

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

DH INTERNATIONAL LTD.,
Patent Owner

Case No. IPR2025-00173
Patent No. 7,628,333

PETITIONER'S REQUEST FOR REHEARING

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Petitioner respectfully requests rehearing of the Decision Denying Institution of *Inter Partes* Review (“Order”). IPR2025-00173, Paper 8 (June 25, 2025).

I. INTRODUCTION

Underlying nearly every aspect of the Order’s institution denial is a critical misunderstanding of the “switching element” and associated “switching” functionality required by the Challenged Claims. This confusion is due in part to the confusing nature of the claims themselves. But the confusion was amplified by Patent Owner’s (“PO”) mischaracterizations. In fact, the proposed combination aligns with the switching described and claimed by the ’333 Patent. It (1) displays data when in an inactive state and (2) transmits and displays data when in an activated state. That is, data is conveyed (or switched) to the transmission path *only* when the switching element is in an activated state.

PO’s Preliminary Response (“POPR”) argued there is no switching at all if data is both displayed and transmitted in an activated state. Paper 6, 36-40. (deeming this “non-switching”). PO’s criticism directly conflicts with the intrinsic record. Claim 13 *expressly requires* a switching element that both transmits and displays in an activated state. Because the Order adopts PO’s “non-switching” criticism, the Board misunderstood the scope of the Challenged Claims, constituting error.

II. LEGAL STANDARD

“A party dissatisfied with a decision may file a single request for rehearing”

that “specifically identif[ies] all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, a reply, or a sur-reply.” 37 C.F.R. § 42.71(d).

III. PO MISLED THE BOARD BY MISCHARACTERIZING THE CLAIMED “SWITCHING” LIMITATIONS

Claim 1 recites a data conveyance “switching element” that is placed in an “activated state” when an “activation cue” is received and is in an “inactive state” otherwise. Ex. 1001, Claim 1. When in an activated state, the device transmits data to an external device. *Id.* And, when in an inactivate state, data is displayed to the user. *Id.*, claim 1 (data conveyed “to said user interface device”), claim 2 (“user interface device is a display screen”).¹ While the use of the term “switching” might be read in isolation to suggest mutually exclusive data conveyances, e.g., (1) an “activated state” where data is *only* transmitted and (2) an “inactive state” where data is *only* displayed, no such exclusivity is required of the claims. Indeed, Claim 13 expressly rejects such exclusivity and *requires* that data is both transmitted and displayed in an activated state. *Id.*, claim 13. This non-exclusive nature of the claimed “switching” is similarly reflected in the specification. *Id.*, 9:12-17 (describing a “switching element . . . in its activated state” that transmits and displays

¹ To simplify the discussion, conveying data to a user interface (e.g., a display) will be referred to as “displaying data.”

data). Accordingly, the claimed switching is non-exclusive. The activated state *requires* transmitting data, but it *does not exclude* also displaying data.

In Petitioner's combination, *McGregor's* switching element enters an activated state when, pursuant to *Palmer*, an external reader's RF field is detected and a communication link is established. Paper 1, 31. In the proposed combination, no data is transmitted unless the element is in activated state. In this way, data is conveyed to the transmission path when the switching element is placed into activated state. *Id.* Petitioner observed that the claims "require transmitting data via the transceiver when an activation cue has been received" and that "they do not exclude a device that both displays and transmits its data when an activation cue has been received." *Id.*, 44. The Petition argued that the activated state limitation is satisfied regardless of whether data is "wirelessly transmitted instead of displaying *or* in addition to displaying." *Id.*, 35 (emphasis in original).

The POPR targeted Petitioner's theory that the activated state limitation is satisfied where McGregor's modified wallet device both transmits and displays data. Paper 6, 36-40. It referred to this approach as a "non-switching approach" and argued that the claimed switching element is not satisfied if both data conveyances occur in an activated state. *Id.* The Order adopted PO's characterization. It concluded that a device that both displays and transmits data upon receiving an activation cue follows a "non-switching approach[.]" Paper 8, 19-21 The Board found Petitioner's assertion

that the claims “do not exclude a device that both *displays and transmits* its data when an activation cue has been received[]’ confusing and inconsistent with the claim language reciting a data conveyance ‘switching’ element.” *Id.*, 23. It also concluded that “there is no switching between two data conveyance paths when McGregor’s device transmits the security key code to the display and ‘automatically transmit[s]’ the security key code to the transaction network for authorization.” *Id.*

PO’s mischaracterization of Petitioner’s grounds as a “non-switching” theory caused the Board to misapprehend the meaning of “switching[,]” which in turn led it to misinterpret the scope of the claims, misconstrue the *McGregor–Palmer* combination, and conclude that the proposed combination fails to satisfy the Challenged Claims. For at least the reasons set forth below, this was error.

A. The Board’s Interpretation Conflicts with the Intrinsic Record

The Board’s interpretation conflicts with the intrinsic record and cannot be correct. Starting with the claims themselves, dependent Claim 13 is particularly relevant. Claim 11, like Claim 1, recites transmitting data in an “activated state” and displaying data in an “inactive state[.]” *Id.*, claim 11. Claim 13, which depends on Claim 11, ***expressly requires*** that data is also displayed in an activated state. *Id.*, claim 13 (“if said switching element is in said activated state: conveying data from said electronic circuit to said user interface device”). “[C]onstruing the independent claim to exclude material covered by the dependent claim would be inconsistent.”

Trs. of Columbia Univ. in City of New York v. Symantec Corp., 811 F.3d 1359, 1370 (Fed. Cir. 2016). Accordingly, it is improper to impose an exclusivity requirement in independent Claim 11 that directly conflicts with dependent Claim 13. Because the independent claims all describe materially similar data conveyances in activated and inactive states, the Challenged Claims cannot be construed to exclude transmitting and displaying data in an activated state.

The specification confirms this conclusion. It is well settled that patent claims “must be read in view of the specification, of which they are a part.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc); *see also Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”). Here, the specification describes an embodiment in which the device both transmits and displays data in an activated state:

According to one embodiment, when switching element 44b is in its activated state, upon selective triggering of control device 12, ***in addition to a data exchange occurring with an external data exchange device, an internal data conveyance from electronic circuit 14 to display screen 16 would also occur.***² Thus, according to this embodiment, an ***internal data conveyance would not be exclusive to***

² All emphases added unless otherwise noted.

the inactive state of switching element 44b, while a data exchange with an external data exchange device would be exclusive to the activated state of switching element 44b.

Ex. 1001 at 9:12-21. It cannot be correct, as the Board held, that there is no switching where both data transmission and display occur in an activated state. This narrow read directly conflicts with an express embodiment that attributes precisely this functionality to the “switching element.” See *Hutchinson Tech. Inc. v. Nitto Denko Corp.*, IPR2017-01607, Paper 12 at 4-7 (PTAB Feb. 2, 2018) (granting rehearing request where the Board had “implicitly” construed a term to preclude elements in a claimed invention in a manner inconsistent with the specification).

In sum, the claims allow for an activated state in which data is both transmitted and displayed. Claim 13 even *requires* this arrangement. As set forth in the Petition, the proposed combination captures this read of the claims precisely.³ *McGregor’s* switching element enters an activated state when, pursuant to *Palmer*, it detects an

³ The claims do not expressly require an act of switching. Instead, the claims simply define how data is conveyed based on the state of a “switching element.” As set forth in the Petition, the proposed combination conveys data in the same way as described and claimed—displaying when in an inactive state and both displaying and transmitting when in an activated state. Responsive to the Board’s suggestion that the Petition fails to identify an act of switching (Paper 8, 18), data in the proposed combination is conveyed (or switched) to the transmitting path only when the switching element is placed into an activated state.

external reader's RF field and establishes a communication link. Paper 1, 43. No data is transmitted when the element is in an inactive state. *Id.*, 31 ("When no RF field is detected and no two-way communication link is established, *McGregor's* device exclusively displays the [data]").

B. The Board Misapprehended the Record with Respect to McGregor's Switching

The proposed combination turned on a theory that *McGregor* expressly teaches "automatically" transmitting data, but "does not elaborate on how or when such automatic transmission would occur." Paper 1, 28. It points to *Palmer's* process to "guide [*McGregor's*] implementation . . . such that the [data] would be automatically transmitted when the device detects the existence and availability of an external reader/writer device" to receive it. *Id.*

The POPR did not dispute the basic premise that *McGregor's* wallet device transmits data only *some of the time*. Nor could it reasonably have disputed this interpretation, which was based on Petitioner's expert's explanation that a POSITA would have understood it was well-established practice that financial data should not be blindly transmitted without first establishing a connection and ensuring an intended recipient device is available to receive the data. Ex. 1003, ¶98. Despite PO's silence on this issue, the Board concluded that *McGregor's* device *always* transmits its data. Paper 8, 21-22 ("*McGregor's* system does not determine 'whether' or 'when' to transmit the security code; it happens 'automatically.'").

In reaching this conclusion, the Board improperly ignored unrebutted expert opinion from Petitioner's expert that explained why a POSITA would have understood *McGregor* suggests transmitting only some of the time. Neither PO nor its expert advanced the interpretation of *McGregor* adopted by the Board. The only evidence in the record addressing this issue came from Petitioner's expert, Dr. Buehrer. He explained that *McGregor* suggests alternative data conveyances such that data is transmitted some of the time and displayed at other times:

McGregor is not entirely clear whether automatically transmitting the code is performed in lieu of or in addition to displaying the code, but there is some suggestion that the wireless transmission is an alternative to displaying. *Id.*, [0053] (teaching the code is communicated “***via the display*** on the front of the card, ***or*** the data is directly ***sent via IR or other wireless technology***”).

Ex. 1003, ¶108. Dr. Buehrer further explained “[i]t is well-accepted practice in the field of communications that a communication link should be setup and confirmed operable before transmitting data[,]” which is “rooted in the need for reliability, efficiency and security.” *Id.*, ¶97; *see also id.*, ¶96-98 (discussing multiple background references teaching the same).

In advancing its own interpretation of *McGregor*'s “automatic” transmission, the Board did not discuss (or even acknowledge) Dr. Buehrer's unrebutted testimony. This was error. *See University of Strathclyde v. Clear-Vu Lighting LLC*,

17 F.4th 155, 164 (Fed. Cir. 2021) (reversing where Board failed to credit unrebutted expert testimony).

C. The Board Misapprehended the McGregor–Palmer Combination’s Switching Element

Ignoring the operation of the proposed combination, the POPR insisted that neither *McGregor* nor *Palmer* in isolation teach a switching element. Paper 6, 38. At institution, the Board agreed. It found *McGregor*’s wallet device merely displays and transmits a security code when authorized. Paper 8, 19-20 (concluding that “[t]he McGregor wallet embodiment does not disclose, teach, suggest, or benefit from a data conveyance ‘switch[.]’” and that PO’s characterization of a “non-switching approach . . . is consistent with the disclosures in McGregor and Palmer”), 19 (“We agree with Patent Owner that ‘[n]either [] McGregor [n]or Palmer teach or describe a switching element.’”), 22 (“In short, there is no teaching or suggestion in McGregor that the smart card switches between displaying the security key code on a device and transmitting the security key code to a transaction network.”).

Where, as here, the grounds for obviousness are based on a specific combination of references, arguments that “attack the disclosures of the two references individually” lack merit. *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019); *Palo Alto Networks, Inc. v. Centripetal Networks, LLC*, 122 F.4th 1378, 1384-85 (Fed. Cir. 2024) (finding the Board committed legal error by considering each prior-art reference individually rather than in combination).

The Petition unambiguously relied on a combination of *McGregor* and *Palmer* for the claimed switching element, rather than either reference in isolation. Namely, it established that *McGregor*'s wallet device can display a security key and that the device can also "be equipped with 'an IR or wireless transmitter to automatically transmit the security code to a transaction network.'" Paper 1, 26-28. The Petition explained that *McGregor* teaches transmitting data, but "does not elaborate on how or when such automatic transmission would occur." Paper 1, 28. It points to *Palmer*⁴ to "guide [*McGregor*'s] implementation . . . such that the [data] would be automatically transmitted when the device detects the existence and availability of an external reader/writer device" to receive it. *Id.* Finally, it explained that, "[w]hen no RF field is detected and no two-way communication link is established, *McGregor*'s device exclusively displays the security key code on the

⁴ The Petition included a detailed discussion in limitation [1(b)] explaining why a POSITA would have been motivated to implement *Palmer*'s transceiver hardware and handshaking process in *McGregor*'s device, offering multiple reasons grounded in the prior art. Paper 1, 31-33; Ex. 1003, ¶¶95-103 (explaining the benefits of establishing a two-way link to ensure an external reader is available to receive the security code). The Board criticized Petitioner for allegedly failing to explain why a POSITA would seek to replace *McGregor*'s (allegedly) one-way transmitter with *Palmer*'s two-way transceiver. Paper 8, 22, n. 8. The Board's criticism ignores that the main premise of the combination's benefit is confirming an external reader's availability via a **two-way** handshaking process.

device's display[.]” *Id.*, 31. In this way, data is switched to the transmission conveyance path *only*⁵ when the device is in an activated state.

In terms of hardware, the Petition was similarly unambiguous that *McGregor's* microprocessor—modified pursuant to *Palmer*—is the switching element responsible for conveying data in activated and inactive states:

McGregor's microprocessor is responsible for transmitting a security key code to the device's display and/or automatically transmitting the code in the event a wireless reader/writer device has been detected and a handshake operation has been performed (pursuant to *Palmer's* teachings). Accordingly, *McGregor's* microprocessor is a switching element (1) that is placed into an activated state after receiving a handshake signal (an activation cue) that establishes a communication during the handshake process and (2) that remains in an inactivated state if no reader/writer device is detected.

Paper 1, 42 (incorporating full combination discussion from limitation [1(b)]).

Because the switching functionality and switching element hardware relied upon in the proposed grounds are unambiguously based on a combination of

⁵ The Board also criticized Petitioner for failing to explain how an inactive wallet device could detect an RF field. *Id.*, 22, n.9. This appears to confuse “inactive state” with an “inactive device.” When its switching element is in an inactive state, *McGregor's* modified *device* is not *inactive*. It can confirm a user's fingerprint, calculate a security code, and display the code. Paper 1, 25-31. The functionality *enabled by* detecting an RF field is simply the ability to transmit a security code.

McGregor and *Palmer*, it was error to deny institution based on their individual failures to teach the claims switching element.

D. PO Misled the Board to Overlook the Analysis in Limitation 1(b)]

The Petition set forth its combination of *McGregor* and *Palmer* in great detail, dedicating ten pages to its operation and detailed motivations for making the combination. Paper 1, 25-35. Because limitation 1[(b)] first implicates the combination, Petitioner included its description of the combination within its mapping of this limitation and then cross-referenced the detailed discussion for later limitations that also relied on the proposed combination. This necessarily resulted in Petitioner’s mappings for later limitations relying on the detail set forth with reference to limitation 1[(b)].

The POPR criticized this approach, arguing that Petitioner failed to meet the specificity requirement under 35 U.S.C. § 312(a)(3) and 37 C.F.R. § 42.104(b)(4) for limitation 1[(e)]. Paper 6, 4-5, 36-40. The Board agreed. It similarly criticized the Petition for incorporating into its mapping of limitation [1(e)], a cross “reference to 10-plus pages of limitation [1(b)][.]” Paper 8, 16-17. Although the Board acknowledged that the Petition presented its obviousness theory under limitation [1(b)], it declined to credit that theory in its analysis of limitation [1(e)]. *Id.*, 18 (“[W]e agree with Patent Owner that the Petition ‘lacks specificity as to where each

element of the claims of the '333 Patent is found in the relied upon prior art,' particularly with respect to limitation [1(e)]."). This was error.

The PTAB recognizes that "parties are given wide latitude in how they present their cases," but cautions that presenting too many issues can obscure or dilute meritorious arguments. *See PTAB Consolidated Trial Practice Guide* at 39 (84 Fed. Reg. 64,280 (Nov. 21, 2019)). It advises parties to "focus on concise, well-organized, easy-to-follow arguments supported by readily identifiable evidence of record." *Id.* That is precisely the approach Petitioner followed. It presented a cohesive motivation-to-combine theory under limitation [1(b)] and cross-referenced it where appropriate. Given the number of related concepts that are separately claimed, it would have been impossible to repeatedly describe the combination (e.g., for each implicated limitation) with the requisite level of detail.

Limitation [1(b)] recites the "control device . . . with an invariable activation command being issued when said control device is selectively triggered" and limitation [1(e)] recites the "data conveyance switching element" that dictates where data is conveyed when the invariable activation command issues (i.e., pursuant to limitations [1(g)-(h)]). Ex. 1001, claim 1. The Petition dedicated ten pages to a detailed description of the *McGregor-Palmer* combination under limitation [1(b)] where the combination is first required in the mapping. Paper 1, 25-35. The [1(b)] analysis was cross-referenced in the subsequent related limitations. Given the close

relationship between these limitations, Petitioner's use of cross references was appropriate and enabled a detailed discussion of the combination and its motivations that would not have been possible were the combination separately described and supported for every implicated limitation. *See Bruker Spatial Biology, Inc. v. 10x Genomics, Inc.* IPR2024-00526, Paper 14, 23 (PTAB Aug. 23, 2024) (finding cross-references proper given close relationship between the claim elements discussed).

Moreover, the *Petition*'s discussion under [1(b)] accounts for the functionality required of [1(e)]. The Board criticizes the *Petition* for failing to explain "what the asserted switching function is or what happens when the microprocessor is in an inactive state[.]" Paper 8, 18. In fact, the [1(b)] discussion explains precisely how the *McGregor–Palmer* combination implements the claimed switching function and how the device behaves in the inactive state. As discussed at length in the preceding sections, it established that *McGregor*'s wallet device transmits a security key when it "detects the existence and availability of an external reader/writer device" to receive it and exclusively displays the key when no RF field is detected. Paper 1, 28-31. In this way, data is switched to the transmission conveyance path **only** when the switching element is in an activated state, and the device exclusively displays the data when the element is in an inactive state. *Id.*

Finally, the Board criticizes Dr. Buehrer's analysis for "suggest[ing] hindsight reasoning" by citing the '333 Patent in his motivation to combine discussion. Paper

8, 16-17 (citing Ex. 1003, ¶127). The Board simply misinterprets Dr. Buehrer's citation to the '333 Patent. In ¶126, Dr. Buehrer explained that the '333 Patent teaches a "switching element" can be implemented in software. Ex. 1003, ¶126. In the next paragraph, quoted in the Order, Dr. Buehrer states that "[a] POSITA would have understood that a series of instructions would be programmed into *McGregor's* microprocessor to function as a switching element (pursuant to *Palmer's* teachings), and as described in the '333 Patent." *Id.*, ¶127. Dr. Buehrer was not suggesting that the '333 Patent motivates the combination, as the Board suggests. Instead, he was stating that the '333 Patent expressly allows for a software-based "switching element," which is consistent with the proposed modification of *McGregor's* microprocessor in the proposed combination.

In sum, the Board erred in failing to credit the obviousness theory in limitation [1(b)] in its analysis of limitation [1(e)] because the limitations are closely related, and the analyses complement each other.

IV. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests the Board grant rehearing and institute review.

Respectfully submitted,

By: /s/ Paul R. Hart

Paul R. Hart, Reg. No. 59,646

COUNSEL FOR PETITIONER

CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. § 42.105

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105, the undersigned certifies that on July 25, 2025, a true and correct copy of the foregoing Petitioner's Request for Rehearing was served electronically on counsel for Patent Owner at the following addresses:

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