

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BOE TECHNOLOGY GROUP CO., LTD., BEIJING BOE DISPLAY
TECHNOLOGY CO., and MOTOROLA (WUHAN) MOBILITY
TECHNOLOGIES COMMUNICATION CO., LTD.,

Petitioner,

v.

ELEMENT CAPITAL COMMERCIAL COMPANY PTE. LTD,
Patent Owner.

IPR2023-00605
Patent 7,259,736 B2

Before DAVID C. McKONE, TERRENCE W. McMILLIN, and
RUSSELL E. CASS, *Administrative Patent Judges*.

CASS, *Administrative Patent Judge*.

DECISION
Denying Petitioner's
Request for Rehearing of the Decision Denying Institution
37 C.F.R. § 42.71(d)

I. INTRODUCTION

BOE Technology Group Co., Ltd., Beijing BOE Display Technology Co., and Motorola (Wuhan) Mobility Technologies Communication Co., Ltd. (collectively, “Petitioner”) filed a Request for Rehearing under 37 C.F.R. § 42.71(d) (Paper 10 (“Rehearing Request” or “Req. Reh’g”)). Petitioner’s Rehearing Request seeks reconsideration of our Decision Denying Institution of *Inter Partes* Review of U.S. Patent No. 7,259,736 B2 (Ex. 1001, “the ’736 patent”). Paper 9 (“Decision” or “Dec.”). For the reasons set forth below, Petitioner’s Rehearing Request is *denied*.

II. BACKGROUND

Petitioner filed a Petition requesting *inter partes* review of claims 3–5, 7, 9, and 13–17 of the ’736 patent, assigned to Element Capital Commercial Company PTE. LTD (“Patent Owner”). Paper 4 (“Pet.”). The Petition asserted that claims 3–5, 13, 16, and 17 are unpatentable as anticipated by Japanese patent application JPH11185654A (Ex. 1008) (Certified Translation (Ex. 1009), “Masuda”) and claims 3–5, 7, 9, and 13–17 are unpatentable as obvious over Masuda and Japanese patent application JP2002-278504A (Ex. 1010) (Certified Translation (Ex. 1011), “Inoue”). *Id.* at 1. Patent Owner filed a Preliminary Response (Paper 8 (“Prelim. Resp.”)) disclaiming claims 3–5, 13, 16, and 17, and disputing Petitioner’s contentions as to remaining claims 7, 9, 14, and 15. Prelim. Resp. 18–51.

In our Decision, we determined that Petitioner’s challenge to claims 3–5, 13, 16, and 17 was moot due to Patent Owner’s disclaimer of those claims. Dec. 13. We also determined that Petitioner had failed to establish a reasonable likelihood that claims 7, 9, 14, and 15 are unpatentable because the Petition failed to sufficiently shown that it would have been obvious for

a person of ordinary skill in the art to combine Masuda and Inoue in the manner proposed by Petitioner. *Id.* at 13–34.

III. STANDARD OF REVIEW

A party requesting rehearing bears the burden of showing that a decision should be modified and must specifically identify the matters misapprehended or overlooked and the place where each matter was previously raised. *See* 37 C.F.R. § 42.71(d).

In considering a rehearing request, we review a decision for an abuse of discretion, which may be found in an erroneous interpretation of law, a fact finding unsupported by substantial evidence, or an unreasonable judgment in weighing relevant factors. *See* 37 C.F.R. § 42.71(d); *Star Fruits S.N.C. v. U.S.*, 393 F.3d 1277, 1281 (Fed. Cir. 2005).

IV. ANALYSIS

In the rehearing request, Petitioner argues that we erred in four ways: (1) by misapprehending or overlooking Petitioner’s argument and evidence that one of ordinary skill would have combined Masuda and Inoue because “Masuda’s pattern would beneficially decrease perceived variation due to luminosity differences between different colors” in Inoue (Req. Reh’g 5); (2) by “accepting Dr. Silzars’s opinions in the face of evidence refuting them” (*id.* at 6); (3) by giving weight “to Dr. Silzars’s incorrect opinion that applying Masuda to Inoue would somehow render Inoue’s display worse” (*id.* at 11); and (4) by overlooking Petitioner’s argument that it would have been “obvious to try” Masuda’s pattern in Inoue (*id.* at 12–13). Petitioner further argues that we should have granted institution to allow the parties to develop a full record on the disputed issues. *Id.* at 13–14. We consider these arguments below.

A. Petitioner's First Argument

Petitioner argues that we misapprehended or overlooked Dr. Liu's evidence "showing that the 'color variation' problem" addressed by Masuda "is a 'technology-independent' or 'universal' improvement in the sense that any color display may suffer from it." Req. Reh'g 5. We addressed this argument and evidence on page 31–32 of the Decision, determining that Dr. Liu's testimony was insufficient to show that Masuda's technique would have effectively reduced luminosity differences in Inoue, which uses an electroluminescent active matrix display having many differences from the field emission passive matrix display of Masuda. Dec. 31–32 (citing Ex. 1003 ¶¶ 74, 75, 79, 81, 83).

For example, Petitioner relies on paragraph 74 of Dr. Liu's declaration, which opines that the problem of differences in luminosity for different colors addressed by Masuda "is a problem that is independent of the particular technology used to implement those color elements." Ex. 1003 ¶ 74. Petitioner also relies on paragraph 83, where Dr. Liu similarly states that "[t]he problem of luminosity variance due to repeating colors and Masuda's solution is independent of the display technology used." *Id.* ¶ 83. In support, however, Dr. Liu merely references Korean patent publication KR960012168A to Kwon (Ex. 1013, "Kwon"), which concerns a plasma display device, not an electroluminescent active matrix display as in Inoue. *Id.* ¶¶ 75, 83. As we explained in the Decision, neither Petitioner nor Dr. Liu points to any evidence showing that this problem would exist in electroluminescent active matrix displays such as Inoue, other than Dr. Liu's conclusory and unsupported statements. Dec. 31–32; Ex. 1003 ¶¶ 74–75, 78–83.

Additionally, Petitioner introduces Dr. Liu's testimony that one of ordinary skill "would have recognized that Masuda's pixel pattern *could* have been implement in Inoue's display" and "that *some* arrangement of pixels must be employed for Inoue to be operable." Ex. 1003 ¶¶ 80–81 (first emphasis added). However, even if Masuda's pixel pattern could have been used in Inoue, that does not mean that doing so would have the same kind of benefit in Inoue's electroluminescent active matrix display that it has in Masuda's field emission passive matrix display.

B. Petitioner's Second Argument

Petitioner also contends that we erred by relying on a number of opinions from Dr. Silzars that it contends are incorrect or unsupported. Req. Reh'g 6–13. First, Petitioner argues that we improperly relied on Dr. Silzars's opinion that "Inoue's display device does not have a brightness variation resulting from pixel colors" because it "explicitly controls the brightness of each pixel via that pixel's driving circuit." *Id.* at 6. According to Petitioner, this opinion is not supported by the citations to Inoue in Dr. Silzar's declaration, which do not "address 'color' or human eye perception." *Id.* at 6. Petitioner, however, appears to miss the main point of Dr. Silzars's testimony, which is that, in Inoue, "the brightness of each pixel is explicitly controlled by the TFT drive circuit and current, rather than being left at their natural luminosity characteristics of color." Ex. 2002 ¶ 90. Thus, Dr. Silzar's point is that Inoue does not need Masuda's checkerboard pattern to address brightness variation resulting from pixel colors because Inoue uses each pixel's TFT drive circuit to directly adjust the brightness of each pixel. The fact that the cited portions of Inoue do not discuss color

specifically does not undermine or contradict the accuracy of Dr. Silzars's testimony.

Petitioner next argues that Dr. Silzars's opinion that electroluminescent active matrix displays (like Inoue) would not suffer from "visual interference caused by horizontal stripes or vertical stripes . . . because they are capable of greater resolution than passive matrix displays" is unsupported and wrong. Req. Reh'g 7–8. Petitioner criticizes Dr. Silzars for citing an exhibit (Ex. 2014) that is dated six years after the critical date and does not mention active or passive matrix technologies, but this criticism is unfounded because Dr. Silzars cites this exhibit to "describ[e] the relationship between visual interference and resolution" generally, which would have been relevant as of the critical date. Req. Reh'g 7–8; Ex. 2002 ¶ 81. Additionally, Petitioner ignores Dr. Silzars's reliance on Inoue's disclosure that, because of the surface structure of passive matrix displays, power consumption increases as the number of pixels increase, and thus passive matrix displays are "currently manufactured as products with a screen size of no more than a few inches and 10,000 pixels or so." Ex. 2002 ¶ 73 (citing Ex. 1011, 4). As Dr. Silzars explains, this "low pixel density is related to the fact that, in passive matrix displays, the addition of more rows/columns of pixels means that there is less time to stimulate the pixels and because passive matrix displays have no mechanism for storing an image in a row while other rows are being written." *Id.* Thus, we disagree that Dr. Silzars's testimony is unsupported.

Petitioner also argues that "Dr. Silzars points to no evidence supporting the notion that high resolution displays would not benefit from Masuda's pixel pattern" and that such an argument "is demonstrably

wrong.” Req. Reh’g 7–8. In support, Petitioner asserts that Exhibit 1014 “identifies plasma displays as having ‘Med/High’ resolution” and “the Kwon reference shows that the dummy-checkerboard pattern [of Masuda] applies to such plasma displays.” *Id.* at 8 (citing Ex. 1014, Table 2; Dec. 31; Ex. 1013). We disagree with these assertions. As noted above, Dr. Silzars provides testimony that Masuda’s dummy pixel pattern would not benefit Inoue because Masuda’s “problem of difference in luminosity that is caused by inherent luminosity differences between the different primary colors does not exist in Inoue” and “the brightness of each pixel” in Inoue “is explicitly controlled by the TFT drive circuit and the current, rather than being left at their natural luminosity characteristics of color,” as in Masuda. Ex. 2002 ¶ 90. Dr. Silzars also cites portions of Inoue supporting his assertions. *Id.* (citing Ex. 1011 ¶¶ 4, 7, 9, 26, 29). Additionally, although Table 2 of Exhibit 1014 identifies “Plasma DC/AC” displays as having “Med/High” Screen Resolution, Exhibit 1014 takes this table from lecture notes from a 1992 lecture (reference 17), which is ten years before the ’736 patent’s critical date of 2002 relied on by Dr. Liu. Ex. 1014, 87, 104; Ex. 1003 ¶ 22. Petitioner introduces no evidence that what was considered “medium/high” resolution in 1992 was also considered as such ten years later in 2002, particularly given the rapid evolution of display technology during that period. Moreover, Kwon was filed in 1994 (seven years before Inoue and eight years before the ’736 patent’s critical date), does not discuss active matrix displays, and does not indicate that its plasma displays would have the same level of resolution as the electroluminescent active matrix display of Inoue. *See* Ex. 1013.

Additionally, Petitioner contends that Dr. Silzars is incorrect when he asserts that Masuda's field emission passive matrix displays were too "obsolete" to combine with Inoue's active matrix electroluminescent displays. Req. Reh'g 8. In this regard, Petitioner argues that its Exhibit 1014 "describes electroluminescent displays as having merely 'medium' screen resolution (Ex. 1014, 7) and field emitter display technologies as 'coming out of the research stage, and into the proto-type development phase' and showing potential 'for low power displays with high image quality which is required for the future portable systems.'" *Id.* at 8–9 (citing Ex. 1014, 7, 23). However, as noted earlier, Exhibit 1014 relies on a 1992 document for its table showing the resolution of electroluminescent displays, and merely states that field emitter technology has the "potential" for high image quality in the future. Ex. 1014, 7, 23, 24. Petitioner also argues that Inoue states that passive matrix displays are presently being manufactured for use in vehicles and mobile phones, and the '736 patent "describ[es] its embodiments as applicable to 'FED' technology." *Id.* at 9–10 (citing Ex. 1011 ¶ 3; Ex. 1001, 16:42–47). But even if Petitioner is correct that passive matrix field emitter displays were not strictly-speaking "obsolete" as of 2002, that does not mean that one of ordinary skill would have applied Masuda's checkerboard pattern for such displays to the active matrix electroluminescent displays of Inoue.

Petitioner further argues that, under the definition of a person of ordinary skill in the art adopted in the Decision, such a person "would have been pursuing their Master's degree when Masuda was published (July 1999) and working in the field when Inoue was published (September 2022), and thus it "would have been natural" for such a person implementing Inoue

“to consider and adopt the Masuda pixel pattern that published just three years prior.” Req. Reh’g 10–11. We disagree. As discussed previously, Patent Owner and Dr. Silzars provide credible reasons why Masuda’s pixel pattern would not have been necessary or beneficial in Inoue’s active matrix display. The mere fact that one of ordinary skill might have been aware of both references does not provide a reason or motivation to combine them as Petitioner proposes.

C. Petitioner’s Third Argument

Petitioner further asserts that the Decision improperly gives weight to Dr. Silzars’s opinion that applying Masuda to Inoue’s display would make Inoue’s display worse because it would remove or replace Inoue’s light detecting elements that correct for brightness variation across pixels. Req. Reh’g 11–12. Petitioner contends that its combination does not require removing or replacing those light detecting elements. *Id.* We are not persuaded by Petitioner’s argument because, even if we agree with Petitioner that the combination does not require removing or replacing Inoue’s light detecting elements, that does not show that using Masuda’s checkerboard pattern in Inoue would improve Inoue’s operation. This is particularly true in light of Dr. Silzars’s testimony that Inoue does not need Masuda’s pattern because Inoue uses each pixel’s TFT drive circuit to adjust the brightness of each pixel rather than relying on the natural luminosity characteristics of the various colors. *See* Ex. 2002 ¶ 90.

D. Petitioner’s Fourth Argument

Additionally, we are not persuaded by Petitioner’s assertion that it would have been “obvious to try” Masuda’s checkerboard pattern in Inoue. *See* Req. Reh’g 12–13. To determine that an invention would have been

“obvious to try,” the possible approaches and selection to solve the problem must be known, finite, and predictable. *Rolls-Royce, PLC v. United Technologies Corp.*, 603 F.3d 1325, 1339 (Fed. Cir. 2010) (citing *Abbott Labs. V. Sandoz*, 544 F.3d 1341, 1351–1352 (Fed. Cir. 2009)). Petitioner fails to present sufficient evidence that the number of different pixel patterns and layouts in Inoue is finite, or that the results of those various patterns would have been predictable in Inoue’s electroluminescent active matrix display.

E. Petitioner’s Argument That We Should Allow the Record to Be Further Developed

Finally, we do not agree with Petitioner’s argument that we erred by not granting institution and allowing the parties to further develop the record. *See* Req. Reh’g 13–14. The statute governing institution of *inter partes* review provides that we may not institute such a review unless we “determine[] that the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons discussed above, Petitioner has not made such a showing. Therefore, it would be improper for us to grant institution based on the present record.¹

¹ Petitioner also argues that an examiner in the Japanese Patent Office (JPO) found the challenged claims unpatentable over the same prior art. Req. Reh’g 13–14 (citing Pet. 12–19, 54–55). However, Petitioner does not show that the JPO examiner considered the same evidentiary record as in the present case, including the declaration of Dr. Silzars and the evidence cited therein. Therefore, based on the evidence before us, we do not find that the record in the JPO supports institution of the Petition. Moreover, there has been no showing that the JPO examiner applied the same legal standards

V. CONCLUSION

Petitioner's request for rehearing is denied.

under Japanese patent law that are applicable under U.S. patent law.

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