



FOVE 0
Eye Tracking Virtual Reality Devkit
User Manual

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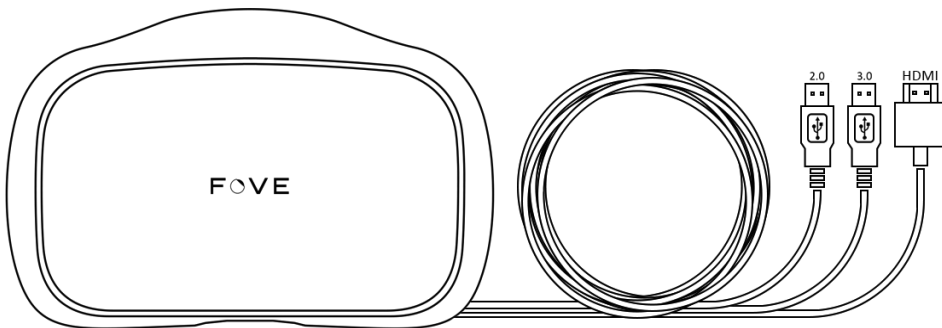
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Unboxing

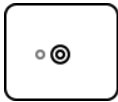
In this box you will find the FOVE 0 Virtual Reality Headset and various accessories. This user manual will guide you through the process of initial setup. We recommend that you read this manual in its entirety before using the FOVE 0.

Box contents:

Headset with attached cables



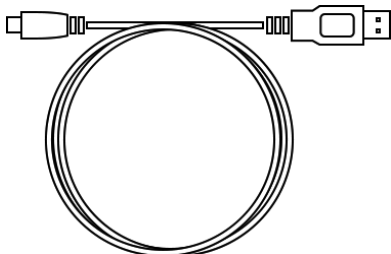
Position tracking camera



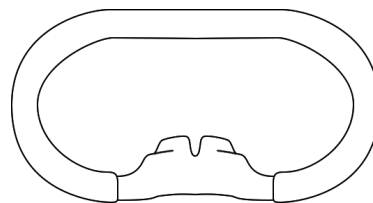
Camera Stand



MicroUSB cable for camera



Replacement face cushion



Carefully check for external/cosmetic damage when removing the contents from the box. If you notice any damage due to shipping or manufacturing errors, contact us at: cs@fove-inc.com.

Product Specifications

- **Display frame rate:** 70Hz
- **Field of view:** 90° - 100°
- **Head Tracking sensor:** 6-DOF orientation and positional tracking
- **Eye tracking sensor:** 120fps infrared tracking system x2 with median 1.15° accuracy
- **Weight:** 520g
- **Connection:** HDMI 1.4 / USB 3.0 / USB 2.0(for power supply only)
- **Accessories:** position tracking camera, additional face cushion

System Requirements

- **OS:** Windows 8.1/10/11 64-bit, Ubuntu 20.04
- **CPU:** Intel Core i5-4590 or greater
- **GPU:** NVIDIA GeForce GTX 970 / AMD Radeon R9 290 or greater
 - (Ubuntu version requires an NVIDIA card with proprietary driver)
- **RAM:** 8GB or more
- **Interface:** HDMI 1.4 / USB 3.0 / USB 2.0 x 2
- **Software:** NVIDIA GeForce Drivers version 375.95 or later or any recent AMD Radeon driver

* These are the minimum specs needed to drive the headset. Depending on the content, you may need higher specs to run complex content, such as realistic 3D scenery, etc. For simple 2D content, this should be sufficient.

* Desktop/Tower PCs are preferred, but some laptops are usable. Please use a laptop advertised as VR ready. Critically, the HDMI port must be connected to the discrete GPU and not the integrated GPU for FOVE to function.

Getting Started

Following the steps outlined here will help ensure a smooth user experience:

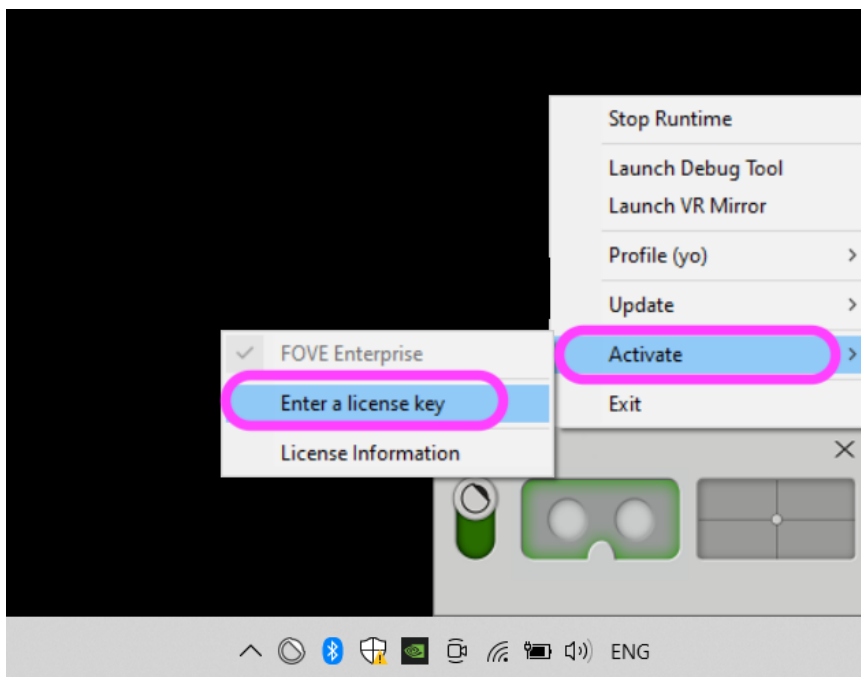
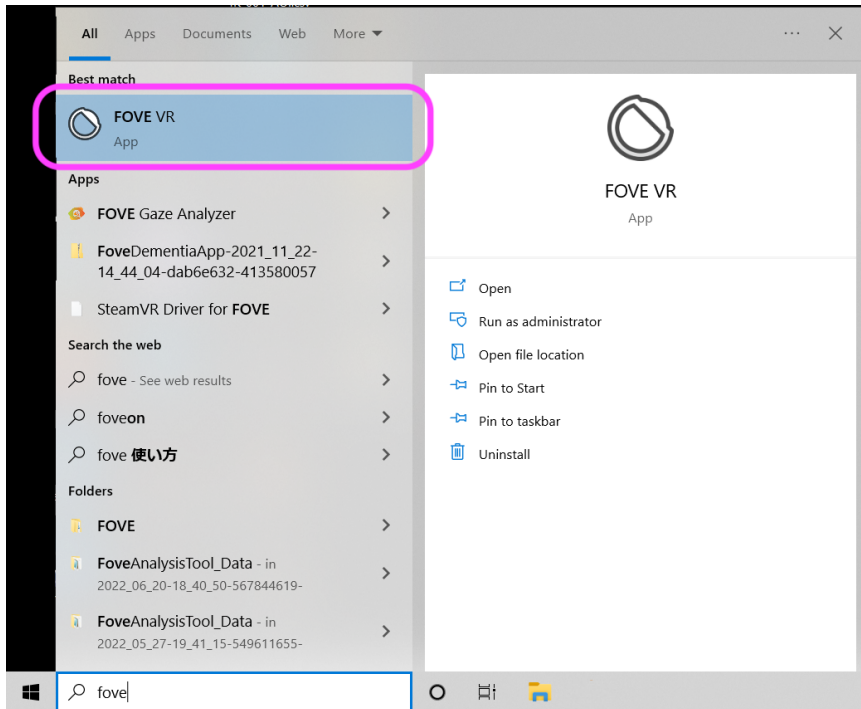
1. **Installing the FOVE VR Platform**
2. **Activating the software with a license key**
3. **Connecting headset to computer**
4. **Setting up position tracking camera**
5. **Wearing the headset**
6. **Starting up FOVE 0**
7. **Capturing eye tracking data**

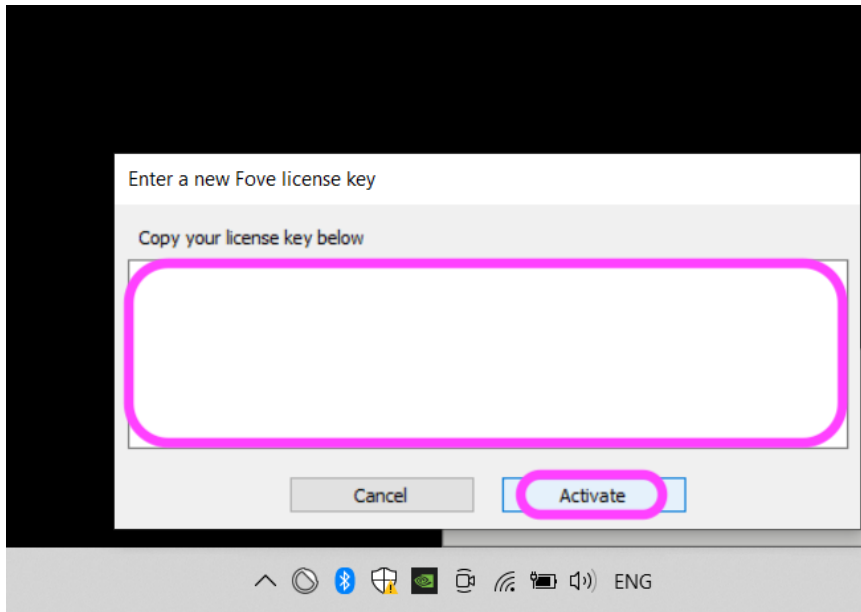
1. Installing the FOVE VR Platform

The first thing you need in order to use your FOVE 0 headset is to install FOVE VR Platform. You can get the download link and a license key by sending a request form from: <https://fove-inc.com/fove-vr-platform-contact/>

2. Activating the Software with a License Key

- Upon installation the FOVE VR software will launch automatically. You can open it later via the FOVE VR from the Windows Start Menu, the license entry dialog will open automatically if no license is entered. It can be opened again later by right clicking and going to “Activate”.
- Copy & paste the license key from FOVE and press “Activate”

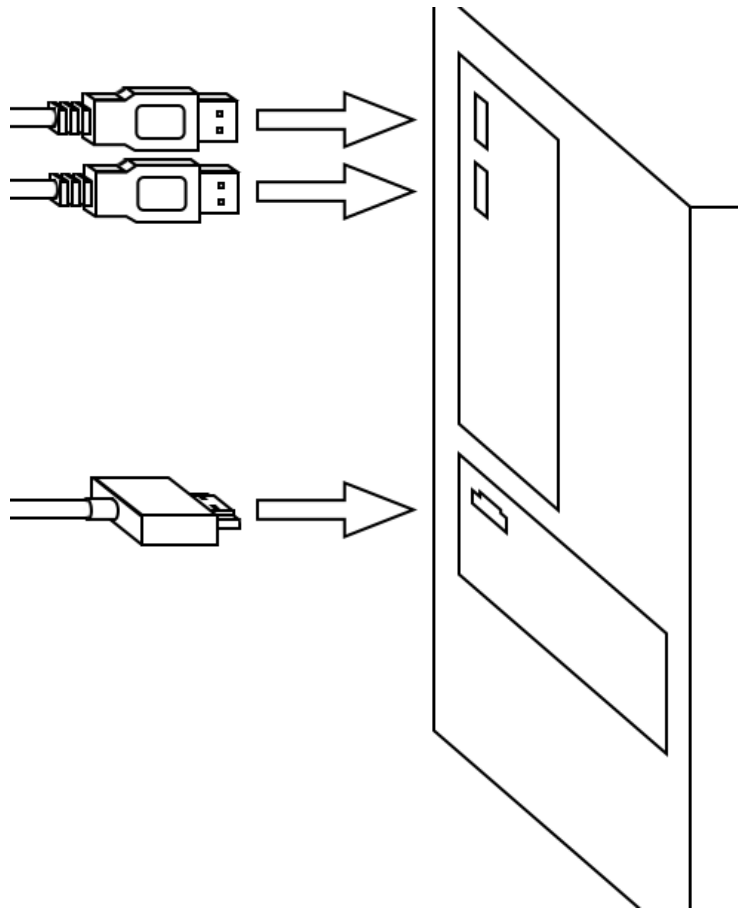




3. Connecting the Headset to a Computer

When you have the software installed, you can proceed to setting up the headset.

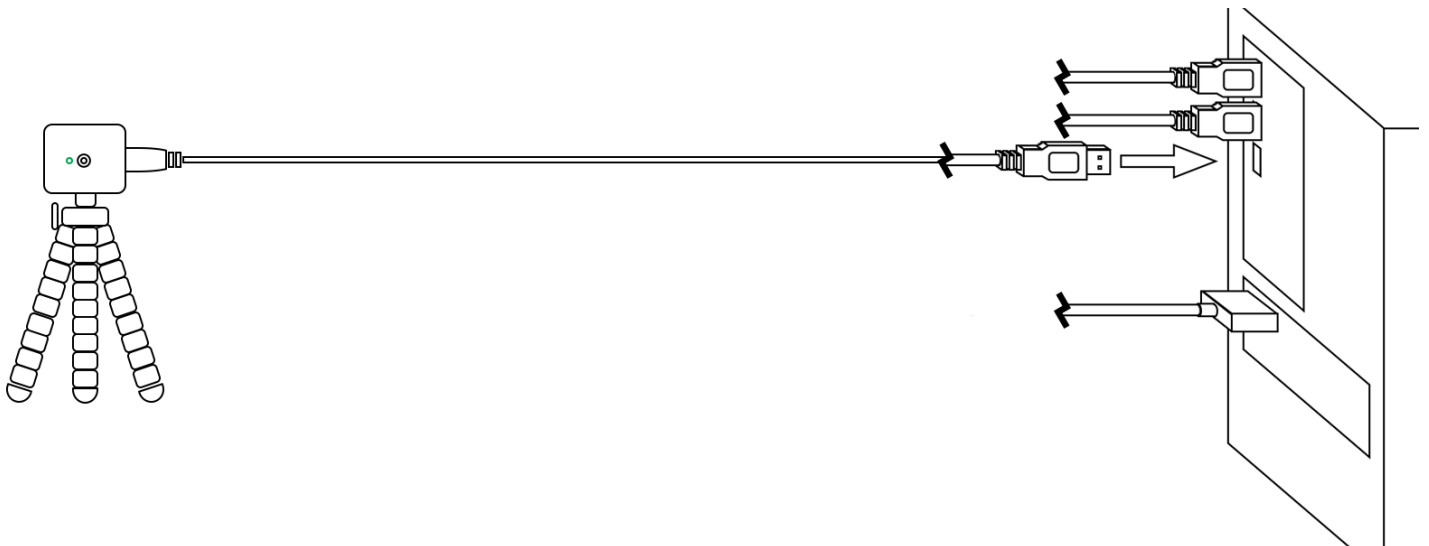
The headset cable consists of 3 connectors: an **HDMI**, a **USB 2.0** and a **USB 3.0**. Plug all the connectors to your computer. In case your computer is lacking USB 2.0 ports, you can simply use a commercially available USB wall charger for the thinner USB 2.0 cable. Make sure you plug in the HDMI connector to your Graphics Card, and not the motherboard directly.



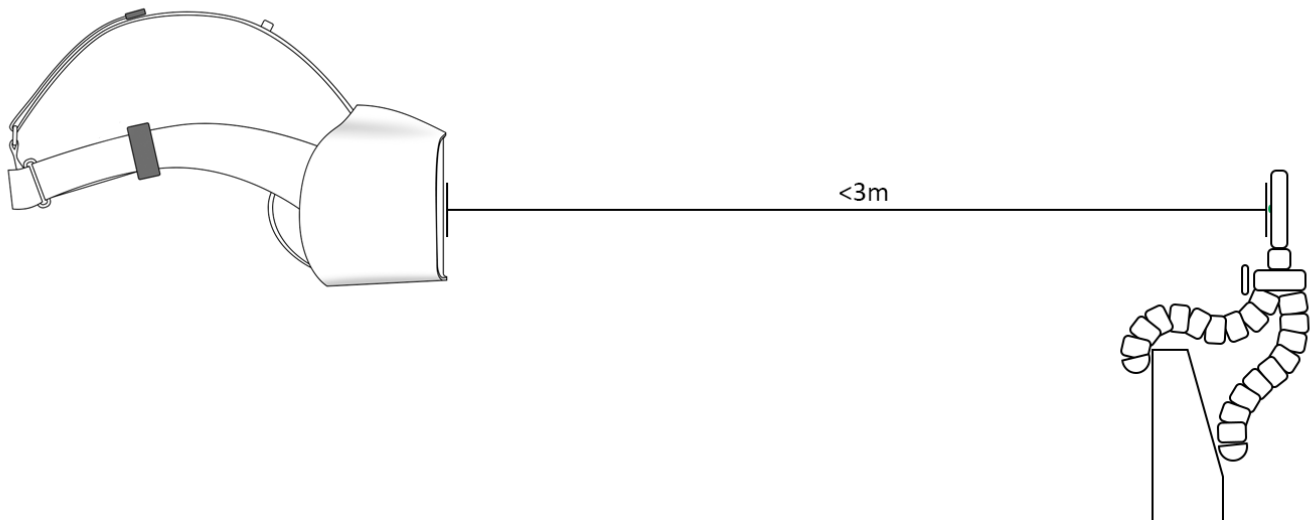
4. Setting up the Position Tracking Camera

The position tracking camera can recognize the LED lights that are located under the FOVE's cover. This allows for 3-dimensional positional tracking of the headset.

Unwrap the position tracking camera, its USB cable and tripod. Attach the camera to the tripod and connect the cable's mini USB to the camera and the other end to your computer. Be careful not to use too much force when attaching the camera to the tripod.



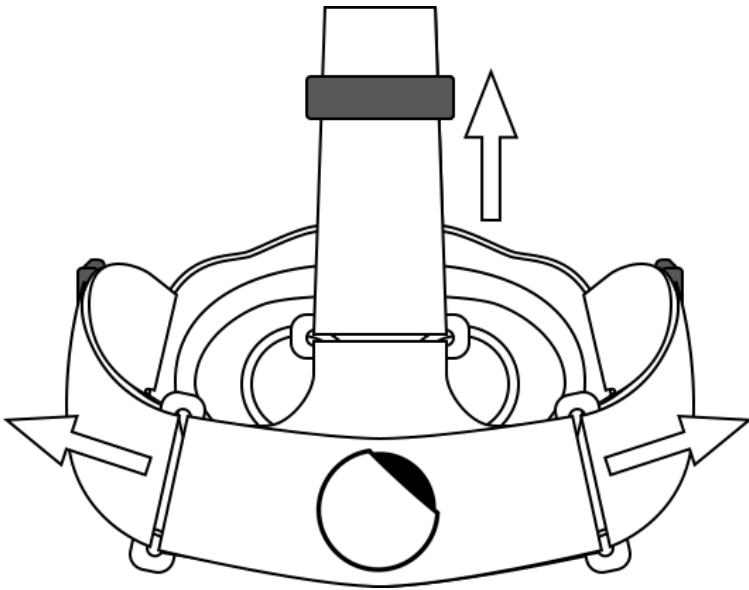
Clear a space for the camera up to about 3 meters (~ 10 feet) from where you plan on positioning yourself with the headset. There should be a direct line of sight from the camera to the headset, and you should not attach anything that might weaken the interaction of the LEDs and the position tracking camera on the surface of the headset. Sun rays can also produce interference, so it's recommended to use away from outside windows during the daytime. Below is one example of how you can attach the camera to your monitor.



5. Wearing the Headset

Loosen the straps and fit the headset on your face so that your eyes line up with the middle of the lenses. Adjust and tighten the side and top straps so that the headset feels stable but comfortable to wear. Make sure your hair doesn't fall in front of the lenses, because this might interfere with FOVE 0's eye tracking. You are good to go.

Some glasses with medium to small frames can be worn with FOVE 0. However, for optimal performance and comfort, we recommend users to wear contact lenses while using the FOVE headset.



6. Starting up FOVE 0

Look in the Start Menu for the newly installed 'FOVE VR' program and run it (if not already running).

Once the headset is adjusted to sit comfortably on your face, sit still, and face forward. Follow the calibration instructions displayed on the screen inside the headset. If for some reason calibration fails, you can retry calibration by right-clicking the FOVE icon in the notifications area and selecting Calibration > Restart Calibration.

After completing the calibration, you should see outer space. You are now ready to use your FOVE HMD!

To test out the FOVE, you can try our demo suite, which is downloadable at this link:

<https://fove-inc.com/downloads/>

Typically, most FOVE customers build their own eye-tracking content using our Unity or Unreal game engine plugins. These are available at <https://fove-inc.com/downloads/>

7. Capturing Eye Tracking Data

Eye tracking data can be captured either using...

- The FOVE SDK for C/C++/C#/Python
- The FOVE Unreal Plugin (Blueprint or C++)
- The FOVE Unity Plugin (A sample Gaze Recorder script is included)

A detailed explanation of what data can be captured is available at the following support link:

<https://support.fove-inc.com/>

Health & Safety Information

Please follow these health & safety points while using the FOVE 0:

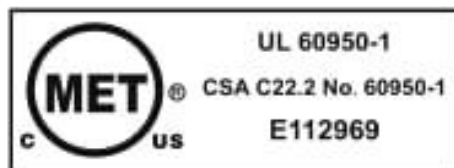
Medical conditions: If you are pregnant or elderly, have a serious medical condition, have implanted medical devices or have suffered from seizures or epilepsy, we recommend consulting a doctor before using the headset.

Electric shocks: To avoid the risk of electric shocks, do not expose the cables to moisture or heat sources, and do not try to disassemble any of the electric components included in the box. In addition, check the condition of the connectors every time you use the headset.

Surroundings: Choose an area that is safe for using the headset during an immersive virtual experience and be seated while using the headset. If you have limited experience with VR devices, you should allow for some time to get used to virtual reality. At first, only use the headset for 10 to 15 minutes at a time, and increase the time gradually while getting used to virtual reality. Even after getting used to VR, remember to have regular breaks (e.g. every 60 minutes) to avoid strain to your eyes and body.

Discomfort: If you experience muscle pain, dizziness, numbness, nausea or anything that causes you discomfort while using the headset, stop immediately and let the symptoms subside properly. If the discomfort persists, consult a doctor.

Infrared LED Safety: FOVE eye tracking uses infrared LED illumination. All FOVE products have been tested & certified with **IEC/EN 62471** for radiation & light emissions. FOVE products meet this standard, and are therefore **not** harmful to the human eye. If you have additional questions about these safety standards certifications please consult your local regulatory authority.



Terms of Use / Warranty

Please refer to Terms of Use on our company website:

<https://fove-inc.com/terms/>

FOVE 0 comes with a 1-year warranty. Please refer to FOVE's warranty policy on our company website:

<https://fove-inc.com/warranty/>

Support

In case you are having problems with setting up the FOVE 0 headset or the information provided in this user manual is inadequate, please contact us at: cs@fove-inc.com.

