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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHARP CORPORATION, SHARP ELECTRONICS CORPORATION, and SHARP ELECTRONICS MANUFACTURING COMPANY OF AMERICA,
Petitioner

Case Number IPR2015-00021
Patent Number 7,202,843 B2

Held: December 1, 2015

BEFORE: SALLY C. MEDLEY, BRYAN F. MOORE, and BETH Z. SHAW, Administrative Patent Judges.

The above-entitled matter came on for hearing on Tuesday, December 1, 2015, commencing at 10:01 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

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P R O C E E D I N G S

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JUDGE MEDLEY: Good morning.

MR. LO CICERO: Good morning.

JUDGE MEDLEY: This is a hearing for IPR -- are you ready? -- 2015-00021 between Petitioner Sharp and Patent Owner Surpass Tech Innovation. Per our October 23rd order, each party will have 30 minutes total time to present your arguments. Petitioner, you proceed first to present your case with respect to the challenge claims and the ground, single ground for which the Board instituted trial. And then Patent Owner, you'll have time to respond to Petitioner's presentation. Petitioner, you can reserve rebuttal time if you like.

At this time, we'd like the parties to please introduce counsel, beginning with the petitioner.

MR. LO CICERO: Good morning, your Honors. Anthony Lo Cicero from Amster, Rothstein, Ebenstein. With me is my partner, Brian Comack, and our colleague, Mark Berkowitz.

JUDGE MEDLEY: Thank you. And for Patent Owner?

MR. HELGE: Good morning, your Honor. My name is Wayne Helge from Davidson, Berquist, Jackson & Gowdey, LLP. And I'm here representing Patent Owner, Surpass Tech innovation, LLC. With me is my colleague James Wilson.

JUDGE MEDLEY: Thank you. Petitioner, you may begin. And would you like to reserve rebuttal time?

MR. LO CICERO: I would, your Honor. Ten minutes, please.

JUDGE MEDLEY: Okay. Please proceed.

MR. LO CICERO: Your Honor, I have hard copies of our demonstrative exhibits if you'd like.

JUDGE MEDLEY: Yes, you may approach the bench with it. Thank you.

MR. LO CICERO: Good morning, your Honor, as I said I'm Anthony Lo Cicero, representing the petitioner, Sharp.

We believe that our papers, supplemented by today's hearing, will demonstrate that Claims 4; 8; and 9 of the '843 patent are anticipated by the Ham reference and that Surpass's three arguments listed on Slide Number 2 are of no avail. The '843 patent relates to the problem of

blurring in LCD panels. Specifically, because of the physical nature of the LCD technology, the liquid crystal molecules have to be twisted and rearranged, and this physical phenomenon can cause the images to be delayed. The '843 patent identifies a first solution which is to divide the frame into two fields and to apply a data impulse from -- into both of those fields as shown on Slide 5. This solution is embodied in Challenge Claim 4 which is a method claim for driving a liquid crystal panel or certain characteristics. It includes the steps of receiving frame data, generating a plurality of data impulses according to that frame data, and applying the data impulses to the LCD pixel within one frame period.

There's another claim that's of relevance, although it's certainly not under review. That's Claim 1. Claim 1 deals with a second solution, a second method of curing the blurring problem, Claim 1 is an apparatus claim. It has a blur-clear converter which among other things generates a plurality of overdriven pixel data. it has a source generator -- a source driver for generating a plurality of data impulses.

According to this plurality of overdriven pixel data and the gate driver applying the data impulses to the --

JUDGE MEDLEY: Excuse me. What is it that actually prevents the blurring? Is it having multiple pulses in a timeframe? Or is it having overdriven pulses that avoids the blurring?

MR. LO CICERO: Yes.

JUDGE MEDLEY: Which is it?

MR. LO CICERO: It can be both. In other words, the problem of blurring in the '843 patent and the showing prior art can be addressing using, let's say, both axes. In the time axes, if you divide the frame in half, like the impact, like the '843 patent, then you are able to apply a data impulse faster so that the -- the pixel can go from a first gray level to a second gray level faster. Okay.

The other way of doing that in the '843 patent in the Ham reference for one of the frames, one of the fields, and in the prior art is to overshoot, that is, to apply a greater, if it's a positive, or a lesser if it's negative impulse than you otherwise would to kind of juice or boost the twisting of the pixels. So there

are two ways that one can do this, and our view is that Claim 4 deals with the dividing -- the time domain, and Claim 1 deals with the time domain and the amplitude domain. So I would say there are both ways of doing it, so both things have the effect of curing the blurring.

JUDGE MEDLEY: But doesn't the involved patent also contemplate doing both, overdriving multiple pulses?

MR. LO CICERO: The involved patent teaches both, and Claim 1 is limited to both. Claim 4, however, is a different claim. It's a method claim, not an apparatus claim. It has different steps, and it only deals with the multiple data impulse approach to cure an overdrive.

JUDGE MEDLEY: Okay. What evidence of record do we have that shows that just applying multiple pulses obviates this blurring phenomenon?

MR. LO CICERO: Well, the '843 patent itself. The '843 patent -- let me find the correct slide because your Honor's obviously come to the --

MR. COMACK: Thirty-seven.

MR. LO CICERO: Thank you. Thirty-seven.

I'll ask Mr. Berkowitz to do that. So if you look at the detailed description, and this sums it up kind of -- shown on Slide 37 from the '843 patent itself. In contrast to the prior art, present invention discloses a driving circuit and related driving method to two generate two piece -- pixel data every for every pixel on an LCD panel, and it can generate two data impulses according to the two pieces of pixel data and then apply them to the electrode. Thus, each of the pixels applied of a plurality of data impulses so that the molecules can twist to reach the predetermined gray level within a frame period and blurring will not occur. So Slide 37 demonstrates this. As you will notice, there is no reference to overdrive.

And obviously, the -- what's the key issue in this? Let me depart from my prepared remarks. The patent owner raised three arguments. One was that they -- we identified the wrong element as to what was generating the data impulses. And that argument starts on page 12 of our slides. And it is a -- and it is a rehash, okay.

First, a Ham reference is not in dispute. We know what the Ham reference teaches. Data

comes into the timing of the controller, 51. The output of the timing controller from the signal standpoint is RGB data. That RGB data goes to two locations. It goes to line numbers. Now I've messed it up. Okay. Right. It goes to Line Number 59 which delays it by half a frame. It also goes to Data Modulator 52 which modulates it, okay, overdrives it. Those two signals -- that is the delayed normal signal from the line memory and the overdriven signal from the data modulator are applied to Switch 58. Switch 58 selectively sequences those signals and applies them to the data driver. The data driver converts what is then a digital signal to an analog signal and applies it through the -- through the data lines to the particular pixel. Not in dispute. Mr. Bohannon, in the testimony that is cited in his declaration and depicted on Slide 13, agrees. Not a dispute.

So what's their argument? Well, the argument is -- by the way, the experts agree. Their expert, our expert agree on the operation of the Ham reference, and in particular, that the Ham reference converts the originally input digital data into analog data and applies those

data impulses to the LCD panel.

So the argument, at least in the response and in today's slides, is that no, we've pointed solely to Data modulator 52 as the element that generates that. Well, no, we didn't. And it's similar, but it's kind of a -- think of a neutral way -- a rehashed argument because the first time, in its preliminary response, they -- Patent Owner said, Well, Sharp is at fault because they're relying on the timing control of 51 to generate the data impulse. And the Board said -- okay. The Board said No, that's not -- that's not what Sharp is saying. Sharp is saying, as your Honors said, We understand Petition to rely on the driving apparatus of Figure 5 which is not limited to the timing controller. So that is that was the first effort.

Second effort is -- now the argument is, Okay, Patent Owner says, if it's not the timing controller alone, maybe it's the data modulator alone. No, it's not. It's the entire driving. Your answer were right in the institution decision. It should maintain that concept today.

JUDGE MEDLEY: Well, Patent Owner points to the one sentence in your petition on page 46 that

says, The apparatus also includes a timing control of 51 that receives digital video data and a data modulator that generates two data impulses -- for each pixel. So you can kind of understand where they're coming from, that, you know, your petition would seem to suggest that the modulator alone does generate the two data impulses.

MR. LO CICERO: That is, admittedly, an awkwardly-worded sentence. What Mr. Marentic, our expert, said, his understanding was that in fact, what is intended is that it is the entire apparatus and the entire apparatus includes the timing controller and the data modulator, and it is the apparatus that generates the two data impulses. It's a poorly-worded sentence. If you look down on the same page, 46, in the next paragraph, it says that the output, 7B, the figure which shows the alleged invention, is -- that the -- let me start again. Says that the entire apparatus generates the data impulses. If you look at our claim charts which are on page -- on Slide 17, it shows we rely on the entire driving circuit. In particular, we cite three paragraphs -- without argument, of course,

because it's a claim chart -- including Paragraph 53 which says that the LCD drive apparatus and method according to present invention applies the normal data to the liquid crystal panel, the initial half-period after supplying the modulated data to the second rule. And that is Slide 17. Of course, this is a method claim and not an apparatus claim. So -- so long as the generating step is -- is met, then it doesn't matter which -- which element does the generating.

The other argument that they raise as to generating, although perhaps they won't raise it because it's not in their slides, is that somehow because we didn't offer a construction of generating that therefore, we've somehow done something wrong. However, the Board said, as shown in Slide 21, that it need not construe any of these limitations. That is correct. The petitioner, also at Slide 21, said initially that the terms were clear on their face. The patent owner's expert when I asked him was he offering any specific instruction for generating, he said, No, I think it's pretty clear. And our expert, of course, agreed that generating is clear and required no further construction.

JUDGE MEDLEY: Does the signal that just passes through a box, but the box doesn't -- let's say the circuitry doesn't do anything to the signal, but that -- its output from that box, would you call that a signal that is generated by that box?

MR. LO CICERO: The box output, something --

JUDGE MEDLEY: Yes.

MR. LO CICERO: -- different from --

JUDGE MEDLEY: No, it's the same. Just passes through. It goes through -- it's this box with circuitry in it. It comes through. It's the same, exact thing going out. Does that box generate the signal?

MR. LO CICERO: So the box has no impact. That's a good question. I don't think that's presented here, the hypothetical not presented here because everyone agrees that the box in particular takes digital data and converts it to analog data. But I think that I would be hard pressed to say that that's generated if --

JUDGE MEDLEY: Okay.

MR. LO CICERO: -- it does nothing, if it's in effect just a wire.

JUDGE MEDLEY: But converting --

(Overlapping voices.)

MR. LO CICERO: Converting does.

JUDGE MEDLEY: -- is generating. That's what you mean by generating.

MR. LO CICERO: Converting's generation. If I were pressed and said, How do you construe generating, I would say outputting. Outputting different -- outputting the data impulses from the source driver which are in analog form. And the entire apparatus of Figure 5 of Ham has taken the digital data and will acknowledge digital data and converts it to the analog data in the particular form, that is, overdriven in one of the two pulses and with the two -- with the frame divided into two feeds.

So let's talk about overdriving, and that begins on page 45 -- 25, right there. So the crux of the argument here is that the patent owner, not satisfied with the language of Claim 4, is -- wants to rewrite it to say that two or more -- that what the claim really means is applying two or more overdriven data impulses to control the transmission. Now, why are they taking this position? To avoid the Ham

reference. The patent owner acknowledges that Ham does not apply a plurality of overdriven signals in the frame period, and therefore, they have to find a way of dealing with Claim 4 to incorporate the overdriving concept. And one way they could have done it, we'll state it, would be to try and amend the claim, and -- however, this Board, of course, has set a series of rules. You have to have a call. You have to file a motion to amend. When you file motion to amend, you have to show a patentable distinction for each proposed substitute claim over the prior art. Why didn't they simply do that? Because of Adachi. Now, Adachi is not one of the grounds of challenge. We're relying on it only to rebut what the patent owner's argument. Adachi without question teaches, as in the lower box, that single frame is divided into plurality of fields, and all of the fields are subject to the overshoot driver. So because they couldn't amend the claim to get around Adachi, they are left with trying to say that's the broadest reasonable construction. But incorporating overdrive into this claim is not the broadest reasonable construction, nor is it reasonable.

First, add -- the patent owner's asking you to make at least two mistakes. The first mistake is to incorporate overdriving limitation of Claim 1 into Claim 4. Claim 1, of course, has -- it has steps generating overdriven pixel data, and then generating a plurality of impulses according to this plurality of overdriven pixel data. And the law is settled that when a patent claim does not contain a certain limitation, another one does, that limitation cannot be read into the claim as set forth on Slide 31.

The second error -- in fact, the cardinal sin of claim construction -- is that the patent owner was asking you to corporate the disclosure of the '843 into its claim. Okay? Mr. Bohannon, their expert, says on page 32, Patent, the '843 patent discloses controlling and transmission vapors achieved through overdrive. It's not. The claim language, also on page 32, according to Mr. Bohannon recalls the discussion of overdrive. Not sure I've heard that -- actually, not before.

The -- of course, the patent owner when it was identifying what the right law is in his preliminary response said the Board will not read a particular embodiment appearing in the written

description into the claim if the claim language is broader than the embodiment. But the patent owner's expert didn't get the memo. I asked him, Is it your testimony that the specification describes a concept, that that concept should be incorporated into the claims? Yes, that's my understanding. Of course, that's what we do.

What I'd like to do is to move forward because you have the slides.

JUDGE MOORE: If controlling the transmission rate of the liquid crystal device of the pixel does not imply overdriving, then what is implied by controlling the transmission rate of the liquid crystal?

MR. LO CICERO: Exactly where I was going, your Honor. What was implied by controlling a transmission rate is simply moving the transmission rate from one gray level to another to -- what is transmission rate? Transmission rate is the amount of light that is transmitted by the LCD data. One of the slides said -- I asked Mr. Bohannon about transmission rate, and he said -- I'll find it somewhere. He said he had no -- he had no definition. I said, Well, isn't -- thank you. Slide 42. I asked him the

answer that I just gave you, your Honor, said, Is it fair to say the transmission rate is the percentage of light that's allowed to pass through? I don't think I can answer that. Okay. Have you heard the term transmission rate before? No. Are you offering an opinion on transmission rate? I'm not offering an opinion on transmission. So their expert gave it up. Their expert has no evidence to offer.

So what is the evidence, as you asked? I put up Paragraph 90 of Mr. Marentic's declaration. And Mr. Marentic's declaration surely can't be read, so presumably, there's a way to focus this. Thank you, Mr. Comack.

The '843 patent describes the LCD panel with -- transmission rate was controlled without overdrive. For example, Figure 2 plots transmission rate against time and explains that the transmission rate of a pixel is not overdriven. So if you look at the second page at 90, Mr. Marentic's declaration, you see it as clear as could be. What is Figure 2? First of all, the patent labels as prior art, and it is. Look at C1. C1 is a curve that is admittedly not overdriven. Okay? And what happens in C1? The

transmission rate, the axis, vertical axis, goes from T1 to T2. It is changed. The transmission rate is changed. The transmission rate is controlled, as Mr. Marentic says in the declaration, without overdrive. Now, the problem is it doesn't get changed soon enough. It starts at the beginning of Frame N. It wants to get there at the end of Frame 1, and it doesn't. It doesn't get there till the frame -- end of Frame N plus 1. So it's delayed. It's not working ideally. But nonetheless, the prior art as admitted demonstrates that you can control the transmission rate without overdriving it. Well, if that's the case, then it cannot be as we're accused of doing, that by not incorporating overdriving into Claim 4, you're eliminated the requirement to control the transmission data. We are doing no such thing. Of course, controlling the transmission rate is a limitation of the claim, but overdriving is not.

I'd like to -- I've gone over a little bit more than I wanted to, but I'd like to reserve the rest of my time for rebuttal.

JUDGE MEDLEY: Okay. Thank you.

MR. HELGE: May it please the Board. Good

morning, your Honor. Again, I am Wayne Helge of Davidson, Berquist, Jackson & Gowdey, here on behalf of the patent owner Surpass Tech Innovation, LLC.

Your Honors, under USC -- excuse me, 35 USC 316(e), the burden of proving invalidity in an IPR is the petitioner's burden alone. In this case, the petitioner filed a petition that dedicated all of four pages to an analysis of how the Ham reference allegedly anticipates Claims 4, 8, and 9 of the '843 patent.

Now, this petition establishes the framework for this proceeding. This picks petition establishes the lens through which we have to view the case. This petition has established the roads. They've built the roads down which we've traveled to get where they hope to get to at the end. But now, those roads include dead ends. We've already talked about one of those dead ends this morning, dealing with data modulator allegedly generating the plurality of data impulses. Now, their expert has contorted the sentence to try to reach a different conclusion that they believe is allegedly consistent with the claim chart. But

he's been unwilling to go down that road. He's been unwilling to go down that dead end of saying the data modulator generates a plurality of data impulses. We have his deposition testimony saying that's not the case.

We also the little to no explanation of the Petitioner's theory of invalidity. Under 37 CFR 42.22(a)(2), the petition must include a detailed explanation of the evidence. We have claim charts. We have a claim chart with a theory about the generating step. But that claim chart is inconsistent with the explanation that's provided in -- on page 46 of the petition. And what Petitioner did not get to this morning yet, and I would think is a crucial question that has to be answered, was their explanation on page 46 of the petition the explanation of that claim chart? Or was it an alternative theory? Either way, they fail. If it's an alternative, then there is no explanation for the claim chart, and they failed to satisfy 37 CFR 42.22(a)(2). If it is their explanation, then they're wrong, and their expert has confirmed that they're wrong. The data modulator does not generate a plurality of data impulses.

In addition, the petition contains one more dead end, and that is a specific misapplication of Ham to Claim 4. And it's a misapplication in the term to control a transmission rate as they point to it in their claim chart. On page 48 of their claim chart, they -- we can go to Slide -- here we go, Slide 31. They characterize controlling a transmission rate accordingly to Ham as doubling the transmission rate. That's in the petition. But this is the last time you will see this theory presented by the petitioners. And indeed, Mr. Marentic, their technical declarant on reply, first appeared on reply, said, That doesn't make technical sense to me. They've taken us down two roads, page 46 about the data modulator generating impulses and controlling a transmission rate by doubling a transmission rate, taking us down two dead ends that they've now had to backtrack and say, That's not really what we said. And, in fact, it is. This third shortcoming drives home the deficiency --

JUDGE MOORE: Can you --

MR. HELGE: I'm sorry, your Honor.

JUDGE MOORE: Can you go back to the

generating --

MR. HELGE: Yes, your Honor.

JUDGE MOORE: -- issue? In his presentation, I believe he asserted that converting an analog signal to digital, that converting step would meet the definition of generating. We would have a construction, at least, that would read on generating. Do you agree with that?

MR. HELGE: Your Honor, in the abstract, I will tell you that the Shen patent, the '843 patent at issue here, talks about a source driver converting overdriven data into overdriven data signals, so converting from digital to -- to the analog signals that are applied to the columns. We believe that certainly satisfies 35 USC 112, for example. So I think that's a fair read in view of Shen.

Now, I would point -- if we can go back to Slide -- here, page 46. Unfortunately, this slide not highlighted, but if we were to go down to this, the paragraph below the highlighted paragraph, there's another problem here. And this is where the generating argument comes that we made. This is not intended to be a pedantic

argument. The issue is, as we look into that second paragraph, they've confused the idea of data and signal, and they say that a signal is the data that was entering into the controller. And so the idea of generating -- and what they had in mind for generating today, I believe, is different than what they had in mind in the petition. They didn't talk about converting and satisfying that element in the petition. Again, the lens that they're they've created for us is a skewed lens. The road they've taken us down actually never dealt with the generating step except in the context of the highlighted language which is the data modulator generated the impulses.

Now, your Honors, I mentioned a moment ago on Slide 31 how we have a dead end in terms of controlling a transmission rate in the Shen patent, and specifically, in Claim 4 here and their theory that it doubles transmission rate in the Ham reference. You'll see in the Marentic -- excuse me, the declaration Paragraph 93 which is a slide I don't believe they got to he actually comes up with a new construction which is it -- applying a voltage to an electrode is controlling

the transmission rate. Now, Mr. Lo Cicero a moment ago said to control the transmission rate, you have to go from T1 to T2, for example. You have to change the transmission rate such as shown in Shen's figures. Figure 6, for example, Figure 2, there's changes from T1 to T2. The way Mr. Marentic deals with it in Paragraph 93, there's no change of transmission rate required at all. Simply applying a voltage could be controlling a transmission rate. In effect, we have from Petitioners now a third theory that's come into play.

Now, your Honors, we win it in every case. First of all --

JUDGE MEDLEY: What does that mean, control a transmission? Even if you're not, you know, controlling the transmission rate so that the transmission rate is faster to get to where you want to go quicker, you're still controlling it by applying a voltage to the pixels. So I'm having difficulties finding in the words control a transmission rate that it means that you've got to apply a particular overdriven signal, and not only do you have to apply an overdriven signal, it has to be more than one. I just don't see

that in your claim at all, so if you could break that down for us, that would be great.

MR. HELGE: Absolutely, your Honor. I think what we should do is go back to Slide -- well, I know you're aware of claim language. Let's go back to Slide 5. Slide 5 discusses the claim language. Perhaps we should go one more.

We've got elements in Claim 4 dealing with receiving a plurality of frame data, generating a plurality of data impulses, and then applying those data impulses to control the transmission rate. If we look at Column 2, Lines 3 to 7 to seven, Shen describes the idea of overdriving as accelerating the change, accelerating that difference. And the comparison there is between Curves C1 and C2 on Figure 2. Now, the first time that Shen actually talks about concept of controlling a transmission rate does not occur in the background. This is something that Mr. Marentic also admitted. He has reached a construction on controlling transmission rate based on his experience and his understanding of the word control generally, but not in the context of the '843 patent where we have in Column 4, Lines 20 to 28, I believe Lines 13 to

14, the idea of controlling the transmission rate specifically in response to overdriven pulses. Those overdriven pulses cause acceleration of the change. They cause that change from T1 to T2 to be faster.

JUDGE MEDLEY: Is that just one embodiment, though? Is it possible to control the transmission rate just using multiple pulses that aren't overdriven?

MR. HELGE: Your Honor, I'm happy you asked that because that brings up a great point. The answer is no, absolutely not. According to the Shen patent, every embodiment that's being disclosed is controlling a transmission rate through the application of overdriven pulses.

Now, counsel -- go to Slide 37. Counsel referred you in response to that similar question to Column 5, Lines 45 to 55. That's paragraph that summarizes the discussion, the disclosure, right before getting to the claims, and they say that this is evidence that you can control the transmission rate or you can reduce blurring without overdriving. But in the petition, on page 15, they're discussing overdriving with respect to Figure 6. and they go through a

full-paragraph discussion. And they say this method allegedly allows this signal to reach a target transmission rate, T2, within a single frame period. The citations they then list in discussing overdriving include Column 5, Lines 45 to 55. When they filed their petition, they also thought Column 5, Lines 45 to 55, were support for the use of overdriving the control the transmission rate or to reduce blurring. Now they've taken a different position.

JUDGE MEDLEY: Well, disregarding how they characterize it, it's your patent.

MR. HELGE: Yes, your Honor.

JUDGE MEDLEY: What does that mean? It doesn't say anything about overdriving there at all.

MR. HELGE: In that? In that paragraph, your Honor?

JUDGE MEDLEY: In that paragraph.

MR. HELGE: Your Honor, if you -- we can look at a variety of things. We can look at the abstract. We can look at the very first paragraph of the specification which is the field of invention. We can look at this paragraph. All of those are summaries. And you're exactly

right, they don't say the word overdriving.

JUDGE MEDLEY: So the name of the game is the claim.

MR. HELGE: Absolutely, your Honor.

JUDGE MEDLEY: Why did you even put overdriving in your claim?

MR. HELGE: Your Honor, unfortunately, I was not the prosecuting attorney.

JUDGE MEDLEY: It's original claim. It was very broad, and then --

MR. HELGE: It is original claim.

JUDGE MEDLEY: -- it by itself has written description for itself. So if you claim something that broadly, then the specification -- you know, that -- that's part of the specification. And that would appear to be a broad scope of what you're claiming and what you're describing.

MR. HELGE: Your Honor, I would agree with you if it did not say to control the transmission rate. Again, I think we have to go back and look at the broadest reasonable interpretation of that phrase in context of the specification.

JUDGE MEDLEY: So there's no other way to control a transmission rate other than with two

overdriven pulses?

MR. HELGE: According to the Shen specification, the detailed description, that's correct, your Honor. That's the only way they do it. They do not do it with the application of two non-overdriven pulses. If we look at the abstract, for example, Mr. Marentic recited to that as support that overdriven -- overdriving is not required. But Mr. Marentic also agreed in his deposition that abstracts don't have to include all the details. That's the same thing with the paragraph occurring at Column 5, Lines 45 to 55.

JUDGE MEDLEY: Well, you say in light of the specification, that's the only way to control a transmission rate. I'm asking you in general. Can you control a transmission rate just using multiple pulses that aren't overdriven?

MR. HELGE: Outside of the context of that claim, your Honor, I would say that you can change a transmission rate using a variety of different ways. And even Shen explains in Curve C1 appearing on Figure 2 that there is a change in transmission rate without overdriving. But Shen doesn't characterize that as controlling a

transmission rate. Your Honor, in terms of --

JUDGE MEDLEY: How do you respond to their arguments that, you know, there's claim differentiation here? I think you started to respond to that, but the fact that overdriven appears explicitly in Claim 1 and not in Claim 4, what do we do with that?

MR. HELGE: Your Honor, that's actually a very easy question to answer. The answer is that claim differentiation is a red herring. Claim differentiation is about incorporating, in one example, a dependent claim into an independent claim or differentiating the scope in that context. Here, Claim 1 is driven to a driving circuit. We've got a blur-clear converter which is a term that appears in the specification. We've got driving circuitry. There's already claim differentiation. We don't need overdriving to make that distinction. I think there's -- if we were to allow claim differentiation to lead us down a path that says Claim 4 cannot be overdriven, the result is we've written out to control a transmission rate, and it renders that term superfluous in Claim 4. Petitioners have not provided a theory except to say that Ham

allegedly doubles a transmission rate. So I believe claim differentiation is a red herring.

Now, we have a case from the Federal Circuit that I'd be happy to hand your Honors if you like -- I have a copy for opposing counsel, as well -- on this exact point. May I approach with this case?

JUDGE MEDLEY: Did you brief that?

MR. HELGE: I didn't, your Honor. This is a response to the claim differentiation argument they've made in the -- the reply.

JUDGE MEDLEY: And if you didn't argue this in your briefs, we don't want to hear it. This is not the opportunity to raise new arguments. This is an opportunity to explain to us the arguments you've already made.

MR. HELGE: I understand, your Honor. And I think that the claim differentiation argument came first in the reply, so there really was not an opportunity for briefing on case law that distinguishes from the case law they've cited in the reply.

JUDGE MEDLEY: Understood.

MR. HELGE: Shall I not discuss this, your Honor?

JUDGE MEDLEY: Right, we don't want to hear that.

MR. HELGE: In sum, claim differentiation is a red herring. There is case law that would suggest that you can achieve -- and even Mr. Marentic in his deposition confirmed two different terms can be used to describe the same concept.

JUDGE SHAW: What about the fact that to control the transmission also appears in Claim 1, that language is also in Claim 1?

MR. HELGE: That's right, your Honor. And so it is possible, I think, at the end of the day that we could come to Claim 1 and say, well, we're overdriving and controlling a transmission rate which gets you to the same point. I think it's okay to be -- it's okay to be overinclusive in Claim 1 as an alternative to carving out this claim language in Claim 4. I mean, I think that's honestly a difference that the Board has to make. And I think of those two options, the better choice is to give that term meaning in Claim 4.

Mr. Marentic cited to three exhibit that I don't want to overlook, Exhibit 1012, 1013, and

1014. And these exhibits, he used to show that transmission rate was a common term and also to show that people in the art used the term control with respect to a transmission rate. Now, at initial stage, there's a question of whether this art is even relevant. This is prior art. He's using it to confirm his understanding of a term rather than what a person of ordinary skill in the art would understand.

In addition, the relevance in -- under the broadest reasonable interpretation standard is questionable. Mr. Marentic testified that he did not search for this art. He was given these three references from counsel. I have testimony from him that we've cited to in our motion for observations on cross-exam that he has no idea how many results were found; how many results were discarded; how many results did not support his interpretation. In other words, he's given you a piece of evidence without giving you the entire picture to weigh it.

Their burden is preponderance of the evidence, and they've hidden the other side of that teeter-totter from you so you cannot gauge whether, in fact, these three reference are just

positive. Now, I would argue to you anyway that they're not. Exhibit 1,012 is the key reference, GE. Exhibit 1,012 is directed to a passive matrix LCD panel. In that passive matrix, the backlight does not even turn on until the pixels have reached their target transmission rate. In other words, where we're talking about overdriving as an -- is a necessity in order to change transmission rate from T1 to T2 quickly click length. Gee doesn't worry about that. The key -- Gee will not even be admitting a light during that ramp-up. Gee will only admit light once you're at that constant state, so Gee isn't concerned with blurring it's directed to an entirely different concept, frankly. Exhibit 1013 doesn't use the term controlled transmission rate. It's not relevant to that meaning of the term in our claim. Exhibit 1,014 is the Koma reference, K-O-M-A. Exhibit 1,014 is directed to active matrix LCD panel like our '843 patent is, but Exhibit 1014 deals with control of transmission rate in the context of defining pixel regions in order to improve a viewing angle. Koma is not looking at blurring, and they're not looking at the problem caused by

blurring. Does that mean that Koma used it in exactly the same way as us? Mr. Marentic didn't evaluate that. In fact, he admitted that he did not look into any of the prosecution history. He simply took the terms as they appeared in the spec and used them in his paragraphs.

Now, there's one more reason why Exhibit 1,012 dealing with passive matrix is not dispositive to this question. Even within --

JUDGE MEDLEY: I want to get back to the Ham reference.

MR. HELGE: Yes, your Honor.

JUDGE MEDLEY: Ham does discuss blurring as a problem.

MR. HELGE: Yes, you're right.

JUDGE MEDLEY: And it seems to me that it discusses response time.

MR. HELGE: Yes.

JUDGE MEDLEY: Is response time the same thing as transmission rate? Seems to me that they are the same, what they're talking about is the same.

MR. HELGE: I would say, your Honor, that they are probably in a similar neighborhood. And I think that response time deals with the X axis,

for example. The way Shen describes transmission rate, he's looking solely at the Y axis, however. So it's the time, response time is the amount of time to change in the Y axis. And I think that's consistent with both the Shen patent and the Ham patent.

JUDGE MEDLEY: So they're both trying to make the pixel respond faster to avoid the blurring.

MR. HELGE: They are, your Honor, although they're dealing with it in in different ways. Ham discourages applying overdriven pulses in both the subframes. Now, the -- as you know, the examiner not only allowed Claim 4 over the Ham reference, but commented on the Ham reference in the reasons for allowance. And --

JUDGE MEDLEY: When I looked at the prosecution history, it looked like it was a first action allowance.

MR. HELGE: Correct.

JUDGE MEDLEY: The examiner just sort of block-quoted the claim and said that Ham didn't teach and then block-quoted quite a bit. I don't know that we can really get a lot from that.

MR. HELGE: Your Honor, I will say that I

think Ham is -- Paragraph 53 is particularly relevant to, maybe, what the examiner was thinking. So as we've said, that -- Mr. Marentic came in with his Paragraph 93 declaration, came with a new construction for control transmission rate. This is in the reply and rebuttal. He came up with a construction which -- just applying a voltage. Now, I don't think that's what the patent examiner interpreted that as. Controlling a transmission rate is probably more consistent with what Mr. Lo Cicero said which is a change from T1 to T2.

If you look at Paragraph 53 which the examiner quoted in the reasons for allowance, Paragraph 3 of Ham says that they're reaching the target transmission rate in the first initial subframe, and that also shows up in Paragraph 49. Ham is getting to the target rate in the first subframe, so there is no controlling or no change even of transmission rate in the second subframe. And I think the examiner saw -- we think, obviously, the examiner had in mind this there was overdriving just as every embodiment of our patent talks about overdriving and talks about controlling transmission rate in the context of

overdriving. But I think what the examiner saw in Ham, if not our reading, at least an understanding that there had to be some change, and there wasn't a change in the second subframe. And in fact, Ham discourages overdriving in both subframes because it could deteriorate the image, and that makes perfect sense because Ham is reaching for that target level in the first subframe. There's no reason to do it in the second subframe, according to Ham.

That's a clear distinction from ours. We have -- applying the plurality that your Honor mentioned earlier, why do we have to do it both? We have applying the plurality of data impulses to control the transmission rates. We don't have apply one to control the transmission rate and one to maintain the transmission rate. But it seems that that's how Ham operates, and that would be different from ours.

JUDGE MEDLEY: Well, even if you're maintaining the transmission rate, aren't you controlling it, in essence?

MR. HELGE: Not according to the '843 patent, your Honor, no. Controlling a transmission rate is in the context of -- if we

were to look at Curve C3 in Figure 6 of the '843 patent, we have -- well, this really goes to, I think, again, the purpose of Shen and why Shen wants to apply two overdriven pulses in each subframe. Shen says if you apply one overdriven pulse in a subframe, you're not going to get to the target rate. And we see that even within a subframe in Figure 6, the first half, we're applying this overdriven pulse, and we're not getting there. So in the second subframe, we needed to apply one more overdriven pulse to get us to that T2 level, and inconsistent --

JUDGE MEDLEY: Seems to me that you're suggesting that the way that the involved patent describes controlling a transmission rate, it's very specific. So it's almost like you're indicating you might be your own lexicographer on these terms. Is there anywhere in the description that says, a controlled transmission rate means two overdriven pulses, or more, two or more?

MR. HELGE: Your Honor, it's not that specific, unfortunately. If it were, we probably could have been done a little bit earlier here. It's not.

If you go to Column 2, Lines 3 to 7, we do say overdriving means accelerating the response time. And I apologize; I don't have it quoted immediately in front of me, but it's accelerating in order to improve the response time or shorten the response time. There's an accelerating process that's occurring. Controlling a transmission rate is the flip of that. In other words, in order to control, we're accelerating, hence overdriving. That comes from our Column 2, Lines 3 to 7. I think we have to view that, that interpretation of overdriving throughout as we read this detailed description where it does describe controlling a transmission rate in the context of accelerating.

JUDGE MEDLEY: We have about one -- I mean, five minutes.

MR. HELGE: Thank you, your Honor.

Your Honor, one point Mr. Lo Cicero mentioned was about amendments. We did not amend, and this is not a sidestep of the amendment process. We're not trying to corporate a term that doesn't appear. We're construing. And I believe that under -- under 37 CFR 42.120, Patent Owners are entitled to respond to issues

in the petition. Their issue in the petition was that no terms require construction.

We've provided our opinion and our expert's opinion on what this term means. So in the context of whether this is appropriate, whether we should be looking at Adachi to see whether this is appropriate, frankly, as it was admitted, this is outside the scope. We don't need to look at that. This is simply a question of what does this claim mean and has the petition satisfied its burden to show under their construction, under our construction, under Mr. Marentic's third construction, have they shown all elements of Claim 4, Claim 8, Claim 9. Simply, they haven't.

As your Honor mentioned a moment ago, the examiner did allow Claims 4, 8, and 9 over Ham for whatever reason. We think there's a good reason for it, but the patent owner's now faced with the very real risk the same agency that allowed those claims over Ham will take those claims away in view of Ham, and on what evidence will that occur? In the petition, a technical gaffe to say that a data modulator generates data impulses. A mischaracterization about

controlling a transmission rate means doubling a transmission rate. Those are both dead ends that even Mr. Marentic refused to travel down.

Most of what the petitioners have presented today, arguments in terms of how these elements are allegedly met by Ham, comes from the reply. This has been a late-stage effort to try to salvage a deficient petition that was prepared without a true understanding of how Ham operates. But under these Board's rules and regulations and statutes, Petitioner has the has burden to carry the day, to establish invalidity, and this petition has not done so.

If the Board has no further questions, I'll take a seat.

JUDGE MEDLEY: Thank you.

MR. HELGE: Thank you, your Honor.

MR. LO CICERO: Your Honor, we've heard Mr. Helge's articulate and experienced testimony today on several aspects of the prior art of the Shen patent and so on. Conspicuously absent in their presentation was any reference to Mr. Bohannon. Indeed, if you look at the demonstrative exhibits that were filed with the Board, he is nowhere. And he is nowhere with

good reason. I think the Court should consider not Mr. Helge's testimony, but, rather, the evidence.

At Slide 42, again, as I said earlier, I asked Mr. Bohannon if he was offering an opinion on transmission rate, and he said, No, I'm not offering an opinion on transmission rate. To the contrary, Mr. Marentic's declaration, as we said on Slide 43, says based on correct understanding of transmission rate. Controlling the transmission rate merely refers to applying a particular voltage. And as discussed above, this is part of the basic tradition of every LCD drive circuit, irrespective of the type of display or whether we're not overdriving. Indeed, Mr. Marentic in his deposition which is Exhibit 2,007 at page 158 said, And it is possible to control the transmission rate as they did in the prior art, as they did for at least a decade prior without overdrive. So Mr. Bohannon's argument that a non-overdriven scenario did not control the transmission rate is just false.

They -- claims -- let us assume -- m I don't think it's right, but let us assume that-- the only circuitry, the only description, the

only embodiments in the '843 patent have overdrive. That does not mean that Claim 4 should be limited to overdrive. We're not saying -- very important. We're not saying that Claim 4 should exclude an overdriven embodiment, not at all. We're saying it should not limited to it. And as we said on Slide 33 and as the patent owner acknowledged, the Board will not read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment citing the Federal Circuit in re Van Gunz. This board in the K-40 Electronics as we cited on Slide 39, again, say where the specification describes only a single embodiment, we do not construe necessarily the claims as being limited to the embodiment And finally, also on Slide 39, the Federal Circuit in the Innova v. Safari Water said that even if a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated clear intention to limit the claim. There is no such clear intention here.

The last thing I want to talk about is this doubling argument. It's a new argument that

Mr. Helge raised. The Board in its scheduling order said that the patent owner was cautioned that any arguments for patentability not raised in the response would be waived. If you look at the patent owner's response and in particular, page 40, if you look at Mr. Bohannon's declaration, in particular, page 15, there is nothing about this doubling. It is obviously a mistake in the claim chart. It shouldn't have said doubling the transmission rate. It should have said controlling the transmission rate. They never raised it before. Their expert never discussed it. No one is prejudiced. It is simply a last-ditch argument.

So, your Honor, I think that -- I hope that the Board recognizes that overdriving is in the prior art; that it is not in Claim 4; and that an attempt to incorporate overdriving into Claim 4 is simply a desperate attempt to overcome the anticipatory Ham reference.

I have nothing further.

JUDGE MEDLEY: Thank you. Any questions?

JUDGE MOORE: No.

JUDGE MEDLEY: Okay. Thank you. We are adjourned.

(Whereupon, at 10:59 a.m., the hearing was adjourned.)