Q Do you agree that Russ presents an extensive collection of image-processing tools?

A I'm sorry, you pointed me to Paragraph 265?

Q Oh, I apologize. 225.

A Oh, thank you. Didn't see it there. Okay. 225.

Okay, I've quoted from Russ in Paragraph 225. Russ says that Russ presents an extensive collection of image-processing tools, so that the user of computer-based systems can both understand those methods provided in packaged software, and program those additions that may be needed for particular applications. All of this is a quotation from the section of the book, of Russ's book headed Introduction.

Q And based on your review of Russ, do you agree with the characterization that Russ presents an extensive collection of image-processing tools?

A There are many things presented in Russ. It's Russ's choice to use the word "extensive."

Q And in your own opinion, is Russ's

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disclosure extensive?

A The statement from Russ is a statement from Russ, which I've incorporated in my declaration. But it's Russ speaking to Russ. It's not my opinion on Russ.

Q Yes, sir. And I understand that. I am asking about your opinion onerous.

In your opinion, is Russ's disclosure extensive?

A I think I've already answered that question.

Q Would you agree that Russ discloses more than five image-processing tools?

A It's possible. I would need to go back and look through Russ in order to start counting things to decide what's distinct in Russ's.

Q Would you agree that Russ discloses more than ten image-processing tools?

A I have no better answer to that than to the previous question.

Q Would you agree that Russ discloses more than one image-processing tool?

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A I'm sorry, more than how many?
Q One, more than one image-processing tool.
A I think that, as I've read to you from the declaration elsewhere, that if by process -- well, let's put it this way: The declaration recites from Russ softening and color enhancement. Whether you'd call those processes or apply some other name to them, I'm not so sure.
Q So in Paragraph 253 we discussed Russ's disclosure of a top hat filter. And in Paragraph 257 of your declaration, you discuss Russ's disclosure of Butterworth low-pass filter. Right?
A Okay. 253, Russ -- I am citing Russ as applying a top hat filter which resulted in color changes to the image. And in 257, the paragraph begins, "Russ teaches how to create a filter in a digital camera which will use FFT" -- fast Fourier transform -- "to produce a soft effect."
And that going on, "Russ teaches that Butterworth low-pass filter can be applied to an image and it will smooth the high-frequency components of the image data to smooth and produce

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some blurring."

Q And as disclosed in Russ, would you agree that the top hat filter is different from the Butterworth low-pass filter?

A Not entirely.

Q Do you agree that those are two different filters disclosed in Russ?

A You keep asking me to identify things as processes, and I don't think I have that to tell you. So because you are using that word, which is -- it's your choice, but I don't know that I would necessarily use it.

I will tell you that, and I'll stand by my previous answers.

Q Can you explain to me the process by which you decided which techniques disclosed in Russ you were going to rely on in your declaration?

A Claim 2 of the -- well, everything other than the preamble of Claim 2, wants to see a special-effects function, which is a color-enhancing function.

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And in 252 I state that I understand that in prior litigation the District Court construed the term "color-enhancing function" to mean color changes to an image.

I then in 253 indicate that, Russ applies Fourier transforms to enhance images. One of those enhancements is a color enhancement which applies, quote, color changes to an image, close quote. And that is a citation from Russ.

So since the District Court had determined that what this Claim 2 requires is something that produces color changes to an image, when I found in Russ a section describing how to perform color changes to an image, same phraseology, I cited to that as being an example of something which, as I say here, a POSITA reading Watanabe in view of Russ would see that the color-enhancement procedures detailed in Russ can be applied to the digital imaging system in Watanabe.

Q For Claim 3 which recites, Wherein the special-effects function is a diffusion function

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of soft effect, did you perform a similar process of looking at the claim and then finding disclosure in Russ?

A Well, rather than discussing what -- what's similar, the Claim 3 requires that the special-effects function is a diffusion function of soft effect.

So in 257 I discovered that Russ teaches how to create a filter in the digital camera which will use a fast Fourier transform to produce a soft effect. And then I cite Russ's description of that. And so I go on at the end of Paragraph 257 to say, With the formulaic examples disclosed in Russ, it would be obvious for a POSITA to apply a soft effect.

Q If we could please go to Paragraph 288 of your declaration. And let me know when you're there, please.

A 288 coming up.

Okay, I see 288.

Q So in the proposed combination of Takane and Watanabe, it's your opinion that Takane would

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use Watanabe's teachings to retrieve parameters from Table 70.

Is that correct?

A Wait. Wait. Are you referring to Paragraph 288?

Q I'm using Paragraph 288 for context to help situate you in the discussion. That was the best reference paragraph I had.

Generally just asking about modifying Takane based on Watanabe's teachings for this specific feature.

So my question is trying to understand the proposed combination. And I'm asking if it's your opinion that Takane would use Watanabe's teachings to retrieve parameters from Table 70?

A Not as stated, no.

Q Can you please go to Paragraph 295. And let me know --

A 295. Okay.

Q So I am going to reask the same question, different format.

Is it your opinion that Takane would use

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Watanabe's teachings to retrieve parameters from Table 70?

MR. WICHMAN: Objection.

A No, as the question is stated.

Q You agree that Takane discloses the parameters are stored in advance in each of the first distortion correction circuit 56 and second distortion correction circuit 58. Right?

A I'm reading from the citation from Takane in Paragraph 295. That parameters exposing a polynomial which approximates the amount of displacement of the optical distortion; i.e., the coefficients of a polynomial, are stored in advance in each of the first distortion correction circuit 56 and the second distortion correction circuit in 58.

Q And I'll also refer you, in case it's helpful, to Paragraph 293 as you answer my next question, which is, it's your opinion that in the proposed combination of Takane and Watanabe, that Takane would be modified to store those parameters in Watanabe's tables located in Takane's ROM 22

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instead of the circuits themselves. Correct?

A There are things in the structure of your question that make it not answerable.

Q Is it your opinion that a POSITA would modify Takane to store parameters in Watanabe's tables located in Takane's ROM 22 instead of the circuits themselves?

A No.

Q Can you please clarify for me your proposed modifications to Takane based on Watanabe?

A I have not proposed a modification.

Q In your opinion, is there any reason a POSITA would be modifying -- would be motivated to modify Takane's teaching -- strike that. I apologize.

In your opinion, is there any reason a POSITA would be motivated to modify Takane to store the parameters in some other memory, as opposed to in the circuits themselves?

MR. WICHMAN: Objection.

A Paragraph 293 is the closest to that --

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that my actual opinion would come to addressing your question. Your question is structured in a way that differs from the aim and intent and structure of the declaration and the method of presenting grounds.

Q So you think Paragraph 293 as an example, is it your opinion that a POSITA would be motivated to modify Takane's system to store the parameters in Takane's ROM 22 instead of in the circuits themselves?

A Well, my opinion is set forth in the declaration, and I'm going to read -- won't read every word of every one, but starting in Paragraph 284. However, Takane leaves the camera's data storage and retrieval techniques to the implementer. 285. Watanabe discloses storing optical distortion correction parameters, ellipsis, in tables.

Watanabe's tables comprise a database.

In 286, Watanabe's control program retrieves image-correction data from the database. And Watanabe's software provides the distortion

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correction parameters to the DSP to correct image distortions.

Now, 287. Watanabe's database and DBMS teachings were well-known. POSITAs would have had several reasons to use those teachings in order to implement Takane system and implement -- not modify -- by organizing distortion correction parameters by image size, lens, focal length, and zoom position in tables comprising a database, then identifying and retrieving parameters, and providing them to Takane's distortion correction circuits.

Now, 288, 289, go into somewhat more detail about this. But 290, A POSITA would choose one or the other approach to storing correction amounts based on practical consideration.

And at 291, Using Watanabe's database and DBMS teachings was within the POSITA's ordinary skill and would have improved Takane in the same way it improved Watanabe.

And then go on to 292, Reasonable expectation of success. And then 293, '4, '5 as

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we've been discussing.

That is my opinion related to what you appear to be asking about.

Q So in Paragraph 287 you referenced your opinion that POSITAs would have had several reasons to use those teachings.

And what are those reasons that a POSITA would store parameters in Takane's ROM 22 instead of in Takane's circuits 56, 58?

A Well, because you used the word "instead," the question is not answerable relative to my actual opinion.

Q We previously agreed that Takane discloses the parameters are stored in advance in Takane's circuits 56 and 58. Right?

A Sorry, you appear to be paraphrasing a citation I have made from Takane, but I think I recognize it.

Q But you agree that Takane discloses the parameters are stored in Takane's circuits 56 and 58. Right?

A At the point of actually performing

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corrections, yes.

Q What do you mean when you say "at the point of actually performing corrections"?

A That's consistent with Takane's description of how those circuits work.

Q So in your opinion, the parameters are not stored in the circuits 56 and 58 in advance?

MR. WICHMAN: Objection.

A They are stored exactly as Takane describes.

Q So do you agree that the parameters would be stored before image processing is performed?

A I'm sorry, I think I missed a few words. It didn't come across as a question.

Q Do you agree that Takane's parameters are stored in circuits 56 and 58 before image processing is performed?

A In order to do the processing related to the image as taken with all the various lens types and settings and so on that would influence imperfections in the image, it is necessary for the correction parameters that would correct for

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that array of problems to be present in the -- in the processors so the processor can carry out those corrections.

Q And is it your opinion that a POSITA would store those parameters in Takane's ROM 22 in addition to storing those parameters in Takane's circuits 56 and 58?

A That is not the way Takane, in view of Watanabe, works.

Q In the proposed combination of Takane and Watanabe, you suggest parameters in Takane's ROM 22. Correct?

A I'm sorry, Takane what?

Q Takane's ROM 22. Correct?

MR. WICHMAN: Objection.

A Takane has a ROM 22, yes. But I don't think that -- that answers your question. I'm not sure that I follow your question beyond that.

Q I can ask again. And it may be helpful to reference Paragraph 293, but you are not limited to Paragraph 293. And my question is, in the proposed combination of Takane and Watanabe,

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it's your opinion that the parameters would be stored in Takane's ROM 22. Correct?

A It is not.

Q In the proposed combination of Takane and Watanabe, where would the parameters be stored?

A Paragraph 293 of my declaration. Thus in Takane in view of Watanabe, Takane's system uses Watanabe's tables, paren, database, close paren, to organize and store parameters for optical distortion correction for each image size, lens, focal length, and zoom position in Takane's ROM 22.

Q So in your opinion, the parameters are not stored in Takane's ROM 22?

MR. WICHMAN: Objection.

A Well, that seems to be a direct contradiction of what I just read to you from Paragraph 293.

Q In your opinion, the parameters would be stored in Takane's ROM 22. Correct?

A As the question is stated, the answer is no.

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Q Do you agree -- strike that. Apologies.

In the proposed combination, would the parameters be stored in Watanabe's tables?

A I could once again read to you the actual text of 293, which addresses the issue of Watanabe's tables and Takane's ROM 22. But that's -- that is my opinion on the subject.

Q I absolutely understand. And I can also read what is in Paragraph 293. I'm just looking for clarification on what that opinion is.

So the verbatim text that's there is not clearly explaining to me what your opinion is, and that's why I'm asking these questions.

Specifically I'm trying to understand where the parameters are stored in the proposed combination of Takane and Watanabe.

A Okay.

Q And I believe I've asked if they are stored in Takane's ROM 22, and you said no. And I've asked if they are not stored in Takane's ROM 22, and you've said no, based on the language in Paragraph 293.

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So I need to understand in the proposed combination where are you suggesting the parameters are stored?

A Okay. The presentation of Takane in view of Watanabe describes what Takane does and does not disclose, and then what Watanabe discloses, which would enable an implementer to implement what is described in Takane. It's not a modification; it is a -- an implementation.

And the subsequent paragraphs, what I was just describing, Paragraph 284. 287 points out that Watanabe's database and DBMS teachings were well-known. POSITAs would have had several reasons to use those teachings. None of this compels the POSITA, and none of those, no specific one of those, is -- would reach to the word "would" that you have been continually using, which is why you have heard so many no's from me.

So going back to 293. Takane, in view of Watanabe, Takane's system uses Watanabe's tables (database) to organize and store parameters for optical distortion correction for each image size,

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lens, focal length, and zoom position in Takane's ROM that is 22.

So Takane's ROM 22 contains information. Watanabe's database is a means for organizing that information for retrieval of that. It is something that could be used by a POSITA as a way to implement Takane and make full use of what is stored and what can be stored in ROM 22 by storing it in a way such that it can be accessed.

Q Thank you very much. I see we've been going for about an hour now. If we could take a short break, and please go off the record.

(A recess was taken.)

MS. O'BRIEN: Let's go back on the record.

BY MS. O'BRIEN:

Q Is it your opinion that Takane's main controlling section 24 implemented as a large-scale integrated circuit corresponds to the claimed ASIC?

A I don't think I got all of that. The Takane did what? I beg your pardon?

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Q Sure. I can repeat the question.

Is it your opinion that Takane's main controlling section 24 implemented as a large-scale integrated circuit corresponds --

A Twenty-four.

Q -- to the claimed ASIC?

A Let's find out.

Now, your question asked whether Takane did this. The declaration addresses the combination of Takane and Watanabe. So I'm not sure that I follow your question, because it appears not to address that combination as disclosed in my declaration.

I am in the meantime looking at the section on Claim 24 for the combination of Takane and Watanabe, Takane in view of Watanabe.

Is that where we're headed?

Q It may be helpful to reference Paragraph 320?

A Okay. 320. Okay. Three two zero.

Okay. There it is. Okay. Now, this is, I see, control section 24. Got it. Okay. Sorry,

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I misunderstood. I thought you were asking about Claim 24. Okay. So, Takane's one-chip LSI, and Takane's, quote, one-chip LSI, paren, large scale integrated circuit, close quote -- that is a quote from Takane -- carrying control section 24, including one or more DSPs implementing at least the first distortion correction circuit 56 and the second distortion correction circuit 58, provides Takane in view of Watanabe, quote, a microprocessor, a digital signal processor, an application-specific integrated circuit, close quote, as required by Limitation 9.a. That's my opinion.

Q And if we could please go up to Paragraph 312, and let me know when you're there.

A Three one two. Again, I apologize. I am hearing you clearly but somewhat faintly. So three one two. Okay. Let me get the entirety visible here. Okay. 312. Now, what about it?

Q In Paragraph 312 you quote Takane's disclosure that main controlling section 24 is structured as a one-chip LSI, large scale

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integrated circuit. Right?

A I see, yeah, from Takane's Paragraph 36, the main controlling section 24 is structured as a one-chip LSI, paren, large-scale integrated circuit, close paren. That's Takane's description.

Q And in your analysis, does the main controlling section 24 implemented as a one-chip LSI correspond to the claimed ASIC?

A I'm sorry, are you asking whether the main controlling section constitutes an ASIC?

Q I am asking in your analysis which component or components you relied on as corresponding to the claimed ASIC?

A I relied on Takane as disclosed. Takane describes -- looking at Paragraph 311 -- actually, first, no, I will look at Paragraph 308, the citation from Takane there. The main controlling section 44 includes a computing section 44 which carries out control computation of the entire main controlling section, computing section is structured to include an image-processing circuit

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which carries out predetermined processings on an inputted data signal and generates digital image data, and a CPU 48 serving as a control section which governs control of the main controlling section 24.

So what I see is that the main controlling section 24 includes a computing section 44 which, in turn, includes an image-processing circuit 46 and a CPU 48. Probably not limited to those, but those are things which are included in the main controlling section 24. That is Takane's statement.

Q So can you point me specifically to which component or components you are relying on as corresponding to the claimed ASIC in your analysis of Takane plus Watanabe?

A Well, I think that I just have the second citation in 308 goes on to say, The image-processing circuit 46 is structured to include a signal-processing circuit 50...a dynamic image signal processing circuit 52...a still image signal processing circuit 54...and a first

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distortion correction circuit 56 and a second distortion correction circuit 58.

So all of those are within the image-processing circuit 56 -- I'm sorry, 46. And the image-processing circuit 46, the previous cite I pointed out is included in the computing section 44, and the computing section 44 is included in the main controlling section 24, and Takane then explains -- this is cited in Paragraph 312 -- that the main controlling section 24 is structured as a one-chip LSI, large scale integrated circuit.

Q So are you relying on the image-processing circuit 46 or the main controlling section 24 or something else as corresponding to the claimed ASIC?

A To the claimed ASIC, is that the last word in your question?

Q Yes, sir.

A Well, I think I've already explained why that's the case. Now perhaps it needs to be stated. But it would certainly be known to a POSITA that a large-scale integrated circuit which

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in this particular case as Takane describes it, the large-scale integrated circuit that is specifically the main controlling section 24, includes all of the things that are listed in the two citations in Paragraph 308.

So those include, for instance, the computing section 44, the imagine processing circuit 46, which carries out predetermined processings.

So the predetermined processings are specific to the application that Takane has in mind, as are many of the things that are within it.

The second cite points out the image-processing circuit includes signal-processing circuit, dynamic image signal-processing circuit 52, still imaging-processing circuit 54, distortion corrections circuits 56 and 58. So all of those are contained, all of those are specific to the tasks that Takane has in mind.

Some of these, like 52 and, let's see,

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54, are intended to process either dynamic or still images. So those are two different capabilities. And the same thing is true of 56 and 58, that they are both specific to correcting distortion, do so at different levels of accuracy, depending on whether you are dealing with a still image or the video that Takane describes as dynamic imaging.

So all of those are application-specific. They are all integrated into the one-chip LSI that Takane describes in the citation in Paragraph 312.

So if you have application-specific components integrated into an integrated circuit, it is, according to everything that has been stated elsewhere in the declaration as to when a POSITA would understand to be an application-specific integrated circuit, and then also what the patent has or has not said what specifically would be an ASIC or derivative circuit.

The summary cited in Paragraph 312 of what is in that one-chip LSI shows that a great

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deal is application-specific. So it is quite plausible that it would be recognized by the POSITA as an application-specific integrated circuit.

Q If we could please go to Paragraph 317, and let me know when you're there.

A I'm sorry, which? 307?

Q 317.

A Got it. Just a second. Coming up. Okay. Just a second. Let me read this.

Okay. I see that.

Q In your opinion, is Takane's CPU a reduced instruction set computer?

A Are you asking me whether Takane's CPU is a RISC processor?

Q Yes.

A It could be.

Q In the proposed combination of Takane and Watanabe, do you rely on Takane's CPU being implemented as a RISC processor?

A Being implemented --

Q As a RISC processor.

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A I offered that as an aspect of the exemplary device that was sold at the time by Texas Instruments, the TMS320C8x, as something that, in turn, would be among a universe of devices available to a POSITA at the time that could be made use of in order to implement Takane.

Q Can we please go to Paragraph 334, and let me know when you are there.

A To be clear, it's helpful, 334. Okay. Yeah, I see the entirety of it.

Q You opine that Takane's first distortion correction circuit 56 corresponds to the claimed digital signal processor. Right?

A I see that at the beginning of 334, Takane's first distortion 56 is a DSP. And I use that acronym based on my understanding of what the claims mean by digital signal processor as illuminated by the specification of the patent and by the admissions or statements of the patent owner that appeared previously.

Q Can we please go to Paragraph 336, and let me know when you are there.

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A 336. Okay.

Q You opine that a POSITA would employ an application-specific integrated circuit for labor-intensive repetitive image-processing tasks.

Right?

A No, that is not what I said here.

Q You reference labor-intensive, repetitive image-processing tasks in Paragraph 336. Correct?

A I use the words "labor-intensive repetitive image-processing tasks, such as digital filtration as admitted by the patent owner."

Those are the patent owner's words.

Q In your opinion, which tasks would be offloaded to an ASIC?

A Which paths would be?

Q Which tasks would be offloaded to an ASIC?

A Well, in my opinion, my opinions are what's in the declaration. And my opinion here is that to the extent an application-specific circuit is not taught by Takane's digital filtration disclosure, a POSITA would recognize the benefit

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of modifying Takane for the digital signal processor to employ an application-specific integrated circuit. Again, as admitted by the patent owner.

POSITA -- POSITA would recognize the benefit of.

Q And the specific task you reference is digital filtration. Correct?

A I recognize, again, you're incorrectly paraphrasing my -- my testimony here -- that the POSITA would recognize the benefit of modifying Takane for the digital signal processor to employ an application-specific circuit for labor-intensive, repetitive image-processing tasks such as digital filtration, as admitted by the patent owner.

So the limitations in your question are not present in my opinion.

Q What other tasks would a POSITA recognize the benefit of employing an ASIC?

A What other benefit?

Q I apologize if that was unclear.

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For what other tasks would a POSITA recognize the benefit of employing an ASIC?

A That's outside the scope of what the declaration addresses, what the claims ask for.

The issue here is, how do you do digital filtration, because that's what the claim requires. So Limitation 9.b, optical -- aberrations from the optical lens mechanism are corrected by applying digital filtration by using the application-specific integrated circuit. The only thing to do that this Limitation 9.b calls for is applying digital filtration.

So in Paragraph 336 when I mention image-processing tasks such as digital filtration as admitted by the patent owner, I'm relying on the patent owner's description of the choice to use something that is application-specific if you need to do the same very narrowly defined thing over and over again.

So it's the patent owner who has introduced that notion of the broad benefit of an application-specific integrated circuit. What I

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have indicated here is that for the task required by the claim of digital filtration, that a POSITA would recognize the benefit of employing that.

Q If we could please go to Paragraph 349, and let me know when you're there.

A 349. Okay. Let me just take a look.

Okay. I see 349.

Q And in Paragraph 349 you opine that there were two known alternatives, Number 1 and Number 2, as set forth in your declaration.

A I say a POSITA would have understood that there were two known alternatives, and then I describe 1 and 2.

Q And in your analysis you are relying on number 2 as set forth in your declaration.

Correct?

A No. I'm offering it as an alternative and then describing ways to implement those things. But these are ways that were available as choices, implementation choices, to a POSITA.

Q With respect to Paragraph 351 of your declaration. Will you let me know when you're

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there, please?

A I'm sorry, would you repeat the number?

Q Three five one.

A Okay. I see that.

Q In the proposed combination of Takane and Watanabe, which component would identify the DSP filtration algorithm for a particular operation correction?

A Go back to 348. Parameters expressing a polynomial which approximates the amount of displacement of the optical distortion, then used by the correction circuits.

And then on the second cite from Takane, the amount of displacement of the optical distortion can be approximately expressed by a multi-dimensional function F of D of a distance D from the center of the image, the optical center.

So the function F of D is something which can be carried out once you put certain parameters as described in the quote from Paragraph 54 of Takane.

And so the combination of that

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multi-dimensional function and the specific parameters that are to be used at a particular moment based on the actual lens settings and so on, one way of looking at that is that those comprise an algorithm as the claim -- let's see. Does it say that? Okay. Somewhere there is a claim that does, in fact, require an algorithm.

Anyway, the algorithm referred to in 352, Takane's SoC would identify the correction algorithm by accessing the database for information identifying the algorithm (or the algorithm itself), then obtain the algorithm for the DSP so it could apply the filter and correct the aberration.

And that then goes to what I had just read to you from Paragraph 348, where the function F of D is known for dealing with distortion, for describing distortion.

But in order to correct for the particular kind and amount of distortion that exists in a particular image, taken with a particular lens at particular settings, that

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requires the parameters that are described in the cite from Takane's Paragraph 54.

And when you have those parameters and you put them into the function, you have now created an algorithm for creating that correction at the moment.

Some other lens and settings might have a different distortion, so it would have different parameters for correcting that.

Q We discussed that there are many different components in the main controlling section 24 implemented as a large-scale integrated circuit. And in Paragraph 352 of your declaration you opine that Takane's SoC would, quote, identify, close quote, the correction algorithm, and then obtain the algorithm for the DSP.

So my question is, which component of that large-scale integrated circuit would identify the correction algorithm?

A Okay. Let's go back to the description of the contents of that large-scale integrated circuit. Okay. There we are. Paragraph 308.

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So an image-processing circuit 46 carries out predetermined processings. The image-processing circuit 46 includes two kinds of signal-processing circuit for -- pardon me, 50 and 52. Still image -- right. A dynamic image. So 50 in turn comprises a dynamic image signal-processing circuit 52, a still image signal-processing circuit 54, and first and second distortion correction circuits 56 and 58. So those circuits carry out the correction.

Now, the CPU back in Paragraph 35 of Takane, the CPU 48 serving as a control section which governs control of the main controlling section 24 includes the image-processing circuit 46, which carries out the determined -- predetermined processings.

So the CPU tells the image-processing circuit -- yes. It tells the image-processing circuit what to do. And in order for the image-processing circuit to do what it needs to do, then we go back to the section that we were just looking at, talking about the parameters and

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the function F of D.

On the way here -- yeah. All right. So Paragraph 344. A POSITA would understand that carrying out predetermined processings for correcting optical distortion aberration is done in Takane by having the system software identify in the database the proper conversion table for the specific aberration.

And so Takane describes at Paragraph 5 some kinds of distortion. Paragraph 14, processing time can be shortened. Paragraph 33, various programs, parameters, conversion tables and the like, are stored in advance.

And then in Paragraph 60, parameters which are peculiar to the predetermined image size obtained at the time of photographing standby or the time of dynamic image photographing, can be stored for each of a plurality of predetermined focal distances.

So that's where the database of Watanabe becomes useful, in organizing these predetermined parameters so that the right ones can be brought

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in to deal with the particular image of the moment.

Q And I believe you just said that Watanabe's tables or database would be useful to organize the parameters. Right?

A I did not say would be used.

Q That -- if I understand your earlier testimony correctly, is that Watanabe's teachings of a database or table 70 would be useful to organize the parameters of Takane.

Is that accurate?

A Okay. But that's different from your previous question. Would be useful implies that they are -- are in an array of choices. And that's what I actually -- that sort of thing. And I can go back and read the exact verbiage of my declaration.

But "would be useful" is different from "would be used."

Q And if the databases -- strike that.

If the database teachings were used in Takane to organize the parameters, would the

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parameters still be stored in the distortion correction circuits themselves?

MR. WICHMAN: Objection.

A The -- when you say "the parameters," you make the question not properly answerable.

Q So in the combination of Takane and Watanabe, you are not relying on modifications of Takane to use some other database. Your opinions are just explaining what a POSITA would know could be useful.

Is that accurate?

MR. WICHMAN: Objection.

A Well, again you just made two statements. I haven't heard a question yet.

Q In your analysis of Takane and Watanabe, you are not relying on a modified system of Takane based on Watanabe's teachings of a database.

Correct?

A That is wrong.

Q So in the proposed combination of Takane and Watanabe, you are relying on a modification of Takane's system. Correct?

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A The way your question is structured, it is not properly answerable based on my actual opinion.

Q If we could please go to Paragraph 38 --

A Could you let me interrupt you, because I have just noticed I left the door open and there may be some background noise. Let me just put my headset down for 15 seconds to close the door.

Q Okay.

A I am not going anywhere.

Okay. Sorry if I made some noise myself, but here I am.

Q Okay. We are still on the record, and I was asking to please go to Paragraph 381 of your declaration.

A Three eight one. Okay.

Okay, I see 381 and what precedes it.

Q In the proposed combination of Takane and Watanabe and Russ, did you consider whether that combination would require additional componentry?

A Would require, I'm sorry, you're fading away at the end of your question.

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Q Additional componentry?
A Oh.
MR. WICHMAN: Objection.
A Let's see.
So what I did state here -- sorry. Okay. So I'm going to lead up to this in 381 by going to 378. A POSITA would have had reasons to combine the image-modification processes from Russ with Takane in view of Watanabe that were similar to the reasons for combining Russ with Watanabe, discussed above.
Russ lends itself to combinations with Takane in view of Watanabe by describing and demonstrating detailed implementation of many digital image-processing options for correction and enhancement used in digital cameras, matching the purposes of Takane and Watanabe.
Further, POSITAs would have had reasons to use Russ's filtering and image-processing teachings in the system of Takane in view of Watanabe to achieve Takane's aberration, paren, distortion, close paren, corrections, or Takane's

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other, quote, various types of corrections, close quote, describing white balance adjustment, gamma correction, sharpness correction.

So that was Paragraph 380.

This combination would combine familiar techniques and components (Russ's filtering and image processing with the imaging and image-processing system of Takane in view of Watanabe and various types of corrections), yielding predictable results. And POSITAs would have had a reasonable expectation of success because Russ's techniques used software that could be implemented in the system of Takane in view of Watanabe, and doing so was within the POSITA's ordinary skill.

So that is my opinion on the topic that you just raised.

Q So you offered no opinions on whether the proposed combination would require additional hardware.

Is that correct?

A What I said -- well, I just read a lot of

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that, so I think it stands as a -- as a proper answer.

But the last sentence of 381 I think specifically goes to why I would say no to your question. Because it says that the POSITAs would have a -- would have had a reasonable expectation of success because Russ's techniques used software that could be implemented in the system of Takane in view of Watanabe, and doing so was within the POSITA's ordinary skill.

Q If we could please open the declaration from the '925 IPR on the '339 patent.

A Okay.

Q It is also Exhibit 1003, just in IPR2024-00925.

A Okay, I have Exhibit 1005 from the '925 case for the '339 patent.

Q Great. Thank you.

If we could please go to Paragraph 259 of your declaration, and let me know when you're there. And actually I'm sorry, I had a typo myself. Paragraph 264. I'm sorry for that.

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A 264. Okay. I was having fun reading 258. 264. Okay.

All right, I see 264.

Q You opine that Watanabe already provided the hardware supporting Kishida's techniques. And my question is, which hardware are you referring to?

A The cite from Kishida in Paragraph 264 talks about a program to make a computer perform image processing that processes the object image in which the object is represented and applies exposure correction or white balance correction to the said object image.

So Watanabe has a computer operating under the instructions of a program, cause there to be -- cause there to be performed image processing that applies correction.

So Kishida has another kind of correction to apply, but the approach that Kishida discloses to apply that correction is the same approach that Watanabe uses.

Q And just to clarify, in your analysis you

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relied on the translation in Exhibit 1007 of Kishida. Correct?

(Exhibit 1007, previously marked, not attached.)

A Well, yeah, the example of Kishida that I have -- and let's see. Right. You provided a copy of that. So let me just open that up. I'm pretty sure I remember it well, but this is not a memory test. Just a moment. Okay.

So Mr. Harumi Morota indicated that he made this Japanese into English translation to the best of his knowledge and belief. And what follows is a document in the English language, so this is presumably what Mr. Morota produced from the Japanese original that he cites.

Q And so, yes, you relied on the translation in your --

A This is the basis of all references to Kishida, or to Exhibit Number 1007, that are in my declaration.

Q And Exhibit 1008 is the Kita reference. And my question is just that, in your analysis in

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your declaration, you relied on the translation provided in Exhibit 1008. Correct?

A Open it up. Let me just open it up what you have sent me as Exhibit 1008. Boom. There it is.

MR. WICHMAN: So objection. Form.

A All references in my declaration to Kita or to Exhibit 1008 are with reference to this document, which is what Mr. Morota says is a translation made by him to the best of his knowledge and belief.

Q And returning back to your declaration on the '339 patent. If you could please go to Paragraph 292 and let me know when you're there.

A Okay. So 292. Let's see here. Let's see what precedes it. All right. I see 292.

Q In Paragraph 292 you opined that Watanabe already provided the hardware supporting Kita's techniques. And my question is, which hardware are you referring to?

A Watanabe, as we discussed before with respect to Kishida, has functionality associated

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with storing information about correction as needed. Retrieving that information and presenting that to something which will process images based on that information, that combination of functionality is sufficient to implement Kita as well.

Q If we could please open your declaration on the '685 patent. That's also Exhibit 1003 in IPR202400923.

A I have it. '923 case. '685 patent, Exhibit 1003.

Q You agree that a CCD sensor captures light intensity levels at specific pixel locations. Right?

A You tend to fade away at the end of your questions. CCD image sensor does?

Q You agree that a CCD image sensor captures light intensity levels at specific pixel locations. Right?

A Let's see. When you say I agree, first let's establish whether we're talking about my actual declaration which is the subject of this

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deposition. So let's see. Capture.

Well, so far I am not finding in my declaration that which you have told me that I opined on. So my answer to the question, if I remember it correctly, is no.

Q So you agree that a POSITA would be familiar with CCD sensors in the context of digital cameras. Right?

A In the context of?

Q Digital cameras. Right?

A I believe so, but let me -- again, my belief is not the issue here, because we need to -- since you refer to the POSITA, we're referring to what would be known to a POSITA at the time. So let me see if there is a particular section of the declaration. Let's see.

In this declaration I don't have any specific statement along those lines. But -- oh, here we are. Yes, actually, we do. At Paragraph 142 and 143, sorry. Watanabe, which is part of what would be presumed to be known to a POSITA, refers to a digital camera 100 as the image

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recording apparatus is provided with a CCD charge coupled device 53.

Q And in your opinion, not limited to what is disclosed in your declaration, I'm asking you about your opinion, a POSITA would be familiar with well-known components of digital cameras.

Right?

A There are several problems with that question, so I think I'll tell you that it's not answerable as stated.

Q Okay. I'm asking questions about the background knowledge of a POSITA and how different camera components work. So in your opinion, would a POSITA be familiar with a CCD sensor?

A I answered that question already by citing Watanabe.

Q And do you agree that a CCD sensor captures light intensity levels at specific pixel locations?

A Do I agree? Yes, a CCD has photosensitive elements, at least the CCD image sensor does. There are other kinds of CCD.

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Q And you agree that a CCD captures still image input. Correct?
A Still image?
Q Input. Correct?
A Input? I recognize that a CCD image sensor can be used to capture a still image.
Q And in your opinion, video is a succession of still images. Right?
A It doesn't need my opinion. This is what's explicitly stated in the -- in the specification of the '685 patent.
MR. WICHMAN: So, Ms. O'Brien, before you go too far, it's been an hour. I wonder if you want to give people a five-minute break or continue a little bit and then stop or something like that.
MS. O'BRIEN: Thank you. Let's go off the record, please.
(A recess was taken.)
MS. O'BRIEN: If we could please go back on the record.
Q So before the break we were discussing

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the background knowledge of a POSITA and specifically a CCD sensor. And my next question is, would you agree that a CCD in a video camera must capture multiple images every second?

A Must capture multiple images, last two words, please?

Q Every second.

A Oh, a CCD image sensor in a video camera must capture a rapid succession of images. Each one is a still image.

Q And do you agree that the CCD must reset after each image?

A Yes.

Q And do you agree that an A/D converter will convert each pixel's charge into a digital value by measuring the amount of charge at each pixel?

A If you're referring, for example, to a digital camera, because you haven't tied this to anything specific, Watanabe, for example, describes the analog-to-digital converter -- pardon me -- sampling the analog signal available

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from the CCD image sensor.

Q And when you use the verb "sampling" or "sample," do you understand that term to mean measuring the amount of charge at each pixel at a particular rate?

A Broadly speaking, yes.

Q And each pixel in the image is sampled one by one. Right?

A Not necessarily the CCD itself stores charge at each pixel location all simultaneously. And then the readout can be done in a somewhat sequential basis, but there are choices there.

Q And in the embodiment of Watanabe, is the pixel charge sampled in a sequential fashion one by one?

A Let me get to the specific reference.

There we are. There's Watanabe. I'm trying not to keep every document open all the time. Okay.

Watanabe describes the sampling as taking place at an optimum sampling frequency; e.g., an integral multiple of subcarrier frequency of an

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NTSC signal.

Q And what is your understanding of that phrase, "sampling frequency"?

A I don't think it needs interpretation. It is the A-to-D converter is investigating the analog signal at intervals. And the intervals are spaced in time by the period of the sampling frequency.

Q And you agreed, based on the disclosure in the '685 patent, that video is a succession of still images?

A The statement is made in the '685 patent itself.

Q How does a POSITA -- strike that.

How would you stitch together multiple successive images to create a video?

A I don't know. Your notion of stitching is puzzling to me.

Q How does a digital video camera take multiple successive images and turn them into a video that's in, for example, MPEG format?

A Sorry, are you asking about the sensor or

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the camera all together?

Q I am talking about a video camera creating --

A Okay.

Q -- video from multiple still images.

And my question -- I apologize for lack of clarification. My question is trying to understand how a video camera takes multiple successive still images and then turns them into a video that is in, for example, MPEG format.

A Well, your notion of turning in I think is also puzzling, like your notion of stitching.

A video camera receives a succession of still images, and then sends them along as a succession of still images according to some recognized format such as NTSC.

Q And if I have a succession of still images, would I take -- would I capture a still image and then process that image, and then capture the next image? Or would I capture all the still images and then process all the still images for a video?

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A You're asking me for what you would do, so I would leave that choice to you. So it -- that was the specter of your question. Do you really mean it that way?

Q Thank you for providing necessary clarification. Or acknowledging I need clarification.

If we look at Paragraph 149, for example, of your declaration on the '685 patent. Will you let me know when you're there.

A Paragraph 149. Okay. I just wanted to make sure I was in the right document. 149. And I apologize for the background noise. Okay. 149. "A POSA would understand that each such image captured by a digital video camera would need to be corrected in the same manner Watanabe discloses."

Q And my question is, would Watanabe's camera capture an image, perform aberration correction on that image, and then take another image and perform aberration correction on that second image throughout the course of the video;

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or would Watanabe capture all of the images and then correct all of the images in your analysis of Watanabe here in the '685 patent declaration?

A The paragraph you just pointed me to describes how Watanabe deals with a still image. And the paragraph conveys my estimate of what a POSA in this case, POSITA, would understand that each such image would need to be corrected in the same manner. And the same manner means that you would correct that image and then you'd go ahead and capture the next one and correct it.

Q If we could please go to Paragraph 385 of your declaration, and let me know when you're there.

A Okay. 385 coming up. Right.

Okay. I see it.

Q In your opinion, would a POSA have known the function of Takane's first distortion correction circuit could be added to Watanabe's control program?

A Let's see if I actually have an opinion on that. Right. Okay.

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So the citation from Takane in Paragraph 385 -- it's from Takane's Paragraph 16 -- indicates that the plural correction sections have respectively different correction accuracies, and the processing speeds thereof are also different, in accordance with their correction accuracies.

So the first corrections distortion circuit and the second distortion correction circuit correct the same distortions. The difference between them is simply a matter of degree.

And it would be up to the -- as described in 386, that even the high accuracies, so the second distortion circuit of Takane, could be accomplished by adding Takane's corrections to Watanabe's control program software running on Watanabe's CPU 57 to execute corrections in Watanabe's digital signal processor.

Q And then in Paragraph 387 through 389, generally my clarifying question is, is it your opinion that the function of Takane's signal-processing circuit 50 would be added to

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Watanabe's control program?

MR. WICHMAN: Objection. Form.

A Just a moment. All right. So Takane's signal-processing circuit 50 is carrying out a certain correction. They -- as we've discussed before, Takane is -- goes only so far in describing the specifics of an implementation to carry out those corrections.

So combining Takane with Watanabe enables the description Watanabe provides of a way to carry out corrections of the sort that can be done by having a CPU instruct a digital signal processor based on some stored correction information that the light balance correction that Takane performs in digital -- in signaling circuit 50 is performed that way.

All of Takane's corrections are performed by a CPU instructing a -- some form of a digital signal processor, as the claim would call for.

And based on stored information about how best to perform those corrections for a specific image, white balance in that sense is no different

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from distortion as discussed in 385 and 386.

Q If you could please go to Paragraph 396 and let me know when you're there.

A Okay. 396. Okay.

Q Do you see where you stated, "When a DSP adjusts an image white balance, it applies color filters"?

A That's the beginning of the first sentence of 396.

Q Takane does not disclose the use of a filter for white balance correction. Right?

A Takane describes a white balance adjustment. I'm looking at Paragraph 394 for a cite from Takane. At the signal-processing circuit 50. "A digital image data is subjected to, for example, various types of correction processes, such as white balance adjustment."

Q Takane does not disclose in Paragraph 44 the use of a filter, though. Right?

A Paragraph 24?

Q I apologize. Paragraph 44 that you just read from in Takane.

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A Okay. Let me look at Takane's Paragraph 44.

Q Sorry to jump in like that.

A Okay. So Takane says in Paragraph 44 that at the signal-processing circuit 50, the digital image data is subjected to, for example, various types of correction processes, such as white balance adjustment, a gamma correction, sharpness correction, and the like. And it goes on to talk further about what -- what kinds of processing are done.

Q And just for the record, I will represent that Takane is Exhibit 1009 that we were just discussing.

(Exhibit 1009, previously marked, not attached.)

Q Now, going back to your declaration on the '685 patent, and Paragraph 396.

A Okay.

Q Just let me know when you're there.

Are you relying on Dorrell's teachings regarding the use of a filter for white balance

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correction?

A So 395 indicates that -- and again it refers to an earlier section, both generally and by Takane -- white balance adjustment adjusts overall color in an image and so applies color filtration, which is all the claim requires.

So the fact that Takane does white balance adjustment means that Takane is applying color filtration, and therefore is, in fact, meeting the claim.

A person of ordinary skill at the time of the priority date would be aware of references such as Dorrell, which teach a particular way to make the white balance correction. Dorrell is a reference, a piece of information, that's available to POSITAs. It is not the only such. And it would be up to the POSITA to decide, Ah, I know about Dorrell, so I know how to do what Takane is telling me.

Q And do you agree that the paragraphs we are discussing, including Paragraph 396, are under the section regarding ...

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A Regarding?

Q My apologies. The paragraph we are discussing are under the section for Ground 4, the proposed combination of Watanabe and Takane?

A Let me just see Paragraph 396. Let me check. Oh, right. 396 is part of Ground 4, Takane in view of Watanabe, if further view of Russ.

Q My apologies. I think you might be in the wrong declaration. I'm looking at the declaration --

A Oh, sorry.

Q Yeah, declaration on the --

A That's why I'm not -- I generally am not trying to have all the items up at once. You're right. Okay. Just a second. 396 is in -- yeah, that would have been fun, wouldn't it? Let's see. Yes, is Watanabe in view of Takane.

Q And is it your opinion that a POSITA would have known, based on the teachings of Takane, that Watanabe's digital signal-processing circuit 56 could perform white balance correction?

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A Oh, I think I followed your question. If what you're asking is Watanabe's implementation could be used to perform what Takane adds, the answer is stated in my declaration. It's on the basis for this ground.

Q And I apologize, I'm looking under Limitation 10.a, spanning Paragraphs 393 and -- 393 through 398, and then there's also 18.a at Paragraph 399. And I am looking to clarify if your proposed combination of Watanabe and Takane, Takane's teachings of white balance adjustment, would be performed by Watanabe's digital signal-processing circuit 56?

A Okay. At Paragraph 389 I state that POSAs would have known that Takane's white balance adjustment could be carried out in Watanabe's system again by adding to Watanabe's, quote, control program, close quote.

And then 390, Watanabe's system with software implementing Takane's white balance adjustment, la, la, is referred to herein as Watanabe in view of Takane.

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So now when we -- having indicated that in 389 the white balance adjustment could be carried out, Takane's white balance adjustment could be carried out in Watanabe's system, we now go to limitation 10.a.

And as indicated in 395, that white balance adjustment can be used to apply color filtration. And based on that, the issue of whether Takane in view of Watanabe can do this not just to one frame but to at least two frames, is actually just a simple application.

Each successive frame is to be dealt with in the way that's stated by Takane in view of Watanabe in the section above. So if you have two successive frames, or any two frames for that matter, of video captured by Takane in view of Watanabe, then each of those will be corrected using the extension of or the -- can be done by applying Watanabe's implementation to carrying out the task described at a higher level in Takane.

Q And so consistent with your earlier opinions, you agree that Watanabe's -- strike

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that. I apologize.

Consistent with your earlier opinions in the proposed combination of Watanabe and Takane, you opine that Watanabe's digital signal-processing circuit 56 would apply color filtration by way of white balance adjustment.

Correct?

A Not quite. Takane describes how -- in functional terms that there are circuits that will carry out various kinds of correction of image processing. Watanabe describes similar functions, but in more specific detail. So a possibility open to a POSITA would be to follow the implementation of Watanabe, but add to that the specific formulas and correction information necessary to in this case handle white balance.

Q And as far as which component of Watanabe would perform the white balance adjustment, in your opinion that would be Watanabe's digital signal-processing circuit 56. Correct?

A No, not correct.

Q You opine that Watanabe's digital

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signal-processing circuit 56 corresponds to the claimed digital signal processor. Correct?

A Watanabe and Takane, and actually most of the references in all of these cases, describe functions carried out by functional blocks which as you go from reference to reference are described in various levels of specificity of implementation. So the function of correcting white balance or correcting any of the distortions or aberrations that are described here, is carried out by a group of functional blocks described in any one of these references. And in Takane's case there are several functional blocks. Attempting to parse this down to a specific, as you would say, component, goes beyond either -- it goes beyond what the analyzing the claims requires. Because the claims make no restriction, they don't say how exactly and what kind of hardware, say, a digital signal processor might be implemented. Even when they mention application-specific integrated circuit, there is no real basis for seeing that that has any particular or even

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preferred description or particular table of contents of what you would call components.

Q In the context of Watanabe, is digital signal-processing circuit 56 a hardware component?

A So I just said it's a functional block, and realization of it in hardware is left to the implementer. And that functionality is all that's required to meet the claims. And that's why the declaration puts forward that level of description. Claims don't ask for the sort of thing that you're asking.

Q Could you point me to anything in Takane that discusses a shortcoming in the proposed solution that still needs to be addressed?

A I'm sorry --

MR. WICHMAN: Objection.

A I know you have to lean in --

MR. WICHMAN: Objection. Form.

A -- in order to read your question, but it's taking away from whatever is serving as your microphone, and you are fading away for the question.

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Q I apologize for that.

Can you point me to anything in Takane that discusses a shortcoming in the proposed solution that still needs to be addressed?

MR. WICHMAN: Objection. Form.

A I think you asked me about something like this with respect to one of the other references. Or it's possible you may have asked me about this -- well, you may have asked me about Watanabe. It doesn't really matter.

Takane describes with quite high confidence an approach to solving a problem. It's a functional approach. And it does not indicate that it doesn't work, that his description is somehow incomplete, or that what he's described can't work until you do something else to it.

So no, I don't see anything like what you're asking.

Q If we could please take a five-minute break. We'll go off the record.

(A recess was taken.)

MS. O'BRIEN: If we could please go back

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on the record.

Mr. Laub, thank you for your time. I have no further questions as of right now. So I pass the witness.

THE WITNESS: Okay.

MR. WICHMAN: So Sony would like a ten-minute break. Let me go back through my notes, then we'll -- if we could come back on at 2:53. So off the record.

(A recess was taken.)

MR. WICHMAN: On the record.

EXAMINATION BY COUNSEL FOR PETITIONER

BY MR. WICHMAN:

Q Sony has a few questions.

Mr. Laub, do you have your declaration from the -- concerning the '685 patent in front of you?

A I'm sorry, would you speak up just a bit.

Q Do you have your declaration concerning the '685 patent in front of you?

A I do.

Q Can you go to Paragraph 149, please.

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A 329?
Q 149.
A Sorry, 140?
Q 149.
A 149. The third time's the charm. I apologize again, this phone hook up is not breaking up but it keeps going faint. Okay. Paragraph 149. Yes.
Q Do you recall that Ms. O'Brien asked you about this paragraph?
A Yes, I do.
Q Do you recall that Ms. O'Brien asked you whether a POSA or a person of ordinary skill in the art would have understood that each image captured by a digital video camera would need to be corrected in the same manner that Watanabe discloses?
A I recall that she asked that.
Q My question is, is there any reason that in Watanabe that Watanabe's image processing that would prevent Watanabe from processing an image while also capturing the next image on the CCD?

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MS. O'BRIEN: Objection. Form.

A No, there is not.

Q Does Watanabe describe the sequencing of the image processing in the image capture in the CCD for a digital video?

A Yes.

Q How does it describe it?

A Well, there -- there are various parts of Watanabe's system work in a sequence and eventually deliver a corrected image for each image that's captured by the CCD.

But the first couple of parts of the sequence where the CCD receives the light pattern projected on it by the lens, turns that into a pattern of electrical charge, which is then read out through the CDS circuit and then digitized by the A-to-D converter, that needs to be done with the information for the current image.

But the output of the A-to-D converter then goes into a body of functional blocks that will do corrections on that image. And they may take some time to carry out those corrections.

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But as long as they can do that without building up a backlog, then they can be doing, say, the correction of Image N. Well, Image N plus one has just been projected onto the CCD. So it is the same manner, but it doesn't mean that all of the steps, all of the -- the entire process from initial image capture to delivery of a corrected image must be completed for a frame of a digital video before the next frame is captured.

MR. WICHMAN: No further questions.

EXAMINATION BY COUNSEL FOR PATENT OWNER

BY MS. O'BRIEN:

Q Can you please point me to the disclosure in Watanabe where multiple images are processed?

A Watanabe describes image capture in such a way that multiple images can also be captured.

Watanabe also indicates the readiness to do that by the description of the so-called optimum sampling frequency as being related to the NTSC format, NTSC being the -- well, original from 1953 format for analog color television, in which the coloring information was carried on a

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subcarrier of 3.58 megahertz, 3.57, la, la, la, lots of decimals.

And the idea was that during each of the 29.94 frames per second, the brightness information would be captured and the coloring information would be captured, and then they would -- both of those would be sent; the coloring information on the main carrier -- I'm sorry, the brightness information on the main carrier and the coloring information on the color subcarrier.

Now, the success of that particular format led the organization, the Society of Motion Picture and Television Engineers, to put together a standard, their Standard Number 170M, which describes specifically that if you're going to digitize -- sorry, the -- no. No. I take that back.

170M indicated that this analog signal that was carefully described in 170M, that sort of fully detailed version of the 1953 NTSC release, that this standard specifies the interface for analog interconnection, and serves as the basis

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for the digital coding necessary for digital interconnection of NTSC equipment.

So then in 1955 the same Society For Motion Picture and Television Engineers released its Standard 244M, which, as it says, the standard describes a bit-parallel composite video digital interface for systems operating according to the 525-line, 59.94 hertz NTSC standard as described by SMPTE 170M, sampled at four times color subcarrier frequency.

Now, I've repeated this, these statements that I'm making, in Paragraphs 143, 144, 145 of my '685 declaration.

146, I say that the second part of that sentence connects with Watanabe's disclosure that -- and I am quoting from Watanabe -- output signals from the CCD pass through the CDS circuit 54 and are converted by the A-to-D converter to digital signals at optimum sampling frequency; e.g., an integer -- an integral multiple of subcarrier frequency NTSC signal.

Now, to me this is an indication that a

POSITA would pick up, that Watanabe is making sure that the process of receiving the information from an image as captured by the CCD is done at a rate which would be compatible with sending a sequence of those images at the same rate as the NTSC TV standard does; namely, at just under 30 frames per second.

So I see in that the provision that Watanabe has made for using a disclosed system to deliver video.

MS. O'BRIEN: I have no further questions at this time. Thank you.

MR. WICHMAN: So I believe that's it. We would just like to put on the record that the witness will read and sign the transcript.

(Off the record at 3:03 p.m. EST.)

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ACKNOWLEDGMENT OF DEPONENT

I, LEONARD JOSEPH LAUB, do hereby acknowledge that I have read and examined the foregoing testimony, and the same is a true, correct and complete transcription of the testimony given by me, and any corrections appear on the attached Errata sheet signed by me.

_____ _____

(DATE) (SIGNATURE)

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C E R T I F I C A T E

I, Debra Ann Whitehead, E-Notary Public in and for the Commonwealth of Virginia, do hereby certify:

That LEONARD JOSEPH LAUB, the witness whose deposition is hereinbefore set forth, was duly sworn by me before the commencement of such deposition and that such deposition was taken virtually and is a true record of the testimony given by such witness.

I further certify that the adverse party, SONY CORPORATION, was represented by counsel at the deposition.

I further certify that the deposition of LEONARD JOSEPH LAUB occurred virtually, on Wednesday, February, 2025, from 8:04 a.m. to 3:03 p.m. EST.

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I further certify that I am not related to any of the parties to this action by blood or marriage, I am not employed by or an attorney to any of the parties to this action, and that I am in no way interested, financially or otherwise, in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 5th day of February, 2025.

My commission expires:
October 31, 2027



E-NOTARY PUBLIC IN AND FOR THE COMMONWEALTH OF VIRGINIA

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