

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**SAMSUNG ELECTRONICS CO., LTD, and  
SAMSUNG ELECTRONICS AMERICA, INC.,**  
Petitioner,

v.

**CELLECT, LLC,**  
Patent Owner.

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Case IPR2020-00512  
U.S. Patent No. 9,186,052

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**PETITIONER’S REPLY TO §325(d) ARGUMENTS IN  
PATENT OWNER’S PRELIMINARY RESPONSE**

Because the art and arguments considered during prosecution are not the same or substantially the same as the art or arguments contained in the Petition, the Board should not exercise discretion pursuant to §325(d). Moreover, the art considered during prosecution identified in Patent Owner's ("PO") Preliminary Response ("POPR") failed to meet at least: 1) **the parallel planes limitation** ("said second plane of said second circuit board being substantially parallel to said first plane of said first circuit board"); and 2) **the size limitation** ("wherein a largest dimension of said image sensor along said first plane is between 2 and 12 millimeters") in Challenged Claim 2.<sup>1</sup> Whereas both Swift alone and in view of Suzuki identified by Petitioner *does* render obvious the first circuit board and second circuit board with parallel planes limitation, and at least Suzuki discloses the size limitation. Still more, the POPR directly contradicts representations PO made to the Examiner during '839's prosecution. Thus, for the reasons set forth in the Petition, the IPR should be instituted.

**I. The Petition Does Not Present Substantially the Same Art or Arguments**

To be clear, the substance of the Swift in view of Ricquier and Suzuki ground,

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<sup>1</sup> There are errors in the POPR regarding the prior art identified in the Petition. For example, contrary to the POPR, the Petition does not rely on Dierickx. POPR, 34-37, 42-43. This reply addresses only those issues relevant to the Petition as filed.

as well as the Larson in view of Swift, Ricquier, and Suzuki ground, was *never* considered by the Patent Office. Swift in view of Ricquier and Suzuki teaches the relevant camera structure limitations—disclosing both the arrangement of an image sensor and processing circuitry in first and second planes that are substantially parallel (as taught by Swift alone and in view of Suzuki), the placement of timing and control circuitry coupled to an array of CMOS pixels (as taught by Ricquier), and the largest dimension of the image sensor along the first plane between 2 and 12 millimeters (as taught by Suzuki). *See* Pet., 15-27. Moreover, to the extent further disclosure is required for the “second plane” requirement, it would have been obvious to apply Suzuki’s circuit board arrangement teachings to Swift’s camera. Pet., 24-27, 38-42. While PO concedes that the Examiner agreed that combinations of similar *types* of references would have been obvious (POPR, 42-43), PO fails to acknowledge key differences between the art in the Petition and the prosecution art.

**Parallel planes limitation:** Swift is cited in the Petition to teach, *inter alia*, an imaging device with a first circuit board and second circuit board where the second plane of the second circuit board is substantially parallel to the first plane of the first circuit board. PO’s assertion that Yarush is substantially the same is based on a misrepresentation of the art. Swift teaches disposing its circuit boards in various orientations such that a POSITA would have understood that Swift teaches a stacked arrangement of circuit boards 52 and 53 such that circuit board 52 is substantially

parallel to circuit board 53. Pet., 38-39. While Swift teaches circuit boards that are substantially parallel, Petitioner further relies on Suzuki to the extent additional disclosure is required. Suzuki further renders obvious circuit boards positioned in a stacked arrangement with respect to each other such that, for example, “circuit board 227” and “chip connecting board 226” “are aligned with each other” as shown in Suzuki’s Figs. 2, 3C. Pet., 41-43 (Figs. 2, 3C). In contrast, the Examiner specifically found Yarush does **not** meet this parallel planes requirement. Ex. 1002, 114. Thus, far from being “substantially the same,” the Petition’s proposed grounds squarely address the subject matter deemed missing from the prior art during the earlier prosecution. In attempting to identify similarities with Yarush, PO incorrectly asserts that Swift discloses a “CCD imager,” yet Swift never mentions or discloses a CCD imager.

**Size limitation:** In the Petition, Suzuki’s teachings are applied, *inter alia*, to Swift and Ricquier for the “wherein a largest dimension of said image sensor along said first plane is between 2 and 12 millimeters” limitation. Pet., 48-50. However, PO makes no attempt to show that either Danna or Lenhardt provides any similar disclosure regarding the dimensions of the image sensor. Indeed, PO added this limitation, among others, to overcome the Yarush in view of Sonnenschein rejection, resulting in allowance of the claims. See Ex. 1002, 113-15, 141, 155-56; *cf.* POPR, 31-34.

**PO's §325(d) arguments are belied by its prosecution arguments:** PO's assertion that Pelchy and Zarnowski considered in '839's and '255's prosecution are substantially the same as Swift, Ricquier, and Suzuki is simply incorrect. (Zarnowski is referred to as "*Laser Focus*" in '839's and '255's prosecution. Ex. 1003, 100.) As PO argued during prosecution, Pelchy discloses a TAB approach that is applicable only to **CCD** image sensor architecture and that could not be modified with Zarnowski's teachings of **CMOS** image sensors. Ex. 1003, 92-94, 138-42. PO distinguished Pelchy's mention of "CMOS" in its Background. Ex. 1003, 139. PO further asserted that Pelchy cannot be combined with Zarnowski's CMOS image sensor because the express and clear purpose in Pelchy "for providing tape automated bonding [TAB] is defeated if a CMOS based imager is used within the structure of Pelchy." *Id.*; *contra* POPR, 16-17, 25-26, 40-43. In response, the Examiner allowed the claims in light of the claimed CMOS image sensor features. Ex. 1003, 171. In contrast to PO's prosecution arguments, the Petition asserts a POSITA would have been motivated to apply Ricquier's teachings of a **CMOS** image sensor to Swift's **CMOS** image sensor. *See, e.g.*, Pet., 20-24. Thus, the alleged incompatibility between Pelchy and Zarnowski raised in prosecution does not exist between Swift and Ricquier.

Moreover, in asserting Pelchy is substantially the same as Swift, PO incorrectly asserts that Swift discloses **CCD** image sensors arrangements, even though Swift explicitly discusses CMOS image sensors. POPR, 25-26. As an initial matter,

PO's assertion that the image sensor in Swift *could* be CCD is irrelevant because the Petition relies on Swift's *express* teachings of a CMOS image sensor. PO's attorney argument cannot change Swift's express disclosures of a "CMOS" image sensor. *E.g., Unified Patents v. Fall Line Patents*, IPR2018-00043, Pap. 6, \*29 (rejecting patent owner's attorney argument contradicting teachings of the prior art reference). And contrary to PO's POPR assertions (at 24-25), its expert's prosecution testimony in the '839 patent that "on-chip processing ... is impractical with standard CCD technology" does not support its argument. Rather, this supports that on-chip processing indicates a CMOS image sensor, but says nothing about whether—and certainly does *not* support—any "off-chip circuitry" mandates a CCD image sensor. And more generally, PO's expert's testimony during the '839's prosecution addressed why he thought Pelchy's TAB process was a CCD implementation (Ex. 1003, 91-93)—not whether Swift's "CMOS" disclosures are instead CCD.

PO's argument that Swift is substantially the same as Danna and Yarush is more of the same attempt at sleight of hand. PO again attempts to rewrite Swift, mislabeling its CMOS image sensor as a CCD image sensor. From there, it wrongly attempts to equate Swift to Danna's "CCD image sensor" and Yarush's "CCD array 91" that is mounted on a "CCD printed circuit board 80." POPR, 27-28.

Swift is also superior to Zarnowski, which merely describes tradeoffs of CCD, CMOS, and hybrid image sensors. PO does not identify any disclosure in Zarnowski

that is substantially similar to the actual content of Swift. For example, Zarnowski does not disclose a CMOS image sensor that is on a different plane than video processing circuitry like Swift discloses. Zarnowski does not identify any particular CMOS image sensor configuration—referring generically to “[t]rue CMOS imagers”—much less identify any particular amplifier or image sensor. Ex. 2007, 4.

For the same reasons, Ricquier is superior to Zarnowski because, unlike Zarnowski, Ricquier provides specific implementation details of the disclosed image sensor including a CMOS active pixel sensor with specific pre-video output signals. *See, e.g., Pet.*, 34-37. Regardless, PO does not identify any disclosure in Zarnowski that is substantially similar to the actual content of Ricquier.

In arguing that Swift is substantially similar to Zarnowski, PO asserts that “*Swift* describes a CMOS APS image sensor” that “emphasized the camera-on-a-chip design which featured on-chip integration” (POPR, 29) even though Swift expressly teaches a CMOS “image sensor 51,” and an external “circuit board 53” on which “circuitry components are mounted ... [to] ... process image signals received [from image sensor 51]” into a “video signal” for a “video monitor or TV.” *See Pet.*, 38-39; Ex. 1005, 9:5-13, 10:1-2. Indeed Swift merely states that “information on APS-type sensors may be found in” Fossum’s *Laser Focus World* article (Ex. 1005, 10:4-6)—not that it uses Fossum’s design. And the *BusinessWeek* article about Fossum, on which PO relies, is never mentioned in Swift and was published the year

after Swift was filed. POPR, 23-24, 56-57 (citing Ex. 1060). Neither reference can rewrite Swift's expressly disclosed arrangement of the processing circuitry on a board separate from the image sensor.

While POPR asserts that the Examiner evaluated Petitioner's arguments "using the Pelchy-Zarnowski-Danna CCD/CMOS and Lenhardt-Zarnowski CCD/CMOS combinations" (POPR, 42), PO provides no analysis to support its statement. *See Motorola Mobility LLC v. Uniloc*, IPR2020-00038, Pap. 9, \*11-12 (not exercising discretion where "Patent Owner, presents no meaningful explanation of how the prior art relied on in the Petition, in the manner Petitioner presents, is cumulative of [the art considered in earlier proceedings]"). Moreover, the Examiner never applied the art in any of these combinations to the Challenged Claim, let alone as part of these combinations. *Bowtech v. MCP*, IPR2019-00379, Pap. 14, \*19 (not exercising discretion where there was "no evidence that the Examiner considered the particular disclosures cited by [Petitioner] in the Petition, in light of claims at issue").

For the reasons described above, PO's further assertion that Lenhardt, Danna, Yarush, and Zarnowski considered in prosecution are substantially the same as Larson, Swift, Ricquier, and Suzuki is simply incorrect.<sup>2</sup> Moreover, because the art and

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<sup>2</sup> PO does not assert that Sonnenschein is substantially the same as any prior art in



arguments presented in Ground 1 based on the combination of Swift, Ricquier, and Suzuki are not substantially the same as those considered during prosecution, the Board need not reach the issue of the Petition's Ground 2, which further apply the teachings of Larson to the art of Ground 1. The Petition relies on Larson "[t]o the extent further disclosure of a physical camera within the same physical housing as the video monitor to form the claimed 'imaging device' is required." Pet., 50-52.

## **II. Error in Allowing the Challenged Claim**

### **A. Because the Examiner Did Not Consider Substantially the Same Art or Arguments, No Showing of Error Is Required**

Because the grounds presented in the Petition do not rely on the same or substantially the same art or arguments as applied during prosecution, there is no need to show that the Office committed error. *Advanced Bionics v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Pap. 6, \*8. In fact, the Challenged Claim was never rejected on the basis of the same or substantially the same art as advanced in the Petition. Indeed, where the "Examiner did not expressly consider [the reference] on the record," it is difficult, if not impossible, to explain "why

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the Petition. Indeed, PO argues that Sonnenschein is not prior art to the '052 patent. POPR, 14. Regardless, PO improperly attempts to identify similarities between the '052's prosecution rejection of Yarush in view of Sonnenschein to the petition's grounds. POPR, 39-42.

the Examiner allowed the claims” or “how the Examiner might have considered the arguments presented in the Petition.” *Bowtech, Inc. v. MCP IP, LLC*, IPR2019-00379, Pap. 14, \*20 (declining to exercise discretion under §325(d)). Thus, for this further reason, an exercise of discretion under §325(d) is not appropriate here.

**B. The Office Erred in a Manner Material to Patentability By Failing to Apply the Art of Record Based Upon PO’s Arguments**

PO does not even assert that any of the art of record during prosecution discloses two circuit boards that are in substantially parallel planes or an image sensor chip with the largest dimension between 2 and 12 millimeters, as required by the Challenged Claim. The Examiner thus erred at least in failing to identify a reference like Swift and Suzuki whose teachings could be combined with, *e.g.*, Zarnowski in a manner that would render the Challenged Claim obvious. Indeed, to the extent that the art applied in earlier prosecution (*e.g.*, Lenhardt, Danna, and Zarnowski) discloses features of the Challenged Claim as PO argues, but the Examiner failed to apply that art to the Challenged Claim, let alone combine it with other art that would have rendered the claims obvious, this was also error. *HTC Corp. v. Motiva Patents*, IPR2019-01664, Pap. 9, \*10 (declining to exercise §325(d) discretion because Examiner erred by failing to apply art to the challenged claims even though the art was applied to invalidate claims of similar scope in a related patent). For these additional reasons, the Board should not exercise its §325(d) discretion.

PO’s §325(d) arguments should be rejected and this IPR should be instituted.

Date: June 22, 2020

Respectfully submitted

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**CERTIFICATE OF SERVICE**

The undersigned certifies that a copy of the foregoing PETITIONER'S REPLY TO §325(d) ARGUMENTS IN PATENT OWNER'S PRELIMINARY RESPONSE was served in its entirety by causing the aforementioned document to be electronically mailed, pursuant to the parties' agreement to the following attorneys of record for the Patent Owner listed below:

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