

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. and
SAMSUNG ELECTRONICS, AMERICA, INC.,
Petitioners,

v.

CERENCE OPERATING COMPANY,
Patent Owner.

Case IPR2025-00457
U.S. Patent No. 7,680,334

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER’S EXHIBIT LIST

No.	Description
2001	Docket Navigator Stay Statistics
2002	May 20, 2025, Amended DCO
2003	Docket Navigator Median Time-to-Trial Statistics
2004	Samsung’s May 12, 2025, Invalidity Contentions
2005	Expert declaration of Eric Koskinen (“Koskinen Decl.”)
2006	Koskinen CV

I. Introduction

Petitioners Samsung Electronics Co., Ltd. and Samsung Electronics, America, Inc., (collectively “Samsung” or “Petitioners”) petition for *inter partes* review (“IPR”) of U.S. Patent No. 7,680,334 (the “’334 patent”) should be denied for three reasons.

First, Petitioners’ primary references are directed to entirely different handwriting recognition processes than the ’334 patent. Indeed, Petitioners’ primary reference, Sinden, is directed to the type of prior art systems and methods that the ’334 patent explicitly sought to improve. For example, the ’334 patent claims cover methods and systems designed to improve handwriting recognition by allowing the user to see the closest matching templates that the algorithm associates with the user’s handwriting input – thereby allowing the user to ascertain why the system may have returned an incorrect character. Thus, unlike the prior art before it, the ’334 patent does not merely take user handwriting input and output the most-likely character symbol to an application - it instead displays to the user the closest template(s) for the desired character symbol, allowing the user to understand how their handwriting input is being interpreted by the system.

Conversely, Sinden is an example of the exact type of prior art system / method that the ’334 patent was seeking to improve, i.e., a system / method which does **not** display any model templates to the user to allow the user to ascertain how

to adjust their handwriting to output the desired character. Indeed, Sinden does not teach or suggest using a display at all. Instead, Sinden is directed to a specific method for associating the user's handwriting input with an alphabetic list of characters. As Sinden's specification explains:

A sequence of samples of the pen position is recorded while a symbol is being written. The samples form a vector, which is then translated so that the centroid of the symbol lies at an origin. The comparison, which can easily be done in real time, involves calculating a correlation factor from scalar products of the vector for the unknown symbol and two versions of the vector for each model symbol and choosing the model symbol having the highest correlation factor. If needed to distinguish between model symbols with similar correlation factors, the comparison can also include calculating a rotation factor from such vectors for use in making such choice.

Sinden at 2:7-20.

Similarly, Fujisaki, Petitioner's other primary reference, is not concerned with the process of displaying model templates for characters that a user may be trying to enter (to allow the user to understand how their handwriting input is being interpreted). Instead, Fujisaki is directed to allowing users to create and delete sample templates for characters online. Fujisaki at 1:6-8 ("The invention is ... specifically is directed to reducing similarity between different prototype characters.").

Second, because Petitioners' primary references are directed to entirely different handwriting recognition processes than the '334 patent, the combination of these references fails to disclose or suggest multiple claim limitations.

Third, a POSITA would not be motivated to combine or modify Petitioners' references, and would not have had a reasonable expectation of success in combining or modifying these references to achieve the '334 patent's invention.¹

II. Procedural History

On March 15, 2024, Patent Owner sued Petitioners in district court for infringing Patent Owner's patents, including the '334 patent. *Cerence Operating Company v. Samsung Electronics Co. Ltd. et al.*, 2:24-cv-00181, ECF No. 1 (E.D. Tex. March 15, 2024).

On February 10, 2025, Petitioners filed their petition for *Inter Partes* Review, challenging claims 1-4, 8-10, 15-16, 19-22, and 26-28 of the '334 patent. Petitioners structure their asserted grounds for unpatentability as follows:

- **Ground 1A:** Obviousness of claims 1-2, 8-10, 15, 19-20, and 26-28 in view of Sinden² and Fujisaki³;

¹ Pursuant to the Director's March 26, 2025, memorandum regarding Interim Processes for PTAB Workload Management ("March 26, 2025, Memo"), on June 9, 2025, Patent Owner Cerence Operating Company submitted a briefing requesting that the Director exercise discretion under 35 U.S.C. § 314(a) and issue a decision denying institution of the Petition. As discussed in that briefing, the *Fintiv* factors all weigh in favor of discretionary denial, including the weak nature of the Petition's merits, which are addressed herein.

² US 5,333,209 ("Sinden") (Ex. 1005).

³ US 5,315,667 ("Fujisaki") (Ex. 1006).

- **Ground 1B:** Obviousness of claims 3-4, and 21-22 in view of Sinden, Fujisaki, and Collins⁴;
- **Ground 2:** Obviousness of claims 15 and 16 in view of Sinden, Fujisaki, and Sklarew⁵.

III. Level of Ordinary Skill in the Art

Petitioners propose that a person of ordinary skill in the art at the time of the priority date “would have had at least a Bachelor’s of Science Degree (or equivalent) in an academic area emphasizing computer science, computer engineering, or a related technical field, and about two years of experience in machine learning, pattern recognition, or related subjects.” Petition at 9. “A greater amount of education could compensate for less work experience, and vice versa.” *Id.* Patent Owner reserves the right to offer a different level of ordinary skill in this or in other proceedings concerning the ’334 patent. However, Patent Owner does not believe that the issues presented in this Preliminary Response turn on the precise level of ordinary skill in the art and believes that the Board could assume Petitioners’ proposed level of ordinary skill for the purposes of deciding whether to institute.

⁴ US 5,926,567 (“Collins”) (Ex. 1007).

⁵ US 6,212,297 (“Sklarew”) (Ex. 1008).

IV. Claim Construction

Petitioners assert that the terms “detection means for detecting entry of a handwritten symbol” (claims 1, 15), “detecting, by the detection means, a handwritten pattern that is entered by a user” (claim 1), and “detecting, by the detection means, the handwritten pattern” (claim 15) are subject to § 112, ¶ 6. Petition at 9-11. Petitioners further provide a table identifying corresponding structure for these terms found in the specification. *Id.* While Patent Owner reserves the right to offer a different construction for these terms in this or in other proceedings concerning the ’334 patent, including by identifying different structure for these terms, as Patent Owner explains further below, Petitioners’ invalidity arguments should be rejected even when applying Petitioners’ proposed construction for these terms.

Petitioners also assert that “[a] POSITA would have understood that a “pressure sensitive screen,” as that term is used in the ’334 patent, refers to a structure with multiple sub-components including a pressure-sensitive digitizer and a display screen, such as a liquid crystal display (‘LCD’).” *Id.* at 11. Petitioners make this argument because Petitioners recognize that their primary reference Sinden does not explicitly disclose a pressure sensitive screen as required by the ’334 patent (according to the structure Petitioners identified in the specification); rather, Sinden discloses a “pressure sensitive digitizer.” Petition at 13-16.

However, as Petitioners recognize, the '334 patent specification does not disclose using a “pressure sensitive digitizer” (*id.* at 15), and thus Petitioners’ attempts to expand the structure of the detection means is nothing more than an attempt to expand the construction of these terms to capture Petitioners’ primary prior art reference. Regardless, as discussed further below, Petitioners’ invalidity arguments should be rejected even when applying Petitioners’ expanded identification of structure for the “detection / detecting” means limitations. Specifically, the Board need not determine whether the structure for the “detection means” includes a “pressure sensitive digitizer,” as Petitioners’ argument lacks merit in view of its own expert’s opinions.

Finally, Petitioners do not offer any proposed constructions for any other terms for the '334 patent. Petition at 9-11. While Patent Owner reserves the right to offer a different construction for any of the '334 patent terms in this or in other proceedings concerning the '334 patent, Patent Owner agrees that no construction of the remaining terms is required to decide the patentability of the challenged claims. As Patent Owner explains further below, Petitioners’ invalidity arguments should be rejected when applying the plain and ordinary meaning to the remaining claim terms.

V. Legal Standards

The U.S. Supreme Court set forth the framework for applying the statutory language of 35 U.S.C. § 103 in *Graham v. John Deere Co. of Kansas City*:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17–18 (1966).

An obviousness determination requires finding that a POSITA would have been motivated to modify or combine teachings in the prior art. *In re Stepan Co.*, 868 F.3d 1342, 1345–46 (Fed. Cir. 2017). “Whether an ordinarily skilled artisan would have been motivated to modify the teachings of a reference is a question of fact.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327 (Fed. Cir. 2016) (citations omitted). “[W]here a party argues a skilled artisan would have been motivated to combine references, it must show the artisan ‘would have had a reasonable expectation of success from doing so.’” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360–61 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068–69 (Fed. Cir. 2012)).

Moreover, obviousness concerns “whether a skilled artisan not only *could* have made but *would* have been motivated to make the combinations or modifications of

prior art to arrive at the claimed invention.” *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015). The “mere fact that these possible arrangements existed in the prior art” does not provide a motivation to substitute the arrangement in one prior art embodiment with the arrangement in another.” *Virtek Vision International ULC v. Assembly Guidance Systems, Inc.*, 97 F.4th 882, 887 (Fed. Cir. 2024). Because a motivation to modify or combine is part of the *prima facie* case for obviousness that must be set forth in the petition, a petitioner should not be permitted to present “an entirely new rationale to explain why one of skill in the art would have been motivated to combine” in its reply. *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1370 (Fed. Cir. 2016).

“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). The Board “may reject even uncontroverted expert testimony when it is intrinsically unpersuasive.” *Granite Constr. Co. v. United States*, 962 F.2d 998, 1006 (Fed. Cir. 1992). In short, the petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

VI. Petitioners' Grounds for Requesting *Inter Partes* Review are Deficient

A. Ground 1A: Petitioners Fail To Show That Claims 1-2, 8-10, 15, 19-20, and 26-28 Would Have Been Obvious Based On Sinden In View Of Fujisaki

Petitioners contend that Sinden in view of Fujisaki renders obvious claims 1-2, 8-10, 15, 19-20, and 26-28 of the '334 patent. Petition at 12-52. Petitioners are wrong. Sinden and Fujisaki are directed to entirely different handwriting recognition algorithms than the '334 patent, and thus fail to disclose or suggest multiple claim limitations. Moreover, a POSITA would not have been motivated to combine Sinden, which describes a specific process for associating handwriting input samples with an alphabetic list of characters via association of vectors, with Fujisaki, which describes a process for allowing users to create and delete sample templates for characters online.

1. Sinden and Fujisaki Are Directed To Fundamentally Different Handwriting Recognition Algorithms Than The '334 patent

a. The '334 Patent

The '334 patent claims cover methods and systems for improving handwriting recognition by presenting to the user “recognized handwritten symbols,” allowing the user to understand how the detection means evaluated the user’s written input.

Ex. 2005 (Koskinen Decl.), ¶41. This helps the user understand what may have caused the system to identify the wrong character. *Id.*

As the '334 patent explains, the “invention relates to ... presenting a recognized handwritten symbol” and “sequentially presenting a plurality of recognized handwritten symbols.” '334 patent at 1:6-10. As the patent further explains, “[a] common solution” to inputting text into handheld devices “is to arrange a pressure-sensitive area on a screen where a user can write characters” and “[t]he characters are then interpreted and processed by the portable device and thereafter presented on the screen.” *Id.* at 1:23-27.

The '334 patent further explains that handwriting recognition algorithms usually rely on “templates,” where any given character may have a number of different templates associated with the different ways that a user may be expected to write that character:

Usually, a handwritten character entered on a detection device is interpreted and recognized by means of templates. Every template is associated with an image in a font, which after recognition is presented on the screen. Even though the way of writing a character may vary, a correct recognition is enabled by the use of more than one template for the character.

Id. at 1:28-33.

However, regardless of the numerous different ways that a character may be written by a user, as the '334 patent explains, “[t]hese templates are associated with the *same* image in the font” and “[t]hus, it is always the *same* image that is presented

after interpretation of one handwritten character no matter how it is written.” *Id.* at 1:32-35 (emphasis added).

Additionally, “[t]he recognition will sometimes misinterpret the handwritten character, and an image that visualize an incorrect character will be displayed.” *Id.* at 1:41-43. “In such cases, the user is not able to analyze why the recognition was incorrect” which “will cause irritation to the user, especially if a character is commonly being misinterpreted.” *Id.* at 1:43-46.

Thus, prior art handwriting recognition algorithms did “not give feedback to the user as to how and why the device interprets the character the way it does,” and “a user will not get any help in understanding why the character was misinterpreted using these methods.” *Id.* at 1:63-67. “As a result, he will never know how to change the way he is writing to fasten the process of receiving the correct interpretation directly” which “will lead to ineffectiveness and time-consuming corrections of the misinterpreted characters.” *Id.* at 2:1-4.

To solve these deficiencies in the prior art, the ’334 patent explains that “it is a specific object of the invention to provide a presentation of a handwritten symbol on a screen that gives feedback to the user regarding the recognition of the symbol.” *Id.* at 2:8-12. As the ’334 patent further explains:

Thus, ... the invention provides a method for presenting a recognized handwritten symbol, which method comprises the steps of detecting a handwritten pattern that is entered by a user, and recognizing the

detected handwritten pattern. The step of recognizing comprises comparing the handwritten pattern to templates representing ways of writing symbols. The step of recognizing also comprises returning a best template that represents a pattern which, according to a predefined rule, is most similar to the handwritten pattern, wherein at least two templates represent different patterns which represent different ways of writing a single symbol. Further, the method comprises presenting the pattern of the best template on a screen.

Id. at 2:17-29.

Thus, the '334 patent does not merely take user handwriting input and output the most-likely character symbol to an application, it instead displays to the user the closest template(s) for the desired character symbol, allowing the user to understand how their handwriting input is being interpreted by the system. Ex. 2005 (Koskinen Decl.), ¶48.

This process has advantages over the prior art because, “[t]hanks to the invention, a pattern that is graphically most similar to the pattern entered by a user is presented,” and “[s]ince the user is aware of that each symbol may be presented as one of several patterns representing different ways of writing this symbol, the presented pattern will give feedback to the user as to how the pattern used for recognition looks like,” for example, “the appearance of the pattern that was judged to be most similar to the handwritten pattern.” *Id.* at 3:11-18. “If the presented pattern is not representing the symbol the user intended to write the user can see which incorrect pattern that was found to be most similar to the handwritten pattern”

and “[s]ince the user can see how the misinterpretation occurred the irritation to him will reduce.” *Id.* at 3:18-23.

As the ’334 patent further explains, this technique differs from the prior art because, “[i]n prior art, when the handwritten pattern is misinterpreted, this presented pattern may often be quite different to the handwritten pattern,” which differs from the ’334 patent invention because the “presented pattern may show greater similarities with the handwritten pattern.” *Id.* at 3:23-26. Thus, “[i]f the presented pattern represents the symbol the user intended to write he is able to learn how to write a pattern in order for the recognition to correctly interpret the pattern.” *Id.* at 3:27-29. “Accordingly, the user becomes more aware of how the pattern is interpreted and the feedback will thereby make the user improve his skills in entering a pattern in the right way to be sure that the presented pattern as often as possible is the one he intended to write.” *Id.* at 3:30-34. Therefore, “entering a handwritten pattern and receiving the correct best interpretation is made more efficient, as the average time period measured from the handwritten pattern being entered until the correct interpretation is presented is reduced.” *Id.* at 3:34-38. “Further, the handwriting of the user will be reflected in the presented pattern,” which “will give a more personal touch to the pattern thus making it more pleasing for the user.” *Id.* at 3:38-41.

The '334 patent thus provided a novel way to more effectively implement handwriting recognition, resulting in faster and more efficient character entry by a user. Ex. 2005 (Koskinen Decl.), ¶51.

b. Sinden

Sinden is a U.S. Patent which issued on July 26, 1994, and is directed to the type of prior art handwriting recognition processes that the '334 patent was intended to improve upon. Ex. 2005 (Koskinen Decl.), ¶52. Sinden does not disclose or suggest storing multiple templates for any specific character, or displaying those templates to the user so that the user can understand how their handwriting input strokes are being interpreted by the system. *Id.* Indeed, Sinden does not disclose or concern itself with a display or screen at all. *Id.*

Instead, Sinden is focused on the specific process for associating handwriting input samples with an alphabetic list of characters. *Id.*, ¶53. As Sinden explains, “[a]n unknown handwritten symbol written on a digitizing tablet is compared with symbols in a predefined "alphabet" or library of model symbols and the closest match chosen.” Sinden at 1:67-2:2. As shown in the summary of the invention, Sinden is entirely focused on the process of correlating user input to find the best match from a library of target characters:

A sequence of samples of the pen position is recorded whiled a symbol is being written. The samples form a vector, which is then translated so that the centroid of the symbol lies at an origin. The comparison, which

can easily be done in real time, involves calculating a correlation factor from scalar products of the vector for the unknown symbol and two versions of the vector for each model symbol and choosing the model symbol having the highest correlation factor. If needed to distinguish between model symbols with similar correlation factors, the comparison can also include calculating a rotation factor from such vectors for use in making such choice.

Sinden at 2:7-20.

In short, Sinden is the type of prior art system that the '334 patent was intended to improve upon. Ex. 2005 (Koskinen Decl.), ¶54.

c. Fujisaki

Fujisaki is a U.S. Patent which issued on May 24, 1994, but which expired in June of 2002 because the patentee declined to pay basic maintenance fees. Like Sinden, Fujisaki is not concerned with the process of displaying model templates for characters a user may be trying to enter (to allow the user to understand how their handwriting input is being interpreted). Ex. 2005 (Koskinen Decl.), ¶55. Instead, Fujisaki is directed to allowing users to create and delete sample templates for characters online. Fujisaki at 1:6-8 (“The invention is in the field of handwriting recognition, and specifically is directed to reducing similarity between different prototype characters.”). As the specification explains:

Many on-line, handwriting recognition systems use curve matching methods to match an unknown character against prototype (template) characters. The accuracy of these recognizers depends on the quality of the prototypes and the speed of recognition depends on the number of

prototypes. The problem is to design prototype establishment procedures that optimize recognition accuracy and speed.

Id. at 1:11-18.

To solve this problem, Fujisaki explains that “[a]ccording to the present invention, an on-line handwriting recognition system safely reduces similarity between different prototypes by allowing a user to interactively delete confusingly similar prototypes, while at the same time not being allowed to delete prototypes that are needed for recognition accuracy.” *Id.* at 3:45-52; *see also id.* at 3:56-60 (“[a] method and apparatus for interactive editing of prototypes that are confusingly similar, that is, prototypes that are close to each other in a prototype space. Prototypes which are needed for recognition accuracy are not permitted to be edited.”).

In short, Fujisaki is directed to the process of building model templates for characters online, and does not teach or suggest the novel aspects of the ’334 patent, including identifying and displaying model templates to the user for characters the user is attempting to enter (to allow the user to understand how their handwriting input is being interpreted). *Ex. 2005 (Koskinen Decl.)*, ¶57.

2. Because Sinden And Fujisaki Are Directed To Fundamentally Different Approaches To Handwriting Recognition Than The ’334 Patent, They Fail To

Disclose Or Render Obvious Multiple Claim Limitations

Because Sinden and Fujisaki are directed to entirely different handwriting recognition processes than the '334 patent, the combination of Sinden and Fujisaki fail to disclose or render obvious multiple claim limitations. Ex. 2005 (Koskinen Decl.), ¶58.

a. Independent Claim 1

The steps of Claim 1 of the '334 patent are reproduced below:

1[pre]: A method performed by a handwriting recognition device for presenting a recognized handwritten symbol, the recognition device having a processor and detection means for detecting entry of a handwritten symbol, the method comprising the steps of:

1[a]: detecting, by the detection means, a handwritten pattern that is entered by a user,

1[b][i] recognizing, by the processor, the detected handwritten pattern, wherein said step of recognizing comprises:

1[b][ii]: comparing the handwritten pattern to a plurality of templates, wherein each of the plurality of templates represents at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols, and

1[b][iii]: returning a best template selected from the plurality of templates that represents one of the plurality of handwriting symbol patterns as a best handwriting symbol pattern which, according to a predefined rule, is most similar to the handwritten pattern, wherein at least two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol; and

1[c]: presenting the best handwriting symbol pattern of the best template.

As discussed further below, Sinden in view of Fujisaki fails to disclose or suggest limitations 1[pre], 1[a], and 1[c].⁶

(1) Limitations 1[pre], 1[a], and 1[c]

Limitations 1[pre] and 1[a] each require a “detection means” for detecting entry of a handwritten symbol, and limitation 1[c] requires “presenting the best handwriting symbol pattern of the best template.” As discussed above, the ’334 patent does not merely take user handwriting input and output the mostly likely character symbol to an application, it instead displays to the user the closest template(s) for the desired character symbol, allowing the user to understand how their handwriting input is being interpreted by the system. Ex. 2005 (Koskinen Decl.), ¶61.

This aspect of displaying the possible handwriting templates associated with a target output character is key to the ’334 patent’s purpose of allowing the user to see how the system is interpreting the user’s input, so that the user can adjust their input if the wrong target output character is being identified. *Id.*, ¶62. However, neither Sinden, nor Fujisaki, disclose or suggest this novel aspect of the ’334 patent’s invention. *Id.* Indeed, Sinden does not disclose or suggest any display screen at all. *Id.* Thus, as discussed in more detail below, neither Sinden, nor Sinden in view of

⁶ These missing limitations are illustrative. Patent Owner reserves the right to present additional arguments regarding the validity of the ’334 patent claims in this or other proceedings involving the ’334 patent.

Fujisaki, disclose or suggest the “detection means” limitations, or “presenting the best handwriting symbol pattern of the best template” to the user – because the references do not disclose or suggest the required pressure sensitive display screen.

Notably, as discussed above, Petitioners assert that the “detection means” terms are subject to § 112, ¶ 6. Petition at 9-11. Petitioners further provide a table identifying corresponding structure for these terms found in the specification. *Id.* In that table, Petitioners identify the below structure for the “detection means:”

A **screen** sensitive to handwriting (’334 Pat., 6:33-36, 7:15-17, 7:35-37, 7:44-45, 7:65-66), a **separate screen** (*id.*, 6:41-42, 7:17-18), a pressure sensitive area **on a screen** (*id.*, 1:23-25), a pressure sensitive **screen** (*id.*, 8:45-48), a scanner for detecting patterns written on a piece of paper (*id.*, 6:42-43), an intelligent pen incorporating a camera for detection of a handwritten pattern (*id.*, 6:44-45), and equivalents thereof.

Id.

Petitioners further argue that “[a] POSITA would have understood that a ‘pressure sensitive screen,’ as that term is used in the ’334 patent, refers to a structure with multiple sub-components *including a pressure-sensitive digitizer and a display screen, such as a liquid crystal display (‘LCD’)*.” Petition at 11 (emphasis added) (citing Beigi Decl., ¶¶110-114).

However, as discussed above, and as Petitioners do not dispute, the ’334 patent makes **no** mention of using a “pressure sensitive digitizer” as corresponding structure for the “detection means.” Indeed, Petitioners only propose this expanded

structure for the “detection means” limitations because they are aware that Sinden does **not** disclose any display screen at all – a crucial part of the structure Petitioners themselves identify for the “detection means” limitations. Ex. 2005 (Koskinen Decl.), ¶65. Thus, Petitioners attempt to expand the structural disclosure for the “detection means” to capture their primary prior art:

Because Sinden discloses that the handwritten symbol is recorded based on the detection of pen pressure on the digitizing tablet or pad 11, a POSITA would have understood Sinden to disclose that the digitizing tablet or pad 11 is “pressure sensitive” and that it detects entry of a handwritten symbol. Beigi ¶¶131-133. A POSITA would have further understood that a pressure sensitive digitizing tablet includes a pressure-sensitive digitizer because the digitizer is the component that detects and transduces the pen pressure. *Id.* ¶135. As discussed in §VII, a POSITA would have understood that a pressure-sensitive digitizer is corresponding structure for the claimed “detection means.”

Petition at 15.

As discussed above, the Board need not determine whether the structure for the “detection means” includes a “pressure sensitive digitizer,” as Petitioners’ argument lacks merit in view of its own expert’s opinions. As discussed above, Petitioners’ expert opined that “a pressure sensitive screen” (i.e., the structure Petitioners identify for the “detection means” limitations), “refers to a structure with multiple sub-components *including a pressure-sensitive digitizer and a display screen, such as a liquid crystal display (‘LCD’)*.” Petition at 11 (emphasis added) (citing Beigi Decl., ¶¶110-114).

Thus, even if Petitioners' expanded identification of structure for the "detection means" limitations were accurate, and even if Sinden's disclosure of a "pressure sensitive digitizer" did satisfy a portion of that structure, Petitioners' *own* expert admits that "detection means" limitations require more – i.e. "*a display screen, such as a liquid crystal display ('LCD')*." Therefore, Petitioners' conclusory statement that "a POSITA would have understood that a pressure-sensitive digitizer is corresponding structure for the claimed 'detection means'" is plainly wrong, as it omits a crucial part of the structure that even its *own* expert identified – i.e., the *display screen*.

Petitioners present a number of arguments as to why Sinden (and/or Sinden in view of Fujisaki) discloses or suggests these limitations, none of which have merit. For example, Petitioners argue that "a POSITA would have understood that Sinden's digitizing tablet or pad 11 includes a display screen because Sinden's Figure 1 shows that the digitizing tablet or pad 11 displays letters and a trace of the user's pen input." Petition at 16. But the portion of Sinden's tablet that Petitioners identify is clearly not a display screen, it is merely the area for the user to input desired symbols, with the black lines shown on the input merely reflecting where the user applied pressure against the digitizing pad. *See, e.g.*, Sinden at 3:42-43 ("Both model symbols and unknown symbols are written into the system by means of pen 10 and pad 11."); *see*

id. at 6:29-30 (“Models of the 36 alphanumeric characters were entered as block capitals via a **digitizing pad** as described above.”) (emphasis added).

Indeed, the fact that Petitioners—and *their expert*—explicitly differentiate a “pressure sensitive digitizer” from the separate structure of “a display screen” (when providing their identification of structure for the “detection means” limitations), demonstrates that Sinden’s pressure-sensitive “digitizing pad” is **not** “a display screen.” Ex. 2005 (Koskinen Decl.), ¶69.

Recognizing that Sinden does not disclose or suggest this limitation, Petitioners further argue that Sinden’s “digitizing pad” is structurally equivalent to the “detection means” of the ’334 patent claims:

If PO argues or the Board otherwise finds that Sinden does not literally disclose the corresponding structure of the claimed “detection means” because Sinden does not expressly disclose a “pressure sensitive screen,” then Sinden’s pressure-sensitive digitizing tablet or pad 11 is at least a structural equivalent to a “pressure sensitive screen.” Beigi ¶137. Sinden’s pressure-sensitive digitizing tablet or pad 11 performs the identical function (detecting entry of a handwritten symbol), in substantially the same way (by using a measure of pressure to detect the user drawing a handwritten symbol), to achieve the same result (a detected handwritten symbol). *Id.*

Petition at 16-17. But once again, Petitioners focus only on the structure of the pressure-sensitive input, and do not explain how Sinden’s “digitizing pad” is structurally equivalent to a “**display screen, such as a liquid crystal display (‘LCD’)**” – because, once again, Sinden does not disclose or suggest a display screen. Ex. 2005 (Koskinen Decl.), ¶70.

Recognizing Sinden’s lack of disclosure, Petitioners then assert that “[a]t a minimum, it would have been obvious to implement Sinden’s digitizing tablet or pad with a display screen in view of Fujisaki.” Petition at 17. Petitioners then argue that:

[A] POSITA would have considered the combination to amount to use of a known technique (using a digitizer with an integrated display screen) to improve similar devices (Sinden’s system is similar to Fujisaki’s) in the same way (to provide a digitizing tablet with an integrated screen that provides feedback to the user while inputting handwriting).

Id.

Petitioners then summarily conclude that the combination of Sinden and Fujisaki would “achieve predictable results” and that a POSITA “would have had a reasonable expectation of success in making the combination.” *Id.* at 17-18. But Petitioners support these statements with nothing more than conclusory assertions from their expert, and these conclusory, unsupported assertions are entitled to no weight. *See In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.”).

Moreover, while Petitioners assert that a POSITA **could** have combined Sinden and Fujisaki, neither Petitioners, nor their expert, explain why a POSITA **would** combine the references to achieve the invention of the ’334 patent. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (obviousness

concerns “whether a skilled artisan not only *could* have made but *would* have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention.”).

Here, as discussed above, neither Sinden, nor Fujisaki, are directed to solving the problem of a user’s handwriting input being associated with the wrong target character symbol. And neither Sinden, nor Fujisaki, teach or suggest that a solution to this problem would be to display to the user the closest model templates for the target character symbol (to allow the user to understand why their input may be triggering the wrong character to output).

As discussed above, Sinden is directed to a specific process for associating handwriting input samples with an alphabetic list of characters, and Fujisaki is directed to allowing users to create and delete sample templates for characters online. Thus, Petitioners are attempting to take two references with fundamentally different purposes and processes than the ’334 patent, each of which are missing key aspects of the ’334 patent claims, and then cobble them together to arrive at an invention neither reference teaches nor suggests. In short, Petitioners’ attempt to cobble together a hypothetical that meets the claims is infected with hindsight. *Abbott Laboratories v. Sandoz, Inc.*, 544 F.3d 1341, 1348 (Fed. Cir. 2008) (“in addressing the question of obviousness a judge must not pick and choose isolated elements from the prior art and combine them so as to yield the invention in question

if such a combination would not have been obvious at the time of the invention”) (quoting *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809, 810 (1986) (per curiam)).

Rather than explain *why* a POSITA would be motivated to combine Sinden and Fujisaki, Petitioners summarily conclude that:

There were known design incentives to implementing a digitizing tablet with a screen as taught by Fujisaki, including the ability to provide the user feedback as he/she wrote on the screen to mimic ink on a page, and to make it so the user did not need to divert attention from the tablet to a separate screen to see what was being written.

Petition at 17. But neither Sinden, nor Fujisaki, identify these issues as problems associated with their particular designs, and thus, once again, Petitioners’ arguments are infected with hindsight. See *Abbott Laboratories*, 544 F.3d at 1348.

In short, neither Sinden, nor Sinden in view of Fujisaki, disclose or suggest the “detection means” limitations, or “presenting the best handwriting symbol pattern of the best template” to the user – because the references do not disclose or suggest the required pressure sensitive display screen. Ex. 2005 (Koskinen Decl.), ¶76.

b. Independent Claim 15

The steps of Claim 15 of the ’334 patent are reproduced below:

15[pre]: A method performed by a handwriting recognition device for sequentially presenting a plurality of recognized handwritten symbols, the recognition device having a processor and detection

means for detecting entry of a handwritten symbol, the method comprising for each handwritten pattern the steps of:

15[a]: detecting, by the detection means, the handwritten pattern,

15[b][i]: recognizing, by the processor, the detected handwritten pattern, wherein said step of recognizing comprises:

15[b][ii]: comparing the handwritten pattern to a plurality of templates, wherein each of the plurality of templates represents at least one of a plurality of handwriting symbol patterns of handwritten ways of hand writing symbols and

15[b][iii]: returning a best interpretation of the handwritten pattern, said best interpretation being based on one of the plurality of handwriting symbol patterns as a best handwriting symbol pattern of a best template selected from the plurality of templates that, according to a predefined rule, is most similar to the handwritten pattern, wherein at least two of the plurality of templates comprise different ones of the plurality of handwriting symbol patterns which represent different handwritten ways of handwriting a single symbol, and wherein the different ones of the plurality of handwriting symbol patterns of said at least two of the plurality of templates return different best interpretations when being most similar to the handwritten pattern; and

15[c]: presenting the best interpretation.

As shown above, claim 15 of the '334 patent includes the same “detection means” limitations as claim 1, as well as the similar requirement of “presenting the best interpretation” to the user. Ex. 2005 (Koskinen Decl.), ¶78. Thus, Sinden in view of Fujisaki does not disclose or suggest claim 15’s limitations for the same reasons discussed above for the analogous limitations of claim 1 of the '334 patent.

Id.

c. Dependent Claims 2, 8-10, 19-20, and 26-28

Claims 2, 8-10, 19-20, and 26-28 depend on independent claims 1 and 15, and thus Petitioners have failed to demonstrate that Sinden, in combination with Fujisaki, discloses or renders obvious these claims for the same reasons discussed with respect to claims 1 and 15 of the '334 patent. Ex. 2005 (Koskinen Decl.), ¶79.

B. Ground 1B: Petitioners Fail To Show That Claims 3, 4, 21, and 22 Would Have Been Obvious Based On Sinden In View Of Fujisaki And Collins

Petitioners offer additional grounds for invalidity with respect to dependent claims 3, 4, 21, and 22 of the '334 patent, proposing to combine Collins⁷ with Sinden and Fujisaki in order to address additional limitations of these claims relating to the use of “geometrical information.” Petition at 53-59. Importantly, Petitioners do not assert that Collins teaches or suggests the “detection means” limitations discussed above, or “presenting” the best templates to the user. Ex. 2005 (Koskinen Decl.), ¶80. Thus, Petitioners have failed to demonstrate that Sinden in combination with Fujisaki and Collins discloses or renders obvious these claims for the same reasons discussed with respect to claims 1 and 15 of the '334 patent. *Id.*

⁷ US 5,926,567 (“Collins”) (Ex. 1007).

C. Ground 2: Petitioners Fail To Show That Claims 15 and 16 Would Have Been Obvious Based On Sinden In View Of Fujisaki And Sklarew

Petitioners offer additional grounds for invalidity with respect to claims 15 and 16 of the '334 patent, proposing to combine Sklarew⁸ with Sinden and Fujisaki, explaining that:

[T]he difference between Ground 2 and Ground 1A with respect to the analysis of claim 15 is that, in Ground 2, Petitioners address limitation 15[c] under an interpretation where the “presenting” step in 15[c] occurs after the “retrieving” step recited in dependent claim 16, which states “[t]he method according to claim 15, further comprising, before the step of presenting, retrieving as the best interpretation, from a database comprising allographs, a best allograph that is associated with the best handwriting symbol pattern of the best template.” ’334 Pat., 10:39-43.

Petition at 59-60.

Importantly, Petitioners confirm that “[t]he analysis of limitations 15[pre], 15[a], and 15[b] remains the same as in Ground 1A.” *Id.* Thus, because Petitioners do not assert that the addition of Sklarew teaches or suggests the “detection means” limitations, or the similar requirement of “presenting the best interpretation” to the user, Sinden in view of Fujisaki and Sklarew similarly lacks these limitations for the reasons discussed above. Ex. 2005 (Koskinen Decl.), ¶82. Therefore, the combination of Sinden, Fujisaki, and Sklarew does not render obvious claims 15 or 16 of the '334 patent. *Id.*

⁸ US 6,212,297 (“Sklarew”) (Ex. 1008).

VII. Conclusion

For the reasons set forth above, the Petition fails to establish a reasonable likelihood that Petitioners would succeed in showing that the prior art discloses or renders obvious any of the challenged claims, and the Board should deny institution on that basis.

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CERTIFICATE OF WORD COUNT

I certify that there are 6,643 words in this paper, excluding the portions exempted under 37 C.F.R. § 42.24(a)(1), according to the word count tool in Microsoft Word.

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on July 8, 2025, by filing this document through the P-TACTS system as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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