Exhibit 12

EXHIBIT 9
FILED UNDER SEAL

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

APPLE INC., a California corporation,

Plaintiff,

vs. CASE NO. 11-cv-01846-LHK

SAMSUNG ELECTRONICS CO., LTD., a Korean business entity; SAMSUNG ELECTRONICS AMERICA,INC., a New York corporation; SAMSUNG TELECOMMUNICATIONS AMERICA, LLC, a Delaware limited liability company,

Defendants.
_____/

C O N F I D E N T I A L
A T T O R N E Y S E Y E S O N L Y

VIDEOTAPED DEPOSITION OF BRIAN Q. HUPPI
REDWOOD SHORES, CALIFORNIA
TUESDAY, OCTOBER 18, 2011

BY: ANDREA M. IGNACIO HOWARD, CSR, RPR, CCRR, CLR.
CSR LICENSE NO. 9830
JOB NO. 42679

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layers or just one layer?
MR. BARTLETT: Objection; vague.
THE WITNESS: I believe we had them on both layers.
MR. MACK: Okay.
Q And when you look at Figures 11A and 11B, do you -- do you see the dummy features in those figures?
A Let's see. Where am I?
Yes, yes.
Q Okay. And those would be the small rectangular boxes between the longer parallel -- substantially parallel lines?
A That's correct.
Q Okay. Could you go to Column 16, Line 20. It explains dummy features a little bit. You see starting on Line 61, Column 16 says that:
"The dummy features 204 are electrically isolated and positioned in the gaps between each of the lines 206 and 208. Although they may be patterned separately, the dummy features 204 are typically patterned along with the lines 206 and 208. Furthermore, although they may be formed from different materials, the dummy features 204 are typically formed with the same transparent conductive material as the lines as, for example, ITO to provide

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the best possible index matching."
How were the dummy features in your invention electrically isolated from the parallel lines?
[redacted]
Q Okay. Would it be possible to treat the ITO areas that were to be dummy features to make them more resistive than the parallel lines?
MR. BARTLETT: Objection; it is calls for speculation; and calls for expert testimony.
THE WITNESS: I I don't know. I can only tell you how we did it.
MR. MACK: Okay.
Q But you physically etched away ITO between the parallel lines and the dummy features; is that right?
A That's how
MR. BARTLETT: Objection; vague; lacks foundation.
THE WITNESS: That's how I recall that we did it, yes.
MR. MACK: Okay.
Q And typically it says that the dummy features

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are made from the same material as the conductive lines; correct?
A Correct.
Q So if you were using ITO for the conductive lines, you would also use the same ITO for the dummy features?
A That's how we did it in our prototypes, yes.
Q And by using the same material, that provided the exact same optical index of the dummy features and the conductive lines; correct?
A That's correct.
Q Okay. Were you familiar with any other touch screen products that used similar dummy features?
MR. BARTLETT: Objection; vague.
THE WITNESS: Not that I recall, no.
[redacted]
MR. BARTLETT: Objection; calls for a legal conclusion.
[redacted]

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[redacted]
MR. MACK: Q. What benefit, if any, would the use of a virtual ground charge amplifier add to the touch panel.
MR. BARTLETT: Objection; calls for speculation; incomplete hypothetical; calls for expert testimony.
[redacted]

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MR. MACK: Okay.
Q And is the -- is the phrase "a virtual ground charge amplifier," is that something that you've heard of outside of Apple?
A I can't say I have, no.
Q Okay. So as far as your -- your best understanding is, there's no -- that's not a term of art; correct?
MR. BARTLETT: Objection; calls for a legal conclusion.
THE WITNESS: Yeah, I'm not aware of necessarily all the different terms that could be used. I know the term "virtual ground" I'm -- I'm aware of being used, "charge amplifier." The whole combination, I can't say I know for sure.
MR. MACK: Q. Are you aware of any products on today's market that may embody the invention described in this patent?
MR. BARTLETT: Objection; lacks foundation; calls for a legal conclusion.
THE WITNESS: I don't know of any specifically, no.
MR. MACK: Q. Well, the Apple products would embody this invention; correct.
A Oh, oh, sorry. I thought you meant outside

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of Apple.
I -- I was not at Apple when Apple finally shipped the final product, so I -- I can't tell you what technique they're using on the final product.
Q Okay. But is it your understanding that it's the -- the iPhone that's shipping today uses the invention described in this patent?
A You know, I can't be sure. I've never torn one apart to see how it works, so --
Q Okay.
A -- I can't speculate.
Q And you mentioned you're not aware of any third parties that are practicing the invention described in this patent; right?
A Not that I'm aware of.
Q All right. So you -- you were obviously aware of touch screen displays prior to May of 2004; correct?
A Correct.
Q So you didn't invent capacitive touch screen displays; right?
MR. BARTLETT: Objection; vague.
THE WITNESS: It depends on what type you mean -- what type of capacitive touch screens you mean.

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MR. MACK: Okay.
Q You didn't invite -- you didn't invent the self-capacitive type of --
A No.
Q -- touch displays; right?
A No.
Q Do you believe that you invented the mutual-capacitive type of touch displays?
MR. BARTLETT: Objection; vague; calls for a legal conclusion; calls for expert testimony.
THE WITNESS: Well, I can tell you that the -- the -- you know, the prototypes that we implemented used mutual capacitance.
MR. MACK: Q. And you weren't aware of any other touch displays that used mutual capacitance before May of 2004; correct.
A No.
Q Okay. What about the two layers of electrodes that were spatially separated from one another? Were you aware of any other products prior to May of 2004 that exhibited that feature?
MR. BARTLETT: Objection; vague; calls for a legal conclusion; calls for expert testimony.
THE WITNESS: I was aware that there were self-capacitive opaque touch devices that used

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copper -- two layers of copper electrodes separated by a dielectric. That was very, very common in things like the Synaptics trackpads.
MR. MACK: Okay.
Q Were you aware of any transparent Synaptics products?
A I believe they did give us a demo once showing a transparent self-capacitive type touch panel.
Q Okay. And did that transparent self-capacitive type touch panel include two layers of electrodes?
A I don't know. I didn't take it apart.
Q Okay. And you also didn't invent multi-touch recognition on a touch display; correct?
MR. BARTLETT: Objection; vague; calls for a legal conclusion; calls for expert testimony.
THE WITNESS: Can you repeat that question one more time, please.
MR. MACK: Sure.
Q You also didn't invent multi-touch recognition on a touch display; correct?
MR. BARTLETT: Same objections.
THE WITNESS: As far as I'm aware, no one had done -- had been able to implement multiple-touch

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left-hand column, SmartSkin sensor architecture. It says that:

"Figure 2 shows the principal of operation of the SmartSkin sensor. The sensor consists of a grid-shaped transmitter and receiver electrodes (copper wires). The vertical wires are transmitter electrodes, and the horizontal wires are receiver electrodes. When one of the transmitters is excited by a wave signal, the receiver receives this wave signal because each crossing point transmitter/receiver pairs acts as a very weak capacitor."

Correct?

A Yes.

Q And looking at that description above with -- in context with Figure 2, would that indicate to you that there are two layers of copper wires?

MR. BARTLETT: Same objections.

THE WITNESS: Well, it looks like there are -- there are two -- there are receiver, as they call them, and transmitter electrodes which may or may not be on the same layer. I don't -- or on separate layers. It's hard to say.

MR. MACK: Q. From the text, all the horizontal wires are receiver electrodes; right.

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A That's the way it's shown, yes.

Q And all the vertical wires are transmitter electrodes; correct?

MR. BARTLETT: Same objections.

THE WITNESS: It appears that way.

MR. MACK: Q. And in order for the intersection, as it describes, to act as a very weak capacitor, those wires must be physically separated; correct.

MR. BARTLETT: Same objections.

THE WITNESS: Yeah, without seeing exactly the physical orientation, it would be hard to say. They -- for something to be a capacitor, they can't be conductively connected to each other.

MR. MACK: Right.

Q So there must be -- there must be some space in between the horizontal wires and the vertical wires; correct?

MR. BARTLETT: Same objections.

THE WITNESS: I would say that would have to be true, yes.

MR. MACK: Okay.

Q And then the next sentence -- doesn't this next sentence describe a mutual-capacitive sensing arrangement, where it says:

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"When a conductive and grounded object approaches a crossing point, it capacitively couples to the electrodes and drains the wave signal. As a result, the received signal amplitude becomes weak. By measuring this effect, it is possible to detect the proximity of a conductive object, such as a human hand."

Does this paragraph to you describe a mutual-capacitive sensing arrangement?

MR. BARTLETT: Same objections.

THE WITNESS: Again, without, you know, fully understanding exactly what they're doing, it would be hard to say. It's -- it sounds like a mutual-capacitive system to me.

MR. MACK: Q. Has anyone inside of Apple, when you were developing your multi-touch prototype, referred to the drive lines as transmitter lines or transmitter electrodes.

MR. BARTLETT: Objection; vague; overbroad; and calls for speculation.

THE WITNESS: I don't remember them ever being called transmitter electrodes, no.

MR. MACK: Okay.

Q What about the sense lines? Did -- have you ever referred to the sense lines in your prototype at

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Apple in the multi-touch panel as receiver electrodes?

MR. BARTLETT: Same objections.

THE WITNESS: I don't remember ever calling the receiver electrodes, no.

MR. MACK: Q. Do you see the next -- in the next column on '31635, the second column, the top of the column says -- or actually, if we -- can we just continue reading that paragraph on the left-hand side:

"The system time dividing transmitting signal sent to each of the vertical electrodes and the system independently measures values for each of the receiver electrodes. These values are integrated to form two-dimensional sensor values which we call proximity pixels. Once these values are obtained, algorithms similar to those used in image processing, such as peak detection, connected region analysis, and template matching, can be applied to recognized gestures. As a result, the system can recognize multiple objects; for example, hands."

Do you see that?

A Yes.

Q So does this appear -- does this appear to show a mutual-capacitive-based sensing arrangement that would recognize multiple touches?

MR. BARTLETT: Objection; calls for expert

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record.
(Recess taken.)
THE VIDEOGRAPHER: This marks the beginning of Volume I, Disc 3, in the deposition of Brian Huppi. The time is 2:33 p.m., and we are on the record.
MR. MACK: Q. Mr. Huppi, you have in front of you Exhibit 712 and 713; correct.
A Yes.
Q And Exhibit 712, is the face of that exhibit is U.S. Patent 7,372,455; correct?
A Yes.
Q Do you recall seeing this patent before?
MR. BARTLETT: The question as phrased can potentially call for attorney client privileged communication and therefore instruct the witness not to answer.
THE WITNESS: I won't answer.
MR. MACK: Q. Do you know the date that you saw this patent before?
MR. BARTLETT: Same instruction.
THE WITNESS: I won't answer.
MR. MACK: He can't tell me the date that he seen this.
MR. BARTLETT: No. If you want to phrase your questions as you as you have in the past and

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say, you know, independent of any meeting with counsel, have you seen this before and when, you can go ahead and do that.
MR. MACK: Okay.
Q Independent -- independent from any meetings you had with counsel, do you recall ever seeing this patent?
A No, I do not.
Q Could you look at Figure 2 of this patent, and the corresponding text starting in Column 13. 13, Line 30, starts with making reference to Figure 2.
A Okay.
Q And Column 13 says "Reference is now made to Figure 2, which is a general description of the second finger detection embodiment of the present invention," and then it talks about a two-dimensional sensor matrix 20; do you see that?
A Yes.
Q And it mentions that at each junction between the two conductors a certain minimal amount of capacitance exists. A finger 26 touches the sensor 20 at a certain position and increases the capacitance between the first conductor line 24 and the orthogonal conductor line 28; correct?
A That's what it says, yes.

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Q So the two-dimensional sensor matrix shown in Figure 2, that would appear to be, again, similar to the SmartSkin matrix that we looked at earlier; correct?
MR. BARTLETT: Objection; calls for speculation; calls for expert testimony; vague.
THE WITNESS: I'd say it's hard to say for sure whether it's similar or not without fully reading this document. You know, the Figure 2 looks similar, but I -- that's all I can say about it.
MR. MACK: Okay.
Q And the -- the two-dimensional sensor matrix 20 in Figure 2 appears to be a rectangular grid matrix of sensors; correct?
MR. BARTLETT: Same objections.
THE WITNESS: It appears that way, but sometimes these things are schematic, so it's hard to tell what this physical arrangement is.
MR. MACK: Q. And 24 and 28 of Figure 2 are both referred to in the text as conductor lines; correct.
A Yes.
Q And it actually says that the conductor lines are orthogonal; correct?
A Correct.

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Q And orthogonal to you would be another term for perpendicular; correct?
A Yes, I think so.
Q Okay. Then if you look at Exhibit 713, which is the provisional application which is incorporated by reference into Exhibit 712, could you look at page 17, which is Figure 3 of the provisional application?
A Sorry. Say that again. Where am I going?
Q Page 17 at the bottom.
A Oh, page 17.
Q Sorry. Figure 3.
A Thank you. Okay.
Q And if you look at that in conjunction with the text that refers to that figure, excuse me, which appears on pages five and six, does it appear that the two -- the two patterns, the vertical pattern and horizontal pattern, are separated by a space?
MR. BARTLETT: I'm sorry. Did you refer him to text? I'm confused.
MR. MACK: Yeah, there's text on -- well, we can look at specific lines of text, if you want.
Q You see on page four, Section 4.2 under "Sensor"?
A Yes.

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Q It says that "In a preferred embodiment, the sensor is a grid of conductive lines made of conductive polymers patterned on a PT foil. The grid is made of two layers which are electrically separated from each other. One of the layers contains a set of parallel conductors. The other layer contains a set of parallel conductors orthogonal to the first set of the set of the first layer"; correct?
A Correct.
Q Is that what it says?
Sorry.
A That's what it says, yep.
Q Sorry.
So that would indicate to you the presumption of Figure 3, if there's two layers of conductive lines; correct?
MR. BARTLETT: Same objections.
THE WITNESS: Well, it says the grid is made of two layers, so --
MR. MACK: Okay.
THE WITNESS: -- that's what it says, yep.
MR. MACK: Q. And it says that the layers are made up of parallel lines, correct, or parallel conductors.
A Yes, it does say that.

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Q And the two different -- the two different layers of parallel conductive layers are orthogonal to each other; correct?
A That's what it says, yes.
Q And again orthogonal is another -- another word -- another term that means perpendicular; correct?
A Yes.
Q And then do you see at the top of page five, it says "In a preferred embodiment," very first paragraph "the sensor is patterned to organic conductive material on a PT foil. Organic conductive materials are basically more flexible and easier to handle and may be able to lower visual difference between conductive to nonconductive area.
"However, in different embodiments the present invention sensor can implement another transparent conductive materials such as ITO"; do you see that?
A Yes.
Q And the ITO, that would refer to indium-tin-oxide; correct?
A I believe so, yes.
Q Okay. And then if you go down to the fifth paragraph, in a preferred embodiment, the conductors

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are straight lines having one millimeter width equally spaced in a 4 millimeter interval; do you see that?
A Yes.
Q That would indicate to you that the lines have an equal pitch?
A Yes.
Q And an equal thickness as well or width?
A It sounds like it, yes.
Q Okay. And at the bottom of page five, in one of the embodiments, there's a three-layered approach described, and this paragraph says, quote, "In one embodiment the transparent sensor is built up of three different layers implemented on three different foils. Two layers are used for two grid of lines. One for the X axis and one for the Y axis, and the third layer is used for hard coating and anti-glaring"; do you see that?
A Yes.
Q Does that appear to correspond to the Figure 3 that we looked -- looked at earlier on page 14?
MR. BARTLETT: Objection.
MR. MACK: I'm sorry. Page 17.
MR. BARTLETT: Objection; calls for speculation; calls for expert testimony.

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THE WITNESS: Well, it's a bit hard to say, since I don't actually refer to the figure. It sounds like it.
MR. MACK: Okay.
Q And then the -- the next -- on page six of the Exhibit 713, it does go into more detail of Figure 3.
It says, quote, "The general object of the present invention is to enable as higher transparency as possible and therefore a preferred embodiment only one foil is used."
So this appears to be a second embodiment where there's only one foil rather than three foils; correct?
MR. BARTLETT: Objection; calls for speculation; calls for expert testimony.
THE WITNESS: Well, I can just tell you what it says. It says it's only using one foil.
MR. MACK: Q. Do you recall if your initial prototype -- or strike that actually.
The -- the embodiment described in the '607 patent, how many layers are in the touch sensor?
MR. BARTLETT: Objection; compound; also calls for expert testimony.
THE WITNESS: I can tell you I -- I can tell