

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

COREPHOTONICS, LTD.,

Patent Owner.

IPR2018-01140

Patent No. 9,402,032

IPR2018-01146

Patent No. 9,568,712

VIDEOTAPED DEPOSITION OF DUNCAN MOORE, PH.D.

June 7, 2019

Rochester, New York

Reported By:

MICHELLE MUNDT ROCHA

Job no: 25396

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<p style="text-align: right;">Page 2</p> <p>1 Videotaped Deposition of Duncan Moore, Ph.D. 2 Date: June 7, 2019 3 Time: 9:09 a.m. 4 Location: Regus Business Center 5 510 Clinton Square 6 Rochester, New York 14604 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 4</p> <p style="text-align: center;">A P P E A R A N C E S</p> <p>1 2 3 Appearing as the Videographer: 4 Tim McDonough 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>
<p style="text-align: right;">Page 3</p> <p>1 A P P E A R A N C E S 2 Appearing on Behalf of Petitioner: 3 Jamie H. McDole, Esq. 4 Haynes and Boone, LLP 5 2323 Victory Avenue, Suite 700 6 Dallas, Texas 75219 7 jamie.mcdole@haynesboone.com 8 Michael S. Parson, Esq. 9 Haynes and Boone, LLP 10 2505 North Plano Road, Suite 4000 11 Richardson, Texas 75082-4101 12 michael.parsons@haynesboone.com 13 Priya B. Viswanath, Esq. 14 Cooley LLP 15 3175 Hanover Street 16 Palo Alto, California 94304-1130 17 pviswanath@cooley.com 18 19 Appearing on Behalf of Patent Owner: 20 Neil A. Rubin, Esq. 21 Russ August & Kabat 22 12424 Wilshire Boulevard, 12th Floor 23 Los Angeles, California 90025 24 nrubin@raklaw.com 25</p>	<p style="text-align: right;">Page 5</p> <p style="text-align: center;">P R O C E E D I N G S</p> <p>1 2 FRIDAY, JUNE 7, 2019; 3 (Proceedings in the above-titled matter 4 commencing at 9:09 a.m.) 5 * * * 6 THE VIDEOGRAPHER: We are about to begin 7 the recorded deposition of Dr. Duncan Moore in the 8 matter of Apple, Incorporated versus Corephotonics, 9 Limited in the United States Patent and Trademark 10 Office, case IPR 2008-01140. This deposition is being 11 held at Regus Rochester, 510 Clinton Square, 12 Rochester, New York 14604 on Friday, June 7. The time 13 is 9:09. 14 My name is Tim McDonough, from the firm of 15 Alliance Court Reporting, and I am the legal video 16 specialist. The court reporter is Michelle Rocha, in 17 association with Alliance Court Reporting, East 18 Avenue, Rochester, New York. 19 Will counsel please introduce themselves 20 and whom they represent. 21 MR. MCDOLE: Jamie McDole representing 22 Petitioner. 23 MR. PARSONS: Michael Parsons representing 24 Petitioner. 25 MS. VISWANATH: Priya Viswanath</p>

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1 DUNCAN MOORE, PH.D.
 2 representing Petitioner.
 3 MR. RUBIN: And Neil Rubin of Russ
 4 August & Kabat representing the Patent Owner and
 5 defending the witness.
 6 THE VIDEOGRAPHER: The court reporter will
 7 please swear in the witness, and we may begin.
 8 DUNCAN MOORE, PH.D.,
 9 called herein as a witness, first being sworn,
 10 testified as follows:
 11 EXAMINATION BY MR. MCDOLE:
 12 Q. Good morning, Dr. Moore. My name is Jamie
 13 McDole. I represent Apple in the IPRs that were just
 14 listed.
 15 Can we start by stating your full name for
 16 the record?
 17 A. Duncan Thomas Moore.
 18 Q. And do you go -- are you Ph.D.? Do you go
 19 by Dr. Moore?
 20 A. I go mostly by Duncan.
 21 Q. Duncan, okay. Well, for formality sake,
 22 I'm not going to call you "Duncan" today until the
 23 deposition is over. But if I call you "Dr. Moore,"
 24 will you know who I'm referring to?
 25 A. I will.

1 DUNCAN MOORE, PH.D.
 2 Q. Have you ever been deposed before?
 3 A. I have.
 4 Q. How many times?
 5 A. Three or four.
 6 Q. Were those in patent cases?
 7 A. Yes.
 8 Q. You understand you're under oath today;
 9 correct?
 10 A. I do.
 11 Q. And do you understand that the oath
 12 requires you to answer truthfully and completely to
 13 the questions asked today?
 14 A. I do.
 15 Q. Is there any reason why you cannot give
 16 truthful and complete answers today?
 17 A. There is no reason.
 18 Q. As you can see, we have a court reporter
 19 taking down everything we say, as well as a
 20 videographer. But for the court reporter's sake, it's
 21 important that you and I do not speak over each other,
 22 to make her life much easier.
 23 A. Understood.
 24 Q. So I will endeavor to let you finish your
 25 answers if you allow me to finish my questions. Does

1 DUNCAN MOORE, PH.D.
 2 that sound fair?
 3 A. Sounds reasonable.
 4 Q. And if at any point I cut off one of your
 5 answers -- you know, sometimes there's a pause, and
 6 I'll start a new question. If at any point you
 7 haven't finished an answer, will you please let me
 8 know, so I can allow you to finish?
 9 A. I will.
 10 Q. It's also important that you understand
 11 all of my questions today, to make sure we have a
 12 complete and accurate record. If you don't understand
 13 a question, will you let me know?
 14 A. I will.
 15 Q. And if you answer a question, I'm going to
 16 assume that you understood the question. Does that
 17 sound fair?
 18 A. Okay.
 19 Q. In the three or four depositions that you
 20 have provided testimony, how many of them were IPRs?
 21 A. None.
 22 Q. Can you identify what litigations you were
 23 an expert in where you were deposed?
 24 A. You mean the litigants or the -- I'm not
 25 sure that I understand the question. You want to know

1 DUNCAN MOORE, PH.D.
 2 what cases?
 3 Q. Yes.
 4 A. One involved a case involving the
 5 backlighting of large screen TVs.
 6 Q. Okay.
 7 A. In particular the lenses that are behind
 8 them. Another was in the issue associated with the
 9 security stripe that's on the hundred-dollar-bill
 10 currency.
 11 Q. Okay.
 12 A. And I don't remember the others. They've
 13 been too far in the past. Those two are the most
 14 recent ones.
 15 Q. Who did you represent with respect to the
 16 backlight litigation?
 17 A. I'd have to look that up. It was a Korean
 18 company.
 19 Q. Was it Samsung?
 20 A. It was not Samsung.
 21 Q. How about with respect to the security
 22 strip on the hundred dollar bill, who did you
 23 represent?
 24 A. That was Crane.
 25 Q. Have you ever acted as an expert on

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1 DUNCAN MOORE, PH.D.
2 miniature lens assemblies?
3 A. I have.
4 Q. In what case?
5 A. The case goes back at least ten years. I
6 can remember the law firm, but I can't remember the
7 cases. The law firm was Nixon Peabody.
8 Q. Did that involve lens assembly specific to
9 mobile devices?
10 A. It did.
11 (The following exhibits were marked at a
12 previous deposition: EXH Number 1, 1001,
13 2013 and 2014.)
14 Q. I'm going to hand you a few documents
15 here. The first one is United States Patent Number
16 9,402,032 marked as Apple Exhibit 1 in IPR2018-01140.
17 I'm also going to hand you United States
18 Patent Number 9,568,712, which is Apple Exhibit 1001
19 in IPR2018-01146.
20 I'm also going to hand you a copy of the
21 declaration of Duncan Moore, Ph.D. in the two
22 previously stated IPRs, which was marked as Exhibit
23 2013.
24 And for the sake of completeness at this
25 point, I'm going to hand you a copy of the CV of

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1 DUNCAN MOORE, PH.D.
2 Duncan Moore, which was submitted as Exhibit 2014 in
3 both of the previously stated IPRs.
4 MR. MCDOLE: Counsel, I believe I've
5 handed those to you already.
6 A. Can I ask you a question?
7 Q. Sure.
8 A. These have the same exhibit number.
9 Q. That is correct. That's because there's
10 two IPRs.
11 A. Oh, I see. There's two different cases?
12 Q. That's correct. So if you look at the
13 front of your declaration, there's two IPRs stated on
14 there as well.
15 A. Okay. So they refer to different -- okay.
16 Q. That's correct.
17 So if I can have you first look -- if we
18 can get some nomenclature out of the way here. If I
19 can have you look at United States Patent 9,568,712.
20 If I refer to Apple Exhibit 1001, which is United
21 States Patent 9,586,712, as the "'712 patent," will
22 you understand what I'm referring to?
23 A. I will.
24 Q. And if we can now turn to United States
25 Patent 9,402,032, which is also marked as Apple

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1 DUNCAN MOORE, PH.D.
2 Exhibit 1001. If I refer to that exhibit as the "'032
3 patent," will you understand what I'm referring to?
4 A. I will.
5 Q. Okay. And with respect to your
6 declaration marked as Exhibit 2013, if I refer to that
7 as "your declaration," will you understand that we're
8 referring to Exhibit 2013?
9 A. I will.
10 Q. What documents did you review in preparing
11 your declaration?
12 A. They're listed in my declaration. There's
13 quite a few of them. Obviously these two patents
14 involved, and then the list is on page.
15 Q. Paragraph 3?
16 A. Paragraph 3, yeah.
17 Q. I think the page numbers are cut off a
18 little bit on the bottom, so we probably have to refer
19 by paragraph number --
20 A. Okay.
21 Q. -- as much as we can today. Is that okay?
22 A. Yep.
23 Q. Did you review the '032 and '712 patents
24 in their entirety?
25 A. I did.

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1 DUNCAN MOORE, PH.D.
2 Q. Did you review all the exhibits in
3 paragraph 3 of your declaration in their entirety?
4 A. I can't say that.
5 Q. Which documents listed in paragraph 3 did
6 you not review in their entirety?
7 A. Well, I would not have read through all of
8 Warren Smith's book. I would not have read through
9 Born's book, which is about four or 500 pages, or
10 Walker's book or Fischer's book.
11 And the others I -- some of them I've read
12 in entirety, some I didn't. The ones I use that I
13 actually cited in my declaration I did read the whole
14 thing.
15 Q. Why didn't you review Exhibit 1011?
16 A. What is 1011?
17 Q. Well, if we go through your list of
18 materials you reviewed in preparing your declaration,
19 it goes from Exhibit 1001 to 1002, 1003; you skip
20 1004. Then we have 1005, 1006, 1007, 1008, 1009,
21 1010; and then 1011 is missing.
22 A. I do not know.
23 Q. That's the file history for the Ogino
24 prior art reference. Did you know that?
25 A. I did not.

4 (Pages 10 to 13)

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1 DUNCAN MOORE, PH.D.
2 Q. Did you request that material in preparing
3 your opinion?
4 A. I did not.
5 Q. Do you understand that that material was
6 cited in the petition for IPR in the matter?
7 A. I don't remember.
8 Q. Do you think it would have been important
9 to review all the material supporting the IPR in this
10 material -- or in this case before rendering your
11 opinions?
12 A. I don't -- I don't know what's in 1011.
13 Q. That's because you haven't reviewed it,
14 though; right?
15 A. That's correct.
16 Q. So it could have information that would be
17 material to you opinion; correct?
18 A. I don't know.
19 Q. Did you intentionally not review Exhibit
20 1011?
21 A. I did not. I did not review it.
22 Q. Did you make the choice not to review
23 Exhibit 1011, or was that a choice of counsel?
24 A. I don't -- I don't remember. I don't
25 remember any discussion regarding that.

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1 DUNCAN MOORE, PH.D.
2 Q. Were the materials in paragraph 3 of your
3 declaration provided to you by counsel?
4 A. Sorry. Restate.
5 Q. Were the materials cited in paragraph 3 of
6 your declaration provided to you by counsel?
7 A. Yes, except for the books, which I already
8 owned.
9 Q. Were there any other materials that you
10 requested from counsel that were not provided to you?
11 A. No.
12 Q. If I can have you turn to the last
13 paragraph of your declaration, which is going to be
14 exhibit -- or paragraph 119. If you can see the page
15 number, it's page 67.
16 A. You said paragraph 119?
17 Q. Yes. At the bottom of page 67 under
18 paragraph 119, there is a signature at the bottom of
19 the page. Is that your signature?
20 A. Yes, it is.
21 Q. Is that an electronic signature or
22 physical signature?
23 A. I believe that's electronic.
24 Q. How do you know since supplying your
25 electronic signature to the document that it did not

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1 DUNCAN MOORE, PH.D.
2 change?
3 A. Are you asking if my signature changed?
4 Q. No. After applying your electronic
5 signature to the declaration, how do you know that the
6 declaration was not changed before being submitted to
7 the United States Patent Office?
8 A. My signature was applied on the very last
9 day at the last hour. So I assume it did not change.
10 Q. So it was an assumption on your part?
11 A. I often use electronic signatures for
12 doing information, especially when I'm on travel.
13 Q. Have you done anything to confirm that the
14 final version that you submitted your electronic
15 signature to is the same version that was submitted to
16 the United States Patent and Trial Trademark Office?
17 A. I can only say that this is what I
18 submitted. This is the document that I authored, but
19 I don't know -- I can't be sure what was actually
20 submitted.
21 Q. Did you apply your electronic signature to
22 your declaration on or about March 4, 2019?
23 A. Yes.
24 Q. Are there any errors in your declaration
25 that you're aware of?

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1 DUNCAN MOORE, PH.D.
2 A. I'm aware of three.
3 Q. Okay. What are those?
4 A. In the -- in paragraph 109.
5 Q. Okay.
6 A. The third line, the word "increases"
7 should be "decreases."
8 Q. Okay.
9 A. I can't find the exact paragraph, but it
10 involves the aperture stop, and it's...
11 I can remember the third one.
12 Q. All right. Let's go to the third one
13 first.
14 A. The third one is that in some of the
15 figures of the ray fans the units indicate they're in
16 inches, and they should be in millimeters. Some are
17 in millimeters, some are in inches; but they all
18 should be in millimeters.
19 Q. Okay. With respect to the second one with
20 respect to -- I think you said it related to the
21 aperture stop size?
22 A. It had to do with in one place I state
23 that the aperture stop size changed it, when in fact
24 it moved it. I can't find it sitting here.
25 Q. Okay.

5 (Pages 14 to 17)

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