

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

PERCEPT TECHNOLOGIES INC.,

Plaintiff,

v.

MAGIC LEAP, INC.,

Defendant.

No. 1:22-cv-0025-RGA

PLAINTIFF'S SUPPLEMENTAL INITIAL CLAIM CHART

Plaintiff hereby supplements its Initial Claim Chart, served August 24, 2022. In addition to Defendant's Magic Leap 1 product, Defendant infringes at least claims 1 and 12 of U.S. Patent No. 8,696,113 and claims 7 and 10 of U.S. Patent No. 9,010,929 with its recently released Magic Leap 2 product directly, either literally or under the doctrine of equivalents, and indirectly, by contributing to or inducing infringement by others. Plaintiff reserves the right to supplement these disclosures, as they are preliminary and based on limited technical information.

Dated: March 6, 2023

Respectfully submitted,

Percept Technologies, Inc.

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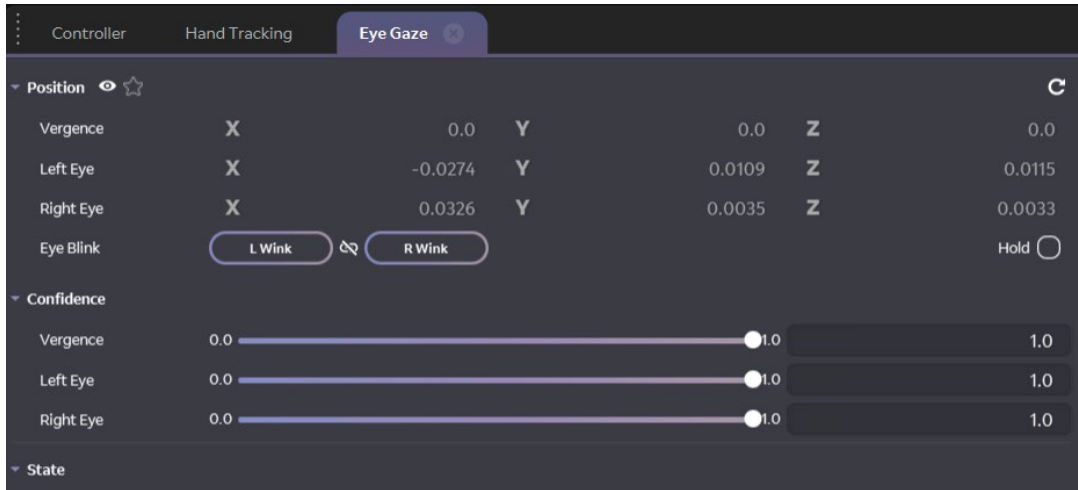
U.S. Patent No. 8,696,113 – Claim 1

U.S. Patent No. 8,696,113 – Claim 1	Magic Leap 2
1. A wearable optics device comprising:	<i>Note: The preamble of a claim is not necessarily a limitation that needs to be satisfied to show infringement.</i> Defendant's Magic Leap 2 is a wearable optics device.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 8,696,113 – Claim 1	Magic Leap 2
a lens; and	The Magic Leap 2 has lenses over each eye.  Source: https://www.magicleap.com/magic-leap-2

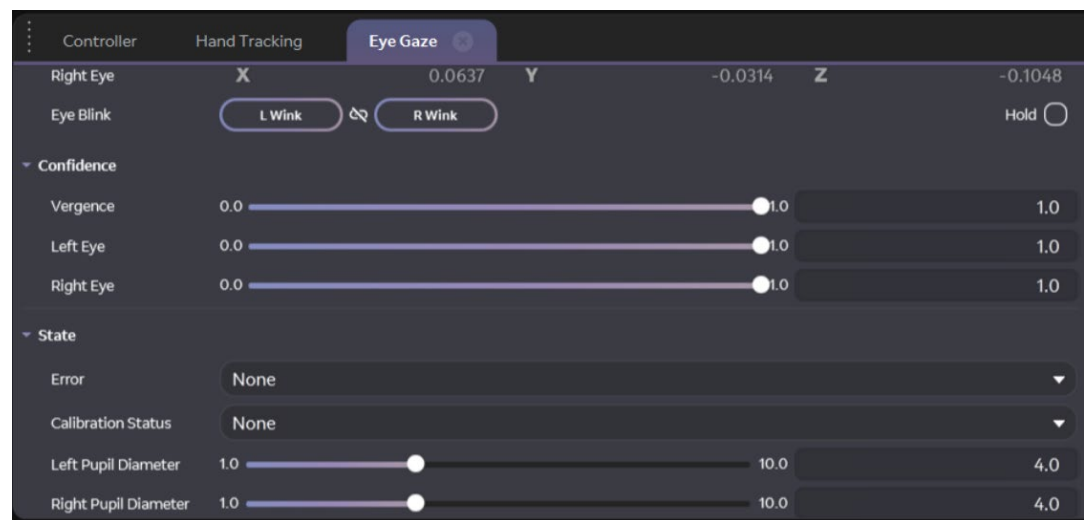
U.S. Patent No. 8,696,113 – Claim 1	Magic Leap 2				
a dynamic eye tracking mechanism in communication with the lens;	The Magic Leap 2 has a dynamic eye tracking mechanism, including two eye-tracking cameras per eye. The eye sensors are in communication with the lens, improving rendering, image quality, and comfort. Additional Input Modals <table border="0"> <tr> <td data-bbox="850 370 972 394"><u>Eye Tracking</u></td> <td data-bbox="1562 370 1892 394">— High accuracy 90 fps eye gaze</td> </tr> <tr> <td></td> <td data-bbox="1562 394 1772 418">— <u>2 cameras per eye</u></td> </tr> </table> Source: https://www.magicleap.com/magic-leap-2 So we developed a suite of solutions that addresses these common causes of discomfort, allowing you to view content at near (37cm) and far (infinite) distances. This suite includes combining robust eye-tracking with a smart choice of focal plane, as well as automatic display calibration. <u>Magic Leap 2 tracks each eye with two unobstructed cameras, together with 6 LEDs to illuminate and generate eye “glints,” thereby improving rendering, image quality, and comfort.</u> Having a smarter choice for focal plane minimizes discomfort and the 37cm clip plane is just the right distance to avoid negative effects. Magic Leap 2 also calibrates the display automatically to correct for any bionicle misalignment or color separation. You can also run a diagnostic test to make corrections for a better immersive experience. Source: https://www.magicleap.com/news/magic-leap-2-optics-breakthroughs-empower-enterprise-ar	<u>Eye Tracking</u>	— High accuracy 90 fps eye gaze		— <u>2 cameras per eye</u>
<u>Eye Tracking</u>	— High accuracy 90 fps eye gaze				
	— <u>2 cameras per eye</u>				

U.S. Patent No. 8,696,113 – Claim 1	Magic Leap 2
	Lastly, eye-tracking will be improved between Magic Leap 1 and Magic Leap 2, as the new headset will feature an additional eye-tracking camera. This helps the headset analyze where you look and can efficiently increase the resolution of what you are looking at. In other words, improved <u>eye-tracking means increased visual quality</u>. Source: https://vr-expert.com/magic-leap-2-release-date-features-and-cost-here-is-everything-you-need-to-know/ ML1 had one <u>eye tracking</u> camera per eye, but ML2 has two per eye, which Curtis says <u>“improves image quality, minimizes render errors, and enables “segmented dimming”</u>. The later use case wasn’t elaborated on, but may suggest the headset could vary the Dynamic Dimming level based on whether you’re looking at darker or lighter virtual objects. Source: https://uploadvr.com/magic-leap-2-specs-revealed/

U.S. Patent No. 8,696,113 – Claim 1 wherein the dynamic eye tracking mechanism utilizes optical parameter measurements; wherein the optical parameter measurements include any of ciliary measurements, pupil measurements, corneal measurements, eye lens measurements, iris measurements, eyelid measurements, retina measurements;	Magic Leap 2 The eye sensors of the Magic Leap 2 utilize at least pupil optical parameter measurements. • Eye Tracking Data: Eye tracking data including eye measurements and information about where your eyes are looking, such as: <u>pupil positions, gaze, vergence, center or rotation of eye, blink events, confidence of gaze and vergence, and eye behaviors (i.e., fixation, smooth pursuit, saccades).</u> Source: https://www.magicleap.com/ml2-devices  Source: Magic Leap 2 Application Simulator
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U.S. Patent No. 8,696,113 – Claim 1

Magic Leap 2



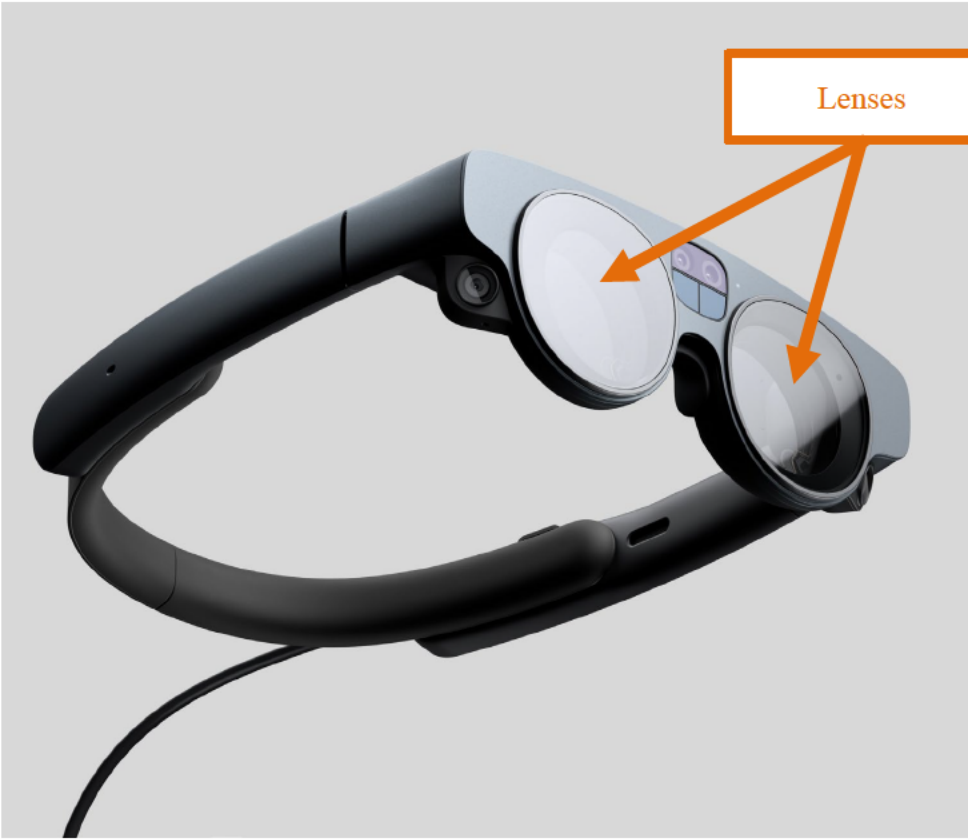
Source: Magic Leap 2 Application Simulator

U.S. Patent No. 8,696,113 – Claim 1 wherein an optical/perceptual parameter based operating system is utilized, wherein the wearable optics device is controlled by the optical/perceptual based operating system.	Magic Leap 2 The Magic Leap 2 utilizes an optical/perceptual parameter based operating system to control the device. For example, the operating system on the Magic Leap 2 device uses the optical parameter measurements to improve rendering, image quality, and comfort. Additionally, the Magic Leap 2 software enables eye-tracking to be used as an input for the device. So we developed a suite of solutions that addresses these common causes of discomfort, allowing you to view content at near (37cm) and far (infinite) distances. This suite includes combining robust eye-tracking with a smart choice of focal plane, as well as automatic display calibration. <u>Magic Leap 2 tracks each eye with two unobstructed cameras, together with 6 LEDs to illuminate and generate eye “glints,” thereby improving rendering, image quality, and comfort.</u> Having a smarter choice for focal plane minimizes discomfort and the 37cm clip plane is just the right distance to avoid negative effects. Magic Leap 2 also calibrates the display automatically to correct for any bionicle misalignment or color separation. You can also run a diagnostic test to make corrections for a better immersive experience. Source: https://www.magicleap.com/news/magic-leap-2-optics-breakthroughs-empower-enterprise-ar Lastly, eye-tracking will be improved between Magic Leap 1 and Magic Leap 2, as the new headset will feature an additional eye-tracking camera. This helps the headset analyze where you look and can efficiently increase the resolution of what you are looking at. In other words, improved <u>eye-tracking means increased visual quality.</u> Source: https://vr-expert.com/magic-leap-2-release-date-features-and-cost-here-is-everything-you-need-to-know/
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U.S. Patent No. 8,696,113 – Claim 1	Magic Leap 2
	ML1 had one <u>eye tracking</u> camera per eye, but ML2 has two per eye, which Curtis says <u>“improves image quality, minimizes render errors, and enables segmented dimming”</u>. The later use case wasn’t elaborated on, but may suggest the headset could vary the Dynamic Dimming level based on whether you’re looking at darker or lighter virtual objects. Source: https://uploadvr.com/magic-leap-2-specs-revealed/ The Eye Calibration API returns one of three outputs • Fine - eye-tracking is precise enough to use as input for selecting buttons or icons. • Coarse - eye-tracking is usable for basic interactions such as scrolling, but not precise enough to use for selecting buttons or icons. • None - Eye calibration did not run or was not completed successfully. Source: https://developer-docs.magic Leap.cloud/docs/guides/features/eye-tracking/eye-calibration

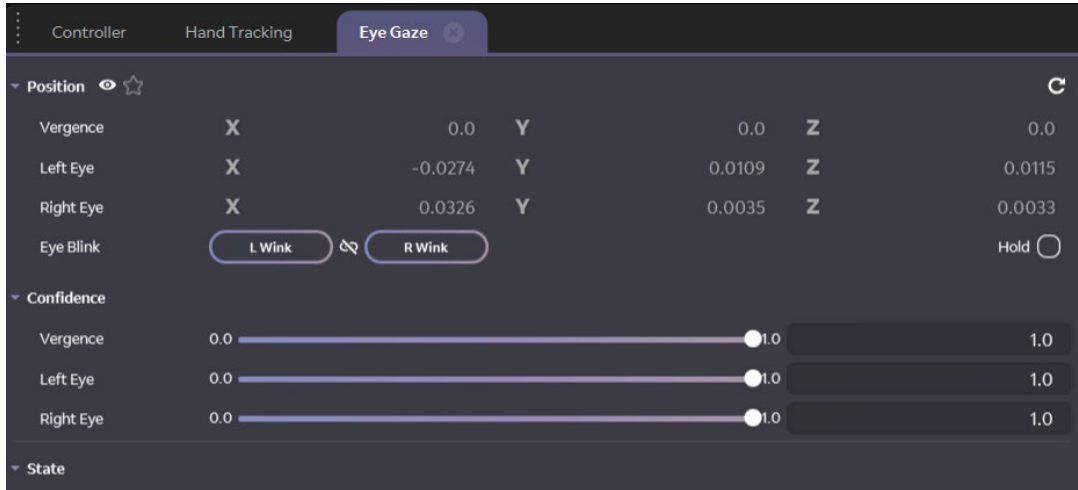
US. Patent No. 8,696,113 – Claim 12

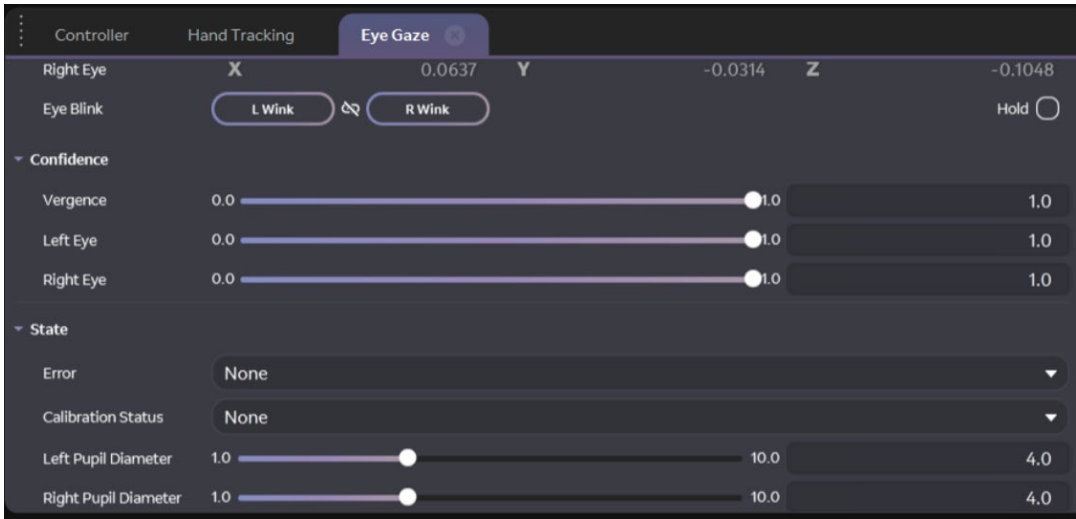
U.S. Patent No. 8,696,113 – Claim 12	Magic Leap 2
1. A wearable optics device comprising:	<i>Note: The preamble of a claim is not necessarily a limitation that needs to be satisfied to show infringement.</i> Defendant's Magic Leap 2 is a wearable optics device.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 8,696,113 – Claim 12	Magic Leap 2
a lens; and	The Magic Leap 2 has lenses over each eye.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 8,696,113 – Claim 12	Magic Leap 2				
a dynamic eye tracking mechanism in communication with the lens;	The Magic Leap 2 has a dynamic eye tracking mechanism, including two eye-tracking cameras per eye. The eye sensors are in communication with the lens, improving rendering, image quality, and comfort. Additional Input Modals <table border="0"> <tr> <td data-bbox="850 370 972 394"><u>Eye Tracking</u></td> <td data-bbox="1562 370 1892 394">— High accuracy 90 fps eye gaze</td> </tr> <tr> <td></td> <td data-bbox="1562 394 1772 418">— <u>2 cameras per eye</u></td> </tr> </table> Source: https://www.magicleap.com/magic-leap-2 So we developed a suite of solutions that addresses these common causes of discomfort, allowing you to view content at near (37cm) and far (infinite) distances. This suite includes combining robust eye-tracking with a smart choice of focal plane, as well as automatic display calibration. <u>Magic Leap 2 tracks each eye with two unobstructed cameras, together with 6 LEDs to illuminate and generate eye “glints,” thereby improving rendering, image quality, and comfort.</u> Having a smarter choice for focal plane minimizes discomfort and the 37cm clip plane is just the right distance to avoid negative effects. Magic Leap 2 also calibrates the display automatically to correct for any bionicle misalignment or color separation. You can also run a diagnostic test to make corrections for a better immersive experience. Source: https://www.magicleap.com/news/magic-leap-2-optics-breakthroughs-empower-enterprise-ar	<u>Eye Tracking</u>	— High accuracy 90 fps eye gaze		— <u>2 cameras per eye</u>
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U.S. Patent No. 8,696,113 – Claim 12	Magic Leap 2
	Lastly, eye-tracking will be improved between Magic Leap 1 and Magic Leap 2, as the new headset will feature an additional eye-tracking camera. This helps the headset analyze where you look and can efficiently increase the resolution of what you are looking at. In other words, improved <u>eye-tracking means increased visual quality</u>. Source: https://vr-expert.com/magic-leap-2-release-date-features-and-cost-here-is-everything-you-need-to-know/ ML1 had one <u>eye tracking</u> camera per eye, but ML2 has two per eye, which Curtis says “<u>improves image quality, minimizes render errors, and enables “segmented dimming”</u>”. The later use case wasn’t elaborated on, but may suggest the headset could vary the Dynamic Dimming level based on whether you’re looking at darker or lighter virtual objects. Source: https://uploadvr.com/magic-leap-2-specs-revealed/

U.S. Patent No. 8,696,113 – Claim 12 wherein the dynamic eye tracking mechanism utilizes optical parameter measurements; wherein the optical parameter measurements include any of ciliary measurements, pupil measurements, corneal measurements, eye lens measurements, iris measurements, eye lid measurements, retina measurements;	Magic Leap 2 The eye sensors of the Magic Leap 2 utilize at least pupil optical parameter measurements. • Eye Tracking Data: Eye tracking data including eye measurements and information about where your eyes are looking, such as: <u>pupil positions, gaze, vergence, center or rotation of eye, blink events, confidence of gaze and vergence, and eye behaviors (i.e., fixation, smooth pursuit, saccades).</u> Source: https://www.magicleap.com/ml2-devices  Source: Magic Leap 2 Application Simulator
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U.S. Patent No. 8,696,113 – Claim 12	Magic Leap 2
	 The screenshot displays the 'Eye Gaze' settings menu of the Magic Leap 2 Application Simulator. At the top, there are tabs for 'Controller', 'Hand Tracking', and 'Eye Gaze'. The 'Eye Gaze' tab is selected. Below the tabs, the 'Right Eye' is shown with coordinates X: 0.0637, Y: -0.0314, and Z: -0.1048. There are buttons for 'L Wink' and 'R Wink', and a 'Hold' button. A 'Confidence' section contains sliders for 'Vergence', 'Left Eye', and 'Right Eye', all set to 1.0. A 'State' section contains dropdown menus for 'Error' and 'Calibration Status', both set to 'None'. At the bottom, there are sliders for 'Left Pupil Diameter' and 'Right Pupil Diameter', both set to 4.0. Source: Magic Leap 2 Application Simulator

U.S. Patent No. 8,696,113 – Claim 12 wherein an optical/perceptual parameter based operating system is utilized,	Magic Leap 2 The Magic Leap 2 utilizes an optical/perceptual parameter based operating system. For example, the operating system on the Magic Leap 2 device uses the optical parameter measurements to improve rendering, image quality, and comfort. So we developed a suite of solutions that addresses these common causes of discomfort, allowing you to view content at near (37cm) and far (infinite) distances. This suite includes combining robust eye-tracking with a smart choice of focal plane, as well as automatic display calibration. <u>Magic Leap 2 tracks each eye with two unobstructed cameras, together with 6 LEDs to illuminate and generate eye “glints,” thereby improving rendering, image quality, and comfort.</u> Having a smarter choice for focal plane minimizes discomfort and the 37cm clip plane is just the right distance to avoid negative effects. Magic Leap 2 also calibrates the display automatically to correct for any bionicle misalignment or color separation. You can also run a diagnostic test to make corrections for a better immersive experience. Source: https://www.magicleap.com/news/magic-leap-2-optics-breakthroughs-empower-enterprise-ar Lastly, eye-tracking will be improved between Magic Leap 1 and Magic Leap 2, as the new headset will feature an additional eye-tracking camera. This helps the headset analyze where you look and can efficiently increase the resolution of what you are looking at. In other words, improved <u>eye-tracking means increased visual quality.</u> Source: https://vr-expert.com/magic-leap-2-release-date-features-and-cost-here-is-everything-you-need-to-know/
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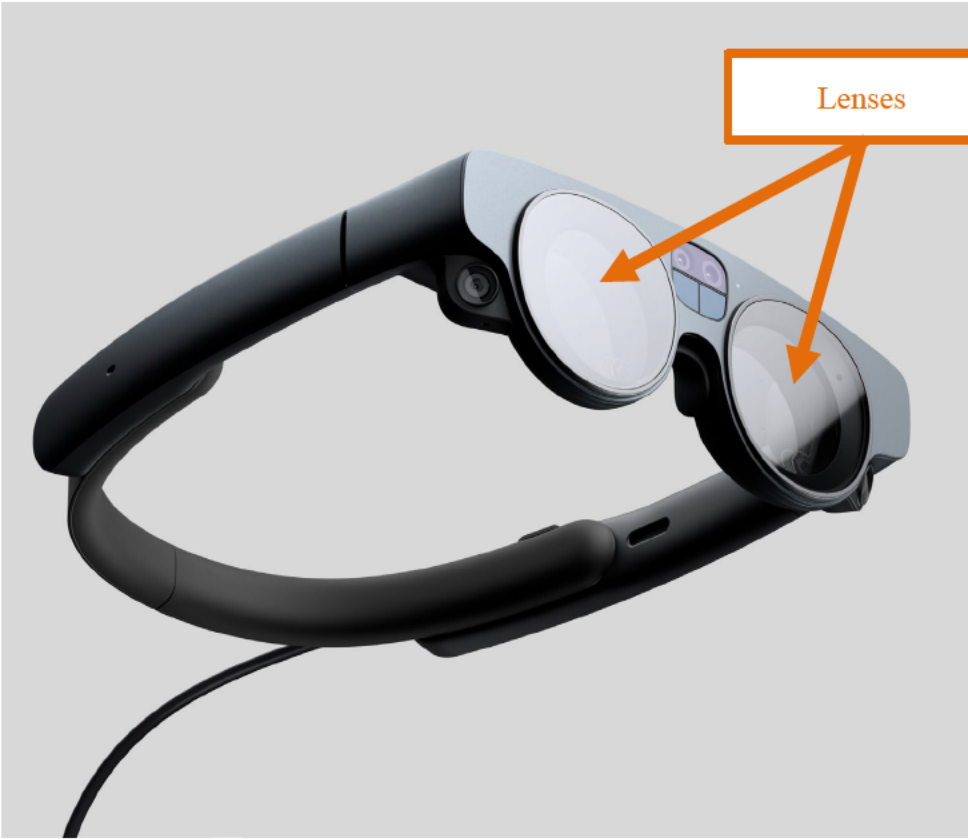
U.S. Patent No. 8,696,113 – Claim 12	Magic Leap 2
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U.S. Patent No. 8,696,113 – Claim 12	Magic Leap 2
wherein the lens includes a plurality of layers.	The Magic Leap 2 lens includes a waveguide with a plurality of layers. By precisely controlling the volume of resin across the waveguide, this nano-imprint process achieves higher uniformity and efficiency performance. Our nano-imprint process opens many options for the structure of waveguides. <u>We can develop 1D, 2D, and 3D nanostructures and combine different types of structures within a single waveguide element.</u> Our team of experts at Magic Leap has also developed innovative solutions to detect defects and ensure quality. These include machine-vision-based inspection of transparent substrates, a stack and layer inspection system, and automated, in-line stack metrology. Source: https://www.magicleap.com/hubfs/Magic-Leap-2-Optics-Highlights-Paper.pdf

U.S. Patent No. 9,010,929 – Claim 7

U.S. Patent No. 9,010,929 – Claim 7	Magic Leap 2
7. Eyewear comprising:	<i>Note: The preamble of a claim is not necessarily a limitation that needs to be satisfied to show infringement.</i> Defendant's Magic Leap 2 is augmented reality eyewear.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 9,010,929 – Claim 7	Magic Leap 2
a frame member;	The Magic Leap 2 has a frame member in which the lenses, waveguides, and other circuitry are worn in the form of a modern-styled set of eyeglasses.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 9,010,929 – Claim 7	Magic Leap 2
a lens;	The Magic Leap 2 has lenses over each eye.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 9,010,929 – Claim 7	Magic Leap 2
circuitry within the frame member for enhancing the use of the eyewear; and	The Magic Leap 2 contains circuitry within the frame member for enhancing the use of the eyewear. This circuitry includes, among other things, and critically, four eye-tracking cameras and their support circuitry, waveguides, and a display device, along with fourteen other cameras, inertial sensors, and a variety of vision and image processing circuitry. Headset The Magic Leap 2 Headset uses more than 18 different cameras and sensors to understand whatever space it's in. Headpose and gaze tracking 260g. As light as a pair of headphones Industry-leading optics and FOV Source: https://www.magicleap.com/hubfs/docs/Magic-Leap-2_Product-Spec-Sales-Sheet_09.30.2022_Version-English-4.0.pdf?hsLang=en

Magic Leap 2 full technology specifications

Device

OS

Magic Leap OS / Android™ Open Source Project (AOSP) based

Field of View (FOV)

44.6 x 53.6 x 70°

AR Display

- 1440 x 1760 pixel resolution
- 120 Hz refresh rate
- 20 to 2000 nits brightness
- 37cm to infinity range of operation

Compute Processor

CPU

- AMD 7nm Quad—core Zen 2 X86 core (8 threads)
- 14 core computer vision processing engine (CVIP)
- Max CPU frequency 2.4 GHz
- Cache sizes: 512kB L2 per core and 4MB total L3 cache.

GPU

- AMD RDNA 2
- 2 RB+ (Render Backends)
- Max Gfx frequency capped at 1.1 GHz.

Camera

- 12.6M pixel autofocus RGB camera
- 4K at 30fps or 1920x1080 @ 60fps video

Fit

Single size

Sensors

- 3 Wider FoV World Cameras
- Depth Camera
- RGB Camera
- Ambient Light Sensor
- 4x Eye Tracking Cameras

Inertial Sensors

- 4x IMU
- 3-axis Accelerometer & Gyroscope
- 2x 3-axis Magnetometer
- 2x Altimeter

Security

- WPA3
- AMD Platform Security Processor
- TMR
- Security fencing between x86 and CVIP

Source: <https://www.magicleap.com/magic-leap-2>

U.S. Patent No. 9,010,929 – Claim 7	Magic Leap 2		
an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user	The Magic Leap 2 has multiple eye sensors coupled to the frame member that activate circuitry responsive to the eye motion of a user, including two eye-tracking cameras for each eye. Additional Input Modals <table border="0"> <tr> <td data-bbox="850 365 976 397"><u>Eye Tracking</u></td> <td data-bbox="1564 365 1900 430"> — High accuracy 90 fps eye gaze — <u>2 cameras per eye</u> </td> </tr> </table> Source: https://www.magicleap.com/magic-leap-2 So we developed a suite of solutions that addresses these common causes of discomfort, allowing you to view content at near (37cm) and far (infinite) distances. This suite includes combining robust eye-tracking with a smart choice of focal plane, as well as automatic display calibration. <u>Magic Leap 2 tracks each eye with two unobstructed cameras, together with 6 LEDs to illuminate and generate eye “glints,” thereby improving rendering, image quality, and comfort.</u> Having a smarter choice for focal plane minimizes discomfort and the 37cm clip plane is just the right distance to avoid negative effects. Magic Leap 2 also calibrates the display automatically to correct for any bionicle misalignment or color separation. You can also run a diagnostic test to make corrections for a better immersive experience. Source: https://www.magicleap.com/news/magic-leap-2-optics-breakthroughs-empower-enterprise-ar	<u>Eye Tracking</u>	— High accuracy 90 fps eye gaze — <u>2 cameras per eye</u>
<u>Eye Tracking</u>	— High accuracy 90 fps eye gaze — <u>2 cameras per eye</u>		

U.S. Patent No. 9,010,929 – Claim 7	Magic Leap 2
	Lastly, eye-tracking will be improved between Magic Leap 1 and Magic Leap 2, as the new headset will feature an additional eye-tracking camera. This helps the headset analyze where you look and can efficiently increase the resolution of what you are looking at. In other words, improved <u>eye-tracking means increased visual quality</u>. Source: https://vr-expert.com/magic-leap-2-release-date-features-and-cost-here-is-everything-you-need-to-know/ ML1 had one <u>eye tracking</u> camera per eye, but ML2 has two per eye, which Curtis says “<u>improves image quality, minimizes render errors, and enables “segmented dimming”</u>”. The later use case wasn’t elaborated on, but may suggest the headset could vary the Dynamic Dimming level based on whether you’re looking at darker or lighter virtual objects. Source: https://uploadvr.com/magic-leap-2-specs-revealed/

U.S. Patent No. 9,010,929 – Claim 7 wherein the circuitry provides any of a cell phone, media focals, and an MP3 player.	Magic Leap 2 The Magic Leap 2 circuitry provides at least media focals with improved rendering, image quality, and comfort. The Magic Leap 2 circuitry also may provide an MP3 player. So we developed a suite of solutions that addresses these common causes of discomfort, allowing you to view content at near (37cm) and far (infinite) distances. This suite includes combining robust eye-tracking with a smart choice of focal plane, as well as automatic display calibration. <u>Magic Leap 2 tracks each eye with two unobstructed cameras, together with 6 LEDs to illuminate and generate eye “glints,” thereby improving rendering, image quality, and comfort.</u> Having a smarter choice for focal plane minimizes discomfort and the 37cm clip plane is just the right distance to avoid negative effects. Magic Leap 2 also calibrates the display automatically to correct for any bionicle misalignment or color separation. You can also run a diagnostic test to make corrections for a better immersive experience. Source: https://www.magicleap.com/news/magic-leap-2-optics-breakthroughs-empower-enterprise-ar Lastly, eye-tracking will be improved between Magic Leap 1 and Magic Leap 2, as the new headset will feature an additional eye-tracking camera. This helps the headset analyze where you look and can efficiently increase the resolution of what you are looking at. In other words, improved <u>eye-tracking means increased visual quality.</u> Source: https://vr-expert.com/magic-leap-2-release-date-features-and-cost-here-is-everything-you-need-to-know/
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U.S. Patent No. 9,010,929 – Claim 7	Magic Leap 2			
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mp3	decoder	channel count: 2 sample rates: 8000-48000 bitrate: 8000-320000		

U.S. Patent No. 9,010,929 – Claim 10

U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2
10. Eyewear comprising:	<i>Note: The preamble of a claim is not necessarily a limitation that needs to be satisfied to show infringement.</i> Defendant's Magic Leap 2 is augmented reality eyewear.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2
a frame member;	The Magic Leap 2 has a frame member in which the lenses, waveguides, and other circuitry are worn in the form of a modern-styled set of eyeglasses.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2
a lens;	The Magic Leap 2 has lenses over each eye.  Source: https://www.magicleap.com/magic-leap-2

U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2
circuitry within the frame member for enhancing the use of the eyewear; and	The Magic Leap 2 contains circuitry within the frame member for enhancing the use of the eyewear. This circuitry includes, among other things, and critically, four eye-tracking cameras and their support circuitry, waveguides, and a display device, along with fourteen other cameras, inertial sensors, and a variety of vision and image processing circuitry. Headset The Magic Leap 2 Headset uses more than 18 different cameras and sensors to understand whatever space it's in. Headpose and gaze tracking 260g. As light as a pair of headphones Industry-leading optics and FOV Source: https://www.magicleap.com/hubfs/docs/Magic-Leap-2_Product-Spec-Sales-Sheet_09.30.2022_Version-English-4.0.pdf?hsLang=en

U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2																		
	Magic Leap 2 full technology specifications Device <table> <tr> <td>OS</td><td>Magic Leap OS / Android™ Open Source Project (AOSP) based</td></tr> <tr> <td>Field of View (FOV)</td><td>44.6 x 53.6 x 70°</td></tr> <tr> <td>AR Display</td><td> — 1440 x 1760 pixel resolution — 120 Hz refresh rate — 20 to 2000 nits brightness — 37cm to infinity range of operation </td></tr> <tr> <td>Compute Processor</td><td> CPU — AMD 7nm Quad—core Zen 2 X86 core (8 threads) — 14 core computer vision processing engine (CVIP) — Max CPU frequency 2.4 GHz — Cache sizes: 512kB L2 per core and 4MB total L3 cache. GPU — AMD RDNA 2 — 2 RB+ (Render Backends) — Max Gfx frequency capped at 1.1 GHz. </td></tr> <tr> <td>Camera</td><td> — 12.6M pixel autofocus RGB camera — 4K at 30fps or 1920x1080 @ 60fps video </td></tr> <tr> <td>Fit</td><td>Single size</td></tr> <tr> <td>Sensors</td><td> — 3 Wider FoV World Cameras — Depth Camera — RGB Camera — Ambient Light Sensor — 4x Eye Tracking Cameras </td></tr> <tr> <td>Inertial Sensors</td><td> — 4x IMU — 3-axis Accelerometer & Gyroscope — 2x 3-axis Magnetometer — 2x Altimeter </td></tr> <tr> <td>Security</td><td> — WPA3 — AMD Platform Security Processor — TMR — Security fencing between x86 and CVIP </td></tr> </table> Source: https://www.magicleap.com/magic-leap-2	OS	Magic Leap OS / Android™ Open Source Project (AOSP) based	Field of View (FOV)	44.6 x 53.6 x 70°	AR Display	— 1440 x 1760 pixel resolution — 120 Hz refresh rate — 20 to 2000 nits brightness — 37cm to infinity range of operation	Compute Processor	CPU — AMD 7nm Quad—core Zen 2 X86 core (8 threads) — 14 core computer vision processing engine (CVIP) — Max CPU frequency 2.4 GHz — Cache sizes: 512kB L2 per core and 4MB total L3 cache. GPU — AMD RDNA 2 — 2 RB+ (Render Backends) — Max Gfx frequency capped at 1.1 GHz.	Camera	— 12.6M pixel autofocus RGB camera — 4K at 30fps or 1920x1080 @ 60fps video	Fit	Single size	Sensors	— 3 Wider FoV World Cameras — Depth Camera — RGB Camera — Ambient Light Sensor — 4x Eye Tracking Cameras	Inertial Sensors	— 4x IMU — 3-axis Accelerometer & Gyroscope — 2x 3-axis Magnetometer — 2x Altimeter	Security	— WPA3 — AMD Platform Security Processor — TMR — Security fencing between x86 and CVIP
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U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2		
an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user;	The Magic Leap 2 has multiple eye sensors coupled to the frame member that activate circuitry responsive to the eye motion of a user, including two eye-tracking cameras for each eye. Additional Input Modals <table border="0"> <tr> <td data-bbox="848 370 972 394"><u>Eye Tracking</u></td> <td data-bbox="1562 370 1892 423"> — High accuracy 90 fps eye gaze — <u>2 cameras per eye</u> </td> </tr> </table> Source: https://www.magicleap.com/magic-leap-2 So we developed a suite of solutions that addresses these common causes of discomfort, allowing you to view content at near (37cm) and far (infinite) distances. This suite includes combining robust eye-tracking with a smart choice of focal plane, as well as automatic display calibration. <u>Magic Leap 2 tracks each eye with two unobstructed cameras, together with 6 LEDs to illuminate and generate eye “glints,” thereby improving rendering, image quality, and comfort.</u> Having a smarter choice for focal plane minimizes discomfort and the 37cm clip plane is just the right distance to avoid negative effects. Magic Leap 2 also calibrates the display automatically to correct for any bionicle misalignment or color separation. You can also run a diagnostic test to make corrections for a better immersive experience. Source: https://www.magicleap.com/news/magic-leap-2-optics-breakthroughs-empower-enterprise-ar	<u>Eye Tracking</u>	— High accuracy 90 fps eye gaze — <u>2 cameras per eye</u>
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U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2
	Lastly, eye-tracking will be improved between Magic Leap 1 and Magic Leap 2, as the new headset will feature an additional eye-tracking camera. This helps the headset analyze where you look and can efficiently increase the resolution of what you are looking at. In other words, improved <u>eye-tracking means increased visual quality</u>. Source: https://vr-expert.com/magic-leap-2-release-date-features-and-cost-here-is-everything-you-need-to-know/ ML1 had one <u>eye tracking</u> camera per eye, but ML2 has two per eye, which Curtis says “<u>improves image quality, minimizes render errors, and enables “segmented dimming”</u>”. The later use case wasn’t elaborated on, but may suggest the headset could vary the Dynamic Dimming level based on whether you’re looking at darker or lighter virtual objects. Source: https://uploadvr.com/magic-leap-2-specs-revealed/

U.S. Patent No. 9,010,929 – Claim 10	Magic Leap 2
wherein the circuitry can provide any of texts, email; multimedia information; caller id.	The Magic Leap 2 provides multimedia information, including through use of its native multimedia playback applications. Access Capture Media On-Device After you've captured some content, you can view your photos and videos on the Magic Leap 2. 1. From the home menu, open Settings. 2. Open Apps, and select "See All Apps". 3. Scroll down and select Files, then select Open. 4. From here you can see the images, audio, and videos that you have captured. ⓘ INFO These steps will change in upcoming builds as we continue to develop our default apps and media viewers. You may not be able to open the images or videos on-device. If so, follow the subsequent sections to open them on your computer. Source: https://developer-docs.magicleap.cloud/docs/guides/features/media/capture-overview