

Exhibit C

BEFORE THE
UNITED STATES INTERNATIONAL TRADE COMMISSION

In the Matter of:) Investigation No.
CERTAIN ELECTRONIC DEVICES) 337-TA-714
WITH MULTI-TOUCH ENABLED)
TOUCHPADS AND TOUCHSCREENS)

Hearing Room A

United States
International Trade Commission
500 E Street, Southwest
Washington, D.C.

Wednesday, February 16, 2011

VOLUME II

The parties met, pursuant to the notice of the
Judge, at 9:00 a.m.

BEFORE: THE HONORABLE PAUL J. LUCKERN

1 APPEARANCES:

2 For Complainant Elan Microelectronics Corp:

3 SEAN P. DeBRUINE, ESQ.

4 YITAI HU, ESQ.

5 S. M. MICHAEL KIM, ESQ.

6 CELINE LIU, ESQ.

7 JANE BU, ESQ.

8 PALANI P. RATHINASAMY, ESQ.

9 Alston & Bird LLP

10 275 Middlefield Road, Suite 150

11 Menlo Park, CA 94025-4004

12 (650) 838-2000

13

14 PAUL F. BRINKMAN, ESQ.

15 ALEX LASHER, ESQ.

16 PATRICK A. FITCH, ESQ.

17 Alston & Bird LLP

18 The Atlantic Building

19 950 F Street, N.W.

20 Washington, D.C. 20004-1404

21 (202) 756-3300

22

23

24

25

1 APPEARANCES: (Continued)

2 For Respondent Apple Inc.:

3 MATTHEW D. POWERS, ESQ.

4 SONAL N. MEHTA, ESQ.

5 NATHAN A. GREENBLATT, ESQ.

6 DEREK C. WALTER, ESQ.

7 STEFANI SMITH, ESQ.

8 Weil, Gotshal & Manges LLP

9 201 Redwood Shores Parkway

10 Redwood Shores, CA 94065

11 (660) 802-3000

12

13 MARK G. DAVIS, ESQ.

14 ROBERT T. VLASIS, III, ESQ.

15 Weil Gotshal & Manges LLP

16 1300 Eye Street, N.W., Suite 900

17 Washington, D.C. 20005

18 (202) 682-7000

19

20 For ITC Staff:

21 KEVIN BAER, ESQ.

22 ANNE GOALWIN, ESQ.

23 U.S. International Trade Commission

24 500 E Street, S.W.

25 Washington, D.C. 20436

1 APPEARANCES (Continued):

2 Attorney-Advisor:

3 ROBERT HALL, ESQ.

4 KEN SCHOPFER, ESQ.

5 Attorney-Advisors

6 Office of Administrative Law Judges

7 U.S. International Trade Commission

8 500 E Street, S.W.

9 Washington, D.C. 20436

10

11 *** Index appears at end of transcript ***

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 O P E N S E S S I O N

2 JUDGE LUCKERN: Okay. Go ahead,
3 counsellor. We're on the public record.

4 MS. MEHTA: Thank you, Your Honor.

5 CROSS-EXAMINATION

6 BY MS. MEHTA:

7 Q. Good morning, Dr. Westerman. I would
8 like to step back. If you could please
9 describe your education after high school for
10 the record.

11 A. In 1994 I received a Bachelor of
12 Science in electrical engineering from Purdue
13 University with highest distinction, and in
14 1999 I received a Ph.D. in electrical and
15 computer engineering from the University of
16 Delaware.

17 Q. Thank you. When you got your Ph.D.
18 from the University of Delaware, did you do a
19 dissertation?

20 A. Yes.

21 Q. And what was that on?

22 A. It was entitled: Path tracking finger
23 identification and chordic manipulation on a
24 multi-touch sensitive surface.

25 Q. If you will turn to your binder to tab

1 RX-639. Dr. Westerman, do you recognize

2 RX-639?

3 A. Yes. This is my Ph.D. dissertation.

4 MR. DeBRUINE: Your Honor, just a
5 moment, I am looking at RX-639 and I am not
6 seeing Bates numbers on this document.

7 MS. MEHTA: There is no objection to
8 this document. We identified it to you two
9 days ago and received no objection.

10 JUDGE LUCKERN: Speak up, please.

11 MS. MEHTA: I'm sorry, Your Honor.
12 There was no objection to this document. We
13 can give Mr. DeBruine a moment to check that.

14 JUDGE LUCKERN: Sure.

15 MR. DeBRUINE: That's correct, Your
16 Honor, I'm sorry.

17 JUDGE LUCKERN: All right. Go ahead,
18 counsellor.

19 MS. MEHTA: Thank you, Your Honor.

20 BY MS. MEHTA:

21 Q. Now, Mr. Westerman, or Dr. Westerman,
22 when you worked on your Ph.D. thesis, did you
23 look at work that had been done in the field of
24 touch prior to your thesis?

25 A. Yes, I did a search of both the patent

1 and academic literature for other touch
2 surfaces at the time.

3 Q. If you would turn to page RX-639.064.
4 And if you could review the first full
5 paragraph.

6 How does this paragraph, that begins
7 with the words "some devices on the market,"
8 how does that paragraph relate to your
9 testimony a moment ago that you reviewed some
10 patent and publication literature in preparing
11 your thesis?

12 A. Well, I encountered the Bisset patent
13 and several other -- several single finger
14 touchpad technologies that use what we call
15 projective sensing, where they -- the signal
16 gets summed along each row electrode and each
17 column electrode.

18 So you only get a signal -- you only
19 get a measurement for the total signal in a row
20 or the total signal in a column. You don't get
21 the measurement at the intersections of the
22 rows and columns.

23 Q. Now, Dr. Westerman, in that answer you
24 referred to the Bisset patent. You understand
25 that's the patent that's at issue in this case?

1 A. Yes, I do.

2 Q. Okay. Now, you were describing the
3 technique of that patent. What was it that you
4 were trying to convey in your thesis with
5 respect to the Bisset and Kasser patent that's
6 at issue in this case?

7 A. Well, I was trying to convey that they
8 were not practical for multi-finger
9 applications because of a number of ambiguities
10 that developed, and I show these on the figures
11 on the next page.

12 Q. Chris, if we could have the figures on
13 the next page, please.

14 Dr. Westerman, using the figures on
15 RX-639.065, could you explain in a bit more
16 detail what you mean about the method not being
17 practical?

18 A. Well, here, for instance, we have four
19 fingertips in different diagonal arrangements
20 on a touch surface, as shown in the grid. And
21 over on the sides you can see the projection,
22 the row and column sum projections.

23 And while in these cases there are
24 still four peaks visible in sub-diagrams A, B,
25 and C, in the rows and in the columns, the row

1 and column projections are really identical.

2 So we really lost information and we
3 can't tell whether the fingers are, you know,
4 have, basically which diagonal orientation they
5 have.

6 In the case of two fingers, this would
7 mean like if you have two fingers that are
8 diagonal, you can't tell if they are really
9 this way or this way (indicating) at the
10 ghosted corners of the diagonal.

11 So that's one set of ambiguities that
12 arises. And in diagram D it is showing when
13 the fingers get closer together, they can still
14 be distinguished in the 2D image, but in the
15 row and column projections, they are already
16 merging. So the resolution isn't as good.

17 And then in figure, two pages after, I
18 show another set of problems with projection
19 sensing schemes, which are inclusion problems.
20 Especially you can see in figure D there,
21 again, this is page .067, the fingers and palms
22 that are in the same columns are really kind of
23 occluding one another. They are all getting
24 added together, and we can't even count. In
25 the row and column projections that appear on

1 the side, you can't even count how many peaks
2 there are and know how many fingers or palms
3 are on that surface.

4 So --

5 Q. Sorry. Go ahead.

6 A. So, you know, with more and more
7 possible touches, that ambiguity is worsened to
8 the point where, you know, a projection sensing
9 system is just -- can't really handle things.

10 Q. Now, Dr. Westerman, did you come up
11 with a solution or an approach to address those
12 problems?

13 A. Yes. My Ph.D. advisor and I, first we
14 built an imaging sensor that could sense the
15 capacitance at each point in a two-dimensional
16 grid, so we got a true two-dimensional array of
17 sensing and not just row and column sensing.

18 Q. And when you had a full
19 two-dimensional array of sensing, what did that
20 generate in terms of data?

21 A. Well, it generated these images that
22 look sort of like paw prints of the hand, and
23 then we went on and in later chapters of the
24 dissertation, I explain how to do analysis of
25 these images, grouping the pixels into objects,

1 tracking the objects over time, and identifying
2 them as fingers or palms or thumbs, and so on,
3 and then extracting gestures and typing
4 information from their motions.

5 Q. Now, these two-dimensional images that
6 you just described, how does that relate to
7 Apple's current multi-touch technology?

8 A. Well, all of Apple's current
9 multi-touch products use two-dimensional
10 multi-touch imaging.

11 Q. And how does that multi-touch imaging
12 relate to the ambiguities that you discuss with
13 respect to the Bisset and Kasser patent in your
14 thesis?

15 A. It doesn't suffer from those
16 ambiguities, so we can -- which means that, you
17 know, people can use as many fingers
18 potentially as they like on our products.

19 Q. Now, Dr. Westerman, you were
20 describing your thesis. After you completed
21 your thesis and your Ph.D., what did you do
22 next?

23 A. My Ph.D. advisor, John Ellias, and I
24 founded, immediately founded a startup called
25 FingerWorks. And over about 18 months, we