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UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD XILINX, INC.,)) Petitioner,)) VS.) CASE: IPR2013-00112) Patent 5,779,334 INTELLECTUAL VENTURES I) LLC,)) Patent Owner.)) ----- ORAL AND VIDEOTAPED DEPOSITION OF A. BRUCE BUCKMAN NOVEMBER 12, 2013 ----- ORAL AND VIDEOTAPED DEPOSITION OF A. BRUCE BUCKMAN, produced as a witness at the instance of the Patent Owner, and duly sworn, was taken in the above-styled and numbered cause on November 12, 2013, from 11:23 a.m. to 5:38 p.m., before Lisa C. Hundt, CSR, RPR, CLR in and for the State of Texas, reported by machine shorthand, at the law offices of Haynes and Boone, located at 2505 North Plano Road, Suite 4000, Richardson, Texas, in accordance with the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.	INDEX PAGE Appearances..... 2 Exhibits..... 4 Stipulations..... 5 BRUCE BUCKMAN Examination by Mr. Quillin..... 5 Examination by Mr. King..... 84 Examination by Mr. Hunter..... 93 Corrections Page..... 104 Reporter's Certificate..... 106 12 13 14 15 16 17 18 19 20 21 22 23 24 25
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1 APPEARANCES 2 FOR THE PETITIONER: 3 Mr. Thomas King 4 HAYNES AND BOONE 5 18100 Von Karman 6 Suite 750 7 Irvine, California 92612 8 949.202.3059 9 949.202.33159 (Fax) 10 thomas.king@haynesboone.com 11 And 12 Mr. Michael S. Parson 13 HAYNES AND BOONE 14 2505 N. Plano Road 15 Suite 4000 16 Richardson, Texas 75082 17 972.739.8611 18 972.692.9003 (Fax) 19 michael.parson@haynesboone.com 20 FOR THE PATENT OWNER: 21 Mr. George E. Quillin 22 And 23 Mr. Paul Hunter 24 FOLEY & LARDNER 25 3000 K. Street, N.W. Suite 600 Washington, DC 20007 202.672.5413 202.672.5399 (Fax) gquillin@foley.com phunter@foley.com ALSO PRESENT: Mr. Don Coulman, Intellectual Ventures Mr. Michael Barnes, Videographer 21 22 23 24 25	1 EXHIBITS 2 NO. DESCRIPTION PAGE 3 2016 Reply Report of Dr. A. Bruce Buckman..... 45 4 2017 Declaration of A. Bruce Buckman, Ph.D. Under 5 37 C.F.R. Section 168 Directed to the 6 Proposed Substitute Claims..... 72 7 8 9 PREVIOUSLY MARKED EXHIBITS 10 1001 United States Patent 5,632,545.....10, 20 11 1002 U.S. Patent Number 5,264,951.....26, 62 12 1003 United States Patent 5,264,951.....34 13 1010 United States Patent 5,136,397.....77, 94 14 1011 Declaration of A. Bruce Buckman, Ph.D. 15 Under 37 C.F.R. Section 1.68, Directed To the Proposed Substitute Claims.....74, 75, 77, 78, 80, 82, 88 16 17 1012 Declaration of A. Bruce Buckman, Ph.D. Under 37 C.F.R. Section 1.68 Directed To Petitioner's Reply.....6, 16, 26, 33, 38, 51, 65, 70, 72, 73, 89 19 20 21 22 23 24 25

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01:56	1 (Exhibit Number 2016 was marked.)	02:02	1 multiplexing in time and multiplexing in space as some
01:56	2 Q. I want to hand you an exhibit from the other	02:02	2 of the other prior art references do. And someone of
01:56	3 IPR, IPR 2013-00029, and that IPR that had been	02:02	3 ordinary skill in the art would recognize the
01:56	4 previously marked as Exhibit 1013. We're going to give	02:02	4 interchangeability of those ideas.
01:56	5 it a new number in this IPR and we're going to call it	02:02	5 Q. Where does Lee teach that configuration?
01:56	6 Exhibit 2016. This is your declaration signed on	02:02	6 A. Which configuration?
01:57	7 September of 2013.	02:02	7 Q. Being configured to control the light panels
01:57	8 Have you had a chance to look through that	02:03	8 in relation to the beamed light?
01:57	9 exhibit?	02:03	9 A. Can you rephrase?
01:57	10 A. You want me to read through it?	02:03	10 Q. Sure. How are Elements 20 and 21 configured
01:57	11 Q. What I'd like you to focus on is page 19,	02:03	11 to control the LC panel?
01:58	12 paragraph 35, where you say that Circuit 20 in Lee is an	02:03	12 A. In terms of signal paths, they're configured
01:58	13 example of a video controller. Do you see that?	02:03	13 as shown in Figures 1 and 2. That is, signals were sent
01:58	14 A. Right.	02:04	14 from the video controller to the panel.
01:58	15 Q. Why are the video controllers in Lee different	02:04	15 Q. Anyplace else that Lee speaks to the control
01:58	16 for the '545 patent and the '334 patent?	02:04	16 of the LC panel?
01:58	17 A. I didn't say in either sentence of the	02:05	17 (Witness reviewed document.)
01:58	18 declaration that either Circuit 20 by itself or	02:06	18 A. Describes the result of a process, column 3,
01:58	19 Circuit 20 and 21 constitute the one and only depiction	02:06	19 line 59, "As a result the light beams of the colors red,
01:58	20 of a video controller. What I said in both declarations	02:06	20 green, and blue are successively reflected from the
01:58	21 was Circuit 20 is one example of a video controller.	02:06	21 reflection type LC panel 11, according to the color
01:59	22 Circuits 20 and 21 are also one example of a video	02:06	22 driving signal" [as read].
01:59	23 controller. Those are examples. I did not state that	02:06	23 I think I mentioned earlier in another
01:59	24 either instance was the one and only one way to look at	02:06	24 deposition or in another declaration that there needed
01:59	25 a video controller. If I have to pick one as the best	02:07	25 to be synchronicity between the -- the color hitting the
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01:59	1 or the optimal, I'll stick with the answer I gave you	02:07	1 LC panel and the signal that was -- was going to the LC
01:59	2 in, I believe, my last deposition, where I said it was	02:07	2 panel. This is characteristic, someone of ordinary
01:59	3 20 and 21. But which answer you give depends on what	02:07	3 skill in the art would recognize, of any system where
01:59	4 functions you put inside the controller, as we have been	02:07	4 you're going to time multiplex the colors as opposed to
01:59	5 talking about at some length today.	02:07	5 having all the colors present all the time.
01:59	6 Q. What light shutter matrix system do	02:07	6 Q. (BY MR. QUILLIN) Would a person of ordinary
02:00	7 Elements 20 and 21 of Lee control?	02:07	7 skill in the art understand the term "successive" to
02:00	8 A. Elements 20 and 21 of Lee control Number 11 in	02:07	8 mean sequential?
02:00	9 Figures 1 and 2.	02:07	9 A. Yes.
02:00	10 Q. And how many of those LC panels do these	02:07	10 Q. Is Item 22 of Lee part of the video
02:00	11 Elements 20 and 21 control?	02:07	11 controller?
02:00	12 A. They control a single light shutter matrix	02:07	12 A. It's a frame-inducing circuit. It induces the
02:00	13 system, which adds in Lee's time multiplexing scheme of	02:08	13 respective light shutter. It induces -- the
02:01	14 producing color as 3, but it acts as 3 at separate times	02:08	14 terminology, the respective light shutter and the image
02:01	15 during its operation because of the time multiplexing	02:08	15 controlling circuit. Its connection with the image
02:01	16 that I described to you earlier that is effected by the	02:08	16 controlling circuit would be just to ensure this
02:01	17 color wheel and its rotation.	02:08	17 synchronicity.
02:01	18 Q. So how many single colored beams of light are	02:08	18 Q. Are there features of LC Panel 11 that make it
02:01	19 effected by the single LC panel of Lee?	02:08	19 a matrix?
02:01	20 A. One at a time and three in succession.	02:09	20 A. LC Panel 11 is an electrically addressed LCD.
02:01	21 Q. So in the system of Lee, elements of 20 and 21	02:09	21 And in an electrically addressed LCD, there is that bit
02:01	22 are not configured to control the same number of LC	02:09	22 of addressing is done in matrix fashion as it is with
02:01	23 panels as beams of light; is that correct?	02:09	23 optical.
02:02	24 A. There's one LC panel. It acts separated over	02:09	24 Q. And what is it about those features that make
02:02	25 time on three beams of light. That's a choice between	02:09	25 LC Panel 11 a matrix?

1 I, A. BRUCE BUCKMAN, have read the foregoing
2 deposition and hereby affix my signature that same is
3 true and correct, except as noted above.
4

5 _____
6 A. BRUCE BUCKMAN
7

8
9 THE STATE OF _____)
10 COUNTY OF _____)
11

12 Before me, _____, on
13 this day personally appeared A. BRUCE BUCKMAN, known to
14 me (or proved to me under oath or through
15 _____) (description of identity
16 card or other document)) to be the person whose name is
17 subscribed to the foregoing instrument and acknowledged
18 to me that they executed the same for the purposes and
19 consideration therein expressed.

20 Given under my hand and seal of office this
21 _____ day of _____, 2013.
22

23 _____
24 NOTARY PUBLIC IN AND FOR
THE STATE OF _____
COMMISSION EXPIRES:
25

1 I further certify that I am neither attorney
2 nor counsel for, nor related to or employed by, any of
3 the parties to the action in which this deposition is
4 taken, and further, that I am not a relative or employee
5 of any attorney or counsel employed by the parties
6 hereto, or financially interested in the action.

7 I further certify that before the completion of the
8 deposition, ___X___ the Deponent, and/or _____ the
9 Plaintiff/Defendant, ___X___ did _____ did not request
10 to review the transcript.

11 In witness whereof, I have hereunto set my hand and
12 affixed my seal this _____ day of
13 _____, A.D. 2013.
14

15
16 _____
17 LISA C. HUNDT, CSR, RPR, CLR
18 Texas CSR No. 6533
19 Expiration Date: 12/31/14
20

1 STATE OF TEXAS)
2 COUNTY OF DALLAS)
3 I, LISA C. HUNDT, a Certified Shorthand Reporter in
4 and for the State of Texas, hereby certify that,
5 pursuant to the agreement hereinbefore set forth, there
6 came before me on the 12th day of November, A.D, 2013,
7 at 11:23 a.m., at the office of Haynes and Boone,
8 located at 2505 North Plano Road, Suite 4000, in the
9 City of Richardson, State of Texas, the following named
10 person, to-wit: A. Bruce Buckman, who was by me duly
11 cautioned and sworn to testify to the truth, the whole
12 truth, and nothing but the truth of his knowledge
13 touching and concerning the matters in controversy in
14 this cause; and that he was thereupon carefully examined
15 upon his oath and his examination reduced to writing
16 under my supervision; that the deposition is a true
17 record of the testimony given by the witness, same to be
18 sworn and subscribed by said witness before any Notary
19 Public, pursuant to the agreement of the parties; and
20 that the amount of time used by each party at the
21 deposition is as follows:

- 22 Mr. Quillin - 3 hours, 49 minutes,
- 23 Mr. King - 0 hours, 20 minutes,
- 24 Mr. Hunter - 0 hours, 23 minutes,
- 25 Mr. Parsons 0 hours, 0 minutes;