

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

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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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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  
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A P P E A R A N C E S

1  
 2  
 3 Appearing as the Videographer:  
 4 Tim McDonough  
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 6  
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Page 3

A P P E A R A N C E S

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P R O C E E D I N G S

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

2 (Pages 2 to 5)

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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.

Page 7

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

Page 8

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

Page 9

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

3 (Pages 6 to 9)

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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.

Page 15

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

Page 16

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 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?

Page 17

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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