

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARASHI VISION (U.S.) LLC (D/B/A INSTA360)
Petitioner,

v.

GOPRO, INC.
Patent Owner.

Patent No. 11,336,832

Inter Partes Review No. IPR2024-01052

**PETITIONER'S AUTHORIZED RESPONSE TO DIRECTOR REVIEW
REQUEST**

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I. INTRODUCTION

Director Review is reserved for extraordinary circumstances—clear abuses of discretion, important issues of law or policy, erroneous findings of material fact, or erroneous conclusions of law—not for relitigating issues the Board carefully considered and decided. PO’s Request (Paper 61) shows none of that. Instead, it rests on mischaracterizing the Board’s reasoning, repackaging arguments rejected by the Board, advancing new theories that are forfeited, and asking the Director to reweigh evidence and expert credibility. That is not the role of Director Review.

First, PO’s challenge to the Board’s Thomason analysis relies on the incorrect premise that the Board “modified” the prior art. Not so. The Board in fact relied on Thomason’s express disclosures and permissible inferences that a POSITA would draw, consistent with settled obviousness law.

Second, PO’s attack on the Board’s Voss analysis depends on a mischaracterization of the Final Written Decision (“FWD”; Paper 59). The Board applied a construction grounded in the claim language and correctly found that Voss satisfies the “viewing window” and “configured to” limitations.

Finally, PO’s secondary-considerations arguments rest on a false premise that the Board found nexus. To the contrary, the Board expressly found none and properly accorded limited weight to alleged commercial success, fully explaining its reasoning and committing no error. PO’s Request should be denied in full.

II. ARGUMENTS

A. PO Shows No Board Error in the Thomason Analysis

1. The Board did not suggest modifying Thomason

PO's central premise—that the Board proposed a “modification” of Thomason and thus “was required to articulate *why* a POSITA would have modified Thomason to arrive at the [frame-by-frame] feature”—is incorrect. (Request, 3 (emphasis in the original); *see also id.* at 5.) The Board proposed no modification of Thomason. Instead, it relied on Thomason's express disclosures and what a POSITA would reasonably understand from those disclosures to conclude that Thomason teaches “frame-by-frame” processing. The FWD states:

A preponderance of the evidence also supports that Thomason suggests this adjustment on a frame-by-frame basis. Thomason teaches a camera for capturing image data that “may record either still images or moving images, in the latter case by capturing a sequence of items of image data 8 representing sequential frames of the moving image.” Ex. 1004 ¶ 27. Thomason then teaches that a *frame* may be cropped based upon rotation. *Id.* ¶ 36 (“Frame 40 represents the recorded image and frame 42 represents the image frame of the displayed image.”). ***By teaching that moving images have multiple frames and adjustment takes place at the level of a “frame,” Thomason reasonably suggests adjusting size on a frame-by-frame basis.*** Dr. Katsaggelos's testimony is credible in this regard. Ex. 1002 ¶¶ 122–128. Our determination in this regard is consistent with the ITC determination. Ex. 1027, 146–48.

(FWD, 37.¹) The Board’s analysis is straightforward and well within its discretion: Thomason teaches (1) cropping a *frame* based on a frame-specific rotation to correct it and (2) processing a video that has *multiple sequential frames*. From these disclosures, the Board correctly concluded that a POSITA would have understood that Thomason performs frame-by-frame operation to achieve its “rotation correction for video.” (FWD, 37-38; EX1004, Title.) The Board never suggested, much less “implicitly conceded,” that frame-by-frame processing is missing in Thomason. (Request, 2-3.)

The Board’s reasoning is not a modification analysis; it is textbook obviousness analysis based on the reference’s own teachings. “[I]n determining obviousness, all references are assessed on the basis of what they reasonably disclose and suggest to one skilled in the art.” *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1049 (Fed. Cir. 2019) (“a reference must be considered not only for what it expressly teaches, but also for what it fairly suggests”) (quotations and citations omitted); *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406, 418, 421 (2007) (an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would

¹ Emphases or annotations added unless indicated otherwise.

employ”); MPEP § 2144.01.

PO’s reliance on *DSS Technology Management, Inc. v. Apple, Inc.* is misplaced. 885 F.2d 1367 (Fed. Cir. 2018). There, a modification to the reference was proposed. *Id.* Here, by contrast, the Board drew a straightforward inference from Thomason’s express frame-based process. Because the Board did not modify Thomason’s operation, no motivation-to-modify analysis was required.

2. PO’s “one-time” correction theory was properly rejected by both the Board and the ITC

PO rehashes its twice-rejected argument that Thomason performs only “a one-time measurement that is used as a correction factor across all subsequent frames.” (Request, 4; *see also id.* at 2.) This “one-time” correction theory, according to PO, requires applying the *same* amount of horizon leveling correction to all image frames in Thomason’s video—even if individual frames are off-horizon by different amounts. (POR, 29-31, 45.)

Both the Board and the ITC rejected this “one-time” correction theory. (FWD, 37-38; Ex. 1027, 146–48.) As Petitioner had explained, this theory is contradicted by Thomason’s explicit disclosure that each image frame is rotated by a *frame-specific* rotation amount to achieve horizon leveling. (Reply, 8-11; Petition, 24-27, 37-39.) PO’s argument is based on its incorrect assumption that Thomason’s disclosures are limited to “a single accelerometer,” which PO alleges is “not suitable” for frame-by-frame processing. (POR, 31, 41-42.) Contrary to

PO's characterization, Thomason expressly discloses "a *plurality* of sensors . . . allow[ing] for image correction in a number of planes." (Reply, 10-11.) The Board correctly found PO's "single accelerometer" theory "unpersuasive" and "conclusory," and found that "Thomason suggest[s] that videos have multiple frames and that correction should happen *at the level of a frame*." (FWD, 38.)

PO now contends that the Board must "explain" why Thomason should be modified away from a supposed "one-time" correction. (Request, 4.) This is a strawman argument. The premise—that Thomason discloses a one-time correction—has already been rejected by both the Board and the ITC. Because Thomason does not disclose a one-time correction to begin with, the Board had nothing to "modify" and nothing further to explain.

3. PO's new "teaching away" argument is forfeited

For the first time in this IPR proceeding, PO asserts that Thomason has "teaching-away disclosure" and faults the Board for allegedly ignoring it. (Request, 4-5.) PO never raised any "teaching-away" argument about Thomason. (*See* POPR, POR, Sur-Reply.) This belated argument is thus forfeited. "The Director will *not* consider new evidence or new arguments not part of the official record." USPTO, Director Review Process, §3.E, <https://www.uspto.gov/patents/ptab/decisions/director-review-process> ("Director Review Process").

Regardless, the Board did not ignore FIG. 5, and that disclosure does not

support PO’s position. (FWD, 16-17.) Importantly, Petitioner relies on FIG. 3 for disclosing dynamic viewing window size determination, and it is undisputed that—under frame-by-frame processing—the size of the viewing window in FIG. 3 changes with rotation. (See Petition, 37 (“depending on the degree of rotation, more or less of the image would need to be cropped to obtain the viewing window showing horizon-leveled visual content”); POR, 27-32.) FIG. 5’s use of a circular sensor (as opposed to rectangular like FIG. 3’s) does not negate, contradict, or teach away from FIG. 3’s express disclosure of dynamic viewing window size determination. (Reply, 12-13; EX1019, ¶¶ 48-49; FWD, 36-38.)

4. PO again attempts to import “smoothing” into the claims

PO’s position about “smoothing” is contradictory and self-defeating. On the one hand, PO asserts that “[t]he ’832 patent addresses this [‘pumping’] problem by ‘smoothing’ the viewing windows.” (Request, 5.) On the other hand, PO expressly acknowledges—and does not dispute—the Board’s finding that “*the claims do not require ‘smoothing.’*” *Id.* Thus, by PO’s own concession, the claims do not address the purported “pumping” problem.

This is not the first time PO tried to graft “smoothing” onto the claims. It initially argued that the independent claims require smoothing in the POPR, then retreated to argue that dependent claims 8 and 18 require it in the POR. (POPR, 15-16; POR, 32-34.) The Board rejected both attempts. (DI, 19-20; FWD, 40.)

PO now repackages the same rejected theory by asserting that “smoothing” is nevertheless relevant to a purported motivation to modify. (Request, 5.) That argument fails twice over. First, it rests on a false premise: the Board did not propose modifying Thomason at all. (*Supra* § II.A.1.) Second, whatever problem the *patent* or *inventors* allegedly sought to address—unpredictable “pumping” or otherwise—is irrelevant to the Board’s analysis of whether Thomason discloses the claim elements. “[T]he law does not require that the references be combined for the reasons contemplated by the *inventor*.” *In re Khan*, 441 F.3d 977, 990 (Fed. Cir. 2006) (citing *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992)).

5. PO distorts Petitioner’s expert testimony and reasserts PO’s expert testimony the Board properly rejected

PO is wrong that Dr. Katsaggelos failed to address “frame-by-frame” processing for claims 7 and 17. (Request, 6.) Whether Thomason discloses “frame-by-frame” processing is an issue tied to *claim 1*, because it concerns the construction of the language “as a function of progress through the progress length” in claim 1. (*See, e.g.*, Petition, 27; EX1002, ¶ 86.) Thus, Dr. Katsaggelos extensively discussed Thomason’s frame-by-frame processing in the context of claim 1, where the issue properly arises, and the Board considered it there. (*Id.*; EX1019, ¶¶ 35-38; FWD, 32-33.)

Having established that Thomason operates on a frame-by-frame basis, Dr. Katsaggelos then explained how Thomason further discloses viewing-window

size-determination in claims 7 and 17. (*See, e.g.*, Petition, 37-39; EX1002, ¶¶ 118-122; EX1019, ¶¶ 47-48.) PO’s assertion that Dr. Katsaggelos never explained “dynamic per-frame size determination” is belied by the record.

PO complains that Dr. Katsaggelos did not address Thomason’s FIG. 5 for claims 7 and 17. (Request, 6.) But, as the FWD correctly points out, Petitioner and Dr. Katsaggelos relied on FIG. 3 for the size-determination recited in claims 7 and 17 and explained why. (FWD, 36-37; Petition, 37-39; EX1002, ¶¶ 118-122.) FIG. 5, as discussed above, does not undermine or teach away from FIG. 3’s express disclosure of dynamic sizing. (*Supra* § II.A.3.) PO’s reliance on *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) is misplaced. Dr. Katsaggelos’ testimony is not “repeat[ing], verbatim, the conclusory assertion for which it is offered to support.” (*Id.*; *see* EX1002, ¶¶ 118-122.) Nor was Dr. Katsaggelos required to address PO’s alleged “pumping” problem, which is not recited in the claims. (*Supra* § II.A.4.)

PO next complains that the Board “brushed [PO’s expert’s (Dr. Foroosh)] testimony aside as ‘conclusory.’” (Request, 7-8.) But Dr. Foroosh’s *ipse dixit* is devoid of any technical analysis or evidentiary support for his bald assertion that a “single-accelerometer” system is somehow “unsuitable” for per-frame processing. (Ex. 2021, ¶ 89; Request, 7.) The FWD correctly determined that his testimony is conclusory. (FWD, 38). What PO claimed to be Board’s “own unsupported

technical analysis” (Request, 7-8) is the Board’s critique that Dr. Foroosh’s “unsuitab[ility]” conclusion lacks logical or evidentiary connection. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (“Lack of factual support for expert opinion going to factual determinations . . . may render the testimony of little probative value in a validity determination.”).

PO’s Request does nothing more than repeating the same testimony the Board already found conclusory. (Request, 7-8.) That is not a basis for Director Review. Credibility determinations and the weighing of expert testimony are squarely within the Board’s discretion, and PO identifies no basis for disturbing them. *See Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (“[w]e defer to the Board’s findings concerning the credibility of expert witnesses . . . the Board was well within its discretion to give more credibility to Baura’s testimony over Causevic’s unless no reasonable trier of fact could have done so.”).

6. Petitioner relied on Thomason—Not Pacurariu—for size determination

PO merely rehashes its prior argument that Pacurariu allegedly does not disclose a frame-by-frame horizon-leveling system *with size determination* because it allegedly uses a fixed viewing window.² (Request, 8-9.) That argument

² PO does not dispute that Pacurariu discloses a frame-by-frame horizon-leveling system. (POR, 31-32; Sur-Reply, 1-7; Request, 8-9.)

is beside the point. Petitioner relies on Thomason—not Pacurariu—to disclose determination of viewing window size. (Petition, 37-39.) Whether Pacurariu independently discloses size determination is thus irrelevant. Thomason does, as shown in FIG. 3, where the amount of cropping—and thus the viewing-window size—varies with rotation on a frame-by-frame basis. (Petition, 37-39; Reply, 11-13.) The Board recognized this and properly concluded that the Thomason-Pacurariu combination discloses a per-frame horizon-leveling system with viewing window size determination (as disclosed by FIG. 3 of Thomason). (FWD, 38-39.)

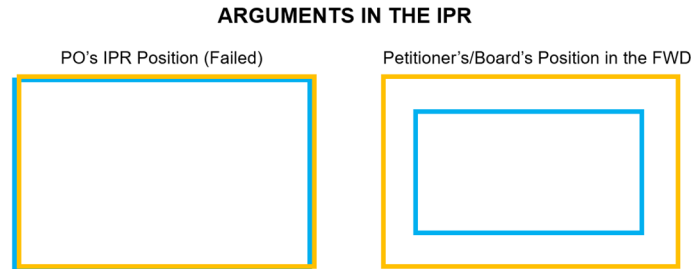
B. PO Shows No Board Error in the Voss Analysis

1. PO mischaracterizes the Board’s statement in the FWD regarding the claim scope

PO devotes substantial effort to abandoning its prior claim construction position related to the “viewing window” and the “horizon-leveled visual content” in claim 1, and instead appears to now adopt Petitioner’s construction to set up a strawman attack on a statement in the FWD. (Request, 9-11.) PO’s attempt to mischaracterize the Board’s statement in the FWD fails. (Request, 11-13.)

The parties dispute the relationship between the “*viewing window*” and the “*horizon-leveled visual content*.” (See, e.g., POR, 57-59; Reply, 1-2, 27-28.) To distinguish the claimed invention from Voss, PO argued that the two must *equate*. (POR, 57-59.) The Board correctly rejected that theory, holding—consistent with the plain language of claim 1—that the “*horizon-leveled visual content*” *includes*

the content defined by the “*viewing window*.” (See FWD, 53.) The illustration below summarizes the two positions:



The Board agreed with the Petitioner, stating that:

[PO's] argument does not persuasively undermine Petitioner's position. Claim 1 recites “the *horizon-leveled visual content including a punchout of the extents of the visual content defined by the viewing window*.” Ex. 1001, 28:59–61; *see also id.* at 30:12–15 (claim 11 reciting the same). Based on this language, we agree with Petitioner that the “viewing window” does not need to “equate” to the horizon-leveled visual content. Pet. Reply 1–2. *The preponderance of the evidence establishes that Voss teaches that its visual content [i.e., horizon-leveled visual content] includes what becomes a horizon-leveled punchout [i.e., viewing window].* *Id.* at 27 (citing, e.g., Ex. 1007, 10:17–21; Ex. 1019 ¶ 91).

(FWD, 53.)

In its Request, PO reverses course. (Request, 9-11.) PO now argues that “the *horizon-leveled visual content* must *include* everything within the *viewing window*.” (Request, 11.) That is precisely Petitioner's construction adopted by the Board. PO thus effectively concedes that the Board's construction is correct.

Unable to challenge the claim construction itself, PO mischaracterizes the Board’s discussion of Voss. The Board did not construe the “viewing window” as a region from which only a “subset” of content may be selected. (Request, 11-12.) To the contrary, it expressly found Voss’s inset rectangle “defines the *entire area* of content (the extent) that the final horizon-leveled visual content is drawn from[.]” (FWD, 53.) PO’s contention that “drawn from” necessarily implies subsetting makes no sense. (Request, 11-12.) The FWD makes clear that the system draws the “entire” area defined by the viewing window—not a “subset”—for inclusion in the *horizon-leveled visual content*.³ *Id.* Thus, the Board consistently held that the “*horizon-leveled visual content*” *includes* the content defined by the “*viewing window*,” exactly as claim 1 requires: “the *horizon-leveled visual content including a punchout of the extents of the visual content defined by the viewing window*.”

2. PO rehashes old arguments regarding the “configured to” claim language without identifying Board error

PO does not identify any legal or factual error in the Board’s analysis of the “configured to” limitation. (Request, 12-13.) Instead, it recycles arguments the

³ In the FWD statement, the Board uses the word “cropping” to mean “punchout” (See FWD, 53 (“... horizon-leveled punchout . . . Patent Owner does not dispute this cropping.”).)

Board already considered and rejected. (Sur-Reply, 17-21; FWD, 53.)

PO never disputed that Voss’ “pillar boxing” or “letter boxing” disclosure meets the claim 1’s limitation that “the horizon-leveled visual content including . . . the extents of the visual content defined by the viewing window.” (See Sur-Reply, 17-21.) Rather, PO argues that Voss performs “pillar boxing”/“letter boxing” only *sometimes*—because it allegedly “oscillate[s]” between two modes—but claim 1 requires it *always* be performed. (Request, 12-13.)

The Board has found that claim 1 does not impose an “always” requirement, and PO’s Request identifies no error in the Board’s analysis. PO’s sole basis for its “always” construction is claim 1’s boilerplate phrase “one or more physical processors configured by machine-readable instructions.” (See Sur-Reply, 17-21.) No caselaw supports this construction. (Petitioner’s Motion to Strike (Paper 45), 2-4.) Thus, the Board correctly rejected this construction, finding that “Voss suggests a processor that includes such instructions; these instructions only being executed in a certain mode [*i.e.*, not always executed)] does not affect whether or not the instructions meet the claim recitation.” (FWD, 53.) In the Request, PO recites two inapposite cases that the Petitioner has already rebutted and the Board has considered. (Request, 12-13; Sur-Reply, 20; Petitioner’s Motion to Strike, 3.)

C. PO Mischaracterizes the Board’s Secondary Considerations Findings

PO’s secondary consideration arguments collapse at the outset because they

rest on a false premise—that the Board “found” a nexus between the purported commercial success and the claimed horizon leveling feature. It did not.

First, PO misleadingly states that the Board found for the objective indicia of non-obviousness and then erred in “discount[ing]” it. (Request, 13.) In fact, the Board never found objective indicia of non-obviousness. (FWD, 64-65.) Rather, it expressly found that PO failed to establish nexus—a prerequisite to secondary considerations. (FWD, 62-65.) For objective evidence of secondary considerations to be accorded substantial weight, its proponent ***must establish a nexus*** between the evidence and the merits of the claimed invention.” *Wyers v. Master Lock Co.*, 616 F. 3d 1231,1246 (Fed. Cir. 2010). The very passage in the FWD PO relies on makes this clear: the Board acknowledged that the Horizon Leveling feature “is one feature among many in the HERO feature set, and a feature that is largely within the prior art.” (FWD, 64-65.) That finding forecloses any nexus as a matter of law. There can be no nexus “[w]here the offered secondary consideration actually results from something other than what is both claimed and *novel* in the claim.” *Novartis AG v. Torrent Pharms. Ltd.*, 853 F.3d 1316, 1330 (Fed. Cir. 2017). “If commercial success is due to *an element in the prior art*, no nexus exists.” (quotations and citation omitted). *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011).

Nor did the Board fail to weigh the evidence. The Board analyzed each of

the factors in detail and explained its finding: the purported commercial success stemmed from a product with numerous features, the Horizon Leveling feature is “largely within the prior art,” and “the state of the prior art . . . is well familiar with the general concept of horizon leveling.” (FWD, 64-65.) The purported commercial success is therefore not the “*direct* result of the *unique* characteristics of the claimed invention.” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373-74 (Fed. Cir. 2019); *see also* FWD, 62. This is not a case where the Board assigned “only vague weights . . . to the various factors.” *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1213 (Fed. Cir. 2023).

Finally, PO’s argument that its purported commercial success evidence is “compelling” is unsupported. (Request, 15.) Regardless, the Board examined the evidence and properly concluded that there is no nexus between such evidence and the claimed invention. (FWD, 64-65.) Such finding is consistent with the ITC’s finding that “GoPro does not present specific evidence linking the techniques of claims 7 and 8 with the commercial success and industry praise[.]” (EX1027, 151.) Notably, PO did not dispute the Board’s findings of no copying, no long-felt but unmet need, and no unexpected results/failure of others. PO identifies no error in the Board’s treatment of secondary considerations, and nothing warrants Director Review.

The Director should deny PO’s Request for Director Review.

Dated: January 12, 2026

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I hereby certify that the attached PETITIONER'S AUTHORIZED
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Dated: January 12, 2026

/s/ Alex S. Yap
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