

# VERIFOCAL™ :

## VIRTUAL REALITY WITHOUT EYE STRAIN

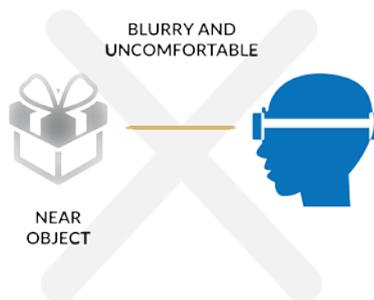
Try grabbing a nearby object in Virtual Reality (VR). Chances are, something about the experience doesn't feel right. You start feeling dizzy and nauseous. You find yourself frustrated, as the object you just picked up is blurry and your eyes can't focus. Things get worse when you look around, observing objects at different distances. The whole experience ends with severe eye strain and a pounding headache.

**Verifocal™ is the first technology that brings an end to the off-putting parts of today's VR experience.**

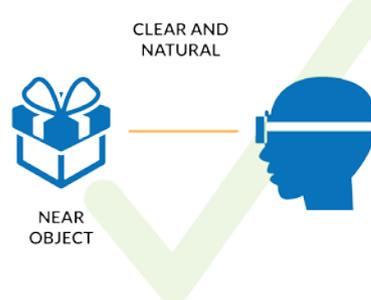
**Verifocal™** enhances the user's perception, bringing the virtual world closer to the real world. It works alongside the complex mechanisms of the human eye to create a more immersive and comfortable VR experience that can last longer.

**Verifocal™** analyzes eye movements to determine where the user is looking, and how far. It then automatically adjusts the optics in the VR headset accordingly. This lets the user's eyes focus on a virtual object naturally, the same way they would focus on a real object. All of this happens under the hood, while the user enjoys a seamless experience of VR that just *feels* better.

### NORMAL VR HEADSET



### WITH VERIFOCAL™



*Enhanced VR Experience.*

For VR users who wear spectacles, **Verifocal™** also resolves a major pain point. The headset takes into account the prescription of the user, allowing them to experience VR comfortably without eyeglasses.



This changes everything: VR now becomes a viable reality. **Verifocal™** eliminates the discomfort that has, until now, accompanied near-object interaction in VR. This enables comfortable hand manipulation and close object inspection, making sophisticated training programs feasible for a range of industries. Designers and engineers can outline, create and inspect with precision. Even reading fine-print in VR is possible with this cutting-edge technology!

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AVAILABLE AT SIGGRAPH 2018



This latest innovation in VR tech is set to launch at SIGGRAPH 2018 held in Vancouver (12th-16th August). For brands and professionals keen on seeing this product in action, the first headsets powered by Verifocal™ will be available for demo and order at the event.

## The Benefits of Verifocal™:



- **Reduced eye strain:**

Works together with the natural mechanisms of the human eye to trigger a natural accommodation response. This eliminates the vergence-accommodation conflict that plagues today's headsets.



- **Focus on near objects:**

Stunning detail and unparalleled comfort when observing near objects enables all applications of VR that require close interaction. It no longer matters where virtual objects are placed. For content developers this ends many stringent constraints.



- **Enhanced experience with Eye Tracking:**

Tracks user's eye movements to enable adjustments in real-time, providing a seamless visual experience. This paves the way toward ultra-high resolution via foveated rendering.



- **Virtual Reality without eyeglasses:**

Takes into account user's prescription to provide a sharp and comfortable experience for all, without the inconvenience of wearing spectacles under a headset.



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### ABOUT LEMNIS TECHNOLOGIES

Verifocal™ is the brainchild of Lemnis Technologies, a global team of scientists and engineers whose mission is to eliminate sensory conflicts in VR. Lemnis' team members have written over 60 international publications and conducted research at some of the top academic institutions in the world such as MIT, Brown, ETH Zurich, NUS, KAIST. They have done all the research to make you feel better in VR.



For all media enquiries, contact [press@lemnistech.com](mailto:press@lemnistech.com)

### NOTES TO EDITORS:

- An evaluation kit powered by the Verifocal™ platform will be available for order at SIGGRAPH 2018 in Vancouver (12-16 August)
- Technology is based on and proven by science that can improve comfort and makes users' eye react similar to the real world<sup>1,2,3</sup>
- Patent pending
- For information on technical specifications of Verifocal™, please contact [enquiries@lemnistech.com](mailto:enquiries@lemnistech.com)
- For more information on Lemnis Technologies, please visit <http://www.lemnistech.com>

1) G. Koulieris, B. Bui, M. Banks, G. Drettakis. "Accommodation and Comfort in Head-Mounted Displays" ACM Transactions on Graphics (Proceedings of SIGGRAPH), Volume 36, Number 4, 2017.

2) N. Padmanaban, R. Konrad, T. Stramer, E.A. Cooper, G. Wetzstein. "Optimizing virtual reality for all users through gaze-contingent and adaptive focus displays". Proceedings of the National Academy of Sciences, 2017.

3) P.-Y. Laffont, A. Hasnain. "Adaptive Dynamic Refocusing: Toward Solving Discomfort in Virtual Reality". Proceedings of SIGGRAPH 2017 Emerging Technologies.