

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD

4
5 LUXOTTICA OF AMERICA, INC.,

6 Petitioner,

7 v.

8 E-VISION OPTICS, LLC,

9 Patent Owner.

10
11 IPR2024-01069

12 U.S. Patent No. 10,613,355

13
14
15 REMOTELY CONDUCTED VIDEOTAPED DEPOSITION OF

16 JAMES OLIVER PHD

17 WEDNESDAY, JUNE 11, 2025

18 1:00 P.M. CDT

19
20 JOB NO.: 587934

21 PAGES: 1 - 60

22 REPORTED BY: KARISA EKENSEAIR, CCR RPR RMR RDR

1 DEPOSITION OF JAMES OLIVER PHD, CONDUCTED VIA
2 ZOOM VIDEOCONFERENCE.

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10 Pursuant to notice, before Karisa J.
11 Ekenseair, Certified Shorthand Reporter in and for
12 the States of Arkansas, Oklahoma, Missouri,
13 Illinois, Tennessee, Georgia, New Mexico,
14 Washington, and California; National Registered
15 Professional Reporter; National Registered Merit
16 Reporter; National Registered Diplomat Reporter;
17 Notary Public.

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17 ALSO PRESENT:

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T A B L E O F C O N T E N T S

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WITNESS: JAMES OLIVER, PHD

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EXHIBITS

(RETAINED BY COUNSEL)

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EXHIBIT 1001	UNITED STATES PATENT NUMBER 10,613,355.....	20
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EXHIBIT 2004	DECLARATION OF JAMES H. OLIVER, PHD IN SUPPORT OF PATENT OWNER'S RESPONSE TO PETITION.....	9
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1 P R O C E E D I N G S

2 THE REPORTER: We are on the record.

3 Will counsel please stipulate that in lieu
4 of formally swearing in the witness, the reporter
5 will instead ask the witness to acknowledge that
6 their testimony will be true under penalties of
7 perjury, that counsel will not object to the
8 admissibility of the transcript based on
9 proceeding in this way and that the witness has
10 verified that they are, in fact, Dr. James Oliver,
11 beginning with the noticing attorney, please?

12 MR. PETERSON: I so stipulate.

13 MS. STONE: So stipulated.

14 JAMES OLIVER, PHD
15 of lawful age, being first duly sworn, deposes and
16 says in reply to the questions propounded as
17 follows:

18 EXAMINATION

19 BY MR. PETERSON:

20 Q Good afternoon, Dr. Oliver.

21 A Hello.

22 Q How was your lunch?

1 A Just quick, but delicious.

2 Q Good. All right. I'm going to go through
3 some of the formalities we went through last time
4 just to set the stage.

5 A Okay.

6 Q So this will sound familiar.

7 We are here now to discuss your testimony
8 in IPR2024-01069. Is that your understanding?

9 A That's my understanding.

10 Q And to make things easier for myself,
11 would it be all right if I refer to that IPR,
12 those numbers as "this IPR" or refer to this
13 proceeding as the shorthand "IPR"?

14 A That's fine.

15 Q The patent at issue in this case is U.S.
16 Patent No. 10,613,355.

17 A Yes.

18 Q I might use the shorthand '355 to refer to
19 this patent. Would that be okay?

20 A That's fine. Thank you.

21 Q I'm here today representing the Petitioner
22 Luxoticca America, Inc.

1 Do you understand that?

2 A Yes.

3 Q Even though you're testifying virtually
4 today, do you understand that the testimony you
5 give under oath here is subject to the same
6 penalty of perjury as though you were testifying
7 in a courtroom?

8 A Yes.

9 Q Is anyone else in the room with you now?

10 A No.

11 Q And what materials do you have with you
12 now?

13 A I have my copy of my declaration and
14 that's marked with some tabs, but it's a clean
15 copy.

16 Q Do you have any other windows open on your
17 computer other than the Zoom window?

18 A Just the Zoom window.

19 Q As we go through the questions today, I'm
20 going to assume that you -- let me try again.

21 As we go through the questions today, I'm
22 going to assume that you understood the question

1 unless you tell me otherwise. Is that okay?

2 A Yes.

3 Q Is there anything that would prevent you
4 from thinking clearly and testifying truthfully
5 today?

6 A No.

7 Q And similar with our approach for the last
8 deposition, I'll try to go for about an hour and
9 then we can take breaks, but if you'd like to take
10 a break earlier please let me know and we'd be
11 happy to accommodate that.

12 A Okay.

13 Q And as a ground rule piece again, have you
14 been informed that you are not to discuss the
15 content of your testimony with counsel during
16 breaks in this deposition?

17 A Yeah.

18 Q For this particular IPR proceeding, how
19 much time would you say you spent preparing for
20 today's deposition?

21 A In total, probably three hours.

22 Q And did you spend some of that time

1 preparing with someone else?

2 A With counsel, about 90 minutes.

3 Q Anyone other than counsel?

4 A No.

5 Q And in this proceeding, you submitted a
6 declaration which is identified as Exhibit 2004.

7 MR. PETERSON: Could we mark that for
8 identification now?

9 REMOTE TECHNICIAN: Sure. Please stand
10 by.

11 (Exhibit 2004 marked for identification.)

12 Q And as we go along today, would it be all
13 right if I use the shorthand "your declaration" to
14 refer to this exhibit as your declaration?

15 A Yes. That's fine.

16 Q Did you review your declaration again in
17 preparation for today's deposition?

18 A Yes, I did.

19 Q Did you review any of the prior art
20 references in preparation for today's deposition?

21 A Yes, I did.

22 Q Is there anything you came across during

1 your review of your declaration that you no longer
2 agree with or you've changed your mind on?

3 A No. But I did find a typo. See if I can
4 find it.

5 In paragraph 65, there's a typo.

6 Q Can we turn to paragraph 65, please?

7 A Top of 65 it says, "Petitioner's rationale
8 for motivation to combine further demonstrates
9 that Petitioner's proposed," then it says
10 "medication and combination of references do not
11 close." And I believe it should be "modification
12 and combination of references do not disclose."

13 Q Are there any other items you ran across
14 during your review that you no longer agree with
15 or --

16 A No, I don't think so. I think that's it.

17 Q On the '355 patent, looks like there's,
18 should have counted in advance, 11 inventors?

19 A Yeah.

20 Q Do you happen to know any of the 11
21 inventors listed on the '355 patent?

22 A No, I do not.

1 Q So let's turn to your declaration then.

2 We have it up.

3 Can we go to the very last page of the
4 declaration, please?

5 And I see there's a signature on this last
6 page. Is that your signature?

7 A Yes, it is.

8 Q And did you execute this page on
9 March 31st, 2025?

10 A Yes, I did.

11 Q Can we please next turn to paragraph 29?
12 This very first sentence, you talk about at the
13 time of the invention of the '355 patent.

14 What you consider to be the inventions
15 disclosed in the '355 patent?

16 A Moisture-resistant electronic eyewear with
17 multiple purposes, multiple embodiments. So
18 that's the primary focus.

19 Q Let's next turn to paragraph 54, please.

20 Paragraph 54 looks to be recitations of
21 the limitations of claim 1; is that correct?

22 A That's correct.

1 Q And you use terms in the left column,
2 1[pre], 1[a], 1[b].

3 Would it be all right to refer to those as
4 claim elements?

5 A That's okay with me.

6 Q So under claim element 1[e], you reference
7 a conformal layer?

8 A The inventors do, yes.

9 Q What are examples of a conformal layer
10 that are within the scope of claim element 1[e]?

11 A You want the definition of what a
12 conformal layer is?

13 MR. PETERSON: I think you may have been
14 on mute to --

15 MS. STONE: Thank you, Jacob.

16 Objection, form. I apologize for that.

17 Q Let me restate the question and then we
18 can get the record --

19 What are examples of a conformal layer
20 that are within the scope of claim element 1[e]?

21 MS. STONE: Objection, form.

22 A The elements of a conformal layer, it's a

1 process by which an electronic assembly is coated
2 with a material. There are various types of
3 materials that can be applied to an electronic
4 assembly.

5 Q Can you give me examples of the types of
6 materials that can be used?

7 A Yeah. There's epoxy, there are
8 other -- other types of materials that can be
9 applied, usually either by dipping or by spraying
10 the electronic assembly. And then there's some
11 curing or drying process that goes on with that.

12 Q Would acrylic be another example of a
13 material that could be used in a conformal layer?

14 A I don't know. I'd have to look it up, but
15 probably.

16 Q Would a conformal coating be within the
17 scope of a conformal layer in claim element 1[e]?

18 MS. STONE: Objection, form.

19 A Coating equivalent to layer, that's the
20 question?

21 Q We could say encompassed by. So does
22 conformal layer encompass a conformal coating?

1 MS. STONE: Objection, form.

2 A The claim language specifies layer. I
3 imagine someone could argue that a coating is the
4 same thing. Again, it's semantics.

5 Q Okay. So let me rephrase that, restate
6 the question one time now that we've discussed
7 some of the components.

8 Would a conformal coating be within the
9 scope of a conformal layer in claim element 1[e]?

10 MS. STONE: Objection, form.

11 A Again, semantics, a layer and a coating
12 sound equivalent to me, but the claim language is
13 "layer."

14 Q So you're not aware of any differences
15 between a conformal layer and a conformal coating?

16 MS. STONE: Objection, form.

17 A It's -- again, it's not a question.
18 Semantically, if I looked them up in the
19 dictionary they would be equivalent. In this
20 application, someone may argue that they're
21 different.

22 Q Would an encasing layer be within the

1 scope of a conformal layer in claim element 1[e]?

2 MS. STONE: Objection, form.

3 A It's, again, a dictionary definition.

4 "Encasing" implies to me complete covering of the
5 entire thing where "layer" is usually a -- not
6 completely enclosing.

7 Q Would an encasing layer be within the
8 scope of a conformal layer in claim element 1[e]?

9 MS. STONE: Objection, form.

10 A It's just an adjective to "layer." Again,
11 you know, we can look up the dictionary meaning,
12 but you know a POSITA would -- I can't answer your
13 question. It doesn't make any sense.

14 Q Would a POSITA -- would a POSITA -- let's
15 actually introduce that term here too.

16 A Okay.

17 Q You're familiar with the concept of a
18 person of ordinary skill in the art, correct?

19 A Yes.

20 Q And could we refer to that person by the
21 shorthand "POSITA" --

22 A Yes.

1 Q -- in this proceeding?

2 A Yes. That's fine.

3 Q Thanks. Would a POSITA have understood
4 there to be a difference between an encasing layer
5 and a conformal layer in the context of the
6 conformal layer claimed in claim element 1[e]?

7 MS. STONE: Objection, form.

8 A Encasing implies to me that it's
9 completely covered, complete exterior of whatever
10 you're covering. Conformal means it conforms to
11 the shape, so I would not say those are
12 equivalent.

13 Q Would you say encasing layer is broader
14 than conformal layer?

15 MS. STONE: Objection, form.

16 A Again, it's a semantic sliver of a
17 distinction and I don't think a POSITA would
18 necessarily use alternate -- conformal layer is
19 common language in electronics so that would be
20 very clear to a POSITA.

21 Q Is the term "encasing layer" less clear to
22 a POSITA than "conformal layer"?

1 A It's -- it may be confused if you're
2 talking about a conformal layer. Engineers and
3 POSITAs would know what a conformal layer is.
4 They may be confused by "encasing layer" because
5 it's --

6 Q Okay. Does the scope of the term
7 "encasing layer" cover subject matter that's not
8 covered by the term "conformal layer"?

9 MS. STONE: Objection, form.

10 A I don't understand that one. You're going
11 to have to repeat it.

12 Q Yeah. I'll -- I'll try to give a
13 high-level description, then I'll ask the question
14 again.

15 A Okay.

16 Q Imaging a Venn diagram of the scope of the
17 term "encasing term" and then the scope of the
18 term "conformal layer."

19 Is there a portion of the scope of
20 "encasing layer" that would be outside of the
21 definition of conformal layer? Or maybe stated
22 differently, would the entire definition of

1 encasing layer be subsumed by the definition of
2 conformal layer?

3 I can re-ask the question if that was at
4 all helpful background.

5 A No. That's okay.

6 MS. STONE: Objection, form. I think it
7 was a question.

8 A Yeah. I would say "encasing layer" is not
9 a term of art. It's a made-up term. Conformal
10 layer is well-understood by practitioners in this
11 art. So I don't know how to answer that question.
12 It's vague.

13 Q Would an encapsulating layer be within the
14 scope of a conformal layer in claim element 1[e]?

15 A Same answer.

16 Q So if I told you that a conformal layer
17 was an encapsulating layer, what additional
18 information would that provide you beyond knowing
19 that something -- let me rephrase.

20 If a conformal layer were stated to be an
21 encapsulating layer, what additional information
22 about the conformal layer would that relationship

1 provide?

2 MS. STONE: Objection, form.

3 A The word you're asking is "encapsulating"?

4 Can you repeat it one more time?

5 Q Yeah. If a conformal layer were stated to
6 be an encapsulating layer, what additional
7 information about the conformal layer would that
8 statement provide to a POSITA?

9 A Again, "conformal layer" is a term of art.
10 "Encapsulating layer" is some other -- it's not
11 related -- it's -- it's just another semantic word
12 that -- a POSITA would know what a conformal layer
13 is. They would ask for clarification on what you
14 mean by an encapsulating layer. What's it made
15 of? What -- you know, what's its purpose.
16 "Encapsulating" doesn't -- doesn't have a clear
17 definition.

18 Q In the context of the '355 patent, would a
19 POSITA have understood what "encapsulating layer"
20 means?

21 A Not without further clarification.

22 Q The '355 patent does not provide

1 sufficient clarification to a POSITA on what the
2 term "encapsulating layer" means?

3 A I'd have to look for that in the patent,
4 but I can't pull it off the top of my head. It
5 may provide guidance on it or clarification.

6 Q Would it be helpful if we gave you a
7 chance to search and look at the patent?

8 A If you would, I've got a copy of it here
9 but am I allowed to open it up and search?

10 Q Yes. Why don't we do that. And maybe
11 while we do that, let's mark the patent as
12 Exhibit -- mark the patent as Exhibit 1001 for
13 identification.

14 A Okay.

15 (Exhibit 1001 marked for identification.)

16 A Do you want me to bring it up or you --

17 Q Yeah. If it's been marked, then we can
18 bring it up on the screen as well?

19 A Okay. Let me -- let me look, '355. It
20 may not search because it might be a -- let me
21 just see.

22 Q I could also point you to something, too,

1 to just see, give us a --

2 A I found "encapsulating." Okay.

3 REMOTE TECHNICIAN: What's the patent
4 number, Counsel.

5 MR. PETERSON: Yeah. Let's -- we might
6 have -- it's the '355 patent, Exhibit 1001.

7 REMOTE TECHNICIAN: Okay. Bringing it
8 right up.

9 MR. PETERSON: Perfect. Thank you.

10 THE WITNESS: I've got it, column 26 line
11 33.

12 MR. PETERSON: So could we turn to that
13 particular column that he just -- that Dr. Oliver
14 just referenced?

15 REMOTE TECHNICIAN: Can you repeat the
16 column number? I'm sorry.

17 THE WITNESS: It's column 26 line 33.
18 Also line 48 and 51.

19 BY MR. PETERSON:

20 Q Let's start with the first example. So
21 it's -- which column are we at here again?

22 A 26.

1 Q Thank you. So it's column 26 lines 31 to
2 36 of the patent?

3 A Yeah.

4 Q It refers to a conformal layer, e.g., an
5 encasing or encapsulating layer?

6 A Right.

7 Q In light of this statement, would a POSITA
8 understand what is meant by an encasing layer?

9 A Yeah.

10 Q And what is that meaning?

11 A It's covering, enclosing.

12 Q I know I just had us bounce around a bit,
13 but let's go back to your declaration, if that's
14 all right.

15 Could we return to paragraph 21 of your
16 Exhibit 2004?

17 A 22.

18 Q Yes, 21 there. Okay. So this paragraph
19 discusses before the claimed invention, "It had
20 been found that in some environments, particularly
21 those having high humidity or causing the wearer
22 to sweat, conventional electronic eyewear and

1 frames might suffer from shorting of electronic
2 connections and thus impede or cause the
3 electronic application used in the eyewear to
4 fail."

5 A Yeah.

6 Q This statement discusses the time before
7 the claimed invention.

8 How did a POSITA address the issue of high
9 humidity -- try again.

10 How did a POSITA address the issue of high
11 humidity or sweat in electronic eyewear prior to
12 the time of the invention of the '355 patent?

13 A Well, a POSITA probably had not considered
14 that as an issue.

15 Q So before the '355 patent, a POSITA had
16 not considered the issue of high humidity or sweat
17 in the context of electronic eyewear?

18 A Well, it's completely hypothetical.
19 Someone may have. I can't -- you know, it's
20 possible people looked at it and thought about
21 ways to address it.

22 Q Can we turn back to Exhibit 1001, please,

1 column 2 on page 34? Yeah.

2 A Yeah.

3 Q Would you agree that -- get some -- so
4 column 2 lines 16 to 35, this is the background
5 section of the '355 patent, correct?

6 A Right.

7 Q Would you agree that this background
8 section describes prior art admissions by the
9 patent applicant?

10 A It describes an unmet need.

11 Q And would you agree that this description
12 of the unmet need is a prior art admission by the
13 patent applicant?

14 MS. STONE: Objection, form.

15 A Can you repeat that? It's a strange
16 question.

17 Q Let's read the specific statements --

18 A Okay.

19 Q -- in this background, and then we can
20 talk in the context of that.

21 A Okay.

22 Q Particularly the second paragraph, it

1 says, "Unfortunately, it has been found that in
2 some environments, particularly those having high
3 humidity or causing the wearer to sweat,
4 commercially available electronic eyewear and
5 frames may suffer from shorting of electronic
6 connections and thus impede or cause the
7 electronic application used with the eyewear to
8 fail."

9 A Correct.

10 Q Would a POSITA have understood this
11 paragraph of the '355 patent, column 2 lines 23 to
12 28, to refer to admitted prior art?

13 MS. STONE: Objection, form.

14 A Prior art what? Is that the end of the
15 question?

16 Q I'll rephrase.

17 A Okay.

18 Q Would a POSITA have understood this
19 paragraph of the '355 patent, column 2 lines 23 to
20 28, to discuss prior art that was known to a
21 POSITA before the time of the invention of the
22 '355 patent?

1 A It says "commercially available may
2 suffer." It doesn't say they all do or there's no
3 way to fix it. It's pretty clear as written that
4 there's some lacking in the state of the art.

5 Q What I'm specifically curious about is the
6 existence of a problem in that paragraph, so the
7 problem of high humidity and sweat in connection
8 with commercially available electronic eyewear and
9 whether that was in the prior art prior to the
10 '355 patent.

11 A Well, clearly --

12 Q Does -- sorry.

13 A I was going to say, because the author
14 acknowledges that commercially available products
15 may suffer, there's clearly been prior art that
16 has been trying to solve the problem because
17 they're commercially available. Is that what
18 you're after? I'm not really following that. It
19 was insufficiently solved apparently.

20 Q So others in the art of electronic eyewear
21 thought to address the problem of high humidity
22 and sweat on the electronic components of

1 electronic eyewear, correct?

2 MS. STONE: Objection, form.

3 A A POSITA would read that and say since
4 they're commercially available they would be in
5 prior art and they are insufficient to address the
6 problem. That's how a POSITA would read that
7 paragraph. Anything commercially available is in
8 the public domain. People can take it apart.
9 They can buy it, reverse engineer it, whatever
10 they want.

11 Q Would it be an accurate statement to say
12 that others in the art of electronic eyewear
13 thought to address the problem of high humidity
14 and sweat on electronic components of electronic
15 eyewear prior to 2006?

16 A Is that the priority date?

17 Q Would you like me to provide the priority
18 date?

19 A No. I was just --

20 Q Are you taking a look? Sorry, I didn't
21 mean to --

22 A I -- no, I thought that's -- yeah, I

1 thought that's what you were doing -- you don't
2 need to.

3 Go ahead and ask that question again and
4 I'll answer it.

5 Q Sure. Sure.

6 Would it be an accurate statement to say
7 that others in the art of electronic eyewear
8 thought to address the problem of high humidity
9 and sweat on electronic components of the
10 electronic eyewear prior to 2006?

11 A Clearly, the inventors here are
12 acknowledging commercially available electronic
13 eyewear that do not meet the requirements of
14 moisture that would cause these negative effects.
15 So commercially they may suffer; they may not.
16 Whether they had any form of -- of attempt to
17 address it or not, it just says they may suffer
18 from this problem.

19 Q Would it be an accurate statement to say
20 that others in the art of electronic eyewear
21 thought to address the problem of high humidity
22 and sweat but had not succeeded prior to the date

1 of the invention of the '355 patent?

2 MS. STONE: Objection, form.

3 A It's clear they're identifying a problem
4 that had been insufficiently addressed in the
5 commercially available marketplace for electronic
6 eyewear. Whether others had attempted or not is
7 not really addressed by that statement.

8 Q Can we turn to paragraph 22 of
9 Exhibit -- the declaration of 2004, please?

10 Paragraph 22 discusses that "...electronic
11 eyewear are generally exposed to moisture and
12 liquids which can come from various sources such
13 as the natural environment, e.g., rain, snow,
14 human body in the form of oils and perspiration,
15 and consumer products such as liquid lenses
16 cleaners and cosmetics."

17 A Yeah.

18 Q How did a POSITA address the issue of high
19 moisture and liquids in electronic eyewear prior
20 to the '355 patent?

21 MS. STONE: Objection, form.

22 A I -- I don't know.

1 Q Would a POSITA have considered a conformal
2 coating as a solution to address the issue of high
3 moisture and liquids in electronic eyewear prior
4 to the '355 patent?

5 A Conformal layer is very common, in
6 particular on printed circuit boards, to protect
7 the electronics from any number of things. So
8 wouldn't be surprised if others had attempted to
9 use that to make moisture-resistant electronics,
10 potentially in eyewear. Whether that's sufficient
11 or not is a question that's addressed in this
12 patent.

13 Q Let's turn to paragraph 25, please. Let's
14 go to 27, paragraph 27 of the declaration.

15 In this sentence in paragraph 27, you
16 discuss electrical connections. Would a POSITA
17 consider those electrical connections to include
18 connections via a printed circuit board?

19 A Not necessarily. I guess they would need
20 to read the rest of the patent. You certainly
21 wouldn't get it just from paragraph 27.

22 Q Would a POSITA consider the connections on

1 a printed circuit board to be one option for the
2 electric -- electrical connections you discuss in
3 paragraph 27?

4 A Would the -- paragraph 27 basically says
5 that the patent discloses these methods. It
6 doesn't specify what the electrical connections
7 are.

8 Q I'm hoping to understand what are examples
9 that might fall within the scope of the phrase
10 "electrical connections."

11 So --

12 A Well, printed circuit boards clearly have
13 electrical connections within them and into and
14 out of them.

15 Q Would a POSITA consider the connections on
16 a printed circuit board to be one option for the
17 electrical connections you discuss in paragraph 27
18 of your declaration?

19 A Yeah. "Electrical connections" is a very
20 general term so a POSITA would read that and say
21 that's an option.

22 Q Let's next turn to paragraph 94, please.

1 The very last sentence of paragraph 94, you say,
2 "...the '355 patent does not relate to designing
3 and manufacturing PCBs."

4 A Yeah.

5 Q Do you still consider that to be a correct
6 statement today?

7 A Yes. Yeah.

8 Q Does the '355 patent disclose printed
9 circuit boards?

10 A I need to look at it. I can't remember.
11 There's a lot in there.

12 Q Okay. Yeah. Could you please take a
13 look?

14 A Okay. Probably. There's a ton of stuff
15 in there.

16 Q Actually, for the record, let's say the
17 term "printed circuit board" is sometimes
18 abbreviated as PCB; is that correct?

19 A Yes. And it does refer to it in -- PCBs
20 in column 27 line 40.

21 Q Does the '355 patent disclose printed
22 circuit boards?

1 A Yeah.

2 Q Given that the '355 patent discloses
3 printed circuit boards, is it correct to say that
4 the '355 does not relate to designing and
5 manufacturing PCBs?

6 A That's correct.

7 Q Could you please explain why that's
8 correct?

9 A Yeah. I'll read it to you. "For
10 instance, electrical connectors coupled to a PCB
11 may be coupled to one or more electrical
12 connectors that have been reflow soldered to the
13 capacitive through the -- to the capacitive touch
14 switch."

15 It's not about the design of the PCB.
16 It's about incorporating a PCB into the -- into
17 the system.

18 Q Just for the record, could you please
19 point us to the text you were reading?

20 A The -- it's in the '355, it is column 27
21 line 39 to 43.

22 Q Yeah. Is that what's on the screen and I

1 just missed it?

2 A Hold on. I have my own copy of it and can
3 search it faster.

4 Q Yeah.

5 A Right there.

6 Q Okay. Yeah, it is on that -- okay.

7 What were the column and lines again? You
8 said it was column 27 lines --

9 A Yeah. 39 to 43.

10 Q Okay.

11 A 42.

12 Q All right. So I -- I think I might have
13 gotten a little confused here too. Would it be
14 all right if I repeat my question and give you a
15 chance to respond again. I wasn't quite sure what
16 you were speaking to when you were talking about
17 this text here on this page.

18 Given that the '355 patent discloses
19 printed circuit boards, is it correct to say that
20 the '355 patent does not relate to designing and
21 manufacturing PCBs?

22 MS. STONE: Objection, form.

1 A Absolutely correct. Because it's clearly
2 referring to PCB as an electrical component. It's
3 not the design of the PCB, it's the implementation
4 of a PCB. It's referring to connectors having
5 integrated with the rest of the electronic
6 components in the system. So it's not addressing
7 the design of the PCBs.

8 Q Let's next turn to paragraph 96 of the
9 declaration. That's of Exhibit 2004, please.

10 A Yeah.

11 Q You say -- it's actually going to be
12 further down in paragraph 96. Scroll down a few
13 lines, please. A bit further. Perfect. Thank
14 you.

15 So it's actually the last sentence of
16 paragraph 96. You say that Petitioner and
17 Dr. Feland admits miniaturization of components
18 has been ongoing for years and manufacturers
19 continue to work in this area.

20 I should correct my statement. I did mean
21 the last sentence and I just read the wrong one,
22 so let me try again.

1 The last sentence here, you say that
2 "Petitioner and Dr. Feland's oversimplification
3 greatly minimizes the intricacies of designing and
4 creating moisture-resistant and moisture-proof
5 electronic eyewear."

6 So here you refer to the intricacies of
7 designing and creating. Could you please tell me
8 more about the intricacies of designing and
9 creating moisture-resistant and moisture-proof
10 electronic eyewear that you had in mind when you
11 wrote that statement?

12 A Sure. The -- the design of the '355 that
13 it discloses, clearly it does include a conformal
14 layer. It also has other features that address
15 the -- the inhibition of liquid. And so there's
16 a -- there's -- let me see what I have here. I
17 thought I described it a little more clearly.

18 Let me look back here. Yeah.
19 There's -- the entire electronics module is
20 moisture-resistant. And then it's enclosed within
21 the frame. Let me see. I thought I had a more
22 clear description of it.

1 But there's design features that are very
2 specifically focused on moisture proof and I -- I
3 need to go through and pull them out of the patent
4 if you like. It might take --

5 Q If that would be helpful, please do.

6 A Let me look at the figures real quick.
7 Yeah.

8 If you go back to my declaration
9 page -- well, paragraph 26, sealing diaphragm
10 integrated with manual switch 2390, sealing
11 diaphragm isolates the electronics from -- and the
12 electronics are enclosed in the module which is --
13 also has the conformal layer. And you have the
14 flex strip to communicate the electronics out to
15 the frames.

16 And in fact, there's a lot of pictures of
17 it in the patent. They describe a lot of features
18 that lead to functionality. Let me get to that
19 picture.

20 Yeah. Figure 12A in the patent talks
21 about a silicon gasket and conductive-compliant
22 material. Figure 12B, all features

1 of -- additional features in addition to the
2 conformal layer that make for robust water
3 resistance.

4 Q We can turn back to paragraph 96 if you're
5 finished with your answer.

6 A Yeah, I am.

7 Q So the last sentence of paragraph 96
8 refers to the minimization of intricacies. I was
9 hoping to specifically understand the intricacies
10 you had in mind when you said that those
11 intricacies were oversimplified.

12 MS. STONE: Objection, form.

13 A Yeah. I enumerated as many as I can
14 without going into detailed analysis of the
15 design.

16 Q Could you explain how those were minimized
17 by Petitioner and Dr. Feland?

18 A Sure. Basically the petitioner and their
19 expert essentially claimed that conformal layer is
20 sufficient to make a waterproof electronic
21 eyewear.

22 Q Is that not the case?

1 A That's not the case. Additional design
2 and probably manufacturing processes that are
3 necessary to make it fully waterproof.

4 Q And what would those additional processes
5 be?

6 A We just talked about some of those in the
7 '355 patent, the images, the seals, the order of
8 processes that go into it, step by step. It
9 indicates when to put the conformal layer on the
10 electronics, how to assemble it.

11 Q Do the claims of the '355 patent require
12 those additional features you just mentioned, for
13 example, the order of when the conformal layer is
14 deposited?

15 A I believe so. I need to look at the
16 claims again. Let me get the -- let me pull up
17 the claims, but I'm referring to Figure 25 in the
18 patent that is referenced on -- below my
19 paragraph 20 -- 28 which shows a flowchart for
20 exemplary steps for implementing the patent's
21 method, Figure 25.

22 Q Does the method claimed in claim 13

1 require all the steps shown in the flowchart of
2 Figure 25 in the '355 patent?

3 A No. I'll look at claim 13 claims. I
4 presume they follow that figure. I'm flipping
5 around here. I don't have it tabbed properly.
6 Pull up claim 13.

7 So you've got that figure up and I've got
8 claim 13. It says, "A method of manufacturing an
9 eyewear system comprising depositing a plurality
10 of electronic components on a capacitive touch
11 switch." So it doesn't say "provide," but the
12 next step is there. 2502 is basically that first
13 thing, "connecting a plurality of electronic
14 components by electrical connections to form an
15 assembly, electronic assembly depositing a
16 conformal layer over at least a portion of the
17 electronic assembly and at least a portion of the
18 capacitive touch switch and coupling the
19 electronic assembly and the capacitive touch
20 switch with the conformal layer to an enclosure of
21 an eyewear frame."

22 So I believe all of those are captured in

1 Figure 25. But again, the claim language is the
2 important part. So there are design features and
3 processing steps that facilitate a more robust
4 water resistance than simply covering the
5 electronics with a conformal layer.

6 Q Let's next turn to paragraph 101 in the
7 declaration.

8 A Yeah.

9 Q The very last sentence of paragraph 101
10 you say, "Applying a conformal layer on the PCB
11 with those components would have adversely
12 impacted the speaker's functionality."

13 A Uh-huh.

14 Q Would a POSITA have known prior to 2006
15 that applying a conformal layer on a speaker would
16 have adversely impacted the speaker's
17 functionality?

18 A That's exactly my opinion.

19 Q Let's turn to paragraph 106, if we could,
20 please, of the declaration. We'll actually be
21 discussing 106 and 107.

22 A Okay.

1 Q Here you say, "Applying a conformal layer
2 to a capacitive touch switch would deprecate the
3 performance of the switch given that it is based
4 on a capacitive change when touched. For example,
5 a POSITA would recognize that high dielectric
6 constant could produce stray unwanted capacitance
7 effects between surface tracks that run close and
8 parallel to one another - this can alter the tuned
9 characteristics of the circuit."

10 And then in 107, "Therefore, in my
11 opinion, a POSITA would not have been motivated to
12 a deposit a conformal layer on a capacitive touch
13 switch."

14 Is it correct then that a POSITA would not
15 have been motivated to deposit a conformal layer
16 over at least a portion of a capacitive touch
17 switch at the time --

18 MS. STONE: Objection --

19 Q -- of the invention of the '355 patent?

20 MS. STONE: Objection, form.

21 Q I can restate that if that would be
22 helpful.

1 MS. STONE: Apologies, Jacob.

2 MR. PETERSON: No, no. It's okay. I
3 juggle sometimes to decide when I'm finished
4 speaking.

5 A Go ahead.

6 Q Yeah. I'll restate.

7 Is it correct that a POSITA would not have
8 been motivated to deposit a conformal layer over
9 at least a portion of a capacitive touch switch at
10 the time of the invention of the '355 patent?

11 MS. STONE: Objection, form.

12 A Okay. Excuse me, the patent actually
13 describes masking the vicinity of the capacitive
14 touch switch before applying the conformal layer
15 in order to obviate that challenge of deprecating
16 performance.

17 Q Is it correct that a POSITA would not have
18 been motivated to deposit a conformal layer over
19 at least a portion of a capacitive touch switch at
20 the time of the invention of the '355 patent?

21 A 107 does not say --

22 MS. STONE: Objection. Sorry, Jim.

1 Objection, form.

2 A Okay. 107 refers to depositing conformal
3 layer over -- it doesn't say a portion of it. It
4 says over "a capacitive touch switch."

5 Q Okay. So 107 -- let's see.

6 A The petitioner suggests putting it over
7 the whole thing and that's what I'm saying a
8 POSITA would not agree to.

9 Q So then my question is a subset of that.

10 A Okay.

11 Q If you're saying you wouldn't deposit --
12 and I'll restate my question, but just to try to
13 give some context.

14 You're saying not over the entire portion
15 and I'm trying to ask what about just a part of
16 it. Would there have been a motivation to do a
17 part of it or would this similar concern have
18 prevented a POSITA from even depositing on a part
19 of it?

20 I can restate my question if that's
21 helpful.

22 A No -- okay.

1 MS. STONE: Objection, form.

2 A Yeah. Go ahead and repeat it then,
3 please.

4 Q Is it correct that a POSITA would not have
5 been motivated to deposit a conformal layer over
6 at least a portion of a capacitive touch switch at
7 the time of the invention of the '355 patent?

8 A The patent actually enumerates that it can
9 be done by masking. So it does -- it -- not only
10 would they have -- it's -- it's taught in '355
11 that if you mask the capacitive touch switch, you
12 can remove the mask after you apply the conformal
13 layer and everything's fine.

14 Q To confirm what you're saying is that a
15 POSITA would have used a mask to prevent
16 depositing of a conformal layer on the capacitive
17 touch switch so there wouldn't have been any
18 depositing of a conformal layer on the capacitive
19 touch switch; is that correct?

20 A The petitioner suggests applying conformal
21 layer to the capacitive touch switch and that
22 would -- that would affect its performance. The

1 patent teaches you can do a portion of it by using
2 a mask and maintain functionality.

3 Q So in your understanding, the '355 patent
4 discloses that a POSITA would have been motivated
5 to deposit a conformal layer over part of a
6 capacitive touch switch but not all of it?

7 A It actually -- yeah. It actually teaches
8 that and that's part of claim 13, I believe, isn't
9 it? If you want to see it in the patent, it is
10 column 27 line 59, "As described above to the
11 extent electrical contacts may be required so as
12 to form electronic connections with other
13 components that are not part of the electrical
14 assembly on the capacitive touch switch, these
15 electrical contacts can be masked during the
16 deposition process of the conformal layer or the
17 conformal encapsulating material may be
18 subsequently removed to expose the electrical
19 contacts."

20 Q Right. Turn back to paragraph 107 of your
21 declaration, if we could.

22 Where you would a POSITA have considered

1 depositing a conformal layer in electronic eyewear
2 prior to 2006?

3 A Where would they? Is that what you're
4 asking?

5 Q Yes.

6 A It's completely hypothetical. Depends on
7 the application. Clearly, very common to use
8 conformal layer on a printed circuit board, but
9 there are other ways to use it I'm sure.

10 Q So a POSITA would have considered
11 depositing a conformal layer on a printed circuit
12 board in electric eyewear prior to 2006?

13 MS. STONE: Objection, form.

14 A Again, it's -- yeah, hypothetical. It's
15 possible, if it served a purpose.

16 Q You mentioned previously that you were a
17 professor prior to 2006, correct?

18 A Correct.

19 Q Did you ever teach your students about
20 conformal layers prior to 2006?

21 A I doubt it. I don't remember, but I doubt
22 it.

1 Q Why do you say you doubt it?

2 A Because I didn't teach electronics
3 courses.

4 Q If a student approached you and asked you
5 for resources about conformal coatings prior to
6 2006, what resources would you have directed the
7 student to?

8 A There's many textbooks on creation of
9 printed circuit boards and their protection. I
10 think there's two in our exhibits. Well,
11 Sikonowski [sic] is one of them but we provided
12 another.

13 Q Did you ever teach your students about
14 capacitive touch sensors prior to 2006?

15 A No.

16 Q And what's the reason for that?

17 A Well, it wasn't -- wasn't necessary,
18 wasn't part of any curriculum.

19 MS. STONE: Jacob, we've been going a
20 little over an hour. Are you close to a stopping
21 point?

22 MR. PETERSON: We can definitely stop now

1 if that's good for you, Dr. Oliver.

2 THE WITNESS: Works for me.

3 (Whereupon a break was had.)

4 BY MR. PETERSON:

5 Q If we could turn back to paragraph 107 of
6 the declaration, please, and that's Exhibit 2004.
7 Paragraph 107 discusses a capacitive touch switch.

8 A Yeah.

9 Q I'm going to set up a bit of a
10 hypothetical here, so this -- maybe we'll take a
11 couple sentences and see if we could step through.

12 Let's imagine a student approached you
13 prior to 2006. This student asked you for help
14 deciding whether a capacitive touch sensor from a
15 first use case would be applicable and useful in a
16 second use case.

17 So my question is: How would you have
18 advised this student to evaluate whether the
19 capacitive touch sensor from a first use case
20 would be applicable and useful in the second use
21 case?

22 MS. STONE: Objection, form.

1 A Yeah. I absolutely would depend on the
2 Use Case A and the Use Case B. I'd say, where did
3 you get it, and what are you using it for, and
4 what do you want to use it for.

5 Q Yeah. Can you tell me more about the
6 methodology of that analysis?

7 A Well, without knowing what it was intended
8 for and what they're trying to do with it, I can't
9 provide any input.

10 Q All right. Let's turn to paragraph 115 of
11 the declaration, please.

12 In paragraph 1 you say, "If a POSITA were
13 to mount the controller on a PCB and apply
14 conformal coating as Petitioner and Dr. Feland
15 suggest, doing so would prevent an electrical
16 connection to the controller necessary to
17 reprogram it."

18 Would a POSITA have known prior to 2006
19 that applying a conformal layer on such an
20 electrical connection would have adversely
21 impacted the electrical connection's
22 functionality?

1 A Well, my opinion is not talking about a
2 connection. Yes, it is, sorry, prevented an
3 electrical connection.

4 It potentially could. If it's a --
5 imagine it's a socket of some kind and you apply a
6 conformal layer over it, you wouldn't be able to
7 connect.

8 Q My question is a little more specific.

9 Would a POSITA have known prior to 2006
10 that applying a conformal layer on such an
11 electrical connection would have adversely
12 impacted the electrical connection's
13 functionality?

14 A Yes. You enclose it. You cover the
15 connector, you can't connect, so yes.

16 Q Let's next turn to paragraph 42, please.

17 Just the very first sentence. You say,
18 "Howell 158 also discloses that the glasses
19 include a sensor."

20 A Yeah.

21 Q Would it be incorrect to say that Howell
22 158 does not disclose a sensor?

1 A Would it be correct to say it does not?

2 Q I'll repeat the question.

3 Would it be incorrect to say that Howell
4 158 does not disclose a sensor?

5 A Would it be -- double negative there.

6 Q I can ask without the double negative.

7 A Yeah, please. Yeah.

8 Q Try again. Would it be correct to say
9 that Howell 158 does not disclose a sensor?

10 A Apparently at that paragraph 18 is
11 exactly -- it does discuss a sensor.

12 Q So would it be correct to say that Howell
13 158 does not disclose a sensor?

14 A Would it be correct? No. It would be
15 incorrect.

16 Q Could we next -- I'm sorry.

17 A I was going to say, I need to go look at
18 paragraph 18 of Howell 158 to just to be sure. If
19 you want me to, I can.

20 Q If you need to or -- I had already pointed
21 you to the first part of the sentence. I don't
22 know if that's enough information to --

1 A Well, clearly, if that's what -- yeah,
2 sensor, okay. So it had a sensor.

3 Q Let's turn to the '355 patent, if that's
4 all right. So this is Exhibit 1001. And I
5 believe this has been previously marked; is that
6 right? Yeah, yeah, we've definitely talked about
7 this. Okay. Getting a little bit tired, late in
8 the day.

9 So if a POSITA were shown just the figures
10 of the '355 patent, would the POSITA have known
11 how to manufacture the structures shown in the
12 figures?

13 MS. STONE: Objection, form.

14 A I'm just looking at the figures real
15 quick. You don't need to go there. I have it up.

16 Not only a POSITA but anyone looking at
17 these schematic graphics, would not know the
18 material, and not knowing the material would not
19 know what type of manufacturing process to produce
20 or what order they should be assembled in. So the
21 answer is no.

22 Q And the knowledge of a POSITA would not

1 have been sufficient to overcome those hurdles you
2 just referenced?

3 A POSITA or anyone else, even an expert.

4 Q Let's next turn to column 7, please, of
5 the '355 patent.

6 So column 7 line 23, it's the statement
7 that begins "descriptions," so I'll read this.
8 It's column 7 lines 23 to 25 of the '355 patent.

9 A Okay.

10 Q It states, "Descriptions of well-known
11 components and processing techniques may be
12 omitted so as to not unnecessarily obscure the
13 embodiments of the invention."

14 What does this statement mean?

15 MS. STONE: Objection, form.

16 A It's clearly as written. Strange
17 question.

18 "Descriptions of well-known components and
19 processing techniques may be omitted so as to not
20 unnecessarily obscure the embodiments of the
21 invention." I would read that as the inventor
22 saying I'm showing you the -- these embodiments

1 only to describe functionality, not necessarily
2 processing techniques or materials or anything
3 like that. That's an implementation detail.

4 Q Why is the '355 patent allowed to omit
5 components and processing techniques?

6 MS. STONE: Objection, form.

7 A Because it's unnecessary to describe
8 the -- the invention.

9 Q Why is it unnecessary?

10 A Because the invention is well-described in
11 several embodiments and what the functionality
12 those are intended to accomplish. And then there
13 they are defined specifically in the claims. So
14 there may be many ways to accomplish those
15 schematic -- many different materials, many
16 different manufacturing processes to meet those.

17 Again, most inventors cannot -- there's no
18 room or time to imagine every possible embodiment.

19 Q Is one reason that the '355 patent is
20 allowed to omit components and processing
21 techniques because a POSITA would have had
22 knowledge when reviewing the '355 patent so it

1 wasn't necessary to spell out those components and
2 processing techniques?

3 MS. STONE: Objection, form.

4 A Again, it's a strange question. A POSITA
5 would read this and understand what is being
6 described and the benefits it provides.
7 Implementing it in different materials and
8 different manufacturing processes is outside of
9 the -- what's being claimed. They're not saying
10 that the -- you know, they provide a number of
11 options for materials. Can be this, this, or
12 that. Again, it's not part of the -- what's being
13 claimed. Doesn't require to be metal or plastic
14 or whatever.

15 Q Does this omission render the '355 patent
16 deficient?

17 A No.

18 MS. STONE: Objection, form.

19 A Not at all.

20 Q Let's next turn to column 23, please,
21 column 23 lines 49 to 56. I'm going to read lines
22 49 through 56. This is the '355 patent column 23

1 lines 49 to 56.

2 "In some embodiments, the barrier may be
3 applied or disposed in areas of the electronic
4 spectacles between two components such as between
5 the lens housing and the electroactive lens. In
6 some embodiments, these components of the
7 electronic spectacles may be coupled in advance
8 and the barrier may be applied in a later process.
9 as -- e.g., as part of a finishing or sealing
10 process after the electrical connections have been
11 formed."

12 In light of this statement, is it true
13 that the '355 patent relates to designing and
14 manufacturing PCBs?

15 A From that sentence? No, not at all.

16 Q And why not?

17 A Because it doesn't mention PCBs. It just
18 mentions electrical components, sealing, lenses,
19 lens housings, barrier layer. There's no mention
20 of PCBs whatsoever.

21 Q Let's next turn to column 26, please, so
22 column 26 lines 46 to 50.

1 I'm going to read this sentence out loud.
2 So this is the '355 patent, columns 26 lines 46 to
3 50, "Thus during the deposition of the conformal
4 layer, e.g., the encasing or encapsulation
5 process, a mask may be disposed over the
6 electrical contacts that will be used to make such
7 connections."

8 Would a POSITA have known prior to 2006
9 that a mask could be used to prevent the
10 deposition of a conformal coating over electrical
11 contacts?

12 A Most likely, yes.

13 MR. PETERSON: That's all the questions we
14 have for this deposition. We reserve time for any
15 post redirect, but we're passing.

16 MS. STONE: I have no redirect.

17 MR. PETERSON: Okay. Thank you, Dr.
18 Oliver. Appreciate your time today.

19 THE REPORTER: Same orders?

20 MS. STONE: Yes, please. Thank you.

21 (Whereupon the proceedings were concluded at
22 2:32 p.m. CDT)

1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2 I, Karisa Ekenseair, Certified Reporter and
3 Notary Public within and for the State of Arkansas
4 do hereby certify: That JAMES OLIVER, PHD,
5 the witness whose deposition is hereinbefore set
6 forth, was duly sworn by me before the
7 commencement of such deposition and that such
8 deposition was taken before me and is a true
9 record of the testimony given by such witness.

10 I further certify that the adverse party,
11 Patent Owner was represented by counsel at
12 the deposition.

13 I further certify that the deposition of
14 JAMES OLIVER, PHD, occurred virtually on
15 June 11, 2025, commencing at 10:03 A.M. CDT to
16 12:16 p.m. CDT.

17 I further certify the inspection, reading and
18 signing of said deposition was waived.

19 I further certify that I am not related to any
20 of the parties to this action by blood
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22 to any of the parties to this action, and that I

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2 in the outcome of this matter.

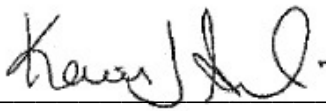
3

4 IN WITNESS WHEREOF, I have hereunto set my hand
5 and affixed my seal this 18th day of June, 2025.

6 My commission expires: 6-18-2028

7

8

A handwritten signature in cursive script, appearing to read 'Karisa Ekenseair', is written over a horizontal line.

9

Karisa Ekenseair, CCR RPR RMR RDR

10

Notary Public in and for

11

Pulaski County, Arkansas

12

Commission No. 12704567

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