

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY CORPORATION, SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG DISPLAY CO., LTD.,
Petitioner,

v.

SURPASS TECH INNOVATION LLC,
Patent Owner.

Case IPR2015-00863
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

We have jurisdiction to hear this *inter partes* review 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 enter adverse judgment against Patent Owner with respect to claims 4, 8, and 9 of U.S.

Patent No. 7,202,843 B2; determine that Petitioner has shown by a preponderance of the evidence that claims 5 and 6 of U.S. Patent No. 7,202,843 B2 are unpatentable; and determine that Petitioner has not shown by a preponderance of the evidence that claim 7 of U.S. Patent No. 7,202,843 B2 is unpatentable.

A. Procedural History

Petitioner, Sony Corporation, Samsung Electronics Corporation, and Samsung Display Corporation, filed a Petition requesting an *inter partes* review of claims 4–9 of U.S. Patent No. 7,202,843 B2 (Ex. 1001, “the ’843 patent”). Paper 4 (“Pet.”). Patent Owner, Surpass Tech Innovation LLC, filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). Upon consideration of the Petition and Preliminary Response, on September 8, 2015, we instituted an *inter partes* review of claims 4–9, pursuant to 35 U.S.C. § 314. Paper 11 (“Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 21 (“PO Resp.”)) and Petitioner filed a Reply (Paper 27 (“Pet. Reply”)). Petitioner filed a Motion to Exclude (Paper 30; “Pet. Mot. Exclude”) Exhibit 2007 and Paragraph 39 of Exhibit 2022. Patent Owner filed an Opposition to the Motion to Exclude (Paper 32; “PO Exclude Opp.”), and Petitioner filed a Reply (Paper 33; “Pet. Exclude Reply”).

An oral hearing was held on May 12, 2016, and a transcript of the hearing is included in the record (Paper 40; “Tr.”). On May 13, 2016, Patent Owner was ordered to show cause why judgment should not be entered against it with respect to claims 4, 8, and 9 of the ’843 patent. See 37 C.F.R. § 42.73(b)(3). Paper 38 (“Order”). On May 23, 2016, Patent Owner responded to the Order. Paper 39 (“Response”).

B. Related Proceedings

According to Petitioner, the '843 patent is involved in the following lawsuit: *Surpass Tech Innovation LLC v. Samsung Display Co., Ltd. et al.*, No. 14-cv-00337-LPS (D. Del.). Pet. 1.

C. 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.

D. Illustrative Claim

Independent claim 4 is illustrative and reproduced below. Claims 5–9 depend either directly or indirectly from claim 4.

Claim 4, reproduced below, is illustrative.

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.

Id. at 7:1–19.

E. Grounds of Unpatentability

We instituted trial based on the sole ground that claims 4–9 are unpatentable under 35 U.S.C. § 103(a) based on Suzuki¹ and Nitta.² Dec.

II. ANALYSIS

A. Entry of Adverse Judgment as to claims 4, 8, and 9

Claims 4–9 of the '843 patent are the sole claims involved in this proceeding. Dec. On February 26, 2016, claims 4, 8, and 9 were determined unpatentable in a related proceeding. *See, Sharp Corp. v. Surpass Tech Innovation LLC*, IPR2015-00021 (PTAB February 26, 2016), Paper 44 (“Final Written Decision”). Just prior to the scheduled hearing date for this proceeding, and on May 3, 2016, Patent Owner filed an updated mandatory notice indicating that the deadline to file a notice of appeal of the Final Written Decision in IPR2015-00021 had expired and that Patent

¹ U.S. Patent Application Publication 2003/0156092 A1, published Aug. 21, 2003 (Ex. 1003) (“Suzuki”).

² Japanese Laid-Open Application No. 2002-132224, published May 9, 2002 (Ex. 1005) (“Nitta”).

Owner had not filed a notice of appeal. Paper 35.

During the May 12, 2016, hearing, counsel for Patent Owner implied that Patent Owner would take no action to appeal the Final Written Decision in IPR2015-00021, that the time to do so had expired, and that claims 4, 8, and 9 are unpatentable. Tr. 3–5. Based on such representations, and on May 13, 2016, Patent Owner was ordered to show cause why judgment should not be entered against it as to claims 4, 8, and 9 of U.S. Patent No. 7,202,843 B2 (“the ’843 patent”). See 37 C.F.R. § 42.73(b)(3). Paper 38 (“Order”). On May 23, 2016, Patent Owner responded to the Order. Paper 39 (“Response”).

In the Response, Patent Owner argues there is no Article III standing to adjudicate the patentability of claims 4, 8, and 9. Response 2–4. In particular, Patent Owner argues that because claims 4, 8, and 9 are unpatentable, the Patent Owner would have no Article III standing to appeal any judgment entered here. Response 2–3. Patent Owner argues that we should not enter adverse judgment against it in this case, but instead terminate the proceeding with respect to claims 4, 8, and 9 as moot. *Id.* at 4.

Patent Owner’s arguments are not persuasive. Patent Owner has not shown how its alleged lack of standing post judgment bears on whether we should enter judgment in the first instance in this proceeding. Patent Owner does not assert, or provide supporting legal authority to show that we lack authority in the first instance to enter adverse judgment against Patent Owner based on the circumstances before us. Importantly, Patent Owner’s arguments that it would not have Article III standing post judgment or that

we should terminate the proceeding as moot,³ do not address why the Board should not construe Patent Owner's actions, including its concession of unpatentability with respect to claims 4, 8, and 9, as a request for adverse judgment.

Patent Owner failed to timely appeal the Final Written Decision in IPR2015-00021 and acknowledges that its claims 4, 8, and 9 are unpatentable. Response 1–3. Based on the particular facts of this proceeding, we construe Patent Owner's actions as a concession of unpatentability of claims 4, 8, and 9 under 37 C.F.R. § 42.73(b)(3). Although we determine it necessary to address the parties' contentions with respect to claim 4, because claims 5–7 depend from claim 4, we do not otherwise provide a written decision on the merits with respect to claims 4, 8, and 9.

B. 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).

³ Patent Owner does not explain sufficiently why terminating the proceeding as to claims 4, 8, and 9 as moot would be appropriate. Terminating a proceeding as moot, as opposed to entering adverse judgment generally would result in different outcomes, insofar as estoppel is concerned. *See, e.g.*, 37 C.F.R. § 42.73(d). In the Response, Patent Owner does not address estoppel as a result of terminating the proceeding as moot as opposed to entering adverse judgment. Estoppel appears to us to be an important consideration, yet Patent Owner does not address estoppel in its Response, despite requesting us to terminate the proceeding with respect to claims 4, 8, and 9 as moot.

C. 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); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1277–78 (Fed. Cir. 2015) (“We conclude that Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA.”), *aff’d sub nom. Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131 (June 20, 2016). Consistent with the broadest reasonable interpretation, 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) (“[L]imitations 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).

Petitioner contends that the claim terms should be given their broadest reasonable interpretation in view of the specification, and should be interpreted in accordance with their ordinary meaning. Pet. 8. In our Decision to Institute, we determined that it was not necessary to interpret the claim 4 phrase of “applying the data impulses to the liquid crystal device of one of the pixels . . . to control a transmission rate of the liquid crystal

device of the pixel” despite Patent Owner’s proffer of a narrow interpretation of the phrase. Dec. 5. After institution, Patent Owner again argues for a narrow interpretation of the phrase without explaining why it is necessary for us to provide an interpretation of the phrase. PO Resp. 14–22. Petitioner argues that we need not interpret the phrase to resolve the issues before us. Reply 18. Based on the record before us, we do not perceive any reason or evidence that now compels any deviation from our initial determination. Accordingly, we determine it unnecessary to interpret any terms of the challenged claims.

D. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418; *see also Translogic*, 504 F.3d at 1259.

E. Obviousness of Claims 5–7 over Suzuki and Nitta

Petitioner asserts that claims 5–7 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Suzuki and Nitta. Pet. 9–25. To support its contentions, Petitioner provides detailed explanations as to how the prior art meets each claim limitation. *Id.* Petitioner also relies upon a Declaration of Thomas Credelle (Ex. 1014) to support its position.

Suzuki

Suzuki describes a display control device for controlling display data to be displayed on a liquid crystal panel. Ex. 1003 ¶ 2. A timing control unit receives display data from an operational unit in succession, and outputs driving signals according to the received display data in synchronization with the timing signals. *Id.* ¶ 10. As shown in Figure 1 below, LCD panel 20 is comprised of a plurality of pixels P (liquid crystal cells) formed in a matrix, which is driven by gate driver 18 and source driver 16. *Id.* ¶¶ 38, 47, Fig. 1.

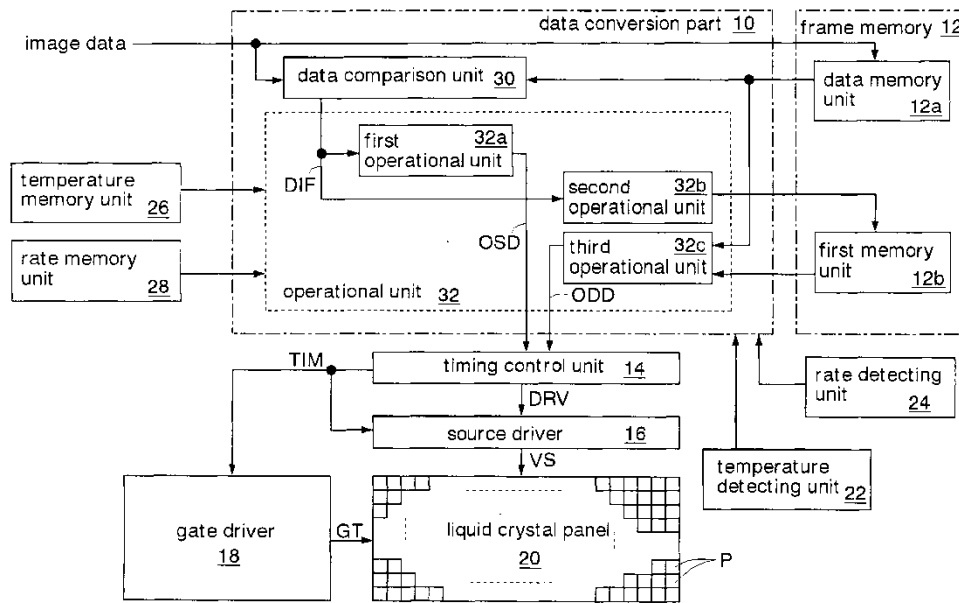


Fig. 1

Figure 1 of Suzuki shows a display control device for a LCD display.

Data memory unit 12a of frame memory 12 stores image data to be supplied to each single frame period. *Id.* ¶ 9, Fig. 1. Data conversion part 10 generates a plurality of pixel data for each pixel in each frame period using frame data stored in data memory unit 12a. *Id.* ¶¶ 40, 41. Source driver 16 generates applied voltages VS that correspond to pixel data generated by conversion part 10. *Id.* ¶¶ 46, 47. Figure 2, reproduced below, “is a timing chart showing how data is written to a pixel in the operation of the first embodiment.” *Id.* ¶ 28.

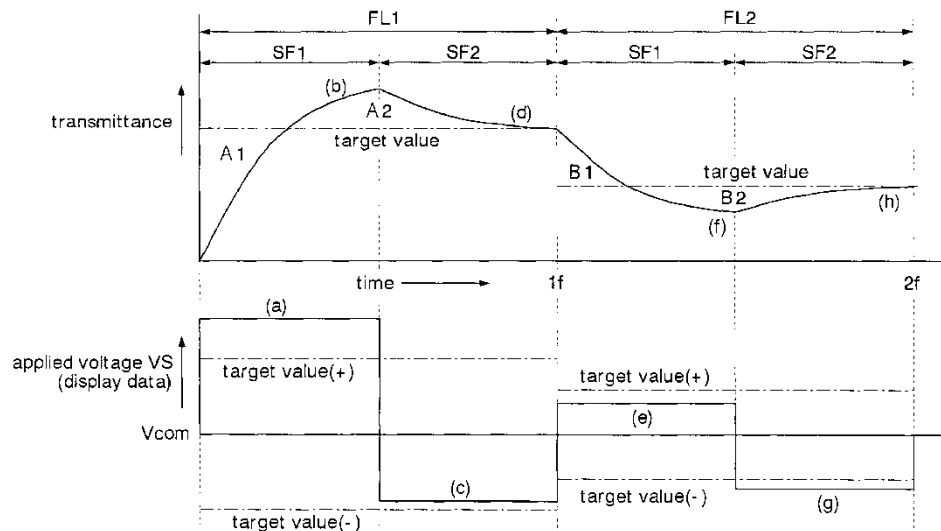


Fig. 2

Figure 2 of Suzuki shows a timing chart.

Figure 2 shows how a single pixel (liquid crystal cell) is written with data in the LCD device. *Id.* ¶ 52. Image data to increase transmittance is supplied for a frame period FL1, and image data to decrease transmittance is supplied for a frame period FL2. *Id.* In the first subfield (SF1) of the first frame (FL1), an overshoot operation is performed, where the transmittance of the liquid crystal cell goes up and exceeds the target value. *Id.* ¶¶ 53, 54. In the second subfield (SF2) of the first frame (FL1), an overdrive operation is performed, whereby the transmittance of the liquid crystal cell changes to the target value. *Id.* Multiple pulses are applied to each pixel by the source driver 16 within one frame period in order to control the transmission rate of the liquid crystal device. *Id.* ¶ 47.

Nitta

Nitta describes a drive device for driving a thin-film transistor (TFT) liquid crystal panel display, known as an active matrix liquid crystal device (AMLCD) that addresses the known problem of degraded images displayed on LCDs. Ex. 1005 ¶¶ 1, 2. In particular, Nitta's drive method makes it

possible for the response speed of the liquid crystal to be one frame period or less, providing a high-picture-quality liquid crystal display device. *Id.* ¶ 8. Figure 3 of Nitta, as annotated by Petitioner in its Petition, is reproduced below.

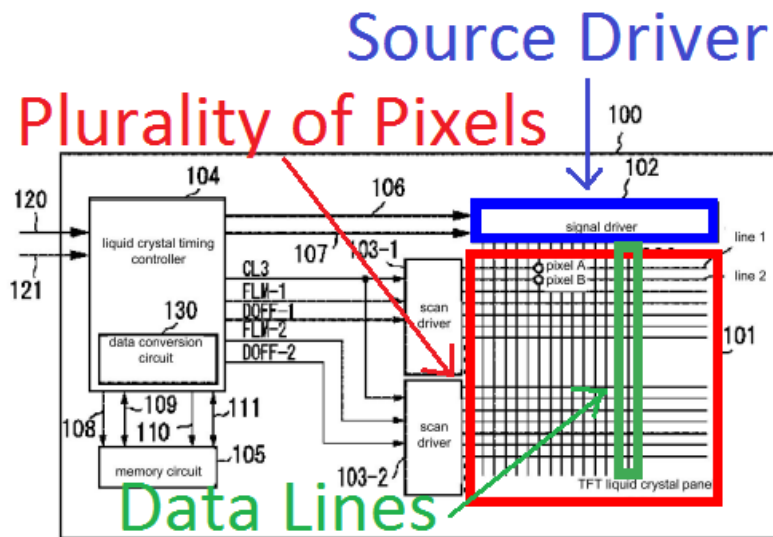


Figure 3 of Nitta as annotated in the Petition.

Nitta describes a plurality of scan lines connected to scan driver 103-1 and 103-2, a plurality of data lines connected to signal driver 102, and a plurality of pixels (pixel A and pixel B) in the TFT liquid crystal panel. *Id.* ¶¶ 9, 32.

Analysis

Claims 5–7 depend from claim 4 and necessarily include all of the limitations of claim 4. Accordingly, we first address the contentions made by Petitioner as to how the combination of Suzuki and Nitta render obvious claim 4. Specifically, Petitioner contends that Suzuki describes a method for driving a LCD panel. Pet. 9–10; Ex. 1003 ¶¶ 2, 10. Petitioner also contends that Suzuki describes a LCD panel having a plurality of pixels P, which are formed in a matrix and comprise liquid crystal cells, whereby the LCD panel

is driven by a source driver 16 and gate driver 18 for controlling the LCD panel. Pet. 12–13; Ex. 1003 ¶¶ 4, 47, Fig. 1. Petitioner asserts, with supporting evidence that gate driver 18 is used for sending scan signals on scan lines (also known as gate lines) of an LCD panel and that source driver 16 is used for sending data signals on data lines of the LCD panel. Pet. 12; Ex. 1003 ¶ 38, Fig. 1; Ex. 1014 ¶¶ 38–39, 45–46. Petitioner further contends that Suzuki describes a data memory unit 12a that continuously receives a plurality of frame data, a data conversion part 10 that generates a plurality of data impulses, and a source driver 16 that applies data impulses to each pixel within one frame period to control a transmission rate of the pixel. Pet. 16–21.

Although Suzuki describes an LCD panel 20, gate driver 18, and source driver 16, Suzuki does not show the details of the lines from the gate and source drivers to individual transistors (switching devices) of individual pixels as claimed. To show such detail, Petitioner relies on Nitta for its description of a conventional AMLCD panel with a plurality of scan and data lines connected to each pixel of each TFT of a LCD. *Id.* at 12–15; Ex. 1005, Fig. 3; Ex. 1014 ¶¶ 53–54. Petitioner explains that a person of ordinary skill in the art would have known of such details of Nitta’s AMLCD panel, which are lacking in Suzuki, at the time of the invention for conventional LCD arrangements. *See, e.g.*, Pet. 10.

Petitioner provides a rationale as to why a person of ordinary skill in the art would have combined the details of Nitta’s scan lines and data lines connected to each pixel of each TFT of a LCD. In particular, Petitioner argues, with supporting evidence that both Suzuki and Nitta are directed to the same recognized problem in the field of LCD devices—the blurring

phenomena in the display of motion pictures caused by slow response time of liquid crystal cells. Pet. 10–11; Ex. 1003 ¶ 4; Ex. 1005 ¶¶ 2–3. Petitioner further contends that both Nitta and Suzuki sought to solve the blurring problem by applying multiple data signals to each pixel of an LCD device during every frame period to accelerate the liquid crystal response speed. *Id.* Petitioner concludes that it would have been obvious to combine the driving circuit of Suzuki with the conventional LCD panel of Nitta to avoid blurring in the display of moving pictures on LCD devices. Pet. 12; Ex. 1014 ¶¶ 53–54.

We are persuaded by Petitioner’s showing, which we adopt as our own, that Suzuki and Nitta in combination describe all of the elements and steps of claim 4, and that Suzuki in combination with Nitta would have been obvious for the reasons provided by Petitioner. Indeed, in *KSR Int’l Co. v. Teleflex Inc.*, the Court explained that if a feature has been used to improve one device, and a person of ordinary skill in the art would have recognized that it would improve a similar device in that field or another, implementing that feature on the similar device is likely obvious. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). Here, a person of ordinary skill in the art would have recognized that the driving circuit of Suzuki would have improved the conventional LCD panel of Nitta to avoid blurring in the display of moving pictures on the LCD device.

Patent Owner does not argue that the combination of Suzuki and Nitta does not describe all of the elements and steps of claim 4. PO Resp. Patent Owner argues, however, that the combination of Suzuki and Nitta is insufficiently supported because Petitioner has not shown that Suzuki’s driving method is compatible with the AMLCD panel of Nitta. PO Resp.

22–35.

We disagree with Patent Owner that Petitioner did not show that Suzuki’s driving method is compatible with the AMLCD panel of Nitta. In particular, Thomas Credelle, in support of the Petition, explains that an AMLCD is a LCD in which the pixels of the panel include switching devices, such as thin film transistors (“TFT”; field effect transistors (FET)) that operate as switches in the pixels. Ex. 1014 ¶ 44.⁴ He also explains that a person of ordinary skill in the art would have understood that a gate driver, such as the one shown in Suzuki, would have been used to send scan voltages to pixels of a conventional AMLCD panel in order to activate the switching device of the pixel. *Id.* ¶ 45.

Thus, we understand that although Suzuki does not explicitly describe that its LCD is an AMLCD (one with switching transistors), Suzuki does describe a *gate driver* and a *source driver*. See, e.g., Ex. 1003, Fig. 1. A person of ordinary skill in the art would have understood Suzuki’s gate driver and source driver to function to drive the respective *gates* and *sources* of field effect transistors connected to pixels. Pet. 13–14; Reply 8; Ex. 1014 ¶¶ 46; Ex. 1020 ¶¶ 8–11. Although Mr. Bohannon, testifying for Patent Owner, states that the use of terminology such as “gate” and “source” is not dispositive of the type of LCD panel described in Suzuki, his explanation is conclusory. He testifies that:

Suzuki’s description of source and gate signals are in accordance with a wide variety of LCDs formed by a matrix of overlapping

⁴ In contrast, the record evidence shows that a person of ordinary skill in the art at the time of the invention would have understood that passive matrix LCD panels do not include transistors. Ex. 1019, 81:8–83:3; Ex. 1020 ¶¶ 8, 10.

row-select and columns data electrodes where the row electrodes are used to “select” the pixels driven by the voltages “applied” by the column electrodes. Therefore, I do not agree that this disclosure indicates with certainty that Suzuki discloses AMLCD.

Ex. 2022 ¶ 40. We do not give much weight to the above testimony because it is conclusory. Mr. Bohannon fails to explain, or give examples, of the “wide variety” of LCDs that are not AMLCD in which; for example, a gate driver and source driver are used to activate pixels like those that Suzuki describes. On the other hand, we give substantial weight to Mr. Credelle’s testimony that a person of ordinary skill in the art would have understood that gate drivers and source drivers are compatible (are used) in AMLCDs. Ex. 1014 ¶¶ 46; Ex. 1020 ¶¶ 8–11. In addition, Mr. Bohannon testified during cross-examination that the terms “gate” and “source” are terms used with active matrix. Ex. 1019, 141:5–10. As discussed above, we have considered all of Patent Owner’s arguments spanning pages 22 to 35 of the Patent Owner Response but are not persuaded that Petitioner has not shown that Suzuki and Nitta are compatible. None of those arguments, or evidence in support of the arguments, outweighs the evidence before us that Suzuki is directed to an AMLCD based on the description of gate and source drivers and what those terms would have conveyed to a person of ordinary skill in the art at the time of the invention. For all of the above reasons, we determine that Suzuki and Nitta are compatible contrary to Patent Owner’s assertions otherwise.

Claim 5 depends from claim 4 and recites delaying the frame data to generate a plurality of corresponding delayed frame data; and comparing current frame data and corresponding delayed data to determine voltage

values of the data impulses when generating the data impulses. Ex. 1001, 7:20–8:3. Petitioner contends that Suzuki’s memory unit 12a stores image data of a frame immediately preceding and generates a plurality of corresponding delayed frame data by storing the image data of the preceding frame. Pet. 22; Ex. 1003 ¶¶ 9, 40. Petitioner further contends that Suzuki describes data comparison unit 30 that compares current frame data and delayed frame data stored in data memory unit and outputs the difference in data as a difference signal DIF. *Id.* Petitioner argues that operational unit 32 then determines voltage values OSD and ODD of the data impulses for each pixel of the LCD panel based on the difference (DIF) between the current frame data and delayed frame data and source driver 16 generates data impulses VS according to voltage values OSD and ODD. Pet. 22–23; Ex. 1003 ¶¶ 47, 52–54, Figs. 1, 2.

Patent Owner argues that Petitioner has not explained how operational unit 32 determines voltage values OSD and ODD based on the difference (DIF) between current frame data and delayed frame data. PO Resp. 36. Petitioner, however, does explain how operational unit 32 determines voltage values OSD and ODD based on the difference (DIF) between current frame data and delayed frame data. Pet. 22–23; Reply 13–15. Moreover, Patent Owner’s witness Mr. Bohannon agrees. Ex. 2022 ¶ 45 (explaining that OSD is based on the difference signal DIF from data comparison unit 30 and that the DIF signal is also used to calculate an ODD overdriving signal). We agree with Petitioner’s showing, which we adopt as our own, that Suzuki in combination with Nitta renders obvious claim 5.

Claim 6 depends from claim 5 and recites, “wherein the data impulses are a first data impulse and a second data impulse applied to the liquid

crystal device of the pixel in sequence within the frame period.” Ex. 1001, 8:4–7. For claim 6, Petitioner relies on the combination of Suzuki and Nitta to meet the additional limitations of that claim. Pet. 23–24. We agree with Petitioner’s showing, which we adopt as our own, that Suzuki in combination with Nitta renders obvious claim 6. Patent Owner does not argue claim 6 separately. PO Resp. 35–36.

Claim 7 depends from claim 6 and recites, “determining a difference between the first data impulse and the second data impulse according to the current frame data and the corresponding delayed frame data.” Ex. 1001, 8:8–11. Petitioner relies on Suzuki to meet the determining step recited in claim 7. Pet. 25. Petitioner identifies the first data impulse as the source driver 16 application of a voltage VS that corresponds to the pixel data OSD generated by operational unit 32 and the second data impulse as the source driver 16 application of voltage VS that corresponds to pixel data ODD generated by operational unit 32. *See, e.g.*, Pet. 19–20. Petitioner contends that the values of the first data impulse and the second data impulse (e.g., OSD and ODD) are determined “so that the transmittance in a single frame period averages the target value.” Pet. 25 (citing Ex. 1003 ¶ 58). Petitioner then concludes that Suzuki teaches that the difference between the first data impulse and the second data impulse is determined based on the current frame data and the delayed frame data. *Id.*

Patent Owner argues that while Suzuki discloses generating OSD and ODD, Suzuki does not disclose determining a difference between OSD and ODD (e.g., “determining a difference between the first data impulse and the second data impulse”), or any voltages that result therefrom. PO Resp. 37–

38. Patent Owner further argues that ODD is generated without OSD as part of the process for generating ODD. PO Resp. 38–39.

Petitioner has not established by a preponderance of the evidence that Suzuki describes the step of “determining a difference between the first data impulse and the second data impulse.” Petitioner argues that Suzuki generates OSD and ODD, each based on DIF, such that they are different, satisfying the “determining a difference” language. Reply 16. However, generating two things to ensure that the two things are, or will be different is not the same as determining a difference between two things. The latter could include two things that are the same, while the former would exclude two things that are the same. Petitioner argues that Patent Owner’s interpretation of calculating a difference between the first data impulse and the second data impulse is too narrow and that its interpretation is the broadest most reasonable one because it encompasses determining that two things be different. *Id.* at 15–16. Patent Owner’s interpretation comports with the ordinary use of the words. Determining a difference between two impulses (voltages) which are numerical values would logically convey that the two values are being subtracted, thus, “calculating a difference.” On the other hand, Petitioner’s proffered interpretation, e.g., that the claim covers generating two values and ensuring that they are different, is an unreasonable interpretation because it is one that is inconsistent with the words of the phrase. Moreover, neither in the Petition nor in the Reply does Petitioner provide supporting evidence in the form of declaration testimony, for example, explaining, in light of the Specification of the ’843 patent, that we should interpret “determining a difference between the first data impulse and the second data impulse” to mean ensuring or generating two impulses

so that the two impulses are different. The Petition provides no evaluation or analysis in that regard.

For these reasons, Petitioner has not demonstrated, by a preponderance of the evidence, that the combination of Suzuki and Nitta render obvious claim 7.

We lastly consider Patent Owner's arguments that an unpatentability ruling in the case would constitute a taking without Article III oversight. PO Resp. 41–43. Our reviewing court has adjudicated as to this issue, holding that *inter partes* review provisions do not violate Article III. *MCM Portfolio LLC v. Hewlett-Packard Co.*, 812 F.3d 1284, 1289–94 (Fed. Cir. 2015). Thus, Patent Owner's argument is not persuasive.

F. Petitioner's Motion to Exclude

Petitioner moves to exclude Exhibit 2007 because the testimony is inadmissible hearsay under Fed. R. Evid. 802. Pet. Mot. Exclude 1. Exhibit 2007 was submitted into evidence by Patent Owner and is described as a “Transcript for the Deposition of Richard Zech, Ph.D. dated November 13, 2015, in IPR2015-00885.” PO Resp. iv. Patent Owner relies on Exhibit 2007 in support of its proposed claim 4 interpretation of “applying the data impulses to the liquid crystal device of one of the pixels . . . to control a transmission rate of the liquid crystal device of the pixel.” *See, e.g.*, PO Resp. 5–7, 15, 16, and 19. As discussed above in the claim interpretation section, we determined that it was not necessary to interpret the phrase to resolve the issues before us, and, therefore, we did not nor need not rely on Exhibit 2007 in that regard.

Patent Owner also relies on Exhibit 2007 to support its argument that Petitioner has not shown that Suzuki is compatible with Nitta. PO Resp. 26.

We find it unnecessary to consider the specific objections to the admissibility of Exhibit 2007, since Patent Owner's argument that Petitioner has not shown that Suzuki is compatible with Nitta is not persuasive for the reasons provided above, even assuming Exhibit 2007 to be admissible.

Petitioner also seeks to exclude Paragraph 39 of William K. Bohannon's Declaration (Exhibit 2022), where Mr. Bohannon purportedly relies on inadmissible hearsay, *i.e.*, the deposition testimony of Dr. Zech (Exhibit 2007). Patent Owner relies on Paragraph 39 of Mr. Bohannon's Declaration (Exhibit 2022) to support its argument that Petitioner has not shown that Suzuki is compatible with Nitta. PO Resp. 27. We find it unnecessary to consider the specific objections to the admissibility of Paragraph 39 of Exhibit 2022, since Patent Owner's argument that Petitioner has not shown that Suzuki is compatible with Nitta is not persuasive for the reasons provided above, even assuming Exhibit Paragraph 39 of Exhibit 2022 to be admissible.

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

III. CONCLUSION

For all of the above reasons, we enter adverse judgment against Patent Owner with respect to claims 4, 8, and 9 of the '843 patent; determine that Petitioner has shown by a preponderance of the evidence that claims 5 and 6 of the '843 patent are unpatentable; and determine that Petitioner has not shown by a preponderance of the evidence that claim 7 of the '843 patent is unpatentable.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that adverse judgment is entered against Patent Owner as to claims 4, 8, and 9 of U.S. Patent No. 7,202,843 B2, pursuant to 37 C.F.R. § 42.73(b)(3);

ORDERED that claims 5 and 6 of U.S. Patent No. 7,202,843 B2 are held unpatentable;

FURTHER ORDERED that Petitioner's motion to exclude evidence is *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.

FOR PETITIONER:

Walter E. Hanley, Jr.
John Flock
KENYON & KENYON LLP
whanley@kenyon.com
ptab@kenyon.com

Jay I. Alexander
COVINGTON & BURLING LLP
jalexander@cov.com

FOR PATENT OWNER:

Wayne M. Helge
Michael R. Casey
DAVIDSON BERQUIST JACKSON & GOWDEY, LLP
whelge@dbjg.com
mcasey@dbjg.com