

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,

v.

SURPASS TECH INNOVATION LLC,
Patent Owner.

Case IPR2015-00021
Patent 7,202,843 B2

Before SALLY C. MEDLEY, BRYAN F. MOORE, and
BETH Z. SHAW, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Petitioner, Sharp Corporation, Sharp Electronics Corporation, and Sharp Electronics Manufacturing Company of America, filed a Petition requesting an *inter partes* review of claims 1, 4, 8, and 9 of U.S. Patent No.

7,202,843 B2 (Ex. 1001, “the ’843 patent”) under 35 U.S.C. §§ 311–319. Paper 1 (“Petition” or “Pet.”). Patent Owner, Surpass Tech Innovation LLC, filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). Upon consideration of the Petition and Preliminary Response, on March 18, 2015, we instituted an *inter partes* review of claims 4, 8, and 9 on one ground of unpatentability, pursuant to 35 U.S.C. § 314. Paper 10 (“Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 20 (“PO Resp.”)) and Petitioner filed a Reply (Paper 24 (“Pet. Reply”)).

Petitioner filed a Motion to Exclude (Paper 27; “Pet. Mot. to Exclude”) certain portions of Exhibit 2005 and certain evidence submitted during the cross examination of Michael Marentic. Patent Owner filed an Opposition to the Motion to Exclude (Paper 34; “PO Exclude Opp.”), and Petitioner filed a Reply (Paper 39; “Pet. Exclude Reply”).

Patent Owner filed a Motion to Exclude (Paper 31; “PO Mot. to Exclude”) certain portions of Exhibits 1010 and 2007. Petitioner filed an Opposition to the Motion to Exclude (Paper 35; “Pet. Exclude Opp.”), and Patent Owner filed a Reply (Paper 38; “PO Exclude Reply”). Patent Owner filed a Motion for Observations (Paper 29) and Petitioner filed a Response to the Observations (Paper 36).

An oral hearing was held on December 1, 2015, and a transcript of the hearing is included in the record (Paper 43; “Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 4, 8, and 9 of the '843 patent are unpatentable.

A. Related Proceedings

According to Petitioner, the '843 patent is involved in the following lawsuit: *Surpass Tech Innovation LLC v. Sharp Corp.*, No. 1:14-cv-00338-LPS (D. Del.). Pet. 8.

B. The '843 Patent

The '843 patent relates to a method and system for driving an LCD panel. The panel includes a plurality of scan lines, a plurality of data lines, and a plurality of pixels. Each pixel is connected to a corresponding scan line and a corresponding data line, and each pixel includes a liquid crystal device and a switching device connected to the corresponding scan line, data line, and liquid crystal device. Ex. 1001, 2:19–26, Fig. 4. The system includes a driving circuit for applying a plurality of data impulses to a pixel electrode within one frame period to control the transmission rate of the liquid crystal device. *Id.* at 1:8–12, 4:34–40.

C. Illustrative Claim

Claim 4, reproduced below, is an independent claim and each of claims 8 and 9 depend directly from claim 4.

4. A method for driving a liquid crystal display (LCD) panel, the LCD panel comprising:
a plurality of scan lines;
a plurality of data lines; and
a plurality of pixels, each pixel being connected to a corresponding scan line and a corresponding data line, and each pixel comprising a liquid crystal device and a switching device

connected to the corresponding scan line, the corresponding data line, and the liquid crystal device, and
the method comprising:
receiving continuously a plurality of frame data;
generating a plurality of data impulses for each pixel within every frame period according to the frame data; and
applying the data impulses to the liquid crystal device of one of the pixels within one frame period via the data line connected to the pixel in order to control a transmission rate of the liquid crystal device of the pixel.

D. Ground of Unpatentability

We instituted an *inter partes* review of claims 4, 8, and 9 on the sole ground of anticipation by Ham¹ under 35 U.S.C. § 102(e).

II. ANALYSIS

A. Level of Skill of Person in the Art

We find that the level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

B. Claim Interpretation

In an *inter partes* review, we construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 84 U.S.L.W. 3218 (U.S. Jan. 15, 2016) (No. 15-446). Consistent with the broadest reasonable

¹ U.S. Patent Application Publication 2004/0196229, published Oct. 7, 2004 (Ex. 1005) (“Ham”).

construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Also, we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (“limitations are not to be read into the claims from the specification”). However, an inventor may provide a meaning for a term that is different from its ordinary meaning by defining the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Patent Owner faults Petitioner for not providing a construction for the term “generating” as recited in claim 4, but does not propose a construction for the term. PO Resp. 27–28. We find it unnecessary to expressly construe the term, because both parties agree that at least *converting* digital signals into analog data signals (impulses) meets the claimed “generating a plurality of data impulses” limitation. Pet. Reply 3–4; Ex. 1010 ¶¶ 50–54, 59; Ex. 1009, 114:3–12; Tr. 23.

We do need to construe, however, for purposes of this Final Written Decision, the independent claim 4 phrase of “applying the data impulses to the liquid crystal device of one of the pixels within one frame period . . . to control a transmission rate of the liquid crystal device of the pixel.” Ex. 1001, 7:16–19. Patent Owner argues that this phrase requires “*applying two or more overdriven* data impulses in order to control a transmission rate of the liquid crystal device, *or overdriving*.” PO Resp. 25–26 (emphases added). Patent Owner further contends that “overdriven” means “applying a

higher or a lower data impulse to the pixel electrode to accelerate the reaction speed of the liquid crystal molecules.” *Id.* at 20 (citing Ex. 1001, 2:3–5). As explained in greater detail below, Ham describes applying two data impulses within one frame period, where one of the impulses is overdriven, but the other is not. Thus, we must resolve whether claim 4 requires *two overdriven* impulses. For the reasons that follow, we determine that claim 4 does not require applying two or more overdriven data impulses.

We begin with the language of claim 4. Claim 4 recites generating a plurality of data impulses for each pixel within every frame period. The claim further recites applying the data impulses to the liquid crystal device of one of the pixels within one frame period in order to control a transmission rate of the liquid crystal device of the pixel. Based on the words of claim 4, data impulses (more than one) are applied to one of the pixels within one frame period to control a transmission rate of the liquid crystal device of the pixel. Absent from the claim 4 language is that (more than one of) the data impulses are “overdriven.”

All of the claims in the ’843 patent are original. As such, the original claims also are part of the Specification. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1349 (Fed. Cir. 2010) (*en banc*) (original claims are part of the original Specification and may themselves satisfy the written description requirement). Further, claim 1, a claim that is not included in this trial, explicitly includes generating “a plurality of *overdriven pixel data* within every frame period for each pixel,” “generating a plurality of data impulses to each pixel *according to the plurality of overdriven pixel data*” and “applying the data impulses to the liquid crystal device of the pixel . . . within one frame period . . . *to control transmission rate* of the liquid crystal

device.” Ex. 1001, 6:12–21. The language of original claim 1, contrasted with the language of original claim 4, is relevant to show that when the Patent Owner intended to claim overdriven pixel data, and generating impulses based on the overdriven pixel data, and applying the data impulses, etc., it did so by including the word “overdriven” as a modifier to the data that is generated, and applied.² Thus, at first blush, we are not persuaded by Patent Owner’s argument that “to control a transmission rate of the liquid crystal device of the pixel” necessitates reading “overdriven” into claim 4. PO Resp. 20–21. Both claim 1 and claim 4 require “to control [a]³ transmission rate of the liquid crystal device.” If, as Patent Owner contends, “to control a transmission rate” requires us to read “overdriven” into the language of claim 4, it would appear superfluous and unnecessary for claim 1, which also recites “to control [a] transmission rate” to include the word “overdriven.”

We next turn to the Specification of the ’843 patent. Patent Owner directs attention to the term “overdriven” as it is defined in the Specification to mean “applying a higher or a lower data impulse to the pixel electrode to accelerate the reaction speed of the liquid crystal molecules.” *Id.* at 20 (citing Ex. 1001, 2:3–5). Patent Owner argues that it follows that “applying a higher or a lower data impulse to the pixel electrode to accelerate the reaction speed of the liquid crystal molecules” means “overdriving.” *Id.* at 21. Even so, Patent Owner has not shown the particular relevance of this

² Patent Owner elected not to file a motion to amend to include a claim that explicitly recites overdriven or overdriving in this trial.

³ Claim 1 does not include the word “a” but is otherwise identical to claim 4 with respect to this phrase.

fact insofar as claim 4 is concerned. Claim 4 does not recite “applying a higher or a lower data impulse to the pixel electrode *to accelerate the reaction speed* of the liquid crystal molecules.” Rather, claim 4 recites “applying the data impulses to the liquid crystal device of one of the pixel . . . within one frame period . . . *to control a transmission rate* of the liquid crystal device.” Thus, we are not persuaded that “overdriven” as defined in the ’843 patent is particularly relevant to the disputed claim language. The claim 4 language is different from the definition of “overdriven” in the Specification, and, thus we are not persuaded that there is a “correlation” between claim 4 and the Specification’s definition of overdriven as asserted. *Id.* Patent Owner has not directed us to sufficient evidence that would lead us to conclude that there is such a correlation.

Patent Owner next directs attention to passages in the ’843 patent that describe applying two overdriven pixel data “to control the transmission rate of the liquid crystal device.” *Id.* at 22–24. Patent Owner concludes that in light of the ’843 Specification, the phrase “to control a transmission rate of the liquid crystal device of the pixel” would be understood as describing the process of controlling the transmission rate through overdriving, or applying a higher or lower voltage to the liquid crystal device of the pixel to accelerate the reaction speed of the liquid crystal molecules. *Id.* at 22–24 (citing Ex. 2005 ¶¶ 28–30). We have reviewed Mr. Bohannon’s testimony in support of the proposed construction, but find the evidence underlying his testimony does not support Patent Owner’s argument. In particular, Mr. Bohannon testifies that a key example of how the patent makes clear that controlling a transmission rate means applying an overdriven voltage to the liquid crystal device is found at column 3, lines 60–62. Ex. 2005 ¶ 28. The

sentence to which we are directed states that “[d]ifferent data voltages cause different twisting angles and show different transmission rates.” That sentence does not indicate that the “different data voltages” must be over or under voltages as suggested. Rather, that sentence supports the notion that the application of data voltages *in general* causes different twisting angles and shows different transmission rates, e.g., controls the transmission rate.⁴ Absent from the sentence is any reference to overdriven, overvoltage, or undervoltage, and Mr. Bohannon does not explain sufficiently why we should construe “different data voltages” to mean overdriven voltages.

Moreover, we give little if any weight to Mr. Bohannon’s testimony that there is no “instance or embodiment in the ’843 patent where a transmission rate is described as being controlled without overdriving” (Ex. 2005 ¶ 28) or that the ’843 patent Specification “**does not state** that the transmission rate could be controlled by applying two or more **non-overdriven** data impulses” (*id.* ¶ 29 (emphasis in original)). Those statements are in contradiction to other passages in the Specification of the ’843 patent that do not mention applying two overdriven pulses within a time frame in order to control the transmission rate.

⁴ This finding of fact is further supported by the ’843 patent, which describes an example (curve C1 of Fig. 2) of a “driving circuit [that] changes the transmission rate” without overdriving, e.g., just by applying voltage to the pixel is the transmission rate changed or controlled. Ex. 1001, 1:55–58; Ex. 1010 ¶¶ 34, 90. We disagree with Patent Owner’s implicit argument that changing a transmission rate is different from controlling a transmission rate (*see, e.g.*, Tr. 26–27), because the ’843 Specification describes changing the transmission rate interchangeably with controlling the transmission rate in describing the invention. *See, e.g.*, Ex. 1001, 4:28–31, 5:49–51.

For example, the Specification of the '843 patent, distinguishing between the prior art, explains:

In contrast to the prior art, the present invention discloses a driving circuit and relating driving method to generate two pieces of pixel data in each frame period for every pixel on an LCD panel and then to generate two data impulses according to the two pieces of pixel data and to apply them to each pixel within a frame period in order to change the transmission rate of a pixel electrode. Thus, each of the pixels of the LCD panel is applied of a plurality of data impulses within a frame period, so that liquid crystal molecules of the pixels can twist to reach a predetermined gray level within a frame period, and blurring will not occur.

Ex. 1001, 5:45–55.

The above indicates that the application of two data impulses to each pixel within a frame period changes, or controls, the transmission rate of a pixel electrode. Absent from this passage is any reference to overdriving data impulses. Yet, neither the Patent Owner Response nor the supporting testimony of Mr. Bohannon (Ex. 2005) discusses or attempts to explain this passage. In addition, this passage is consistent with claim 4, which as an original claim, and also part of the originally filed Specification, conveys a broader coverage than the one Patent Owner asserts during this proceeding. We agree with Petitioner that the above passage, along with the original claim 4 language, would have conveyed to a person having ordinary skill in the art that the scope of the claimed invention includes applying two data impulses within a single time frame, resulting in controlling the transmission rate of the liquid crystal device, with or without overdriving the two impulses. Pet. 2–4.

In sum, we find that a person of ordinary skill in the art would have understood that there are other ways to control a transmission rate of the liquid crystal device of a pixel without applying overdriven data impulses as evidenced by the '843 patent itself. Patent Owner urges a construction for the term “to control a transmission rate” that is too narrow, by focusing on certain described embodiments, while disregarding broader described embodiments, such as the one immediately discussed above. We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d at 1184. Here, Patent Owner chose to claim its invention broadly, and we are provided insufficient evidence before us to construe the claim more narrowly as Patent Owner urges us to do.

For all of the reasons discussed above, “applying the data impulses to the liquid crystal device of one of the pixels within one frame period . . . to control a transmission rate of the liquid crystal device of the pixel” does not require applying two or more *overdriven* data impulses as urged by Patent Owner.

C. Anticipation by Ham

Petitioner contends that claims 4, 8, and 9 are unpatentable under 35 U.S.C. § 102(e) as anticipated by Ham. Pet. 45–49. In its Petition, Petitioner explains how Ham discloses each claim limitation of the challenged claims. *Id.*

Patent Owner argues that Ham does not describe “generating a plurality of data impulses for each pixel” or “applying the data impulses to the liquid crystal device of one of the pixels within one frame period . . . in

order to control a transmission rate of the liquid crystal device of the pixel.”
PO Resp. 28–41.

Ham

Ham describes a method of driving a liquid crystal display including modulating a source data and supplying the modulated data to a liquid crystal panel at an initial period of one frame period, and applying a data different from the modulated data to the liquid crystal panel at a later period of the one frame period. Ex. 1005 ¶ 22. Figure 5 of Ham is reproduced below.

FIG.5

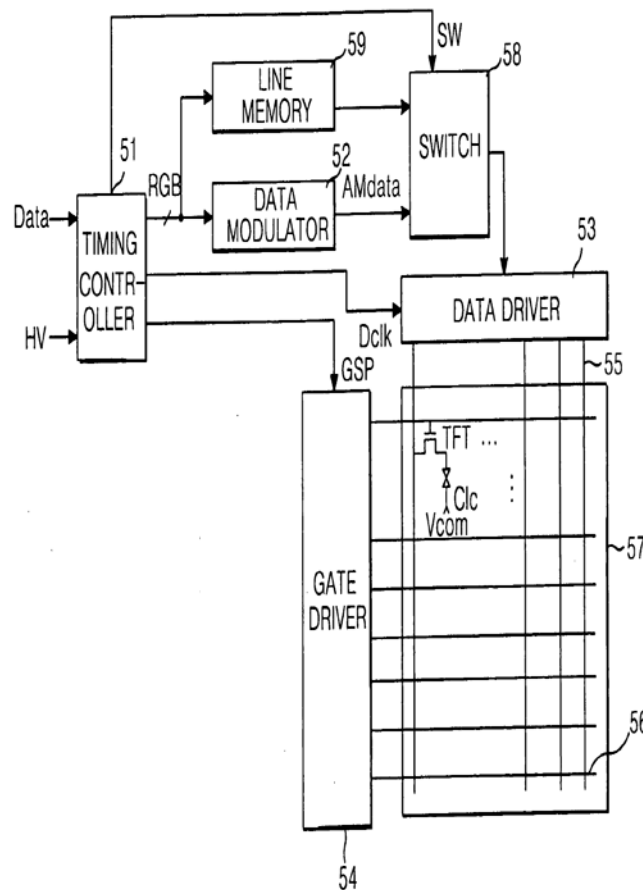


Figure 5 is a block diagram showing a driving apparatus for a liquid crystal display.

Liquid crystal display panel 57 is connected to data lines 55 and gate lines 56 crossing each other and having thin film transistors (TFT) provided at each intersection to drive the liquid crystal cells Clc. *Id.* at ¶ 37. Data driver 53 supplies data to data lines 55 and gate driver 54 applies a scanning pulse to gate lines 56. *Id.* Timing controller 51 receives digital video data and synchronizes signals H and V. Data modulator 52 is connected between timing controller 51 and data driver 53 to modulate input data RGB. Switch 58 is utilized to select any one of modulated data AMdata and normal input RGB. *Id.* Line memory 59 is connected between timing controller 51 and switch 58.

Timing controller 51 rearranges digital video data supplied from a digital card. The RGB data rearranged by controller 51 is supplied to data modulator 52 and line memory 59. *Id.* at ¶ 39. Timing controller 51 also provides a switching control signal SW, allowing switch 58 to be switched twice within one frame interval.

In operation, data driver 53 is supplied sequentially with modulated data AMdata and normal data RGB from switch 58 within one frame interval. That data is ultimately converted (e.g., generated) into analog data and applied to each liquid crystal cell Clc within one frame interval. *Id.* at ¶ 41.

Analysis

Petitioner provides detailed analysis showing where Ham discloses each limitation of the challenged claims. Pet. 45–49. For independent claim 4, Petitioner contends that Ham discloses a method for driving a liquid crystal display (LCD) panel. *Id.* at 47 (citing Ex. 1005, Abstract, ¶ 3). Petitioner also contends that Ham discloses a plurality of scan lines (i.e.,

gate lines 56 of Fig. 5) and a plurality of data lines (i.e., data lines 55 of Fig. 5). *Id.* at 47–48. According to Petitioner, Ham describes a plurality of pixels (Ex. 1005 ¶ 38) comprising a liquid crystal device (liquid crystal cell Clc) and a switching device (i.e., a “TFT”) connected to a corresponding scan line (i.e., gate line 56 of Fig. 5), data line (i.e., data line 55 of Fig. 5), and liquid crystal device (liquid crystal cell Clc). Claim 4 further recites that the method comprises “receiving continuously a plurality of frame data.” For this limitation, Petitioner contends that Ham describes continuously “receiving digital video data” (i.e., from timing controller 51 of Fig. 5). *Id.* at 46, 48 (citing Ex. 1005 ¶¶ 3, 37, Fig. 5). We are persuaded by Petitioner’s showing, and adopt it as our own, that Ham discloses a plurality of scan and data lines, a plurality of pixels connected to the scan and data lines, and that each pixel comprises a liquid crystal device and switching device connected to a corresponding scan line, data line, and switching device. We also are persuaded by Petitioner’s showing, and adopt it as our own, that Ham discloses the “receiving” limitation of claim 4. Patent Owner does not contend that any of these limitations are not met by Ham.

Patent Owner, however, disputes whether Ham discloses the remaining limitations of claim 4, specifically: “generating a plurality of data impulses for each pixel within every frame period according to the frame data” and “applying the data impulses to the liquid crystal device of one of the pixels within one frame period via the data line connected to the pixel in order to control a transmission rate of the liquid crystal device of the pixel.” PO Resp. 28–41.

To meet the “generating” limitation, the Petition provides that “[t]he apparatus also includes a ‘timing controller 51’ that ‘receives digital video

data’ and a ‘data modulator 52’ that generates *two data impulses* (i.e., ‘modulated data’ signal and ‘normal data’ signal) for each pixel within one frame period.” Pet. 46 (citing Ex. 1005 ¶¶ 37, 40, Fig. 7C) (emphasis in original).

In addition, the Petition at page 48 cites paragraphs 40, 41, and 53 of Ham, and in particular, the following from paragraph 53:

[T]he LCD drive apparatus and method according to the present invention appl[ies] the normal data to the liquid crystal panel at the initial half period of the frame after supplying of the modulated data to the liquid crystal panel during the later half period of the frame.

Patent Owner argues that Petitioner only relies on data modulator 52 to meet the generating limitation and that the data modulator does not perform the generating step. PO Resp. 29–36. We disagree that the Petition indicates that data modulator 52 alone performs the generating step. Rather, the Petition discusses “the [driving] apparatus” which includes timing controller and data modulator as meeting the generating limitation, and later, in its claim chart, indicates that the driving apparatus of Ham Figure 5 meets the limitation. Pet. 46, 48.

A similar argument was raised before by Patent Owner in its Preliminary Response—that Petitioner relies on one element of Ham’s data driving apparatus to meet the generating step. Prelim. Resp. 35–36. As we explained in our Decision to Institute, Petitioner relies on more than one particular element in Ham to meet the generating step, such as Ham’s entire driving apparatus of Figure 5. Dec. 13. Thus, Patent Owner was notified that we read the Petition as relying on the entire driving apparatus of Figure 5 to meet the generating limitation. Yet, Patent Owner in its Response does

not address the totality of the Ham driving apparatus. Instead, Patent Owner narrowly focuses on Ham's data modulator 52, and argues that that element alone fails to perform the generating step. Such an argument is nonresponsive to the Petition and not persuasive.

Petitioner relies on the driving apparatus, for example of Figure 5, which is not limited to data modulator 52, to disclose the generating step. *See* Pet. 48 (citing Ex. 1005 ¶¶ 40, 41, 53). Petitioner explains, with supporting evidence, that a person of ordinary skill in the art would have understood Ham's data driver 53 of the driving apparatus as generating a plurality of data impulses for each pixel within every frame period according to the frame data. Pet. Reply 3–4; Ex. 1010 ¶¶ 50–54, 59. In particular, Petitioner's Declarant, Mr. Michael J. Marentic, testifies that Ham's data driver 53 (i.e., source driver) receives two digital signals (modulated data AMdata and normal data RGB) within one frame interval and converts, i.e., “generates,” each of the digital signals into two corresponding analog data signals (plurality of data impulses) and applies the two data impulses to the data lines 55 in each scanning period. Ex. 1010 ¶ 59 (citing Ex. 1005 ¶¶ 40, 41). Mr. Marentic further testifies that like Ham, the '843 patent similarly describes the generating step as performed by a source driver 18 shown in Figure 3. *Id.* ¶ 60. In particular, Mr. Marentic directs attention to the following passages in the '843 patent:

[W]hen the pixel data GN, GN(2) are generated, the source driver of the driving circuit 10 converts the pixel data GN, GN(2) into two corresponding data impulses and then applies them to liquid crystal device 39.

Ex. 1001, 4:8–14.

[T]he source driver 18 generates two corresponding data impulses according to the two pieces of pixel data and applies them to the pixel electrode 39 of the corresponding pixel 36 in order to control the transmission rate . . . of the pixel electrode 39.

Id. at 4:22–28.

We give Mr. Marentic’s testimony substantial weight because his testimony is consistent with the description of Ham and the ’843 patent. In other words, Ham describes performing the generating of data in the same way as is described in the ’843 patent. Even Patent Owner’s Declarant, Mr. Bohannon, agrees that Ham describes converting digital data into analog data and applying that data to data lines, e.g., the generating step. Ex. 1009, 114:3–12. And during oral hearing, Patent Owner also acknowledged that converting digital data into analog data would read on the generating step. Tr. 23. For all of these reasons, we determine that Petitioner has shown by a preponderance of the evidence that Ham describes generating a plurality of data impulses for each pixel within every frame period according to the frame data.

We next address Patent Owner’s contention that Petitioner has not shown that Ham describes “applying the data impulses to the liquid crystal device of one of the pixels within one frame period via the data line connected to the pixel in order to control a transmission rate of the liquid crystal device of the pixel.” PO Resp. 40–41. For this phrase, Petitioner relies on Ham’s description of applying data impulses (one normal and one overdriven) to the liquid crystal cell within one frame interval via data lines connected to the liquid crystal cell to double the transmission rate of the cell. Pet. 46–48. Patent Owner’s arguments for this phrase are based on a narrow

construction of the phrase to include a plurality of overdriven signals in a frame period. *Id.* at 40. As explained above in the claim interpretation section of this Decision, we do not construe the phrase so narrowly. Patent Owner makes no other arguments regarding this disputed phrase of claim 4. For the reasons above, we are persuaded by Petitioner’s showing, and adopt it as our own, that Ham discloses applying the data impulses to the liquid crystal device of one of the pixels within one frame period via the data line connected to the pixel in order to control a transmission rate of the liquid crystal device of the pixel.

Claim 8 depends from claim 4 and recites “applying a scan line voltage to the switch device of the pixel via the scan line connected to the pixel in order to have the data impulses be applied to the liquid crystal device of the pixel.” Ex. 1001, 8:12–17. Petitioner shows that Ham describes applying a scanning pulse to gate lines 56 of liquid crystal display panel 57 to have the data impulses applied to the liquid crystal cells of the pixel. Pet. 49 (citing Ex. 1005 ¶¶ 37, 38, 44, Fig. 5). Patent Owner does not dispute that these features of Ham satisfy claim 8. For the reasons above, we are persuaded by Petitioner’s showing, and adopt it as our own, that Ham discloses applying a scan line voltage to the switch device of the pixel via the scan line connected to the pixel in order to have the data impulses be applied to the liquid crystal device of the pixel.

Claim 9 depends from claim 4 and recites “wherein each frame data comprises a plurality of pixel data, and each pixel data corresponds to a pixel.” Ex. 1001, 8:18–20. Petitioner shows that in Ham, each frame of data includes a plurality of pixel data (i.e., normal data RGB), and each pixel data corresponds to a pixel (i.e., liquid crystal cell). Pet. 49 (citing Ex. 1005

¶ 42, Fig. 6). Patent Owner does not dispute that these features of Ham satisfy claim 9. For the reasons above, we are persuaded by Petitioner's showing, and adopt it as our own, that Ham discloses wherein each frame data comprises a plurality of pixel data, and each pixel data corresponds to a pixel.

For the foregoing reasons, based on the record before us, Petitioner has shown by a preponderance of the evidence that Ham discloses all of the limitations of claims 4, 8, and 9.

D. Patent Owner's Motion to Exclude

Patent Owner moves to exclude certain portions of Mr. Michael Marentic's declaration (Exhibit 1010) and deposition testimony (Exhibit 2007). PO Mot. to Exclude. In particular, Patent Owner argues that Mr. Marentic offers no facts or data to support his opinion on the level of skill in the art, and that his testimony is also inconsistent with what was presented in the Petition. *Id.* at 2. These arguments go to the weight that we give the evidence and, therefore, are an improper basis for excluding evidence. In any event, as discussed above, in rendering this Final Written Decision, we look to the prior art of record to inform us of the level of skill in the art, notwithstanding what the experts opine as to the level of skill in the art. *See Okajima v. Bourdeau*, 261 F.3d at 1355; *In re GPAC Inc.*, 57 F.3d at 1579; *In re Oelrich*, 579 F.2d at 91.

Patent Owner further argues that portions of Mr. Marentic's declaration (Ex. 1010 ¶¶ 92–93) should be excluded under FRE 802. PO Mot. to Exclude 2–4. In the objected to paragraphs, Mr. Marentic testifies, directing attention to several prior art U.S. patents (Exhibits 1012, 1013, and 1014), that “transmission rate” was a term known in the art, and that

controlling a transmission rate would have been understood as merely applying a particular voltage to a pixel's electrodes. Ex. 1010 ¶¶ 92–93. Patent Owner argues that the written statements in the prior art patents (Exhibits 1012, 1013, and 1014) are hearsay because Petitioner offers them for the truth of the matter asserted. *Id.* In rendering the Final Written Decision, we did not rely on Exhibits 1012, 1013, 1014, or Mr. Marentic's testimony found at paragraphs 92 or 93.

Patent Owner also objects to a portion of Mr. Marentic's deposition testimony (Ex. 2007, 116:12–118:3) as nonresponsive. The objection goes to the weight to be given to the testimony, which is not a proper basis for a motion to exclude.

For these reasons, we *dismiss* Patent Owner's Motion to Exclude.

E. Petitioner's Motion to Exclude

Petitioner moves to exclude portions of Mr. Bohannon's Declaration (Ex. 2005) as an improper and untimely attempt to amend claims in this proceeding. Pet. Mot. to Exclude, 2–4. Petitioner's argument is improper for a motion to exclude evidence under the Federal Rules of Evidence. No Federal Rule of Evidence is cited in violation of the alleged attempt to amend claims in violation of Board rules.

Petitioner also objects to the same portions of Exhibit 2005 as not relevant to the proceeding. *Id.* at 4–6. Although disguised as relevance issues, Petitioner's arguments go to the weight we should give Mr. Bohannon's testimony. Such a showing is not proper for a motion to exclude.

Lastly, Petitioner objects to two documents ("Exhibit A" and "Exhibit C") presented to Petitioner's witness, Mr. Marentic, during cross

examination. *Id.* at 6. Petitioner acknowledges, however, that neither party relied on either Exhibit A or C in support of the briefs filed in this proceeding. *Id.* Accordingly, we need not exclude something that neither party relies on in the proceeding.

For these reasons, we *dismiss* Petitioner's Motion to Exclude.

III. CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated by a preponderance of the evidence that claims 4, 8, and 9 of the '843 patent are unpatentable under 35 U.S.C. § 102(e) as anticipated by Ham.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that claims 4, 8, and 9 of the '843 patent are held unpatentable;

FURTHER ORDERED that the parties' respective motions to exclude evidence are *dismissed*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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