

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MAGIC LEAP, INC.,
Petitioner,

v.

PERCEPT TECHNOLOGIES INC.,
Patent Owner

IPR2023-00494 (Patent 9,010,929 B2)
IPR2023-00495 (Patent 8,696,113 B2)

Record of Oral Hearing
Held: May 8, 2024

Before KRISTEN L. DROESCH, GEORGE R. HOSKINS, and SCOTT
RAEVSKY, *Administrative Patent Judges*.

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

APPEARANCES:

ON BEHALF OF THE PETITIONER:

MEHRAN ARJOMAND, ESQUIRE
MArjomand@mofo.com
(213) 892-5630

BRYAN BLUMENKOPF, ESQUIRE
BBlumen@mofo.com
(213) 892-5269

Morrison & Foerster LLP
707 Wilshire Blvd.
Los Angeles, CA 90017-3543

ON BEHALF OF THE PATENT OWNER:

TAREK N. FAHMI, ESQUIRE
Ascenda Law Group, PC
333 West San Carlos Street
San Jose, CA 95110
arek.fahmi@ascendalaw.com
(866) 877-4883

The above-entitled matter came on for hearing on May 8, 2024,
commencing at 11:00 a.m., via video teleconference.

P R O C E E D I N G S

- - - - -

JUDGE HOSKINS: Thank you. So, good morning. This is Judge George Hoskins with the U.S. Patent Trial and Appeal Board at the U.S. Patent and Trademark Office. We're here today for oral argument in two related proceedings. They are IPR2023-00494 and 495, challenging two related patents, those being U.S. Patent Number 9,010,929 and U.S. Patent Number 8,696,113. I'm joined today by my two colleagues on the panel. They are Kristen Droesch and Scott Raevsky. And so, with that introduction, please, can I have an appearance on behalf of Petitioner? I cannot hear anybody. Maybe perhaps somebody might be muted.

MR. ARJOMAND: All right. Good morning, Your Honors. Mehran Arjomand of Morrison & Foerster on behalf of Petitioner Magic Leap. With me today also is Bryan Blumenkopf of Morrison & Foerster. And on the public line one or more representatives of Magic Leap may also be listening to this hearing.

JUDGE HOSKINS: Thank you, Mr. Arjomand. And for Patent Owner, please.

MR. FAHMI: Morning, Your Honors. Tarek Fahmi on behalf of the Patent Owner. I believe Mr. Swernofsky is monitoring on the public line as well, as I think the inventor, Dr. Lewis, is also on the public line.

JUDGE HOSKINS: Thank you so much and welcome to the Board, Mr. Fahmi. So, I have some introductory remarks, just some general remarks that we do for kind of all of these hearings, so bear with me. The first is please remember to mute yourself when you're not speaking. The

1 second is, as you go through your arguments, please remember to refer to
2 your slide numbers that you're using from your demonstrative exhibits. We
3 do have the entire record in front of us, so feel free to refer us to anything in
4 the record that you would like. Just remember, if you are using your
5 demonstratives, try to give us the slide numbers as you go through, because
6 that makes things much more clear in the record. The third reminder is
7 please do not interrupt opposing counsel. You'll have your chance when
8 your turn comes around. The one exception to this rule is if you're having
9 connection issues, please speak up as soon as you can. We want to do what
10 we can to resolve those as quickly as possible.

11 So, in terms of the order of argument today, we gave the parties a
12 little bit of an option. So, the default is that the two cases would be argued
13 together by each counsel as we go through, but we also said that if the
14 parties agreed to argue the cases separately that we would be open to that.
15 So, Mr. Arjomand, have there been discussions along those lines between
16 the parties?

17 MR. ARJOMAND: Oh, sorry. I'm sorry, Your Honor.

18 JUDGE HOSKINS: Yeah, please begin again.

19 MR. ARJOMAND: I'm sorry. I don't believe there have been
20 discussions along those lines, Your Honor, but Petitioner's position is that
21 we would like the two proceedings to be heard sequentially. First, we'll
22 proceed with the '494 proceeding, then take a break, and then proceed with
23 the '495 proceeding.

24 JUDGE HOSKINS: Okay. So, Mr. Fahmi, what do you think
25 about that?

26 MR. FAHMI: That's fine, Your Honor. We don't have a problem

1 with that.

2 JUDGE HOSKINS: Okay. So, that's fine with the panel too, so
3 that's what we'll do. And so, what we'll do then is take a 10 minute break
4 between the two cases. So, we'll hear all four phases of the argument for the
5 first case, the '494 case, and then we'll take a 10 minute break, and then we'll
6 turn to the '495 case. But what we've done is we've given each side a total of
7 120 minutes to address both cases together. So, when we start your principal
8 argument for each party, we'll ask for two things now, right? How much of
9 your time do you want to spend on the first case as opposed to the second
10 case. And then we'll also ask you for how much time you want to reserve
11 for a rebuttal of the time you want to spend on the first case. The rebuttal
12 time is not set in stone. What happens is when you get to that point of your
13 principal argument, we'll give you as gentle a reminder as we can, and then
14 you will have the choice to either continue as part of your principal
15 argument or, if you want, maintain the entire reservation for your rebuttal.
16 So that's kind of the procedure today. Let me just ask if there are any
17 questions about the procedure before we turn it over to Mr. Arjomand for his
18 principal argument in the '494 case.

19 MR. ARJOMAND: Your Honor, I did have one question
20 regarding the reservation of time for each proceeding. So, if we, for
21 example, reserve one hour for the '494 proceeding for our end, Petitioner's
22 end, and we end up only using 40 minutes of that one hour, does that
23 naturally fall over into -- the extra 20 minutes fall over into the '495
24 proceeding, or is that lost?

25 JUDGE HOSKINS: I think you lose it. That seems to me to be
26 the most fair. So, whatever you reserve for the first case up front, that's your

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 time for that case, and you're not allowed to then kind of shift whatever you
2 don't use to the second case.

3 MR. ARJOMAND: Okay. Thank you.

4 JUDGE HOSKINS: Mr. Fahmi, do you have any questions about
5 that or any other questions about procedure today?

6 MR. FAHMI: No, we're ready for the Patent Owner, Your Honor.

7 JUDGE HOSKINS: Okay. So, thank you very much. So then,
8 Mr. Arjomand, how much of your total 120 minutes do you want to use for
9 the '494 case?

10 MR. ARJOMAND: Sixty minutes, Your Honor.

11 JUDGE HOSKINS: That was six zero, right?

12 MR. ARJOMAND: Yes, six zero.

13 JUDGE HOSKINS: And how much of the 60 minutes then do you
14 want to reserve for rebuttal in the '494 case?

15 MR. ARJOMAND: Twenty minutes, Your Honor.

16 JUDGE HOSKINS: Okay. So, thank you for that. And so, when
17 you are ready to proceed, feel free to, you know, make your argument.
18 We're ready to go. And when you do start, we'll start your clock, and we'll
19 give you a soft reminder when you're about 40 minutes into your
20 presentation.

21 MR. ARJOMAND: One housekeeping item before I start, Your
22 Honors. I've just had my colleague share the PowerPoint presentation or our
23 demonstrative exhibits. Can you see those?

24 JUDGE HOSKINS: Yes, we can. Thank you.

25 MR. ARJOMAND: Okay. Perfect. All right, good morning, Your
26 Honors, and may it please the Board. Petitioner Magic Leap respectfully

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 submits that the challenged claims of the '929 patent are unpatentable. Let
2 me turn to slide 2. Slide 2 provides a roadmap for Petitioner's portion of the
3 hearing today. First, we will describe the '929 patent. Then we'll turn to the
4 one claim interpretation issue in this proceeding. And finally, we'll discuss
5 the Mann '895 and Perner ground.

6 Before diving into the '929 patent, I'd like to just explain one issue
7 with regard to the challenged claims in this proceeding. I'm on slide 4. So,
8 the petition initially challenged a number of claims, including independent
9 claims 7, 9, 10, and 15. In the Patent Owner's Preliminary Response, Patent
10 Owner statutorily disclaimed claims 7, 9, 10, and 15. Thus, the only claims
11 pending in this proceeding currently are claims 1 through 6, 8, 11, 17, and
12 22. And they're addressed by the Mann '895 and Perner Ground.

13 So, turning to slide 5, slide 5 shows a portion of the '929
14 specification in column 1. And that portion describes that it's directed, the
15 '929 patent is directed to an improved eyewear. The eyewear comprises a
16 frame member and a lens, and the eyewear also includes circuitry within the
17 frame member for enhancing the use of the eyewear. The enhancements are,
18 for example, directed to media focals that can improve a user's vision.
19 They're directed to telecommunication enhancements, such as the eyeglasses
20 being integrated with telecommunication devices, such as cell phones, and
21 entertainment enhancements, such as the eyewear is integrated with devices,
22 such as MP3 players.

23 Turning to slide 6, Your Honors, this shows Figure 1 of the '929
24 patent, which presents exemplary media focals 100, and a portion of the
25 specification at column 2 that relates to Figure 1. And what Figure 1 shows
26 is media focals 100 that has frames 108 shown in blue, a lens 110 shown in

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 purple -- a digital circuitry of 106. The specification discusses that digital
2 circuitry can be within the frame 108 and an information bar 102 in yellow
3 is provided on the lens.

4 Slide 7 provides claim 1 and claim 1 corresponds to -- has
5 elements that correspond to Figure 1 of the '929 patent. It comprises a frame
6 member, a lens, circuitry within the frame member, and in the case of claim
7 1 an information bar is provided on the lens.

8 Now, turning to slide 8, there are a number of dependent claims off
9 of claim 1, 2 through 6. Really, the briefing and the parties have not been
10 directed to any of these dependent claims. And turning to slide 9, there are
11 four other independent claims in this proceeding, 8, 11, 17, and 22. Again,
12 the briefing in this case has really been directed to claim 1, but more
13 correctly, specifically to a recitation that's in all of the five pending
14 independent claims. And that's shown here in slide 10, Your Honors. That
15 limitation is shown here in red. It provides an eye sensor coupled to the
16 frame member. The eye sensor activating the circuitry responsive to eye
17 motion of a user. Now, the parties from what I understand haven't really
18 disputed the art as disclosing an eye sensor coupled to the frame. The real
19 focus of the briefing has been on the portion of the recitation that says the
20 eye sensor activating the circuitry responsive to eye motion of a user.

21 Now, turning to slide 11, the specification touches upon this
22 limitation in two ways. First, in column 3, lines 20 to 27, and I'm here on
23 slide 12, Your Honors, there's a passage that talks about eye movement
24 sensors, and Patent Owner particularly focuses on the second sentence in
25 this passage. That sentence provides quote eye movement sensors, for
26 example, could be used to activate and control the binocular glasses,

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 unquote. As we'll discuss today later in this proceeding, this passage does
2 not disclose, let alone limit, in what ways the eye movement sensors are
3 responsive to eye movement. And in fact, it's not even clear that the eye
4 movement sensors are what performs the activating. The sentence simply
5 says that the eye movement sensors could be used to activate and control the
6 binocular classes.

7 Now, turning to slide 13, this provides the other passage in the
8 specification that Patent Owner has cited. This passage is at column 3, lines
9 36 to 43, and Patent Owner particularly focuses the court's attention or the
10 Board's attention to the last sentence in this passage. And that provides it
11 would also be, quote, it would also be possible to detect facial and eye
12 movements, squinting, for example, as well as changes in the pupil and iris,
13 unquote. Again, as we'll discuss today, this passage does not describe or
14 limit how an eye sensor would be responsive to facial and eye movements
15 such as squinting.

16 So, with that overview of the '929 patent, let me turn to the one
17 claim interpretation issue at play today. So, turning to slide 15, the focus, as
18 I mentioned, of the party's briefing has been on the limitation, the eye sensor
19 activating the circuitry responsive to eye motion of a user. Both parties'
20 positions, has been with regard to the meaning of this term, is that we
21 should, the Board should apply the plain and ordinary meaning. And that, I
22 think, is an important point to understand upfront. And it was very clear that
23 this was Patent Owner's position, both in the litigation that's co-pending with
24 this IPR proceeding, and also in the briefing in this proceeding.

25 So, turning to slide 16, this shows Exhibit 1015 from the co-
26 pending District Court litigation. The District Court construed the limitation

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 as under, gave it its plain and ordinary meaning, and that was as proposed by
2 the Patent Owner. And turning to slide 17, in this --

3 JUDGE HOSKINS: Mr. Arjomand?

4 MR. ARJOMAND: Yes.

5 JUDGE HOSKINS: Just back on the District Court. Can you
6 confirm that that's as far as the District Court got? So, pretty soon after that,
7 the case was stayed in light of the IPR. Do I have that correct?

8 MR. ARJOMAND: Yes, Your Honor. That's my understanding.

9 JUDGE HOSKINS: Okay. Thank you.

10 MR. ARJOMAND: So, turning to slide 17, this shows a number
11 of passages from the Patent Owner's Preliminary Response paper 9 at page
12 5, and here Patent Owner confirmed in these passages that it's applying the
13 plain and ordinary meaning to the limitation at issue. So, for example, in the
14 middle passage there that's been highlighted, Patent Owner said, quote,
15 furthermore, this term as used in the '929 patent is readily understandable
16 and does not require further interpretation, unquote. In the passage at the
17 bottom right, Patent Owner says, quote, accordingly there is no clear reason
18 to depart from the plain and ordinary meaning of this term, unquote. And
19 Patent Owner doubled down on its position in its Patent Owner Response, so
20 on slide 18 at page 8 of its Patent Owner Response, paper 12, it again stated
21 that, quote, the patentee did not provide the term any other or exceptional
22 meaning in the specification of the '929 patent. Accordingly, there's no
23 reason to depart from this plain and ordinary meaning of the disputed term,
24 unquote.

25 So, Patent Owner has been very clear that the plain and ordinary
26 meaning should apply both in the co-pending litigation and in this

1 proceeding. But what has happened is that when you look at Patent Owner's
2 briefing more closely, they actually have a series of glosses on what the
3 plain and ordinary meaning should be. And I think that's most evident in
4 this next slide, Your Honors, which is slide 20. And this is from the Patent
5 Owner Response, paper 12, page 8. And the Patent Owner basically
6 explains specifically what responsive to in the limitation at issue means in
7 their view. And so, they kind of give a couple of different takes on what
8 responsive to means. So, for example, here on slide 20, they say quote, to be
9 responsive to something is to react or answer quickly in relation to that
10 something, unquote. Later in that paragraph, they say quote, this notion of
11 temporal immediacy and action cause and effect, if you will, is inherent in
12 the term, unquote. And then they conclude that quote, thus the plain and
13 ordinary meaning of the limitation at issue is that the eye sensor activates the
14 circuitry in reaction to motion of a user's eye, unquote. So, these glosses
15 that they've put in on the plain and ordinary meaning, we believe are
16 unsupported based on the intrinsic and extrinsic evidence.

17 First of all, with regard to Patent Owner, Patent Owner has not
18 submitted any expert testimony, any kind of documentary evidence to
19 support these glosses that are shown here on slide 20. They didn't depose
20 our expert, Dr. LaViola, who had submitted an initial Declaration with the
21 Petition, and they didn't depose him after he submitted a supplemental
22 Declaration in this proceeding that touched upon or discussed what
23 responsive to should mean. So, there's no evidence that they've provided to
24 support their construction, and the evidence that we've submitted, Your
25 Honors, is unrebutted.

26 So let me just pause there and just step back for one second and

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 talk to you about Dr. LaViola. Dr. LaViola is a professor of computer
2 science at the University of Central Florida. He has almost 25 years of
3 experience in the VR AR fields, and his research is in human computer
4 interaction. So, after Patent Owner provided this gloss on what responsive
5 to means, he looked at their arguments and he provided a supplemental
6 Declaration, which is Exhibit 1016. So, turning to slide 21, this is a passage
7 from his supplemental Declaration. This is paragraph 42, and he explains
8 that in his view, the Patent Owner's definition of the eye sensor limitation, in
9 particular, the limitation responsive to is inconsistent with the plain and
10 ordinary meaning of that term to the POSITA. And what he concluded was
11 that quote, the POSITA would understand an eye sensor activating circuitry
12 responsive to the eye motion to simply mean an eye motion activating the
13 circuitry in response to the eye motion, unquote.

14 JUDGE RAEVSKY: Counsel, this is Judge Raevsky.

15 MR. ARJOMAND: Yes.

16 JUDGE RAEVSKY: That sounds like kind of a circular definition
17 there. So, under the plain and ordinary meaning, what does responsive to
18 mean to you?

19 MR. ARJOMAND: Well, yes. So, he explained that there's -- that
20 based on, I'm turning it to slide 22, he, in his view, he felt that his
21 construction was supported by the dictionary definitions that he looked at.
22 So, his understanding of responsive to, responsive to wasn't in the
23 dictionaries, but responsive was. And so, in slide 22, he looked at the
24 definition of responsive and he looked at the first definition and it provided
25 answering or replying, responding. So, in his view responsive to is
26 supported by this definition here, answering or replying or responding. And

1 he provided testimony as to why he thought that that was how a person of
2 ordinary skill in the art would understand responsive to. Because in the art,
3 particularly digital eyewear, which the '929 patent is directed to, Your
4 Honor, the way its sensors receive input, you can understand it as answering
5 or replying or responding to that input and providing some kind of output.
6 He didn't feel that, for example, definition two was as pertinent as definition
7 one, because that suggested more of a human interaction. So, definition
8 number two was readily reacting to suggestions, influences, appeals or
9 efforts, a responsive student. So, in his view, you know, in the field of
10 digital eyewear, you wouldn't really talk about a sensor responding to
11 suggestions, influences or appeals or efforts. That's not really the way
12 people of ordinary skill in the art address that. And this is all set forth in his
13 supplemental Declaration as to what he understood responsive to mean.

14 So, what I think might help Your Honors to understand further
15 what Dr. LaViola concluded is to consider the sort of the three main
16 arguments that Patent Owner has made with respect to responsive to. So let
17 me turn to slide 23. So, the first, kind of the first main argument that Patent
18 Owner makes is reflected here on slide 23. It's the Sur-Reply, paper 14 at
19 page 2, and what Patent Owner says here is that by specifying that an eye
20 sensor activates circuitry responsive to eye motion the challenged claims
21 specified that such circuitry must be activated in reaction to the eye motion.
22 So, here what -- what Patent Owner is trying to do is trying to limit the claim
23 scope to temporal immediacy and action, cause and effect between eye
24 motion and activation of circuitry.

25 And what Dr. LaViola testified, and this is on slide 24, in
26 paragraph 34 of his supplemental Declaration, he stated that the dictionary

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 definitions do not support restricting the plain and ordinary meaning of
2 responsive to as suggested by Patent Owner. Quote, to the contrary, they
3 indicate that the plain and ordinary meaning of the term is not restricted in
4 such a matter, unquote. And turning to slide 25, you know, he talks about
5 that second definition in the Heritage dictionary. This is in paragraph 35 of
6 his supplemental declaration that quote, while the Heritage dictionary
7 includes a definition that includes readily reacting, the POSITA would not
8 limit the plain and ordinary meaning of responsive to in the context of the
9 '929 patent to that particular meaning, or to having any particular temporal
10 requirement.

11 So, I think the first point that we'd like to make regarding Patent
12 Owner's understanding of the plain and ordinary meaning of responsive to is
13 that it's not limited to temporal immediacy, an action, cause, and effect. Dr.
14 LaViola, unrebutted, explained why he thinks that that's the case.

15 JUDGE RAEVSKY: Counsel, I'm trying to figure out from slide
16 22 how this highlighted definition makes sense. So, you have a sensor that's
17 under this definition answering or replying to the eye motion. How does it
18 make sense to apply that definition?

19 MR. ARJOMAND: Well, I think first of all, Your Honor, the first
20 thing that you should understand is that Dr. LaViola first reached his
21 understanding of responsive to based, on his knowledge and understanding
22 in the art, and what he would understand a person of ordinary skill in the art
23 to consider. And so that's very clear if I may direct you to this supplemental
24 Declaration, paragraph 24 I believe. So, in paragraph 24, -- yeah -- yes,
25 Your Honor.

26 JUDGE RAEVSKY: Oh no, I'm sorry, I'm just clearing my throat.

1 MR. ARJOMAND: Okay. So, in paragraph 24, he talks about
2 that, and this is before he even gets to the dictionary, Your Honor. He talks
3 about how a person of ordinary skill in the art would understand responsive
4 to based on his knowledge and experience. And so, he says, it's my view
5 that a POSITA would not have applied any specialized meaning to
6 responsive to. And he says, to the extent it's helpful to clarify the meaning
7 and an eye sensor that is responsive to a thing such as eye motion responds
8 to that thing. Whether the eye sensor is responsive to the eye motion does
9 not depend in any way on the length of time between the eye motion and the
10 eye sensor's response. So, he provided his understanding of responsive to
11 before he even got to the dictionary, but then in paragraph 29 of his
12 supplemental Declaration, he then turns to the two general purpose
13 dictionaries and he looks at their definitions, and what he concludes is that
14 he thinks that they're not, you know, particularly with the American Heritage
15 Dictionary that's shown here on slide 22, he thinks that the first definition is
16 more pertinent than the second definition, but ultimately his position is that
17 these two dictionary definitions support his original understanding. And
18 that's reflected in paragraph 33 of his supplemental declaration where he
19 talks about that the dictionary definitions does support my view of the plain
20 and ordinary meaning of responsive to. Now --

21 JUDGE RAEVSKY: So, if I could stop you right there. So, it
22 seems that your expert's position is that there's no temporal requirement in
23 responsive to. And your expert points to the first definition as not having a
24 temporal requirement. But my question is how does the first definition even
25 make sense? Because the eye sensor activates a circuitry responsive to eye
26 motion. So, if we were to take your definition here and plug it in, that would

1 say the eye sensor activates a circuitry answering or replying to eye motion.
2 And so, I'm not sure that makes sense. And then that raises the question in
3 my mind is your expert just picking and choosing a definition that
4 intentionally excludes this perhaps temporal relationship more particularly
5 specified in the second definition of this dictionary?

6 MR. ARJOMAND: Oh, okay. So, definitely on the second point,
7 Your Honor, he's not excluding the second definition. It's the Patent Owner
8 that's trying to limit the -- the definition of responsive to -- to readily
9 reacting or the second definition. Dr. LaViola believes responsive to is a
10 broad term, and that's been our position. Obviously, something that readily
11 reacts can be responsive to, but it's not limited to readily reacting. And then
12 with respect to your first question, Your Honor, answering or replying how
13 that actually relates in this context Dr. LaViola actually provided testimony
14 on that in paragraph 32 of Exhibit 1016. He explained how a person of
15 ordinary skill in the art would understand answering or replying or
16 responding to in the context of digital eyewear. So, he wasn't picking and
17 choosing. He just thought that the first one was more pertinent than the
18 second one, but we're not limiting responsive to -- to just the first definition.
19 It can include readily reacting. It's Patent Owner that's trying to, you know,
20 arbitrarily limit the definition of responsive to -- to get around the prior art.
21 I don't know if that answers your questions, Your Honor.

22 JUDGE RAEVSKY: But you did mention that your expert
23 explained why answering or replying makes sense, but it'd be interesting to
24 hear a bit more about that testimony. I don't want to belabor this point and
25 get bogged down in this part of your presentation, but maybe if you could
26 just answer that part concisely and then I'll ask another one.

1 MR. ARJOMAND: Absolutely. So, let me just direct you to
2 paragraph 34. So -- or 32 I should say, of his supplemental Declaration.
3 This is Dr. LaViola. He talks about how a POSITA would characterize the
4 behavior of digital eyewear or components such as eye sensors answering,
5 replying, or responding to input such as eye motion. So, and he said, these
6 are terms that are commonly used by a POSITA in the field of the '929
7 patent to describe how digital eyewear components such as sensors handle
8 input and communicate with other components. So, Dr. LaViola explained
9 that these are terms that are commonly used in the art to describe how, you
10 know, digital eyewear components such as sensors handle input. And this
11 declaration was submitted with our reply, Your Honor, and they had the
12 opportunity to depose Dr. LaViola and cross-examine him on this paragraph
13 to ask, you know, questions as to whether this understanding in the art is
14 correct or not, and they did not do so. So, I think, you know, that's an
15 important point here is that his testimony, not only is it correct, it's
16 un rebutted. They haven't provided anything other than attorney argument as
17 to that, you know, as to that testimony that I just read into the record.

18 JUDGE RAEVSKY: Thank you.

19 MR. ARJOMAND: So, let me now turn to the second main
20 argument that Patent Owner makes or is trying to limit responsive to. And
21 here I am slide 26, Your Honors, and this is from -- this quote is from the
22 Patent Owner response paper 12 at page 20. And what Patent Owner here is
23 arguing is that responsiveness requires temporal immediacy in action, cause,
24 and effect. And what -- what they really mean by this is that if the eye
25 sensor responds to a sequence of events prompted by the eye motion, that
26 doesn't meet the claim. And as we'll get to the Mann '895 and Perner

1 ground, this is really designed to get around that reference. And so, again,
2 here we are on slide 27, Dr. LaViola addresses this head on, and he says in
3 paragraph 45 of his supplemental Declaration, to the extent that Patent
4 Owner contends that the eye sensor cannot be responsive to events that are
5 prompted by the eye motion, this does not comport with the plain and
6 ordinary meaning of responsive to, unquote. And in that same paragraph,
7 Dr. LaViola gives an example. And the example that he gives is the use of
8 an accelerator pedal in accelerating a car. And what he says is that a car is
9 responsive to a user stepping on the accelerator pedal, even though the pedal
10 movement has to trigger a sequence of additional events, such as, you know,
11 widening an air intake valve before the car will accelerate. And he says, in
12 plain usage, the car is responsive to the movement of the accelerator pedal
13 and it's also responsive to the additional events that follow the movement of
14 the accelerator pedal. And so that, again, sort of goes to what I was trying to
15 express to you, Your Honor. Responsive to is a broad term. It encompasses
16 a number of different types of activities. And it's not correct to just
17 arbitrarily limit it to temporal immediacy cause and effect, as Patent Owner
18 is trying to do.

19 Now, the final argument the Patent Owner makes with regard to
20 limiting responsive to is shown here on slide 29. This is taken from the
21 Response paper 12 at page 16 and is also discussed in the Sur-Reply paper
22 14 at 9. And here, this passage is talking about Pemer, but it's a bigger point
23 that Patent Owner is trying to make. And they say, rather than being
24 responsive to eye motion of a user as required by the challenged claims, the
25 iris feature detector, this is Pemer, actually causes eye motion of a user. And
26 so, what they're trying to get at here is that a sensor that causes eye motion

1 does not meet the claim language. And there's really no reason for that
2 arbitrary exclusion other than to get around the prior art. Responsive to
3 doesn't have that arbitrary exclusion, nor does the claim language. And I'm
4 just jumping to slide 31. Your Honors tentatively concluded that in their
5 Decision on Institution. This is at slide 31, the DI at page 24. You stated
6 that Patent Owners' present opposition appears to be premised on an overly
7 narrow claim construction whereby claim 1 would require some sort of
8 passive monitoring of the eye by the eyewear circuitry, thereby excluding
9 Perner's circuitry because it uses light sources 112 and 114 to cause
10 movement of the eye. We do not discern such a limitation in the language of
11 the claim.

12 What is even more important I think in this passage is the last
13 sentence where you encourage Patent Owner to support its position with a
14 clear articulation of Patent Owner's view of the claim scope in this regard.
15 They provided no clear articulation other than attorney argument, Your
16 Honors. They basically made the argument that you just -- that you
17 tentatively dismissed in your DI. They basically repackaged it for the Patent
18 Owner Response, and they made the additional two arguments that I briefly
19 addressed earlier today. So, they never addressed the request that you had to
20 develop the record and provide support for why their construction is the
21 right construction of responsive to.

22 JUDGE HOSKINS: So, Mr. Arjomand, just a slight little -- we
23 have about 10 minutes, a little bit more than 10 minutes remaining on your
24 initial principal argument based on your reservation.

25 MR. ARJOMAND: Great. All right. So, let me just quickly then
26 jump to the Mann '895 and Perner ground, Your Honor. And really I think

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 the bottom line is there's really no dispute as to the fact that Mann '895
2 meets all the limitations of the claims at issue, except for responsive to. And
3 there's really no dispute as to the reasons to combine Mann '895 and Perner.
4 Patent Owner has, as far as I can tell, has not made those challenges. So,
5 here on slide 34, Mann, very quickly, is a wearable eyeglass-based device.
6 It has a computer built into the eyeglass frames. Importantly, Mann
7 discloses here, I'm on slide 35, a sight license may be downloaded over the
8 network to enable the glasses to operate. That goes to activating the
9 circuitry. For example, a retinal or iris scanner in the eyeglasses may license
10 the eyeglasses to provide sight to the wearer, but not others who might steal
11 the eyeglasses. So, the iris scanner would activate the circuitry for the
12 appropriate wearer, but not for a stranger, for example.

13 And then here in slide 36, Perner talks about an iris feature or
14 discloses an iris feature detector that causes rapid eye motion. And the
15 sensor, and where it discusses is that the sensor captures the first and second
16 iris images. And based on that, here on slide 37, it obtains an edge pattern
17 that is used to ultimately identify or authenticate the subject. And on slide
18 38 this provides a quick overview of I think the reasons for the combination.
19 Mann '895 talks about an eye sensor and the eyeglasses to provide sight to
20 the wearer but not others who might steal the eyeglasses, that goes to
21 identification and authentication. And Perner talks about it, the problems
22 with conventional iris scanners. It talks about ways to improve those eye
23 scanners through its -- its use of edge pattern for identification or
24 authentication. As I said, I don't really think there's really any dispute as to
25 the reasons for combining Mann '895 and Perner. And as I also mentioned
26 here on slide 39, there's really no dispute as to the mapping of Mann '895 to

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 all the challenged claims in this proceeding. Again, the only focus has been
2 on the term responsive to which in our view is met by the combination of
3 Mann '895 and Perner.

4 Briefly just to explain how that is met, this is on slide 40. So, this
5 is showing Figure 1, the iris feature detector of Perner is 110. It includes
6 light sources 112, 114 and includes an image sensor 118, a controller 120,
7 and a processor 122. And there's shown in Figure 1 there's also an eye with
8 an iris I, and what happens is that the light source 112 basically generates a
9 light source that the eye fixes on that light source. And now I'm on slide 42.
10 The eye sensor captures a first image of the eye and then on slide 43 light
11 source 114 stimulates the eye motion to have the eye fix on light source 114.
12 Slide 44, that captures the second image of the eye. And then on slide 45,
13 the first and second images form a unique edge pattern that's shown here in
14 Figure 2, and the eye sensor notifies its processor to compare the just
15 acquired edge pattern to a database to authenticate the user. So, in our view,
16 this clearly meets the claim language responsive to eye motion of a user.
17 And ultimately on slide 47, the sight license is granted to the authenticated
18 user. I don't think there's really any dispute as to the operation of Perner,
19 Your Honors, that I've just gone through. Patent Owner, as far as I can tell,
20 has not challenged the operation.

21 Finally, I just want to briefly touch upon the fact that we believe
22 that even under Patent Owner's narrowed construction, the combination of
23 Mann '895 and Perner meets the claim language because there's a direct
24 responsive connection between the eye motion and the sight license. Once
25 again, Dr. LaViola, in a supplemental Declaration addressed this, and once
26 again it was not rebutted and what Dr. LaViola says in short is that basically

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 once the eye motion is generated by the light sources and the images are
2 captured, an edge pattern is generated and that immediately allows for the
3 sight license to be granted. And in his view that's a direct responsive
4 connection and this is kind of shown in slide 49. The eye sensor simulates
5 the eye motion, the eye sensor responds to the eye motion by acquiring the
6 edge pattern, the eye sensor matches the just acquired edge pattern to a
7 database and the sight license is activated based on the database match. So,
8 once again in our view there's a direct responsive connection. So, even if we
9 were to accept Patent Owner's narrow definition which we don't think is
10 right, we think responsive to is broader, we believe the claim language is
11 met by the Mann '895 and Perner combination.

12 Unless there are any further questions, Your Honors, I'll take the
13 rest of my time for rebuttal.

14 JUDGE HOSKINS: Thank you. Hearing none, that's fine. So, I
15 have 25 minutes then left for you on the rebuttal for the '494 case. Before
16 we turn it over to Patent Owner, let me just say that I think I neglected to
17 mention at the beginning that we're planning on taking a 10 minute break
18 between the '494 case and the '495 case. So, if I didn't say that, I apologize,
19 but the plan is to kind of go through and finish the '494 case, and then take a
20 10 minute break and then turn to the '495 case.

21 MR. ARJOMAND: Thank you, Your Honor.

22 JUDGE HOSKINS: Thank you. So then with that, Mr. Fahmi, do
23 you have a reservation for rebuttal? Pardon me. How much of your time do
24 you want to -- how much of your total 120 minutes do you want to spend on
25 the '494 case?

26 MR. FAHMI: Sure. I'll take an hour for '494, Your Honor. I don't

1 think I'll use it all but. And let me reserve 15 minutes for rebuttal.

2 JUDGE HOSKINS: Fifteen minutes? Sounds good. And so,
3 when you are ready to begin, please feel free to do so and we'll start your
4 clock. Thank you.

5 MR. FAHMI: Thanks, Your Honor. Let me put up the slides here.
6 Hopefully, you're seeing the slides on your screens.

7 JUDGE HOSKINS: Yes, we are. Thank you.

8 MR. FAHMI: So, may it please the Board. Your Honors, let me
9 start just by focusing on what's really in dispute here. Magic Leap alleges in
10 their petition that it would have been obvious for a person of ordinary skill
11 to, and I'm quoting from page 16, adopt Perner's suggestion and
12 advantageously use the iris feature detector of Perner in place of the iris
13 scanner of Mann '895. That's their basic contention. And what was our
14 response? We said, okay, if a person makes that combination, you don't get
15 what's recited in the claim, and in particular, it doesn't lead to a result in
16 which an eye sensor activates circuitry responsive to eye motion of a user as
17 required in all the independent claims that are (INDISCERNIBLE).

18 I've got two points to go over with you today. First is the claim
19 construction argument that you spent some time talking about with my
20 learned colleague. As we pointed out in the briefing, and as I hope to cover
21 with you today, we think that the plain and ordinary meaning tells you how
22 you should construe the claim. It doesn't tell you what that meaning is, but
23 what that meaning is we think in responsive to means in reaction to, and I'll
24 discuss why. The other point I want to cover is what does the Mann and
25 Perner combination lead to? Now, you heard just a few moments ago about
26 a sight license, and Mann calls a license to see, and that's something --

1 something that's apparently personal to the wearer of the glasses because it
2 allows the wearer to see things and somebody, if they steal the glasses, can't
3 see them. So, somehow it's, you know, personalized to the wearer. But if
4 you adopt the Petitioner's suggestion and use the feature of Perner in place of
5 that iris scanner that Mann has, you get something that invokes eye motion
6 and is not responsive to eye motion.

7 And honestly, Your Honor, at the risk of, you know, pulling back
8 the curtain, take a look at paragraph 27 of Perner that we cited in our Sur-
9 Reply. Perner tells us explicitly it takes the pictures even if the eyes don't
10 move. Right. It talks about the processor can even tell you whether the eye
11 is alive or not. It takes the pictures, and if it's a dead eye, as Perner calls it, it
12 doesn't move, the two pictures are the same, and so there's no edge pattern.
13 So, there's no reaction to eye motion. It's not responsive to eye motion.
14 Whether or not the sight license is going to be granted in the combination
15 just depends on what the pictures are. But before I go over that, I've seen
16 more detail -- let --

17 JUDGE HOSKINS: In that event, if the eyes are dead, I guess, in
18 Perner, is Perner then able to authenticate the user, or does that mean that the
19 iris scanner algorithm in Perner is not going to work?

20 MR. FAHMI: Depends on whether or not there's a match in the
21 database, Your Honor. Right, it still does the comparison with the database.
22 So presumably, if there's a match, you know, like a null pattern, I guess,
23 produced from the dead eye, if there's a match. Yeah, the database says it's
24 the same person, it's still granted the sight license. And see, the eye motion
25 in Perner is reflective, right? The user can't control it. When the light comes
26 on, the eye is drawn there, and the whole basis is reflected. So, to take the

1 case where somebody's sold the glasses, right, and they want to use the sight
2 license, they put them on. Light comes on, their eye is drawn for the first
3 light, light goes off, second light comes on, they can't help it. Their eye
4 moves, right, and in that time the second picture is taken. They wouldn't get
5 a null pattern. They can't fake the null pattern from a dead eye, so it still
6 works.

7 Let me talk about the claim construction issue. So, I've got slide
8 number 3 up here on the screen, and you've seen this before. This is claim 1,
9 but the same limitation appears in all of the Independent claims, and that is
10 the eye sensor activating the circuitry responsive to eye motion of a user.
11 Now, Magic Leap initially took the position that, well, you don't need to
12 construe the claims at all, right? Plain and ordinary meaning, you don't need
13 to enter any definitions here. We think that's legally incorrect, right?
14 Plain -- we think under *O2 Micro* that we've cited in our papers where there
15 is a dispute about what that plain meaning is, you need to reach a conclusion
16 on that point. And since this goes to the heart of the issue, we think it's
17 fairly an issue in the case, and we think that simply saying plain and
18 ordinary meaning controls without specifying what that meaning is would be
19 error, frankly.

20 So, under *O2 Micro*, we would encourage you to enter a definition
21 for what that term means. And as it said, we think that activating circuitry
22 responsive to eye motion means that there has to be a reaction to the eye
23 motion. And this should not be honestly controversial, Your Honor, because
24 that's how the patent says the system works, right? I'd invite your attention
25 to the '113 patent and the, excuse me, the '929 patent in column 3. And
26 we're told that beginning at line 38, an activity of the eye itself would

1 control the activity of the media focal. This is a passage that my learned
2 friend referred to. That tells you how this operates. And --

3 JUDGE RAEVSKY: Mr. Fahmi, this is Judge Raevsky. So, are
4 you pointing us to the specification to suggest that we should limit the claim
5 based on what's in the specification?

6 MR. FAHMI: No, it's certainly not, Your Honor. That'd be
7 improper. But we think the specification provides the context for how this
8 term is understood. And we think also that we're being entirely consistent
9 with the very references that the Petitioner's expert looked to. So, I'm on
10 slide 4 now. When Dr. LaViola went to look to see what do these terms
11 mean, he pulled two dictionaries. And what did those dictionaries tell us?
12 Well, the American Heritage Dictionary says that responsive means
13 answering or replying or responding. Well, that's a bit circular, as has been
14 pointed out, to simply say that something is responsive if it responds isn't
15 really clarified in the situation a lot. What's the next definition? Readily
16 reacting. Well, that's pretty much exactly what we said in our Patent Owner
17 response. And the other dictionary that Dr. LaViola pulled, I don't have a
18 slide for this, but you have a copy of Exhibit 1017. You know, Magic Leap
19 says, well, responsive to means to respond. Well, look up the definition of
20 respond in their proposed dictionary, the Webster's dictionary, and it's
21 interesting because the Webster's dictionary, this is again Exhibit 1017 on
22 page 4, says, you know, if a response that is the act of responding or being
23 responsive means readily inclined to respond or react, and it gives the
24 example of an eye reacting to light. The pupil of the eye reacting to a
25 change in light intensity. Well, that's pretty informative given the context
26 that we're talking about. So, even the dictionaries that Dr. LaViola has

1 pointed to, and we don't think you necessarily need an expert to tell you
2 what everybody agrees is, you know, common words being used in their
3 ordinary sense.

4 But if even the expert is saying, well, these are the dictionaries that
5 I went to, and those dictionaries are giving you an example of an eye
6 reacting to light, it seems like responsive to probably needs a reaction. Now,
7 we heard from Magic Leap that there doesn't have to be a temporal
8 requirement. Dictionaries suggest otherwise, at least the American Heritage
9 Dictionary says readily reacting. But even if there's no temporal
10 requirement, we see that there's at least the requirement of a reaction. So,
11 when you construe the claim, and again, we think you have to construe the
12 claim, and you have to be more than say how you're construing the claim,
13 we think it requires a definition. There at least has to be some indication of
14 a reaction. Why does that matter? Well, let's go to Mann and Perner, right?
15 So, we heard about Mann on slide 5 from our presentation. We've heard
16 about Mann. Mann has this idea of a sight license. And remember, the
17 basic premise here is that Mann talks about using an iris scanner. And
18 Magic Leap's suggestion is they're going to replace the iris scanner with the
19 detector of Perner. And so, instead of just a simple scan of the iris, we can
20 read Mann as saying, you know, I guess, for example, the iris feature
21 detector of Perner in the eyeglasses would license the eyeglasses to provide
22 sight to the wearer but not to others who might steal the eyeglasses. That's
23 essentially the conclusion they want to come to with their obviousness
24 argument.

25 So, what does Perner say? Well, let's look at slide number 6 for
26 starters. The iris feature detector is, you know, shown in Figure 1. My

1 colleague gave you an explanation of how it works just to reiterate here.
2 There's a pair of light sources. That's those little LEDs that are shown as
3 112 and 114, just above and to the left and right of the depiction of the eye.
4 And there are some optics 116, an image sensor 118, a controller 120, and a
5 processor 122. As I said at the outset, Perner says you turn on the light 112,
6 you wait for the eye for a moment, take a picture, and then the controller
7 turns off the light source, turns on the second light source, and that causes
8 the subject's eye to be drawn to and focus or fixate on the second light
9 source. During that time, the controller causes the image sensor to capture a
10 second image. This is in paragraph 30. So, you then take the difference of
11 the two images, and you get the edge pattern, and go through the
12 authentication process, and the results of the authentication process
13 determine whether or not, in the context of the combination, the sight license
14 is going to be granted or not.

15 JUDGE HOSKINS: Mr. Fahmi?

16 MR. FAHMI: Your Honor.

17 JUDGE HOSKINS: Can you look to paragraph 32 of Perner for a
18 moment, please?

19 MR. FAHMI: Yes, Your Honor, I'm there.

20 JUDGE HOSKINS: So, Perner talks about here that it relies on a
21 difference image from those two images that it took, you walked us through.
22 So, if the eye is not alive, kind of going back to what you were talking about
23 before, that difference image is just going to be blank. Won't it?

24 MR. FAHMI: Well, it'll be some kind of null image, yes.

25 JUDGE HOSKINS: So how is that going to then let Perner work?
26 Because the whole point of Perner is we need to authenticate the user. So, if

1 the image is a null image, how is Perner then going to use the null image to
2 authenticate the person?

3 MR. FAHMI: Well, the null image would be unique to that user,
4 right? Remember, Perner's whole point is the eye motion is reflective or
5 reflexive, excuse me, right? If a thief stole the glasses and tried to use it,
6 tried to activate the sight license, the thief can't do anything to prevent his or
7 her eye from moving. So, they wouldn't get a null comparison image to
8 authenticate against their database. They'd get some edge pattern that didn't
9 appear in the database. So, the null pattern would still be unique to a wearer
10 with a dead eye as, you know, Perner suggests.

11 JUDGE HOSKINS: So, explain to me like how the null pattern of
12 one person is going to differ from a null pattern of another person. I
13 struggle.

14 MR. FAHMI: The point is the other person wouldn't have the null
15 pattern.

16 JUDGE HOSKINS: If we have two users with, you know, eyes
17 that don't move, won't the null patterns be the same?

18 MR. FAHMI: Yes, I suppose that would be a hacker situation,
19 Your Honor. So, yes, I suppose in that situation it wouldn't work.

20 JUDGE HOSKINS: Thank you.

21 MR. FAHMI: So, Your Honor, the point here is that nothing in
22 Perner is responsive to eye motion. The eye motion is caused by the iris
23 detector. But causing motion does not somehow mean that the iris detector
24 is responsive to the eye motion. Right. It's actually a cart before the horse
25 type of situation. What Perner's -- if we substitute Perner's iris detector in
26 Mann's system, what we end up with is a system that operates as we've just

1 discussed. And whether or not the sight license would be granted would
2 depend on the results of the comparison with the database, not on whether or
3 not any eye motion occurred. Could it be hacked? Yeah. I think we just
4 found a situation where it could be hacked. But it doesn't mean it operates
5 any differently. Your honors, if I could go on, but that's the crux of the case.
6 And I'm happy to take questions. I'm happy to try and clarify things. But I
7 think you get it. It's not a case where you need a lot of expert testimony.
8 Everybody agrees on how the system operates. So, at the risk is not
9 belaboring things, I'll just stop now, listen to my learned colleague, and see
10 if anything needs to be addressed on rebuttal. Thank you very much.

11 JUDGE HOSKINS: Thank you, Mr. Fahmi. I do not have any
12 further questions, and it appears my colleagues do not either. Okay. So,
13 then we don't allow you to reserve more than half of your time for rebuttal.
14 So, what you have now is 30 minutes for rebuttal if you need it when we get
15 there. So, thank you for your initial presentation. And so, Mr. Arjomand,
16 you may begin your rebuttal when you're ready, and you have 25 minutes.
17 Thank you.

18 MR. ARJOMAND: Great. Thank you, Your Honors. So, let me
19 just quickly address the point that you raised Judge Hoskins regarding
20 Perner, particularly paragraph 32. If you take a look at paragraph 27, which
21 is what Patent Owner's counsel cited in Perner. So, it says the processor 122
22 also indicates whether the eye E is alive since the edge pattern is based on
23 the physiological response of the eye E. If the eye E is not alive, the first
24 and second images will be the same and, importantly here, an edge pattern
25 will not be produced. So, I think that supports your understanding, Judge
26 Hoskins, that the null pattern will not result in an edge pattern being

1 produced, and this circuit basically there won't be an authentication of the
2 user. So, I think that that's consistent with our view of Pamer. And I don't
3 think that passage that Patent Owner's counsel is citing supports their
4 position.

5 Now, let me also briefly turn to, I believe, slide actually, one
6 second. Sorry, Your Honors. I left my clicker. So, let me briefly turn to
7 slide 19, Your Honors. And this goes to the point that Patent Owner's
8 counsel made was that you needed to do an express construction here. And I
9 think what you cited here in your decision on institution at pages 14 and 15
10 is you cited this *RealTime Data* case. We see this case cited a lot in Board
11 decisions. And what it says is, which is what you've quoted, is that the
12 Board is required to construe only those terms that are in controversy and
13 only to the extent necessary to resolve the controversy. And I think the point
14 that I would like to emphasize is the latter portion of that quote, only to the
15 extent necessary to resolve the controversy.

16 As I've mentioned in my opening presentation, our position is -- is
17 that the claims are unpatentable under either party's understanding of the
18 plain and ordinary meaning. So, whether you adopt Petitioner's position as
19 shown here on slide 15, that the eye sensor activating the circuitry in
20 response to eye motion of a user is how to understand that phrase at issue, I
21 think the art clearly meets that. And if you accept the Patent Owner's
22 position, which is set forth here on slide 15 to react or answer quickly,
23 temporal immediacy and action cause and effect, we also believe that the art
24 meets that narrow definition.

25 Now, one thing that I would add is it seems that counsel for Patent
26 Owner conceded today that the claims do not require a temporal immediacy,

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 they just require a reaction. And I think if you accept that admission, then I
2 think the art is even more clear to meet the claim language based on Patent
3 Owner's understanding of the term. Because clearly the Mann Perner
4 combination has an eye motion. It basically has an eye sensor that activates
5 circuitry responsive to eye motion of a user, basically in reaction to the eye
6 motion of a user. And I think if you take a look at paragraph 47 of Dr.
7 LaViola's supplemental declaration, he says this is basically in response to
8 Patent Owner's definition of the plain and ordinary meaning. He says that in
9 Perner's iris feature detector, this is paragraph 47, it is the user's eye motion
10 that triggers the comparison of the edge pattern to the database, which in
11 turn activates the sight license. So, if the claim language now just means a
12 reaction, I think paragraph 47 establishes how the art meets the claim
13 language under Patent Owner's construction.

14 Now, let me also briefly turn to slide 13. I heard Patent Owner's
15 counsel refer to the specification providing context. I think as I discussed
16 the two passages that they rely on in the '929 specification in column 3 at
17 lines 20 through 27, and lines 36 through 43, in no way limit the claim
18 language in the way that Patent Owner is espousing today. And then finally,
19 Patent Owner has mentioned a couple times that you don't need to do claim
20 construction in this context, well, sorry, strike that. You don't need expert
21 testimony in this context. And I think when you take a look at the definition
22 that's provided in the American Heritage Dictionary, this is at slide 22.
23 What I heard from Patent Owner's counsel was that they believe that the
24 second definition, readily reacting to, is the right definition.

25 And so, here we have a situation where Patent Owner is trying to
26 limit responsive to -- to one of the two definitions. And I think in that

1 situation having expert testimony is very helpful in understanding whether
2 you should create -- whether you should limit the definition and I would
3 point you again to Dr. LaViola's supplemental Declaration at paragraph 35
4 where he walks through why that definition is not as pertinent as the first
5 definition in the context of the '929 patent. So, I think expert testimony is
6 helpful in this context and as I mentioned that testimony has been
7 un rebutted.

8 Finally, one last point. I noted that that counsel, Patent Owner
9 counsel mentioned the Webster dictionary. We have testimony from Dr.
10 LaViola where he testified that that dictionary -- those dictionary definitions
11 are consistent with the American Heritage Dictionary definitions. And
12 again, this is at paragraph 26 of his supplemental Declaration, and they did
13 not in any way cross-examine him on that point. So, I think the two
14 dictionaries are consistent. And unless there are any further questions, we
15 rest, Your Honors.

16 JUDGE HOSKINS: Thank you, Mr. Arjomand, very much. So,
17 now we return to Mr. Fahmi. And Mr. Fahmi, you have your 30 minutes to
18 your final rebuttal on this case. Thank you.

19 MR. FAHMI: Thanks, Your Honor. Let me address the points
20 that Magic Leap's counsel made. He invited you to take a look at Perner and
21 says that in the case of an eye that's not alive, you wouldn't get an image,
22 right? So, the text in paragraph 27 says an edge pattern will not be
23 produced. That doesn't mean you don't get an image. And I would invite
24 your attention to paragraph 32 of Perner. In about the middle of that
25 paragraph, Perner explains how the images are used and says that features
26 that are stationary during the tracking interval will appear in the same

1 location in both images. These stationary features will be subtracted out,
2 and therefore, will not appear in the difference image. So, this is the case of
3 the null image that we're talking about. You still get a difference image. It
4 just doesn't have an edge pattern. That's what those two paragraphs are
5 telling us. So, you still have something to compare to the database. You
6 still have a difference image to compare to the database. It's just as we said,
7 you know, the null patterns. There's nothing, you know, in the way of an
8 edge pattern. You still have something to compare.

9 The second point was that somehow we had conceded that there's
10 no temporal requirement. We didn't concede anything, Your Honor. What
11 we said in our Sur-Reply, what I reiterated today was that if you accept Dr.
12 LaViola's idea that there's no need for a temporal requirement, then there's
13 still the requirement of a reaction. And this is confirmed, I think, by my
14 colleague because he says the two dictionary definitions are consistent.
15 Well, if they're consistent to the extent that they require that there be
16 reaction, right, cause is not reaction. And we know Perner relies on causing
17 eye motion. Now, Magic Leap also says that eye motion is what triggers the
18 taking of photographs or images, rather. And that's just not correct. The
19 images, as we've seen, we're talking about dead eyes, we're talking about
20 other circumstances. The images are taken regardless of whether there is
21 eye movement, right? It's based on the timing of the controller, and that's in
22 paragraph 31 of Perner. The controller performs the exposure control, and
23 that's based on the amount of light and the features of the image, et cetera,
24 and varies the integration time until predetermined exposures are
25 determined. And in the previous paragraph, paragraph 30, you know, the
26 controller commands the image sensor to begin acquiring the images. This

1 is all the controller dictating when the images are going to be taken. It's not
2 like the controller waits to observe any motion of the eye or anything like
3 that.

4 Last, let me address this idea that you must do whatever Dr.
5 LaViola says. That's just not the case, Your Honor. The Federal Circuit
6 makes it clear that you're not bound by expert testimony, especially when it's
7 in conflict with the actual claim language. What Dr. LaViola said in his
8 Declaration is that responsive to means to respond. Do you find that
9 helpful? It doesn't really do anything other than make you ask, what does it
10 mean to respond? And as I said, if you looked at what Webster says about
11 respond, it gives us a very helpful definition because it talks about actions of
12 an eye and an eye reacting, for example, to light. So, it would seem then
13 that even Dr. LaViola, at the end of the day, would have to concede that, you
14 know, to be responsive to something means to react to something, certainly
15 not to cause it, as Perner does.

16 Your Honor, unless there's any questions, I'll stop there, and we'll
17 submit the matter to your careful consideration.

18 JUDGE HOSKINS: Thank you. I do have one question. Just, you
19 briefly touched upon it, but let's, I'm just going to ask it kind of directly. If
20 we accept your definition of responsive to mean in reaction to, which I think
21 is your core contention, fairly characterized, explain to me why Perner does
22 not authenticate a user in reaction to eye motion.

23 MR. FAHMI: Because the authentication process is performed
24 regardless of whether the eye moves, Your Honor. Perner takes the pictures
25 irrespective of any eye motion. Perner performs the comparison with the
26 database using the images irrespective of any eye motion. There's no

1 responsiveness involved with respect to the eye motion. Whether or not a
2 sight license is ultimately granted depends on the results of the database
3 comparison. Not on whether or not there was eye motion, right? Consider
4 the case where a thief steals the glasses, tries to use them. We go through
5 the Perner process. If that image, that difference image, is not in the
6 database, there's no sight license, and that doesn't depend on whether there
7 was eye motion or not. It's only a result of image comparison. So, I think
8 that's the reason.

9 JUDGE HOSKINS: Okay. Thank you very much. And so that
10 was my only question. Let me just pause for a moment to make sure my
11 colleagues are. Okay. So, thank you very much for your argument, Mr.
12 Fahmi. This case is submitted. I want to thank both counsel for clear,
13 clearly articulated arguments today. And we will, of course, issue a final
14 written decision in due course. So, let's go off the record for a moment so
15 our court reporter just kind of.

16 Let's go back. Yeah, let's go back on the record, please, Ms.
17 Kuykendall.

18 MR. BLUMENKOPF: All right, good afternoon. May it please
19 the Board. My name is Bryan Blumenkopf, and I'm counsel for Magic Leap,
20 the Petitioner in this action. I'm here to discuss the petition challenging the
21 '113 patent. All the challenged claims should be canceled for the reasons set
22 forth in the petition.

23 JUDGE HOSKINS: Hold on one second, please Mr. Blumenkopf,
24 do you want to reserve any of your 60 minutes for rebuttal?

25 MR. BLUMENKOPF: Yes. I'd like to reserve 15 minutes for
26 rebuttal, Your Honor.

1 JUDGE HOSKINS: Thank you. Then with that, you can, you
2 know, return to your argument and when you do, we'll start your clock, and
3 we'll give you a reminder when you hit the 45 minute mark.

4 MR. BLUMENKOPF: Sure. Well, my first question is whether
5 everyone can see me and hear me correctly. If the audio is coming through
6 in the video.

7 JUDGE HOSKINS: The audio is great, and we can see your
8 presentation that says the '113 patent right now.

9 MR. BLUMENKOPF: Great. Fantastic. So, let's start with slide 2
10 of the presentation. So, in slide 2 there's a brief outline of what I'd like to
11 talk about today. First, I'll give a short overview of the '113 patent. Then I'd
12 like to discuss the interpretation of the two disputed claim terms in
13 communication with and measurements. Then I'd like to discuss the two
14 grounds in the Petition, Osterhout and Mann '526 in combination with
15 Vaissie.

16 Let's turn to slide 4. So, the Petition challenged claims 1 through 3
17 and 12 through 14 of the '113 patent as obvious based on Osterhout, which is
18 Ground 1. The same claims are also challenged as obvious based on Mann
19 in combination with Vaissie. That's Ground 2.

20 Let's turn to slide 5. So, the '113 patent is a continuation in part of
21 the '929 patent, which we discussed in the parallel proceeding. Like the '929
22 patent, the '113 patent relates to wearable devices such as eyeglasses. And
23 I've highlighted a few aspects of the disclosure here on slide 5. First, the
24 '113 patent discloses utilizing dynamic eye tracking with a wearable optics
25 device. The eye tracking can be used to provide parameters personalized to
26 a user. Second, the '113 patent discloses that the dynamic eye tracking

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 mechanism can be in communication with a lens. And third, the '113 patent
2 describes the parts of the human eye that can be used with the eye tracker.
3 The iris, the retina, cornea, pupil, ciliary, and lens.

4 Moving on to the next slide 6. On slide 6 I show in Figure 5C
5 which shows a wearable optics device. In the figure you have an eyeglasses
6 frame equipped with various sensors like cameras, biometric sensors. You
7 can see the wearable device has a lens display and that's shown as 601 at the
8 left side of the figure. And sitting behind that lens you have a display
9 projector it's labeled 620 which projects images onto the lens.

10 Moving on to slide 7. In slide 7, I've shown Figure 5B, which
11 illustrates a perceptual control system, although the specification also refers
12 to it as a perceptual optimization system. And you can see this control
13 system takes in various measurements as input. We have optical parameter
14 measurements, expression parameter measurements, voice parameter
15 measurements, and various other perceptual measurements like smell, touch,
16 brainwave, temperature, humidity, and environmental conditions. It also
17 takes in real-world inputs like cameras and microphones and digital media
18 inputs like digital audio, digital video, et cetera. And you can see the output
19 produced by this control system, which is display elements, output to the
20 lens display.

21 Let's move to slide 8. So, in slide 8, you can see claim 1 of the
22 '113 patent and claim 1 covers a wearable optics device. And I've
23 highlighted a few key claim elements here. I want to emphasize first, there's
24 really only two limitations that are in dispute. That's whether the dynamic
25 eye tracking mechanism is in communication with the lens, and that's
26 whether the optical parameter measurements are met. Just briefly walking

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 through the other elements here, you have a wearable optics device, you
2 have a lens, you have that dynamic eye tracking mechanism in
3 communication with that lens. The eye tracker uses optical parameter
4 measurements, and then you have an optical/perceptual parameter-based
5 operating system that's utilized. And I know the claim says dynamic eye
6 tracking mechanism, but I may refer to that as just an eye tracker for
7 simplicity.

8 Let's move to slide 9. So, in slide 9 I have claim 12. This is the
9 other independent claim that's challenged. And the only limitation in claim
10 12 that's not found in claim 1 is at the very end, where it says the lens
11 includes a plurality of layers.

12 Moving to the next slide, slide 10. There are also four dependent
13 claims that are challenged, and really it's two sets of two, two in 13 and three
14 in 14 recite analogous limitations. But dependent claims haven't really been
15 a focus of the parties' briefing.

16 Straight to slide 11. So, now I'd like to talk about the claim
17 limitations that are in dispute. I mentioned earlier there's really only two of
18 them, in communication with and measurements. Let's move to slide 12.
19 So, in slide 12, I provided a chart summarizing the parties' positions on in
20 communication with. Both parties agree this term should be construed
21 according to its plain and ordinary meaning. Parties disagree as to what that
22 plain and ordinary meaning is. Our position is that it's simply sending
23 communication to or receiving communication from. The Patent Owner's
24 version is -- it's much more specific. They say it requires an active exchange
25 of information between the eye tracker and the lens.

26 Moving to slide 13. So, this chart shows the parties --

1 JUDGE HOSKINS: Mr. Blumenkopf, is the essence of the dispute
2 one way versus two way communication?

3 MR. BLUMENKOPF: Well, so under Patent Owner's position,
4 they're requiring an exchange of information. I understand that to mean
5 there is information flowing from the eye tracker to the lens, and also from
6 the lens to the eye tracker. Whereas at our position, the key word there is
7 the word or. It doesn't necessarily require communication in both ways. It
8 can be sending, or it can be receiving.

9 JUDGE HOSKINS: Thank you.

10 MR. BLUMENKOPF: Does that answer your question, Your
11 honor?

12 JUDGE HOSKINS: Yes, it does. Thank you.

13 MR. BLUMENKOPF: Okay. So, returning to slide 13, we have
14 the chart about measurements. And similar to the in communication with
15 limitation, the parties agree this term should have its plain and ordinary
16 meaning. And again, the parties disagree as to what that plain and ordinary
17 meaning is. Here, our position is simply that measurements is things that are
18 measured. Patent Owner's position, well, again, it's more specific. They say
19 it's a size, length, or amount of something.

20 Let's move to slide 14. These are excerpts from the Patent Owner's
21 Response. These excerpts refer to the term in communication with. And
22 similar as to what we saw in the '494 proceeding, the Patent Owner agrees
23 this term should get its plain and ordinary meaning. The term is readily
24 understandable and does not require further interpretation. And accordingly,
25 there's no clear reason to depart from the plain and ordinary meaning of the
26 term.

1 And then moving to slide 16, with respect to measurements, the
2 Patent Owner also agreed this term should be construed consistent with its
3 plain and ordinary meaning.

4 And the next slide, slide 17. So, in the Decision on Institution, the
5 Board agreed in communication with should be afforded its ordinary and
6 customary meaning. Further, the Board determined it was not necessary to
7 expressly construe any other claim terms or phrases. The Board should
8 reach the same conclusion again.

9 Moving to slide 18. So, even though the Patent Owner agreed the
10 term should have their plain and ordinary meaning, they're contending that
11 those plain and ordinary meanings have narrow and specific limitations.
12 Here's the Patent Owner's position on in communication with. Their views
13 of the plain and ordinary meaning requires an active exchange of
14 information between the eye tracker and the lens. So really, this is inserting
15 two new limitations. It needs to be a bidirectional exchange of information
16 between the lens and the eye tracker, like we just talked about. And further,
17 the Patent Owner says that exchange needs to be active.

18 And moving to measurements in slide 19. Again, the Patent
19 Owner believes the plain and ordinary meaning of measurements is a size,
20 length, or an amount of something, e.g., as established by the act of
21 measuring.

22 Let's move to slide 20. So, as with the '929 petition, this petition is
23 supported by two Declarations from Dr. LaViola. And again, Dr. LaViola is
24 a professor of computer science at the University of Central Florida. He's
25 got over two decades in teaching, research, and publication, and computer
26 interactions, including with wearable devices like AR-VR glasses. And

1 again, as we saw in the previous proceeding, Dr. LaViola is un rebutted by
2 any evidence here. The Patent Owner did not provide any documentary
3 evidence, any testimonial evidence. They had multiple opportunities to take
4 Dr. LaViola's deposition, examine the basis for his opinion. They did none
5 of those things. So, his opinion here is un rebutted by any kind of actual
6 evidence. And so, here's what Dr. LaViola said. He weighed in on the
7 Patent Owner's interpretation, and he says, I do not believe the Response
8 accurately represents the plain and ordinary meaning of a communication
9 limitation to a POSITA after reading the '113 patent. He continues, he
10 believes the proposed meaning is requiring active exchange of information is
11 too narrow to capture its plain and ordinary meaning.

12 Let's move to slide 21. So, let's take a look at what the Patent
13 Owner said about in communication with. And the response in discussing
14 the Osterhout reference, the Patent Owner provided some insight into what it
15 believes that term requires. And here the Patent Owner said, Osterhout
16 couldn't meet that limitation because the lens is not actively exchanging any
17 information with the camera. Instead, the response says, the lens merely acts
18 passively as the light passes through it.

19 Slide 22. Well, Dr. LaViola disagreed with the Patent Owner. He
20 stated that the plain and ordinary meaning of in communication with does
21 not require active communication. And as an example, communications,
22 including communication to and from a lens, can be passive as well as
23 active.

24 Next slide 23. So, Dr. LaViola looked at the patent specification
25 itself. And he pointed to a passage in the specification that describes the
26 lenses that the eye tracker can be in communication with. And that

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 specification says specifically, the lenses can be passive or active display or
2 projection-based implementations. Dr. LaViola says, lenses with passive
3 displays, which can passively communicate information, are thus expressly
4 contemplated by the '113 patent.

5 Moving to slide 24, Dr. LaViola points specifically to that Figure
6 5C of the patent, which we looked at earlier. And again, Figure 5C shows
7 an example of a wearable device that can have a passive lens display. The
8 patent clarifies that this device can be used with dynamic eye tracking. On
9 slide 25, I've shown Figure 5C again. This figure is actually important, and
10 this slide comes directly from the Patent Owner's briefing in the parallel case
11 in the Delaware District Court. And this was from Patent Owner's claim
12 construction briefing, and the Patent Owner took a broad view of the lenses
13 that are in communication with the eye tracker. And they told the court that
14 this figure and its corresponding description broadly defined the non-
15 limiting types of lenses from the point of view of the patentee.

16 And in slide 26, we have that corresponding description.
17 Describes new materials for lenses, for enhancements and capabilities of the
18 digital eyewear. And you can see at the end, specifically, passive, or active
19 display or projection-based implementations.

20 The next slide, 27. So, the Patent Owner repeated, reiterated to the
21 court a narrow definition could not be correct. It's not found anywhere in
22 the patent specification. It does not include the broader scope contemplated
23 by the patents. Yet here, the Patent Owner is arguing the lens must
24 communicate actively with the eye tracker. That's narrower than the scope
25 we saw. We saw right there in the specification it could be passive or it can
26 be active.

1 I want to be clear about one point too. I saw in the Sur-Reply from
2 Patent Owner they tried to distinguish the lens from Figure 5C from the in
3 communication with language. But I want to be clear. That language says
4 dynamic eye tracking mechanism in communication with the lens. So,
5 Figure 5C is describing that lens and how it communicates. So, certainly
6 Figure 5C is relevant to understanding in communication with. As we saw,
7 the Patent Owner went to the Judge Andrews in the District Court and
8 explained this is how we understand what these claims mean.

9 Let's move to slide 28. So, the Patent Owner also argues in
10 communication with requires an exchange of information. And here's what
11 they said in their sur-reply. They said, to be in communication with
12 something requires some participation from each entity. Only if there is
13 some form of reply can the sender be assured that it was actually in
14 communication with the intended recipient. Now let's move to slide 29.
15 And recall that in the Patent Owner's Preliminary Response that they made
16 kind of a similar argument. There they argued that the claims required a
17 specific direction of communication. It required that the eye tracker be in
18 communication with or send communication to the lens. The Board rejected
19 that correctly. That would be importing limitations into the claim from the
20 specification, namely the specific direction of the communication from the
21 eye tracker to the lens. The Board correctly declined to import those
22 limitations into the claims as to the specific directionality. But what the
23 Patent Owner is doing here is doubling down on that same approach. So,
24 instead of asking the Board to insert one specific direction of communication
25 from the eye tracker to the lens, it's actually asking for two. The eye tracker
26 to the lens and also the lens to the eye tracker. The Board should again

1 reject that approach.

2 JUDGE RAEVSKY: Counsel, this is Judge Raevsky. I'm just
3 thinking about this language, and it seems to me if it said in communication
4 to or being in communication to something that would imply unidirectional
5 communication. But the word with is used instead. Why doesn't the word --
6 so you're relying on our Institution Decision here, but I'd like to know why
7 you think the word with doesn't imply bidirectional communication?

8 MR. BLUMENKOPF: Well, certainly, there's various choices of
9 language that the patentee could have used to describe this. And Dr.
10 LaViola provides some insight into what this actually means the person of
11 ordinary skill we say in communication with. One of the examples Dr.
12 LaViola gives is if you have, for example, if I send you an e-mail. I send
13 you the e-mail, you receive it, you don't respond to it. Well, we're still in
14 communication. I'm still in communication with you. You're still in
15 communication with me. Likewise, I'm speaking to you here today. You
16 know, there's multiple people on the call. And even if they're not responding
17 or communicating back in any way, well, we're still in communication with
18 each other. And I think in the context of an eye sensor communicating with
19 a lens like we have in this situation, to say in communicating to, I think may
20 not have captured what the patentee was trying to reflect here. Or you have,
21 for example, they mentioned examples of in the patent where you have
22 various shading techniques where an eye tracker can control shading of the
23 lens and so forth. I think to say in communication to, I think may not have
24 entirely captured those types of embodiments. Does that answer your
25 question, Your Honor?

26 JUDGE RAEVSKY: Yes. Thank you.

1 MR. BLUMENKOPF: Okay. So, let's skip ahead to slide 32. So,
2 Dr. LaViola agrees that the Patent Owner's definition is not supported by the
3 specification. I mentioned earlier an example of where the eye tracker can
4 control chromatic properties of the lens. And the Patent Owner makes the
5 case that's an exchange of information. They're trying to say somehow
6 there's information going from the eye tracker to the lens and then back from
7 the lens to the eye tracker. But what Dr. LaViola explains is that that's
8 actually a one-way sending of information, right? It's actually information
9 going from the eye tracker and adjusting the properties of that lens. So, it's
10 not clear what the Patent Owner is pointing to when they try to support
11 communication being bidirectional. It's certainly not that shading
12 mechanism or adjusting the properties of the lens.

13 Let's move to slide 33. So, here's an excerpt from Patent Owner's
14 Sur-Reply. And here they're admitting that their own definition in
15 communication with would exclude embodiments from the specification.
16 And specifically, they're referring to Figure 5C, again, which we looked at
17 twice now. And describing that Figure 5C embodiment, they admit it's not
18 an example of a dynamic eye tracking mechanism in communication with a
19 lens under their formulation of in communication with. They continue,
20 causing an image to be projected on a lens is not communication with the
21 lens, as there's no information exchange with the lens. And again, this was
22 the figure that the Patent Owner presented to the District Court and
23 explained this is how we understand the scope of the claim. They can't go
24 back and pretend that that figure doesn't apply anymore.

25 Let's move to slide 34. So, the Patent Owner also takes a narrow
26 view of measurements. And the Patent Owner said at the top we see it's in

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 the Response at page 9. The term measurement is used at several places in
2 the specification, and in each instance seems to be indicating such a
3 determination of size or length. Hence, this is the understanding that a
4 person of ordinary skill in the art would have when reading the challenged
5 claims. And you can see here from Dr. LaViola, this is paragraph 28 from
6 the supplemental Declaration. Again, he doesn't believe that accurately
7 represents the plain and ordinary meaning of measurements. It's too narrow.
8 It's not just things that are determinations of size or length. There are many
9 types of measurements beyond just size or length.

10 Next slide, 35. So, Dr. LaViola gave a few examples of this. This
11 is a paragraph 29 from his supplemental Declaration. This first example
12 here refers to the measurement of a user's eye gaze. That's a measurement
13 involving optical parameters. He explains, the direction of the user's eye
14 gaze can be measured such as by a camera based on a measured position of
15 the pupil, not necessarily its size or length. So, that's one measurement, and
16 this is directly from the '113 specification. It's not a determination of a size,
17 a length, or even an amount of something. His second example from this
18 same paragraph, electrooculography techniques, determine eye movement
19 by measuring an electrical potential between the cornea and the retina, not
20 the size or length of the cornea or retina. So, that's another measurement
21 that's not a determination of a size or a length. And in his third example, the
22 '113 patent describes that an eye sensor determines the position, the
23 eye/pupil/retina. Dr. LaViola explained, determining that position would
24 include a measurement of that position, which is not limited to a size or
25 length.

26 Let's turn to slide 36. Here's another example from the '113 patent.

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 And earlier we talked about Figure 5B, and we looked at the same figure,
2 which shows the perceptual control system. And this figure shows there's
3 multiple types of measurements that are provided. You have optical
4 parameter measurements, expression parameter measurements, voice
5 parameter measurements, and then things like smell, touch, brainwave,
6 temperature, et cetera. Now, even if some of these measurements can
7 include size or length, you can't say that measurements like smell or touch or
8 brainwaves or temperature are measurements of size or length. And the
9 Patent Owner conveniently ignores these examples of measurements that are
10 inconsistent with its own version of the plain meaning.

11 So, let's move to slide 39. So, I want to discuss the Osterhout
12 reference. This is Ground 1 from the Petition. So, let's turn to slide 40.
13 Osterhout's a pretty thick reference, describes many embodiments and
14 variations on an interactive head-mounted eyepiece. The eyepiece has
15 transparent lenses with a display so the user can view displayed content and
16 also view the surrounding environment. In Osterhout, there's an eye
17 tracking facility that can use various features of the human eye to track the
18 eye movement over time. For example, the corneal reflection, the center of
19 the pupil, images of the retinal blood vessels, and use those for eye tracking.

20 Next slide, 41. So, Osterhout also describes you can use the eye
21 tracking as a control mechanism. Here the user can focus on a certain point
22 on the displayed image from the eyepiece, and the camera can correlate the
23 viewing direction of the eye to a point on that display. And then the
24 eyepiece can use that information to interpret commands based on a
25 combination of where the user is looking and an action by the wearer.

26 Moving to slide 42. So, Osterhout goes into some detail about

1 different kinds of lenses that can be used. Figure 65 on the left, there's a lens
2 6504, which can have an electrochromic layer 6502. And you can use that
3 to adjust display characteristics like opacity, for example. Osterhout also
4 describes the lens can have an absorbing and anti-reflective layer added to
5 the glasses for night vision capability.

6 Let's turn to slide 43. So, Osterhout can use that line of sight
7 information from the eye tracker plus user commands to invoke an action by
8 a processor. There's some example actions we can see in Figure 72 here on
9 the left. We see, for example, computer applications like for education,
10 media advertising, government, et cetera. Also, for controlling external
11 devices and various other features.

12 Let's turn to slide 44. So, the next two slides, I just want to briefly
13 summarize how Osterhout meets these limitations of claim 1. And again,
14 the parties, as far as I can tell, only dispute two of these elements. That's
15 whether the eye tracker is in communication with the lens and whether the
16 optical parameter measurements are utilized. So, you can see here in the
17 righthand of the slide, Osterhout describes an interactive head-mounted
18 eyepiece that's a wearable optics device. We have a lens met by the see-
19 through or translucent lens. Slide 45. You see the eye tracker uses optical
20 parameter measurements, including measurements of the corneal reflection
21 and the center of the pupil, images of the retinal blood vessels. And then for
22 the optical perceptual parameter-based operating system we see Osterhout
23 how it uses the user's line of sight to invoke actions like the computer
24 actions that we saw in the previous -- Figure 72 from a few slides ago.

25 So, I want to move to slide 46 and the limitation that's primarily in
26 dispute is whether the eye tracker is in communication with the lens. And I

1 want to show how Osterhout meets that limitation. It actually gets it in
2 multiple ways. So first, as I described earlier, the eye tracker can correlate
3 the eye's viewing direction to a particular point on the display. Osterhout
4 uses that to interpret commands. For example, if the user wants to interact
5 with a particular point on the display. Point number two, projection optics in
6 Osterhout project image content right onto the lens. And that's actually
7 really important because the lens in Osterhout is the display, as explained
8 right here. There's projection optics from the eyepiece that will project the
9 display directly onto the lens. And so, when we're talking about
10 communicating with a display, we're actually talking about communicating
11 with the lens.

12 Next slide, 47. So, we see here the eye tracker uses a camera on
13 the eyepiece to interpret eye movements and actions as commands. For
14 example, the eye tracker determines whether the user is looking at a certain
15 portion of the lens. You see here in element 3, it's not just what coordinate
16 of the lens the user is looking at. It's actually what object the user is looking
17 at. It mentions here whether the user is gazing towards a fixed object and a
18 real world object and so forth. It's able to do that based on the display from
19 the lens. And then the eye tracker correlates that the view gaze determines
20 what the user is looking at. And then Osterhout mentions you can do things
21 like you can click on a certain object and interact with it in some ways. And
22 then fourth here, Osterhout also describes the eyepiece can use other
23 techniques to track the motions of the eye, including a special contact lens.
24 It says the special contact lens can have an embedded optical component,
25 such as a mirror or a magnetic field sensor, and the eyepiece uses that to
26 measure the motion of the eye.

1 So, let's go to slide 48. I also want to talk about claim 12. And
2 claim 12, remember, has the limitation that the lens includes a plurality of
3 layers. There's multiple places where Osterhout discloses that plurality of
4 layers. First, we see the optical assembly can have an electrochromic layer,
5 again, for adjusting the opacity, for example. There can be a plurality of
6 chromic areas with a chromic coding. The chromic coating, again, can
7 change the opacity of at least a portion of the lens. Number three, we
8 mentioned earlier, absorbing and anti-reflective layer that can be added to
9 the glasses. And then four, that special contact lens, again, with an
10 embedded optical component, such as a mirror or magnetic field sensor.

11 Okay. Let's move to slide 51. So, explain why the Patent Owner's
12 new version of the plain meaning here is improperly narrow, shouldn't be
13 adopted. But I want to make an important point, and the Board can resolve
14 these issues without even reaching the question of what that plain and
15 ordinary meaning is. That's because the claims are still unpatentable, even
16 under the Patent Owner's narrow version. We see here Dr. LaViola agrees,
17 and you see this in paragraph 46 of his supplemental Declaration. He says,
18 in my view, even if the Board were to adopt Patent Owner's versions of the
19 communication and measurements limitations, the claims are still
20 unpatentable, as set forth in the Petition and described further below. Again,
21 Dr. LaViola is unrebutted here by any kind of evidence. So, the Patent
22 Owner says the plain meaning of in communication with requires active
23 exchange of information. Well, Dr. LaViola says paragraph 47 here from
24 his Declaration. This is met by Osterhout, at least because the eye tracker is
25 in communication with the lens via the display projected on the lens. As we
26 discussed, the eye tracker correlates the viewing direction of the eye to a

1 point on the lens, and the eyepiece uses that to interpret commands.

2 Let's go to slide 53. So here, Dr. LaViola also explains how this
3 exchange is active. It says that using the viewing direction to interpret the
4 commands is an active process. And further, because Osterhout discloses
5 the lens display can be an active display. For example, in LCoS display, or
6 RGB LED module, this is an active exchange of information. Once again,
7 Dr. LaViola is unrebutted by actual record evidence here.

8 Going to slide 55. So, with respect to measurements, Dr. LaViola's
9 view is that Osterhout meets the Patent Owner's narrow interpretation, even
10 if we assume it means just a size, a length, or an amount of something. And
11 Dr. LaViola references measuring the electrical potential in Osterhout,
12 which at least is an amount measured by this process.

13 So next slide, please. So, let's move to Ground 2, which is the
14 combination of Mann '526 and Vaissie. Slide 57, here's a brief overview of
15 Mann. Mann is a wearable electronic camera with a wearable viewfinder.
16 This apparatus has eyeglass frames with two eyeglass lenses. Slide 58.
17 Mann also has an eye-tracking mechanism, which causes the focus of the
18 camera to be based on where the user is looking. Mann also has an
19 operating system with a Reality Window Manager, as you can see the left on
20 Figure 1C. You can see those xterm terminal windows. The Reality
21 Window Manager is driven by the eye tracker. For example, the eye tracker
22 figures out where in the screen the user is looking, uses the user's head
23 position to frame the interface and the user's view direction to determine the
24 cursor position. And you can see that cursor is element 192 in Figure 1C.

25 Next slide, 59. So, we have Vaissie, which describes the eye
26 tracking technique for a head-mounted display. Now, Vaissie uses infrared

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 LEDs to project light onto the user's cornea. The LED light reflects in the
2 cornea, forming virtual images that are detected by a CCD sensor. You can
3 see this in Figures 7a and 7b on the left. Then Vaissie uses these LED
4 images to determine the user's sight direction.

5 And next slide, 60. Now, the way that works is then when the
6 user's eye moves, the pupil moves with respect to those LED reflections,
7 which are on the cornea. And Vaissie measures the center of the pupil, and
8 it compares it to the center of those reflections to determine a vector. You
9 can see it's vector PH in that Figure 7b. And that vector tells you the user's
10 site direction.

11 So next slide, 61. So, why would a person of ordinary skill
12 combine Mann and Vaissie? Well, Patent Owner doesn't dispute this as far
13 as I can tell. In Mann you have an eye tracker that reports the user's eye
14 gaze direction. That gives you X and Y coordinates of where the user is
15 looking on the viewfinder screen. And Vaissie is describing a beneficial
16 improvement to that kind of an eye tracker. Vaissie has head-mounted
17 virtual image display systems like the one at Mann. Vaissie's technique
18 improves accessibility by allowing physically challenged people to interact
19 with devices. Vaissie mentions it's also used to enhance local images,
20 correct for some depth perception difficulties, and increase resolution at the
21 gaze point of visual displays. So, the person of ordinary skill would have
22 been motivated to combine these two, at least to realize those benefits.

23 Let's go to slide 62. So, slide 62, we have claim 1 again. And
24 again, I've mapped out how each of these elements are mapped by the
25 combination of Mann and Vaissie. So, in Mann, you have a body-worn
26 portable electronic camera system with wearable viewfinder means. That's

1 your wearable optics device. The lens is those two eyeglass lenses.

2 Next slide, 63. You have optical parameter measurements because
3 in Vaissie you compute the center, the location of the center of the entrance
4 pupil. That's a pupil measurement. And the very center of the images of the
5 LEDs, and those are reflections from the cornea. So, that's a corneal
6 measurement. And it uses that to determine the sight direction. And with
7 respect to the optical perceptual parameter-based operating system, well it's
8 met by the Reality Window Manager from Mann, which is driven by the eye
9 tracker and also by the user's head motions.

10 Now, let's take a look at slide 64. And as with the Osterhout
11 grounds, it's really only two limitations that are, that are disputed here. The
12 optical parameter measurements and this one on slide 64 relating to the eye
13 tracking mechanism being in communication with the lens. So, the details
14 of this are provided in the Petition, but I'll summarize briefly here. So, in
15 that Figure 10 on the right, component 1010 is an eye sensor that has a
16 camera and an infrared light source. That sensor illuminates the eye with a
17 light source via component 1020, which is a beamsplitter. The camera
18 captures the infrared light reflected back from the eye and uses that to track
19 the eye. Additionally, there are light rays from outside the eyeglasses that
20 pass through the lens and reflect in the user's eye. Those light rays can
21 travel around mirror 315. That's shown in Figure 3 from Mann. And in a
22 separate embodiment, Mann discloses you can replace that mirror 315 with a
23 beamsplitter, in which case those rays will be incident on the beamsplitter
24 and be transmitted directly to the user's eye. And the camera from eye
25 sensor 1010 will pick up those reflected light rays in the eye in addition to
26 detecting the infrared reflections. So, the eye sensor communicates with the

1 lens, at least by receiving those light rays from the lens.

2 Let's move to slide 67. So, for claim 12, and again, that has the
3 limitation that the lens includes the plurality of layers, Mann and Vaissie
4 meet this limitation too in at least a couple of ways. And the Patent Owner
5 didn't dispute this. First, Mann describes, you can embed the beamsplitter
6 that we saw in one or more of the lenses. Second, Mann talks about a
7 metallization within a lens of the eyeglasses. A metallization is a type of
8 layer, and you can use that to implement the beamsplitter. Third, Mann
9 describes the beamsplitters and the diverging lens can be embedded within
10 the lens, kind of like bifocals. And so, the same beamsplitter as we saw in
11 Figure 10, those could be a part of the lens itself.

12 Let's turn to slide 68. So, earlier I made the point that Osterhout
13 meets these claim limitations even if we take the Patent Owner's narrow
14 version of what these terms mean. And that's true of Mann and Vaissie too.
15 The Board can resolve this dispute without resolving what the plain meaning
16 is for the in communication with and measurements limitations. Now, the
17 Patent Owner's version of in communication with recall the eye tracker,
18 actively exchanges information with the lens. In Dr. LaViola's view, we see
19 this here in paragraph 49 of his supplemental Declaration. He believes that
20 active exchange of information is met by the eye tracker, receiving optical
21 information from the lens. Tracking a user's eye to control a cursor position
22 in a reality window manager. We saw that in Figure 1C from Mann. And
23 then presenting the window manager with the cursor in the electronic display
24 of the lens.

25 Let's go to the next slide, 69.

26 JUDGE HOSKINS: Mr. Blumenkopf?

1 MR. BLUMENKOPF: Yes, Your Honor.

2 JUDGE HOSKINS: Just a little reminder, I have about 10 minutes
3 left on your initial argument.

4 MR. BLUMENKOPF: Okay. I'm just wrapping up, Your Honor.
5 Thank you.

6 JUDGE HOSKINS: All right.

7 MR. BLUMENKOPF: So, slide 69 we see again from Dr. LaViola
8 that's active communication between the lens and the eye tracker. At least
9 because you're tracking the cursor and presenting the reality window
10 manager to the lens. Those are active processes. And then discuss there's an
11 exchange of information because the lens communicates optical information
12 to the eye tracker, and the eye tracker communicates cursor and display
13 information back to the lens.

14 And then slide 70 regarding measurements again. Even under the
15 Patent Owner's narrow version of measurements, it's still found on these
16 references, at least because Vaissie describes measuring a vector PH. And
17 again, it's the distance from the pupil center to the very center of those
18 corneal reflections. And measuring a vector, a vector has a length and has
19 an angle. So, if you're measuring a vector, you're determining at least a
20 measurement of a length. In this case, it's the measured distance of the
21 center of the pupil to that very center of the reflections.

22 With that, I want to pause. If there's any questions or
23 clarifications, I'm happy to answer or provide more information. Otherwise,
24 I'd like to reserve the remainder of my time for rebuttal.

25 JUDGE HOSKINS: Thank you, Mr. Blumenkopf. So, by my
26 count, you have 23 minutes left for your rebuttal. So, when you get back up,

1 that's how much time we'll give you. So, thank you for your presentation.

2 MR. BLUMENKOPF: Great. Thank you, Your Honor.

3 JUDGE HOSKINS: So, Mr. Fahmi, when you are ready to begin,
4 you may begin. Oh, how much time do you want for your reserve for
5 rebuttal, Mr. Fahmi?

6 MR. FAHMI: Thanks, Your Honor. I'd like to reserve 15 minutes,
7 please.

8 JUDGE HOSKINS: Fifteen minutes is good. Thank you very
9 much.

10 MR. FAHMI: May it please the Board. Magic Leap has made
11 essentially three arguments, one being that you really don't need to construe
12 the claims. Second, that Osterhout teaches the in communication with
13 requirement. And third, that the combination of Mann and Vaissie teaches
14 that same requirement. With respect to the first contention that the Board
15 doesn't need to enter construction, we think that's legally improper. The first
16 step in any patentability analysis requires a claim construction, inviting you
17 to proceed without construing claims, we think, invites error into this whole
18 process. And as to the two merits arguments, the Osterhout argument that
19 Magic Leap has taken a sort of let's see what will stick, an approach offered
20 several different theories. I'm going to go through those theories with you
21 today and explain why they don't need the in communication with
22 requirement. Likewise, Mann and Vaissie, Magic Leap does not
23 demonstrate that it meets the in communication with requirement primarily
24 because I think they get aspects of how that device operates wrong. So let
25 me put up the slides here. Hopefully, you're seeing those slides.

26 JUDGE HOSKINS: Yes, we do. Thank you.

1 MR. FAHMI: Thank you. So, I'm going to start with slide number
2 9. You've seen this. This is claim 1. Claim 12 has a similar requirement of
3 the dynamic eye tracking mechanism being in communication with the lens.
4 Now, Magic Leap says that in communication with has no specialized
5 meaning. I think we agree on that point. We're not asking the Board to
6 adopt any specialized meaning. We're asking the Board to construe the
7 claim in accordance with its plain and ordinary meaning. But again, as we
8 saw in the last case, it's not enough to simply say, oh, we'll use the plain and
9 ordinary meaning. It requires an explanation of what that meaning is. And
10 we've explained in our papers why that requires an exchange of information
11 between the dynamic eye tracking mechanism and the lens. Rather astutely,
12 in Magic Leap's presentation, it was noted that the claim doesn't say in
13 communication to or in communication from. It says in communication
14 with the lens. That implies a relationship, both participants. The claim is
15 not reciting a broadcast-like experience where only one of these elements
16 would be sending information.

17 I tried to think, as I was preparing for today's discussion, I tried to
18 think of an example of in communication with. And I don't know, I came up
19 with a couple. Maybe they're helpful. See what you think. If a teacher and
20 a student are in a classroom and only the teacher is talking and getting no
21 reaction, no, nothing from the student, is the teacher really in
22 communication with the student? Is the point the teacher is trying to make
23 being communicated? I think any reasonable person would say no, right?
24 Unless there's some acknowledgment from the student, some engagement in
25 that process, they're not really in communication with one another. There
26 might be a communication to the student, you know, where a certain country

1 is on a map, for example. But that's not the same as the two being in
2 communication with one another. The other example, you know, maybe is
3 relatable to some. I'm not a parent, but I have many friends who are, and
4 they tell me that they often feel like they're not in communication with their
5 kids, especially at dinner time when they call for them to come down to the
6 table and they get no response. A bit of a cliché maybe, but I think it
7 demonstrates the point that if it's just one element, one part of sending
8 information, there's no communication with these elements taking place.

9 Now, Magic Leap, in its presentation, it says, hey, we're being
10 different than what we told the District Court. We're not. The issue before
11 the District Court was the construction of lens and whether a lens has to be
12 active or can it be passive. And the focus there was, no, the lens doesn't
13 have to be an active lens. It could be a passive lens. But the District Court
14 was not being asked to construe the in communication with portion of that
15 phrase. So, the examples that Magic Leap presented about Figure 5C and its
16 description of the lens. Yeah, that's all pertinent to what kind of lens we're
17 talking about, but it doesn't pertain to the actual part of the claim that we've
18 asked the Board to consider. And that is the in communication with
19 requirement.

20 The other part that Magic Leap takes exception to is that our Patent
21 Owner Response indicated there had to be some action or activity, that the
22 exchange of information had to be active. And they say that, well, active
23 isn't part of the claim language. As we said in our Sur-Reply, even if you
24 agree with Magic Leap as to that part, you should still read the claim as
25 understanding that there is an exchange of information between the dynamic
26 eye tracking mechanism and the lens. That's what it means to communicate

1 with something. That there is an exchange of information taking place. So,
2 we think, as I say, that that's a necessary component of your analysis. We
3 don't think that the Board should not enter a construction. We think that by
4 failing to resolve that dispute, the Board would be committing error, and we
5 may find ourselves back here, even discussing the same point.

6 So, let's talk then, unless there's questions, let's talk then about the
7 Osterhout reference. And as I said, Magic Leap offers a number of theories
8 as to why Osterhout meets this in communication with requirement of the
9 claims. And I counted five such theories. One, they say that simply by
10 describing something displayed on the lens, somehow the eye tracking
11 mechanism is in communication with the lens. Two, they say that by
12 describing correlation of a viewing direction, to some point on a display, that
13 the eye tracking mechanism is in communication with the lens. Three, they
14 discuss optical communication, light passes through the lens, so somehow
15 the eye tracking mechanism is in communication with the lens. Four, the
16 eye tracking mechanism detects eye motion and eye gaze directed towards a
17 specific part of the lens, for example, a corner of the lens. So, the two are in
18 communication. And then five, Osterhout discusses this special contact lens,
19 and that somehow shows that the two are in communication with one
20 another. I'm going to go through each of those and see if we can explain
21 why none of those actually demonstrate this requirement to the claims.

22 So, as was noted Osterhout is a pretty thick reference, lots of
23 words, but there's only actually a very small part of Osterhout that we need
24 to focus on. The first part is right at the outset of the detailed description,
25 paragraph 164. Osterhout is describing this electro-optic eyepiece that
26 includes projection optics that project an image onto a lens. And so, the

1 wearer can see not only what's around them, but they can see what the
2 displayed image is. This gets to the first argument that Magic Leap has
3 proposed, and that is that by describing the display on the lens, that
4 somehow the eye-tracking mechanism is in communication with the lens.
5 At least this is what was said in Magic Leap's Reply. Now, I'll leave it to
6 you to decide whether this argument was actually raised separately in the
7 Petition or not. But I, you know, as part of your consideration, I'd invite you
8 to look at page 20 of the Petition. And what Magic Leap argued there was
9 because the display is projected on the lens, the dynamic eye-tracking
10 mechanism is in communication with the lens, at least by correlating the
11 viewing direction to a point on the lens. I'm not sure that's making a
12 separate argument about simply by displaying something on the lens. The
13 Osterhout is teaching the dynamic eye-tracking mechanism in
14 communication with the lens. But even if you decide that, yes, that's a
15 separate argument being made here, it's not demonstrating the
16 communication with requirement. And that's because the information is
17 only one way. It's in the form of a broadcast. The projection of information
18 onto the lens is in the form of a broadcast onto the lens. There's no
19 information coming back from the lens to the dynamic eye-tracking
20 mechanism. The lens is not involved in any information exchange with the
21 dynamic eye-tracking mechanism. And so, for that reason we think it
22 doesn't meet the requirement of the claim.

23 Looking at slide 11, we go on to the second argument that Magic
24 Leap has made. And then this was the point, I think, that was actually fairly
25 raised in the Petition, that by describing the correlation of a viewing
26 direction of the eye to a point on the display, that somehow the dynamic eye

1 tracking mechanism is in communication with the lens. Now, we can look at
2 paragraph 304 in Osterhout because this is the portion of Osterhout that's
3 cited for describing this idea of being able to correlate the viewing direction
4 of the eye to a point on the display. But we don't see any discussion here of
5 the lens providing any information to the dynamic eye-tracking mechanism.
6 And for that matter, we don't really see any discussion of a lens receiving
7 any information from the dynamic eye-tracking mechanism. There's no
8 communication taking place between these entities. What happens is the
9 dynamic eye-tracking mechanism is merely observing where the lens is, the
10 lens of the eye is looking, where that gaze might land on a lens. But there's
11 no communication, no exchange of information taking place as between the
12 eye-tracking mechanism and the lens itself. If the lens weren't there, you
13 could still correlate where the wearer is looking through the empty frame.

14 The third argument suffers a similar fate, right? This is the optical
15 communication argument. Magic Leap contends basically that because the
16 lens passes light rays through it, you know, from the surrounding area, and
17 those light rays eventually end up somehow reflected off the eye into the
18 dynamic eye tracking mechanism that the two are in optical communication
19 with one another and that meets the in communication with requirement of
20 the claim. But this doesn't really make sense. You know, think about this
21 for a second. If you look through a window, are you in optical
22 communication with the window? No, I don't think anybody would
23 reasonably say that there's any communication going on. The lens is simply
24 allowing the light to pass through it. It's not communicating any
25 information. It's not like the lens is somehow encoding information on the
26 light that's going to the dynamic eye-tracking mechanism. The lens might

1 be a conduit for the light that's passing through it, but there's no exchange of
2 information taking place there.

3 The fourth argument that Magic Leap raises is that the eye-tracking
4 mechanism can sense or determine which specific part of the lens is being
5 looked at. So, there's an indication here in paragraph 3 and 4 that the
6 dynamic eye-tracking mechanism could tell if somebody was looking at, for
7 example, the corner of the lens. Again, this is not involving an exchange of
8 information between the lens and the dynamic eye-tracking mechanism. All
9 that's happening here is that the camera is looking at where the user's eye is
10 gazing and determining that, oh, that's correlated with, you know, where I
11 know the corner of the lens to be. There's no information being passed from
12 the lens. And again, you know, if the lens weren't present in the frame, the
13 dynamic eye tracking mechanism can still tell that you were looking at the
14 corner of the frame.

15 Finally, the last argument that Magic Leap raises is the discussion
16 of a special contact lens in Osterhout. Now, we're not told very much about
17 this special contact lens. On slide 12, I have the excerpt from Paragraph 301
18 of Osterhout, where this is described. And the only thing we're told is that
19 motions of the eye could be tracked with components surrounding the eye or
20 mounted in contact lenses on the eye. For instance, a special contact lens
21 may be provided to the user with embedded optical components, such as a
22 mirror, magnetic field sensor, and the like, for measuring motion of the eye.
23 That's the sum and substance of the discussion. One thing that's important to
24 remember here is that this contact lens is not what Magic Leap is mapping to
25 the lens limitation of the claims, right? The lens limitation of the claims, the
26 thing that would have to be in communication with the dynamic eye-tracking

1 mechanism, would be the lenses of the glasses in that cover sheet that's
2 shown in slide 12. Can't read the exact number, but I think it's 104 is the
3 lens. That's the lens of the claim that Magic Leap argues is taught in
4 Osterhout. And there's no discussion here about the special contact lens,
5 which would be the dynamic eye-tracking mechanism being in
6 communication with that lens 104. So, none of these arguments that Magic
7 Leap raises, we think, meets the in communication with requirement of the
8 claim, primarily because there's no exchange of information between the
9 lens and the dynamic eye-tracking mechanism.

10 Let me move on then to the Mann and Vaissie combination.
11 Vaissie, by the way, is relied on in this combination only for the use of a
12 beamsplitter. It's in connection with the independent claims. It's mentioned
13 at page 54 of the Petition, and, you know, the argument is that, well, if for
14 some reason you need to refer to a secondary reference for the beamsplitter,
15 you can refer to Vaissie. Ultimately, I don't think it's, you know, particularly
16 meaningful because as you heard earlier, Mann itself talks about a
17 beamsplitter embodiment, but that's how the combination was proposed in
18 the Petition.

19 But what is Mann saying? So, I'm on slide 13, and here we see
20 Mann's Figure 10 and the description of Figure 10, and what's going on
21 here? This eye-tracker assembly that Mann describes uses an infrared
22 sensor, and that's 1010, I believe, and it illuminates the eye with light rays
23 1011. These are infrared light rays. They reflect off of the beamsplitter
24 1020, and then presumably reflect back off the eye and back to the eye-
25 tracker assembly, and that's how Mann keeps track of where the eye is
26 looking. And then the eye tracker reports the direction of that gaze, and

1 there's a processor. We see the eye tracker processor that converts it into an
2 XY coordinate that corresponds to something on a view screen, and that way
3 you can tell what the wearer is looking at. The important point being that it's
4 the infrared light. We see these rays, 1011, that are used in this
5 determination.

6 So, what's Magic Leap's allegation? Well, Magic Leap's allegation
7 is that this eye tracker system is somehow in communication with the lens.
8 Again, it's some type of optical communication because there's light passing
9 through the lens that also ultimately again ends up being reflected into the
10 eye tracker assembly 1010 in Figure 10. Well, there's two problems with
11 this. We already talked about one of them, right, and that is the optical
12 communication argument doesn't involve any exchange of information
13 between the lens and the eye tracker assembly. Again, it's like looking
14 through a window. You're not somehow in optical communication with the
15 window.

16 But more fundamentally is that that's not, you know, the light that
17 is coming through the lens of the glasses is not what the eye tracker
18 assembly is using for any determinations, right? Magic Leap, in their
19 Petition, refers to light rays, I think it's 311 and 321. Well, those light rays
20 are not specifically shown in Figure 10, but they are shown in Figure 3, and
21 now I'm on slide 14. What are light rays 311 and 321? So, this is Figure 3
22 shows us a portion of this whole assembly we were looking at. And in this
23 case, it's a mirror, I think 315, yeah, double-sided mirror 315, but you can
24 imagine maybe it's a beamsplitter instead of a mirror. There are certain light
25 rays that are coming through the lens between what's labeled as 310 and 320,
26 right? That cone of light rays, if you will, end up being reflected off the

1 mirror into the camera, which is 330. And there are other light rays, 311 and
2 321, that are not reflected but that somehow end up at the eye, right?

3 Because the mirror doesn't take up the whole field of view, you want the
4 user to still be able to kind of look at their surroundings somewhat. So,
5 there's some light rays that end up going directly into the eye. And Magic
6 Leap's contention is that, well, those light rays, too, somehow end up getting
7 reflected, and they would end up in the optical detector.

8 Well, Mann itself doesn't say that, right? Mann makes no
9 mentions of these light rays doing anything other than entering directly into
10 the eye without being deflected by the mirror. And certainly, there's no
11 indication that even if they were reflected that they're made use of by the
12 eye-tracking mechanism, right? The eye-tracking mechanism uses the
13 infrared light that it itself produces in order to track the direction that the
14 wearer is looking. There's no mention of any use of, you know, light from
15 the environment that the eye-tracking mechanism uses. So, there's no
16 information here that's being exchanged between the lens and the eye-
17 tracking mechanism. And as I say, if you want to replace the mirror that I
18 just showed with a beamsplitter from Vaissie, well, Mann actually shows us
19 what that looks like on slide 15. This is Figure 4 where the mirror has been
20 replaced by the beamsplitter, and, you know, you see in this embodiment,
21 you know, Mann doesn't even mention light rays 311 and 321, right? The
22 only thing concerned is the light rays between 310 and 320. So clearly,
23 they're, you know, light rays 311 and 321, which Magic Leap is relying on,
24 are just unimportant as far as Mann is concerned. I'm happy to take any
25 questions, Your Honors. If you don't have any, I'll conclude my initial
26 remarks, wait to hear what my colleague has to say, and then speak with you

1 again before we finish.

2 JUDGE HOSKINS: Thank you, Mr. Fahmi. So, we'll turn it then
3 over back to Mr. Blumenkopf. But so, by my count, you still have 30
4 minutes, Mr. Fahmi, left for your sur-rebuttal when it comes back to you.
5 So, hold on one second, please. Yeah. Okay, yes, please. So, Mr.
6 Blumenkopf, you may begin when you are ready, and you have 23 minutes.
7 Thank you.

8 MR. BLUMENKOPF: All right. Thank you, Your Honor. Is
9 everyone able to see my slide deck?

10 JUDGE HOSKINS: Yes. Thank you.

11 MR. BLUMENKOPF: So, I heard Mr. Fahmi make a number of
12 points, and I'm happy to address those. One thing I heard Mr. Fahmi say is
13 that he believed that it would be legal error for the Board to not issue a claim
14 construction in this situation. Respectfully, that's just not true. The Board is
15 not obligated and has no duty to issue a claim construction to the extent it's
16 not necessary to resolve the dispute. As we've explained, even if we accept
17 Patent Owner's narrow, new definition for in communication with and
18 measurements, the claims are still met by not only Osterhout, but by the
19 Mann Vaissie combination. So, the Board does not need to reach a claim
20 construction issue to resolve this case.

21 I heard Mr. Fahmi give -- well, he disputes Dr. LaViola's
22 understanding of in communication with. And one example that Mr. Fahmi
23 gave, he described a teacher and a student, or the teacher is talking, but the
24 student is not really listening. I think that that's how I understood Mr.
25 Fahmi's example. That's very similar to an example that Dr. LaViola
26 provided, where you have a speaker, and the speaker is giving a speech to an

1 audience, and the audience doesn't necessarily respond, but in Dr. LaViola's
2 view, the speaker is still in communication with that audience. So, we have
3 Dr. LaViola given the same situation, we have Dr. LaViola believes that is
4 in communication with, and Mr. Fahmi, who believes it isn't. And due
5 respect to Mr. Fahmi, as far as I can tell, this is just his own personal
6 opinion. I don't see any support from an expert declaration, any kind of
7 record evidence, any kind of testimony. And if Mr. Fahmi disagreed with
8 Dr. LaViola, well, they had a chance to examine him in deposition, and they
9 failed to do so.

10 I heard Mr. Fahmi give another example. Mom and dad, believe it
11 or not, in communication with their kids. Well, it's -- the question isn't what
12 mom and dad think about the claim term in communication with. It's what
13 does the person of ordinary skill in the art think? And the only person
14 speaking to what the person of ordinary skill in the art would understand that
15 term to mean, again, it's Dr. LaViola. And Mr. Fahmi is entitled to his
16 opinion, but, frankly, unsupported by record evidence, it's simply not
17 relevant here.

18 Mr. Fahmi also mentioned -- well, earlier we brought up the
19 example of the District Court and the claim construction proceedings. We
20 explained how Percept wants the District Court -- they showed that Figure
21 5C, and they said this is how we understand that claim. I understood Mr.
22 Fahmi to say, well, Figure 5C, we were talking about a lens, totally different
23 claim limitation than in communication with. But as I mentioned earlier, we
24 get to look at the whole claim language. And it says, dynamic eye-tracking
25 mechanism in communication with the lens. And then Figure 5C, well, that
26 tells you how you communicate with the lens. And so, to say it's not

1 relevant to the meaning of in communication with, well, that's at odds with
2 what they said in District Court. And that's at odds with the understanding
3 here in this proceeding.

4 Now, I heard Mr. Fahmi raise a number of issues about the
5 Osterhout reference. Mr. Fahmi doesn't believe the lens in Osterhout is in
6 communication with the eye tracker. And I want to take an opportunity to
7 explain that in more detail. Not only is the lens in communication with the
8 eye tracker, but even under the Patent Owner's own narrow definition,
9 there's actually an exchange of information.

10 So, let's move to slide 52. So, we address this point in our Petition
11 at page 20. And I heard Mr. Fahmi say that this wasn't part of our Petition,
12 he even pointed to the same passage. You can see right here, we said,
13 Osterhout's eye tracker correlates the viewing direction of the eye to a point
14 on the lens. And again, I made the point earlier, the lens is also a display.
15 So, if you're communicating with a display, you're communicating with the
16 lens. I think it's a point Mr. Fahmi overlooked or maybe he wasn't part of
17 his analysis here. You can see in paragraph 164, which we cited to in page
18 20 of the Petition, this explains that. It says the image display is projected
19 onto the lens. The eyepiece can include projection optics suitable to project
20 an image onto a see through or translucent lens. Now, we explain in the
21 Petition, because the display is projected on the lens, the eye tracker is in
22 communication with the lens, at least by correlating that viewing direction to
23 a point on the lens. So, that's the communication from the lens to the eye
24 tracker. The lens presents the display, and the eye tracker uses that display
25 to determine the viewing direction. Again, keeping in mind, the display is
26 on the lens itself.

1 I heard Mr. Fahmi argue that the lens is irrelevant. It doesn't
2 communicate any information to the eye tracker. And I think I heard him
3 say he believes this would work the same even if the lens were not present or
4 were not providing this information. Well, let's direct everyone to paragraph
5 304. This is in the upper right of it, slide 52. And there's a really important
6 point in paragraph 304 I want to emphasize, and that's the example at the
7 bottom. And this is just after the highlighted portion of this slide. It gives
8 an example of how the eye sensor is taking the viewing direction and using
9 it for something with the device that it has to have. And it says the viewer
10 may be able to look at an object on the display and select that object through
11 the notion of a gesture, like a finger device. And the reason this is important
12 is this is not just figuring out a coordinate on the screen, an XY coordinate.
13 It's actually what is the user looking at, what object is the user looking at.
14 Identifying if this user looking at this particular item or something in the
15 surrounding environment or something on that display and then performing
16 an operation on it here, selecting that object. And that's something that you
17 can't do without that lens display. Right, because the lens is projecting that
18 display and the eye tracker is receiving it, making a determination about not
19 just what coordinate the eye line of sight is intersecting, but what actual
20 object that corresponds to.

21 So, now where's the exchange of information from the eye tracker
22 back to the lens? Well, let's turn to slide 54. So, we pointed out in the
23 Petition, and this is pages 23 and 24 from the Petition. As we pointed out,
24 the eyepiece on Osterhout is a processor with an operating system. If you
25 take a look at paragraph 45 from the '113 -- or from Osterhout rather, in the
26 upper right, you see the eyepiece may further include a bi-directional optical

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

1 assembly, and we see that processor is for handling the content for display to
2 the user and sensor information from the sensor, like the eye tracker. And if
3 you look at, again, paragraph 164 below, we see the processor can control
4 the LED light source and the optical display and that's the display presented
5 on the lens. So, you have the eye tracker providing information to determine
6 the user's line of sight that gets provided to the eyepiece, which then handles
7 the content for display to the user. We say that in our Petition at, again, at
8 pages 23 and 24. That's how information gets back from the eye tracker to
9 the eyepiece.

10 Now, let's take a look at slide 50. Slide 50 is an excerpt from the
11 Board's Institution Decision. In that Decision, the Board endorsed that
12 understanding of communication. The Board endorsed that the dynamic
13 eye-tracking mechanism is in communication with a lens by way of the
14 eyepiece itself, e.g., the processor or controller of the eyepiece, which sends
15 communication, like the display projection, to the lens and receives
16 communications, that is, the viewing direction from the dynamic eye-
17 tracking device and uses that to interpret commands.

18 And let's turn back to slide 28. I just want to remind the Board of
19 what the Patent Owner said here. So, they said, to begin communication
20 with something requires some participation from each entity. And only if
21 there is some form of reply is this limitation met. Well, that's a bit broader
22 than sending information from the eye tracker to the lens. It's just some
23 participation, some form of reply. And here in Osterhout, you have the eye
24 tracker receiving that information from the display generating a line of sight
25 and communicating that to the eyepiece's processor, which provides
26 graphical information to the lens. Now, that's at least some participation

1 from the eye tracker, some form of reply, even if the eye tracker is not
2 providing information directly to the lens.

3 So, I heard Dr. Fahmi challenge whether optical communication
4 can be in communication with limitation. Optical communication being the
5 transmission of the communication of light rays or light information. I heard
6 him ask somewhat facetiously, well, if you have a window and the window
7 is providing light to you, are you in optical communication with a window?
8 And well, I mean a window, it's the same as any other transmissive surface
9 that receives light and then transmits that light somewhere else. Whether it's
10 a window or whether it's a prism or whether it's a certain type of display,
11 whether it's eyeglasses, there's light being received and there's light being
12 presented to a viewer. And to that extent, at least, well, that is optical
13 communication. There's light information being received by virtue of that
14 surface.

15 I heard Mr. Fahmi make a point about the special contact lens not
16 being the lens. I guess he didn't see it in that particular section of the -- it
17 may not have been listed under the, or he may not have noticed it under the
18 element lens in the Petition, but if you look at pages 19 and 20 from the
19 Petition, this is paper 2. And this is describing this very limitation in
20 communication with the lens. And at page 20, we specifically described the
21 special contact lens from Osterhout. And we explained how that special
22 contact lens meets the in communication with the lens limitation. And
23 importantly, it's the lens. It's referring to that a lens that's recited earlier in
24 the claim. It's the same lens. Whether it's repeated separately under a lens,
25 well, we still raise that argument here in our Petition. And the special
26 contact lens is another example of how you would have an example of a

1 lens, in this case, with layers in communication with the eye tracker.

2 So, Mr. Fahmi also had some comments on the Mann reference.

3 The Mann in combination with Vaissie. And let's turn to slide, I think it's
4 slide 64 -- 65 actually. So, in 65, here's an image from Figure 10 from
5 Mann, which we discussed earlier. And I explained earlier how light gets
6 from the lens to the eye, reflected in the eye through the beamsplitter, back
7 to that eye sensor 1010. And I didn't hear Mr. Fahmi dispute, that's how this
8 would operate, that you would have light rays from outside the lens,
9 traveling through the lens to the eye and being reflected into the eye sensor.

10 What I heard Mr. Fahmi dispute was, well, that can't be in
11 communication with the lens because the eye tracker is not actually using
12 that light to make any determinations or using it for eye tracking. Well, I
13 don't see that anywhere on claim 1. I don't see any limitation about which
14 light is being used for eye tracking or what the communication has to be
15 used for. That's an insertion of Mr. Fahmi. And as the Board recognized in
16 the Institution Decision, well, the eye sensor is receiving the light from the
17 lens. It's also receiving infrared light. Well, that's entirely consistent. The
18 fact that it's using the infrared light to make a determination about eye
19 tracking, that's entirely consistent with it being in communication with the
20 lens with respect to the light provided through the lens to the eye sensor.

21 I believe that's all the points I wanted to raise in response. Unless
22 there's any questions from the Board, Petitioner rests.

23 JUDGE HOSKINS: Thank you, Mr. Blumenkopf, very much. So,
24 Mr. Fahmi, you may begin your rebuttal when you are ready, and you have
25 30 minutes. Thank you.

26 MR. FAHMI: Thank you, Your Honor. With respect to whether

1 or not the Board has to reach claim construction, we refer you again to the
2 *O2 Micro* case. In *O2 Micro*, there was a similar kind of dispute that was
3 put in place. Maybe it's helpful just to review some of the facts of that case.
4 So, the patent at issue involved a DC to AC converter, and there was some
5 feedback control mechanism that was used to affect the on-time of this
6 converter, and you compare the feedback signal to a reference to make this
7 determination about how long to leave it on. And the limitation at issue in
8 the claim was you only apply the feedback control only if a certain condition
9 was met. It was some kind of threshold condition. But the operative
10 language was only if. And there was an argument about whether that
11 language permitted any exceptions. Presumably, if there were exceptions
12 permitted, the claim read on the accused device and if it didn't, the claim did
13 not read on the accused device.

14 In the District Court, the Court said, well, this needs no
15 construction because it's a well understood definition. Didn't say what the
16 definition was. And the Federal Circuit found that to be error, right? By
17 simply saying that you can use a plain and ordinary meaning without saying
18 what the meaning was, that is error because it didn't resolve the parties'
19 dispute about the term. And I think this is a similar situation where there is
20 an actual dispute about what in communication with means and simply
21 saying plain and ordinary meaning doesn't resolve the dispute. We need to
22 understand what the term means so that we can understand your resolution at
23 the end of the day. So, I would urge you not to simply adopt the Petitioner's
24 position and not enter an explicit construction. I think in order to preserve
25 your Decision, you need to enter that meaning of the claim.

26 Petitioner's counsel took exception with some of my analogies,

1 well maybe the parent-child analogy, or student-teacher analogy. And yeah,
2 these are just my thoughts. As I said, I was trying to think about, you know,
3 what might be helpful to you as you're considering this matter. The -- what's
4 informative here, I think, is the Federal Circuit's *Centricut* decision that was
5 cited in our papers. In *Centricut*, and this is 390 F.3d, 1361, the Federal
6 Circuit says, in many cases, expert testimony will not be necessary because
7 the technology will be easily understandable without the need for expert
8 explanatory testimony. I think this is one of those situations. We have
9 claims that everybody agrees should be read under their ordinary meaning.
10 What is that ordinary meaning? That's all we're talking about. I don't think
11 you need an expert to tell you. I think this is something well within the
12 understanding of the Board. So, if my analogies were helpful, great. And if
13 you find that they weren't especially helpful, I'm sorry I wasn't able to think
14 of something that was a little better.

15 With regard to Osterhout, Petitioner's counsel seems to say that
16 because things are displayed on the lens, there is necessarily communication
17 between the eye-tracking mechanism and the lens. And as we've explained
18 in our papers, this is just not the case simply because there's a projection
19 onto the lens. There's no indication that there's any information being
20 exchanged between the eye-tracking mechanism and the lens. The idea that
21 simply projecting onto the screen, if you will, somehow makes the screen in
22 communication with whatever's doing the projecting doesn't really find a
23 basis in the words themselves. The screen might receive what's being
24 projected, but we already discussed that idea of, you know, to or from versus
25 with, and the claims require with. So, the arguments about simply because
26 the lens is acting as a display of what's being projected onto it somehow

1 makes it in communication with the eye-tracking mechanism really doesn't
2 hold. Likewise, I think counsel misunderstood what I was saying about this
3 argument in the first place. The argument or the point that I was trying to
4 make with you initially was, I don't read the Petition as having that argument
5 separated out in the first instance. Right. The argument they make in the
6 Petition is that because somehow there's correlation of the viewing direction
7 to a point in the lens, that shows the two are in communication with one
8 another. In the reply, that morphed into two arguments. Yes, the correlation
9 argument, but a separate argument that mere display is enough. So, my
10 point was I didn't see that mere display argument actually being raised in the
11 Petition. Now, if you think it's there and it's not a new argument, fine, we've
12 addressed it. But if it is a new argument, we all know that that's not
13 permissible in a Reply. And so, it's not something that should be considered.

14 JUDGE HOSKINS: This is Judge Hoskins. Let me push back a
15 little bit on that. Isn't a Petitioner permitted to respond to arguments made in
16 a Patent Owner response?

17 MR. FAHMI: Yes, certainly they can respond, Your Honor. But
18 we responded to the argument that was initially raised in the Petition
19 concerning the correlation of a viewing direction, not necessarily an
20 argument that mere display is enough.

21 JUDGE HOSKINS: Thank you.

22 MR. FAHMI: And with respect to that correlation argument, it's
23 the camera. And, you know, we can go back and look at paragraph 304 of
24 Osterhout. Let me put it up on the screen so that we're looking at it. Here's
25 paragraph 304. And, you know, the camera, which is what's doing the
26 correlation, the camera looks back at the wearer's eyes, right? The camera is

1 not -- excuse me -- the camera is not looking at the display, right? The
2 camera views back to the wearer's eyes, where eye movement actions may
3 be interpreted. And the camera then correlates where the wearer is looking,
4 because it already has the information about how the display is oriented on
5 the lens, right? It doesn't need any information from the lens. There is no
6 information exchange with the lens. So that is, you know, why that
7 argument fails.

8 The other arguments I think I've already addressed. If there's any
9 questions, I'm happy to take them. Otherwise, we'll submit the matter for
10 your consideration.

11 JUDGE HOSKINS: Thank you, Mr. Fahmi. I think hearing no
12 questions from my colleagues, the case is submitted. Thank you very much
13 to both counsel, again, for clearly articulated arguments today. Both cases
14 are now submitted.

15 (Whereupon the above-entitled matter went off the record at 2:08
16 p.m.)

IPR2023-00494 (Patent 9,010,929 B2)

IPR2023-00495 (Patent 8,696,113 B2)

PETITIONER:

Mehran Arjomand

Alex S. Yap

Bryan Blumenkopf

MORRISON & FOERSTER LLP

marjomand@mofo.com

ayap@mofo.com

bblumen@mofo.com

PATENT OWNER:

Steven A. Swernofsky

LOS ALTOS LAW

info@losaltoslaw.com

Tarek N. Fahmi

Jonathan Tsao

ASCENDA LAW GROUP, PC

tarek.fahmi@ascendalaw.com

jonathan.tsao@ascendalaw.com