mode. Put your arm rests down.

Netflix VR: OK, no turning around in this, BUT rumble works with all content including regular TV or movies – and yes, Netflix is available in VR. It's a truly standout experience with Roto.