

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SILICON LABORATORIES, INC.
Petitioner

v.

CRESTA TECHNOLOGY CORPORATION
Patent Owner

CASE: IPR2015-00626
Patent No. 7,265,792

Title: Television Receiver for Digital and Analog Television Signals

**PETITIONER'S RESPONSE TO PATENT OWNER'S
OBSERVATION ON CROSS EXAMINATION OF PETITIONER'S REPLY
WITNESS, DR. DOUGLAS HOLBERG (PAPER NO. 32)**

Petitioner provides the following responses to each of the Patent Owner's "observations" on the recent deposition testimony of Petitioner's expert, Dr. Holberg. For ease of reference, Petitioner repeats each of Patent Owner's observation in its entirety followed by Petitioner's response ("**Petitioner's Response**"). In general, Patent Owner's observations are unhelpful at best and completely irrelevant at worst.

I. Dr. Holberg's New Testimony Regarding the Obviousness of Combination of Thomson, Harris and Grumman

Petitioner's Response: There is nothing "new" about Dr. Holberg's testimony regarding the combination of Thomson, Harris, and Grumman. As discussed further below, many of the lines of questioning given below are on issues that Patent Owner does not even contest in this proceeding.

1. In Ex. 2038 at 5:20-6:2, Dr. Holberg testified about Ex. 1004 Thomson:

Q. Let's take a look at Exhibit 1004 is Thompson. Thompson doesn't teach Finite Impulse Response Filters, right?

A. Well, it's been awhile since I've read Thompson, let me review that quickly. (Short pause).

A. No, I don't see Thompson referring to a Finite Impulse Response Filter.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Thomson teaches an adaptive filter and provides a reason to combine.

Petitioner's Response: This testimony is irrelevant. Petitioner has never contended that Thomson explicitly describes a Finite Impulse Response ("FIR") filter. Instead, Petitioner relies on Harris for that teaching. The Board previously found this combination is obvious in IPR2014-00728. In this trial, Patent Owner does not contest the Board's finding that it would have been obvious to use Harris's FIR filter to implement the adaptive bandpass filter of Thomson. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris, and Grumman.

2. In Ex. 2038 at 35:18-36:1, Dr. Holberg testified about Ex. 1004 Thomson:

Q. Thompson does not teach that there would be an interruption of the television signal during a contact switch from one television format to another?

A. Thompson is silent on whether there would be or would not be, it doesn't discuss that.

Q. It doesn't have that particular teaching?

A. Yeah, it doesn't discuss whether there's interruption or not when you change one context to the other as you say.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that

Thomson teaches an adaptive filter and provides a reason to combine.

Petitioner's Response: This testimony is irrelevant. Petitioner has never contended that Thomson explicitly describes interruption of the television signal during a contact switch from one television format to another. Instead, Petitioner relies on Birleson for that teaching. As a result, this testimony has no bearing on whether

Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris, and Grumman.

3. In Ex. 2038 at 6:3-14, Dr. Holberg testified about Ex. 1004 Thomson:

Q. Regarding the receiver of Thompson, do you believe that there was a problem with that receiver relating to a delay from switching from one television format to another?

A. I don't know.

Q. You don't have an opinion one way or the other?

A. No.

Q. Thompson doesn't teach specifically that there was a problem between switching from one format to another, right?

A. I don't recall that

This testimony is relevant to Petitioner's argument in Reply at 6-7 that

Thomson teaches an adaptive filter and provides a reason to combine.

Petitioner's Response: This testimony is irrelevant. Petitioner has never contended that Thomson explicitly describes such a delay. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris and Grumman.

4. In Ex. 2038 at 4:20-5:12, Dr. Holberg testified about Ex. 1005 Harris:

Q. Take a look at Exhibit 1005 Harris. Harris doesn't teach television RF signals, correct?

A. I don't recall Harris teaching television signals, no.

Q. And so Harris doesn't teach processing more than one television signal format, right?

A. That's correct; I believe that's correct. (Short recess.)

Q. So Harris does not teach approximately more than one television signal format, right?

A. That's correct. Harris doesn't speak to television specifically, it's -- teaches wipe-in tuners, receivers. But I don't think it recalls -- it states televisions specifically. Can you hear me? I'll try to eject or is that the right term?

MR. FLEMING: Project.

A. Project. I don't want to eject.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a reason to combine.

Petitioner's Response: This testimony is irrelevant. Petitioner has never contended that Harris teaches television signals. Instead, Petitioner relies on Thomson for that teaching. The Board previously found this combination is obvious in IPR2014-00728. In this trial, Patent Owner does not contest the Board's finding that it would have been obvious to use Harris's FIR filter to implement the adaptive bandpass filter of Thomson. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris, and Grumman.

5. In Ex. 2038 at 33:10-15, Dr. Holberg testified about Ex. 1005 Harris:

Q. So I think we're on the same page here, it's that Harris doesn't teach processing more than one cell phone signal format in a single system, that specific teaching is not in there, in other words?

A. I don't recall seeing that specific teaching, no.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a reason to combine.

Petitioner's Response: This testimony is irrelevant. Petitioner has never contended that Harris teaches processing more than one cell phone signal format in a single system. Instead, Petitioner relies on Thomson for processing multiple television formats. The Board previously found this combination is obvious in IPR2014-00728. In this trial, Patent Owner does not contest the Board's finding that it would have been obvious to use Harris's FIR filter to implement the adaptive bandpass filter of Thomson. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris, and Grumman.

6. In Ex. 2038 at 7:24-8:3, Dr. Holberg testified that Ex. 1005 Harris's application is cell phones and at 33:10-15 testified:

Q. So I think we're on the same page here, it's that Harris doesn't teach processing more than one cell phone signal format in a single system, that specific teaching is not in there, in other words?

A. I don't recall seeing that specific teaching, no.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a single filter in lieu of multiple filters and a reason to combine.

Petitioner's Response: This testimony is irrelevant. Petitioner has never contended that Harris teaches processing more than one cell phone signal format in a single system. Instead, Petitioner relies on Thomson for processing multiple television formats. The Board previously found this combination is obvious in IPR2014-

00728. In this trial, Patent Owner does not contest the Board's finding that it would have been obvious to use Harris's FIR filter to implement the adaptive bandpass filter of Thomson. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris, and Grumman.

7. In Ex. 2038 at 8:23-9:6, Dr. Holberg testified about Ex. 1005 Harris:

Q. So the receiver depicted, for example, in figure one is for a single narrow band signal, right?

A. It says it's -- figure one is described as a high level block diagram of a single channel filter. It doesn't say narrow band.

MR. SHUMAKER: I think you may have misread that.

A. Figure one is a high level block diagram of a single channel receiver. Did I say that wrong?

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a reason to combine.

Petitioner's Response: This testimony is irrelevant. Figure one of Harris is what it is; Petitioner has never contested that. Instead, Petitioner relies on Thomson for processing multiple television formats. The Board previously found this combination is obvious in IPR2014-00728. In this trial, Patent Owner does not contest the Board's finding that it would have been obvious to use Harris's FIR filter to implement the adaptive bandpass filter of Thomson. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris, and Grumman.

8. In Ex. 2038 at 9:10-22, Dr. Holberg testified that Ex. 1005 Harris teaches in Figure 1 a single channel receiver that tunes on a narrow band radio signal and at 10:23-11:11 testified when Harris process more than one narrow channel, there is a signal processor for each narrow channel:

Q. Well, just focused here on figure six, the teaching here is when there are multiple channels, there are multiple DDF's, right?

A. In that illustration, you are correct. Multiple channels are implemented with multiple DDF's.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a single filter in lieu of multiple filters and provides a reason to combine.

Petitioner's Response: This testimony is irrelevant. The Board previously found the combination of Thomson and Harris is obvious in IPR2014-00728. In this trial, Patent Owner does not contest the Board's finding that it would have been obvious to use Harris's FIR filter to implement the adaptive bandpass filter of Thomson. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris, and Grumman.

9. In Ex. 2038 at 12:4-23 Dr. Holberg agrees that Grumman is a single FIR filter and at 5:13-19, Dr. Holberg testified that Ex. 1008 Grumman:

Q. That would be a problem. Take a look at Exhibit 1008 which is Grumman. Grumman doesn't teach television RF signals either, right?

A. That is correct.

Q. And so Grumman doesn't teach more than one television format signal, right?

A. That is correct.

This testimony is relevant to Petitioner's argument in Reply at 6-8 that

Grumman teaches an single filter in lieu of multiple filters and provides a reason to combine.

Petitioner's Response: Patent Owner grossly mischaracterizes Dr. Holberg's testimony. Dr. Holberg did not testify that Grumman describes a "single FIR filter." He was not even asked about that in the question above. Instead he was asked whether Grumman describes a television format signal. However, that is irrelevant. Petitioner does not rely on Grumman for a television signal. Thomson provides that teaching, which Patent Owner does not dispute. As a result, this testimony has no bearing on whether Thomson teaches an adaptive filter or whether there is a reason to combine Thomson, Harris and Grumman.

10. In Ex. 2038 at 15:16-16:4, Dr. Holberg testified that Ex. 1008 Grumman coefficients are for the same formatted signal:

Q. I think I got it. It's a single signal but the underlying information might be varying?

A. Yeah. I mean, it's -- if you look at figure 4a, it's showing what Y_n looks like. I mean, it's -- it's -- that's the arrangement of the Y_n values over time, and -- but as you can see the way the diagram shows, at any given point in time, Y_n can be a one or a zero and that's just whatever is coming from is determining that.

Q. Yeah. So that's the -- the information, I would say, on the signal

maybe changing?

A. Yeah, I believe that's a fair way to say it.

Q. And the characteristics, the underlying structure of the signal is going to be just what it is?

A. Right.

This testimony is relevant to Petitioner's argument that in Reply at 6-8

that Grumman teaches two sets of filter coefficients, one for each format, and provides a reason to combine.

Petitioner's Response: This testimony is irrelevant to the issue of whether Grumman describes one filter or two. Dr. Holberg goes to great lengths in this reply declaration to refute Patent Owner's argument that Grumman describes a single filter function. This testimony does nothing to impugn his opinions.

11. In Ex. 2038 at 18:9-14, Dr. Holberg testified that Ex. 1008 Grumman coefficients are for the same formatted signal:

Q. Okay. I'm not really asking about time. Even before that, fundamentally the coefficients in bank zero and bank one, they're both going to be operating on the same signal Y_n , right?

A. Well, when you -- they're both going to be operating on Y_n .

This testimony is relevant to Petitioner's argument that in Reply at 7-10 and 11-12 that Grumman teaches two sets of filter coefficients, one for each format, and provides a reason to combine.

Petitioner's Response: This testimony is irrelevant to the issue of whether Grumman describes one filter or two. Dr. Holberg goes to great lengths in this reply

declaration to refute Patent Owner's argument that Grumman describes a single filter function. This testimony does nothing to impugn his opinions.

II. Dr. Holberg's New Testimony Regarding the Obviousness of Combination of Thomson, Harris and Zenith

Petitioner's Response: There is nothing "new" about Dr. Holberg's testimony. Instead, he responded directly to the arguments raised by Patent Owner in its opposition. With respect to the meaning of "carrier signal," Dr. Holberg provided his opinion about the plain and ordinary meaning of that term in response to Patent Owner's argument that Zenith's sync signal is not a "carrier signal." Dr. Holberg cited to the Balaban reference—a prior art patent submitted by the applicant during prosecution—as evidence in support of his opinion that a synchronization signal is considered a "carrier signal" by a POSITA.

1. In Ex. 2038 at 22:8-20, Dr. Holberg testified that Ex. 1011 Zenith:

Q. Let me ask it slightly different. SYNC DET 20 is connected to the analog demodulator 16, right?

A. It appears to be connected, yes.

Q. And in figure two, SYNC DET 20 will detect the presence of the analog synchronization signal, right?

A. It's the sync detector which is detecting the sync signal from the analog demodulator, yes.

Q. And SYNC DET 20 is not connected to the digital demodulator 18, right?

A. No, it is not.

Q. So it doesn't detect the output of digital demodulator 18, correct?

A. Correct.

This testimony is relevant to Petitioner's argument on Reply at 8-12 regarding Zenith.

Petitioner's Response: This testimony is irrelevant. Dr. Holberg never testified that the sync detector in Zenith detected a sync signal in the digital television signal. Instead, he testified that Zenith detects "the absence" of a sync signal in the digital television signal, just as in the '585 patent. As a result, this testimony has no bearing on Petitioner's argument that Zenith teaches the claimed standard selection circuit.

2. In Ex. 2038 at 22:23-24:4, Dr. Holberg testified that Ex. 1011 Zenith:

Q. So sync detector 20 essentially has two states, one is the presence of the analog synchronization signal and one is the absence of the analog synchronization signal?

A. Right. Well, I know I addressed the state of the output of microprocessor 22 in my deposition, in my -- I mean, my Declaration. I don't recall stating -- it may not be important here, but let me just make sure. The sync detector has two states.

Q. And those states would be either state one, presence of the analog synchronization signal or second stage, the absence of the analog synchronization signal, right?

A. Yeah, I think there's clarity in the language in the patent. It says, "Analog demodulator 16 supplies a sync separator 20 of conventional design for separating sync signals in the demodulated analog signal. Sync separator 20 is connected to a microprocessor 22 that controls 2012 and the operation of switch 14." Specifically, in the presence of syncs, correspondent to -- corresponding to a demodulated analog type signal, microprocessor 22 calls a switch 14 to switch its pole, 14A, terminal A, with *Rousy *Eye signal from 2012 to analog demodulator 16. In the absence of syncs corresponding to a demodulated analog-type signal, microprocessors causes switch 14 to connect it's pole 14A to Terminal D, so there's the presence as you mentioned in the absence of six coming out of the analog demodulator.

Q. The presence or absence comes out of the analog demodulator and sync detector?

A. Right.

This testimony is relevant to Petitioner's argument in Reply at 8-12 regarding Zenith.

Petitioner's Response: This testimony is irrelevant. Dr. Holberg never testified that the sync detector in Zenith detected a sync signal in the digital television signal. Instead, he testified that Zenith detects "the absence" of a sync signal in the digital television signal, just as in the '585 patent. As a result, this testimony has no bearing on Petitioner's argument that Zenith teaches the claimed standard selection circuit.

3. In Ex. 2038 at 24:11-26:21, Dr. Holberg testified that Ex. 1011 Zenith, including:

Q. Now if switch 42 was instead connected to the D pole, sync detector 20 does not detect the presence of a digital demodulator signal, right?

A. That is correct.

Q. And when the switch 42 is in the D position, sync detector 20 won't detect the absence of a digital demodulator signal either, right?

A. When -- because the sync detector is not connected to the digital demodulator, when switch 42 is switched to Terminal D or Pole D as you called it, it can't detect anything because it's not connected to the digital demodulator.

Q. Okay. And you look -- there's an item on the left, figure two, on 12, the tuner. Do you see that?

A. I do.

Q. And when switch 42 is connected to the D Terminal, Tuner 12 is not connected to the analog demodulator, is it?

A. That is correct.

...

Q. So in that case there would be no digital demodulator signal and

the output at the sync detector would still tell the microprocessor there was no analog signal, right?

A. Well, nothing has changed. It's the same state that you -- we just agreed on.

Q. So the sync detector wouldn't inform the microprocessor that there was any change?

A. Because -- yeah, there's nothing -- yeah, it's still -- you've unplugged the input, we're watching a digital TV channel, you unplug the input and barring any algorithm within the microprocessor that does some testing or something, it would just stay in that state. No TV.

Q. And so there's -- the microprocessor then wouldn't tell Switch 42 to switch terminals, there would be no signal to do that?

A. Well, not what's disclosed in this diagram.

This testimony is relevant to Petitioner's argument on Reply at 8-12 regarding Zenith.

Petitioner's Response: This testimony is irrelevant. Dr. Holberg never testified that the sync detector in Zenith detected a sync signal in the digital television signal. Instead, he testified that Zenith detects "the absence" of a sync signal in the digital television signal, just as in the '585 patent. As a result, this testimony has no bearing on Petitioner's argument that Zenith teaches the claimed standard selection circuit.

III. Dr. Holberg's New Testimony Regarding the a claim construction of "indicative of"

Petitioner's Response: There is nothing "new" about Dr. Holberg's testimony. Instead, he responded directly to the arguments raised by Patent Owner in its opposition. With respect to the meaning of "indicative of," Dr. Holberg simply

agreed with Patent Owner that the dictionary submitted by Patent Owner (Ex. 2034) reflected the plain and ordinary meaning of that term to a POSITA.

1. In Ex. 2038 at 27:22-28:9, Dr. Holberg testified:

Q. So I understand. Under your claim construction, selects signal may or may not actually be indicative of the format, right?

A. I say the select signal would nonetheless provide an indication of the format, i.e., a clue, evidence or hint that may or may not be -- that may or may not be indicative of the actual format.

Q. Okay. And so I'm focusing on that last part here.

A. Yeah.

Q. The select signal may or may not be actually indicative of the format, right?

A. Right.

This testimony is relevant to Petitioner's argument in Reply at 2 as to the scope of Petitioner's claim construction.

Petitioner's Response: This testimony supports rather than detracts from Dr. Holberg's opinion that the plain and ordinary meaning of the "select signal" only requires that signal to provide "a clue, evidence or hint" about the actual format of the television signal. It does not have to be conclusive, as Patent Owner apparently contends.

2. In Ex. 2038 at 29:21-30:2, Dr. Holberg testified:

Q. So if, for example, there were subformats, different types of analog, analog A, analog B, analog C, if there's more than two, a single bit wouldn't do that?

A. Right.

A. If there are more than two of anything, a single bit can't distinguish more than two states.

This testimony is relevant to Petitioner's argument in Reply at 9 "When properly construed, the Zenith μ P output signal provides an 'indication of' one of a plurality of TV formats."

Petitioner's Response: This testimony supports rather than detracts from Dr. Holberg's opinion that the plain and ordinary meaning of the "select signal" may be a single bit. The claim language only requires the select signal to specific one of a "plurality," which includes two different formats. A single bit can represent one of two different formats.

3. In Ex. 2038 at 28:10-29:2, Dr. Holberg testified:

Q. Now flip back to Page 15, on Paragraph 27?

A. Again, I -- I read that sentence, I just want to make sure I mean the actual format is the point that's being made, it's an indication of a format which may not be indicative of the actual format.

Q. Okay. So I'm looking at Paragraph 27, you're talking about a sign or indication can take many forms, right?

A. Uh-huh.

Q. As far as on Page 14, goes onto Page 15. And then in the last sentence, you discuss a bit, and you say, "That's a classic example of a sign or indication of the TV format, when there are -- when the TV format is either one format or another."

A. Right.

Q. So if there are two options, then the bit could tell you?

A. Right.

This testimony is relevant to Petitioner's argument on Reply at 9 "When properly construed, the Zenith μ P output signal provides an 'indication of' one of a plurality of TV formats."

Petitioner's Response: This testimony supports rather than detracts from Dr. Holberg's opinion that the plain and ordinary meaning of the "select signal" only requires that signal to provide "a clue, evidence or hint" about the actual format of the television signal. It does not have to be conclusive, as Patent Owner apparently contends.

IV. Dr. Holberg's New Testimony Regarding the a claim construction of "carrier signal":

Petitioner's Response: There is nothing "new" about Dr. Holberg's testimony. Instead, he responded directly to the arguments raised by Patent Owner in its opposition. With respect to the meaning of "carrier signal," Dr. Holberg provided his opinion about the plain and ordinary meaning of that term in response to Patent Owner's argument that Zenith's sync signal is not a "carrier signal." Dr. Holberg cited to the Balaban reference—a prior art patent submitted by the applicant during prosecution—as evidence in support of his opinion that a synchronization signal is considered a "carrier signal" by a POSITA.

In Ex. 2038 at 33:16-34:1, Dr. Holberg testified:

Q. Now you provided some testimony about the analog synchronization signal; do you recall that?

A. In the Declaration or testimony?

Q. In the Declaration?

A. The analog sync signal, yes.

Q. The analog sync signal is part of the television video information?

A. Yes.

Q. And so that analog sync signal is needed to display a TV picture to the viewer, right?

A. Yes.

This testimony is relevant to Petitioner's argument on Reply at 2 that a synchronization signal is a "carrier signal."

Petitioner's Response: This testimony is irrelevant to Dr. Holberg's opinion about the plain and ordinary meaning of "carrier signal." The Balaban reference—a prior art patent submitted by the applicant during prosecution—teaches that a synchronization signal is considered a "carrier signal" by a POSITA.

Dated: March 22, 2016

/s/ Peter J. Ayers

Peter J. Ayers

Reg. No. 38,374

LEE & HAYES, PLLC

11501 Alterra Parkway, Suite 450

Austin, TX 78758

Phone: (512) 605-0252

Facsimile: (512) 605-0269

Email: peter@leehayes.com

Attorneys for Petitioner

Silicon Laboratories, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on this 22nd day of March, 2016, the foregoing **PETITIONER'S RESPONSE TO PATENT OWNER'S OBSERVATION ON CROSS EXAMINATION OF PETITIONER'S REPLY WITNESS, DR. DOUGLAS HOLBERG (PAPER NO. 32)** was served upon Patent Owner's attorney of record by emailing to the following addresses:

Michael R. Fleming
Lead Counsel for Patent Owner
Benjamin Haber
Backup Counsel for Patent Owner
Irell & Manella LLP
1800 Avenue of the Stars
Suite 900
Los Angeles, CA 90067
CrestaIPRs@irell.com

Mihai Murgulescu
Cresta Technology Corporation
3900 Freedom Circle, Suite 201
Santa Clara, CA 95054
mihaihm2000@gmail.com

/Peter J. Ayers/
Peter J. Ayers, Reg. No. 38,374
LEE & HAYES, PLLC