

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.

Petitioner

v.

IMMERVISION, INC.

Patent Owner

Case IPR2023-00471

Patent No. 6,844,990

PATENT OWNER'S PRELIMINARY RESPONSE UNDER
37 C.F.R. § 42.107

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I. INTRODUCTION

The PTAB should deny the Petition pursuant to 35 U.S.C. § 325(d). Petitioner’s challenge to claims 2, 4, 27, 29, and 30 of U.S. Patent No. 6,844,990 (“the ‘990 Patent”) merely rehashed a reexamination that concluded nearly a decade ago, and Petitioner failed to present any justifiable reason for reconsideration.

Petitioner’s asserted ground against independent claim 27 (Baker in view of Shiota) used the *same* combination (1) Patent Owner submitted in its earlier reexamination request, (2) the examiner determined presented a substantial new question of patentability, and (3) over which the examiner specifically allowed claim 27. Despite this history, Petitioner attempted to cast its position as a new argument not previously considered. But that contention only relates to the first part of the PTAB’s *Advanced Bionics* framework¹ and is rendered moot by the examiner’s prior consideration of Baker and Shiota, which sufficiently satisfies the inquiry. Petitioner never addressed the second part of the framework – demonstrating material error by the examiner – and, therefore, never met its burden under § 325(d).

¹ *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*,

IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential)

Moreover, the record does not support a finding of error. The reexamination file contradicts Petitioner's theory that Patent Owner misdirected the examiner's attention by citing passages in Shiota less relevant to the claimed "size L of the obtained image" than paragraphs [0023]-[0026]. Patent Owner's reexamination request and the examiner's Office Action and Notice of Intent to Issue a Reexamination Certificate expressly referred to portions of Shiota within and around paragraphs [0023]-[0026], and there is no evidence the examiner ignored the subject disclosure.

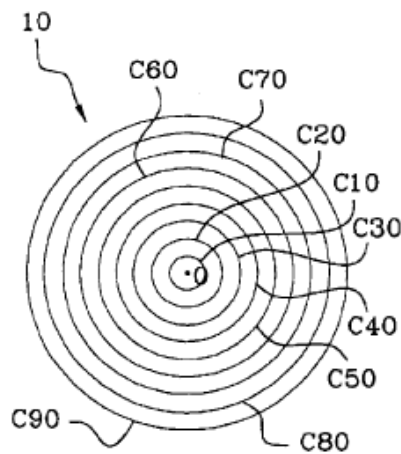
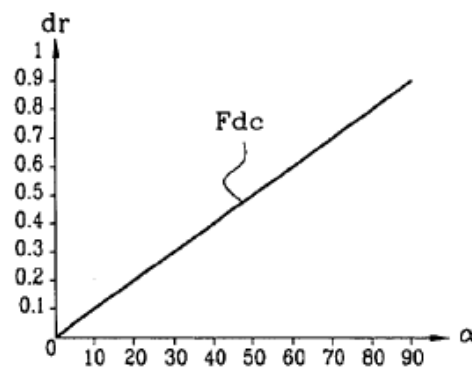
Petitioner's expert declaration provided no support either as it falls afoul of 37 C.F.R. § 42.65(a) and recent PTAB precedent. The expert purported to explain how a person of ordinary skill in the art ("POSA") would have understood language in these passages from Shiota to disclose the claimed "size L of the obtained image." But the expert provided only conclusory, unsupported statements that parroted the Petition without technical reasoning. The declaration cannot be accorded any weight and does not meet Petitioner's burden.

For at least these reasons, recited in further detail below, the Petition should be dismissed.

II. THE RELEVANT INVENTION OF THE '990 PATENT

The '990 Patent is directed to improvements in panoramic image capture and display. Ex. 1001 at 1:13-15. To avoid unpleasant distortions when displaying a

portion of the panoramic image to an observer, a camera's objective lens typically utilized an image point distribution function that was as linear as possible. *Id.* at 2:4-8. That is, an image point's (*e.g.*, b' in Fig. 5) relative distance (dr) from the image center should equal a field angle (*e.g.*, α_2 in Fig. 5) of the corresponding object point (*e.g.*, b in Fig. 5) multiplied by a constant (*e.g.*, $dr = Fdc(\alpha) = K \cdot \alpha$). *Id.* at 2:30-42. Figs. 4A and 4B of the '990 patent, reproduced below, neatly illustrate the concept:

**Fig. 4A****Fig. 4B**

The concentric circles in Fig. 4A represent image points that correspond to object points sharing a common field angle (in increments of 10°). *Id.* at 2:14-29. The plot in Fig. 4B shows the linearity of the function (Fdc), demonstrating that a ratio between field angles (α) of two object points in the panorama should be the same

as a ratio of relative distances (dr) of the corresponding image points from the image center.² *Id.* at 2:9-13.

The inventors of the '990 Patent recognized that this linear arrangement presents disadvantages when enlarging digital image portions for display. *Id.* at 3:1-9. The '990 Patent's solution includes providing an objective lens with a *non-linear* image point distribution function having a maximum divergence of at least $\pm 10\%$ compared to the linear function, such that the image has at least one substantially expanded zone and at least one substantially compressed zone. *Id.* at 4:11-21. The "maximum divergence" refers to the point on the image point distribution function plot that is farthest away from a corresponding point on the

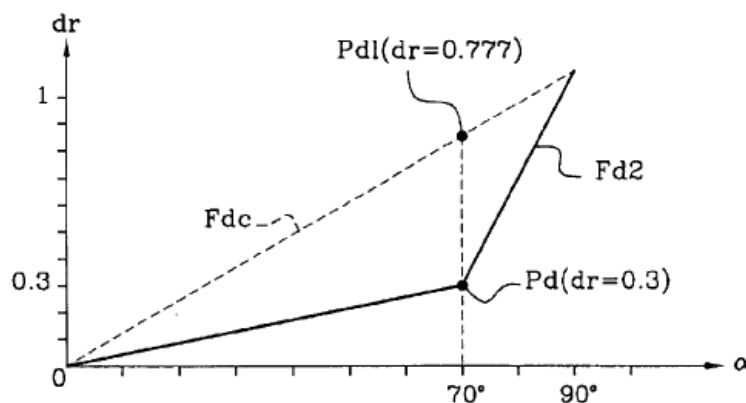


Fig. 8

linear distribution function plot. *Id.* at 8:44-67. This can be seen, for example, in Fig. 8 (reproduced at left), where the greatest relative distance between the image point

² For example, an object point at twice the field angle of another object point would have a corresponding image point located twice as far from center.

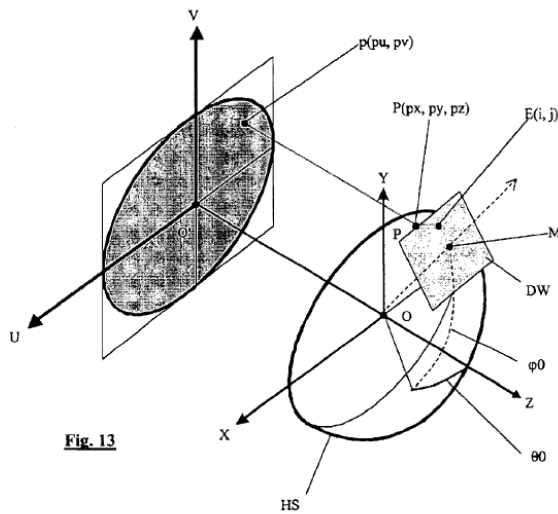
distribution function F_d2 and the linear distribution function F_{dc} is found between points P_d and P_{dl} . *Id.* at 9:36-52.

An image zone is “expanded” when it covers a greater number of pixels on an image sensor than it would with a linear distribution lens, meaning conversely that a “compressed” zone occupies fewer image sensor pixels. *Id.* at 3:66-4:10.

This can be graphically represented in the image point distribution plot – a slope of the distribution function that is greater than the slope of the linear distribution function indicates an expanded zone, while a lesser slope indicates a compressed zone. *Id.* at 9:13-35. This arrangement allows the expanded zone, which is anticipated to contain more useful portions of the image, to cover a greater number of pixels on the corresponding image sensor than if a linear distribution function were provided – at the expense of less useful image areas, which fall into the compressed zones and cover consequently fewer pixels. *Id.* at 3:43-4:10.

The claimed non-linear distribution function may introduce optical distortion into the image, which typically should be removed when the image is presented for display. *Id.* at 10:12-17. The ‘990 Patent provides several example methods for correcting the non-linearity. In the method recited by claim 27, the initially captured image, which may form an image disk, has a size L (in pixels). *Id.* at

13:48. In an example algorithm, image points $p(p_u, p_v)$ in a coordinate system having center O' can be obtained to correspond to display image points $E(i, j)$ of, for example, a display window, using equations that multiply, among other



things, the size of the image disk L with the non-linear distribution function F_d at an angle α . See e.g., *id.* at 12:66-14:35 (e.g., $p_u = L * U * F_d(\alpha)$ and $p_v = L * U * F_d(\alpha)$). Fig. 13 (reproduced above) visually represents an example of this type of image point mapping.

III. THE ASSERTED PRIOR ART

A. Baker

Baker relates to a video conferencing system with automatic, voice-directional image steering through electronic selection from a panoramic video scene. Ex. 1006 at 1:10-14. Baker references other types of non-multimedia applications (e.g., security, surveillance, unmanned exploration, etc.) as similarly employing hemispheric data, but which have “certain limitations in capturing and manipulating valuable information and hemispheric scenes in a rapid (i.e., real-time) and cost-effective manner.” *Id.* at 2:11-20.

Baker clarifies that in typical large field-of-view lenses, “the valuable content from the peripheral areas lacks in potential image quality (resolution) mapping because the imaging device and system does not differentiate between these areas and the central areas of less valuable detail,” meaning important “information of the horizon in the scene can be underutilized or worse yet, lost.” *Id.* at 3:60-64, 4:8-14. In the example of a video conference, a hemispheric lens is pointed at the ceiling, and participants will be seated around a table, captured by the edge of the lens’s field of view. *Id.* at 13:56-64. Compared to conventional wide angle lenses, which dedicate a large portion of the imaging surface to the central field, Baker’s lens “has a fairly significant portion of the imaging surface dedicated to the peripheral field,” which in Baker’s applications includes the more important subject matter to be imaged. *Id.* at 12:23-55.

Baker teaches a transform processor 22 that manipulates captured images for subsequent display on a screen or monitor. *Id.* at 6:5-12, 9:5-13. One of the functions of the transform processor 22 is to compensate for the distortion created by Baker’s lens arrangement emphasizing peripheral content. *Id.* at 6:12-17. The compensated image can then be viewed in a more traditional format. *Id.* However, Baker does not provide any details regarding specific corrections applied by the transform processor 22.

B. Shiota

Shiota is directed to an arithmetic unit that can be used to transform a fisheye image into a plane image for display. Ex. 1012 at ¶ [0001]. Conventional arithmetic units inevitably became expensive because of the need to execute difficult mathematical equations, including square roots, trigonometric functions, and the like. *Id.* at ¶ [0006]. In particular, Shiota aimed to provide an inexpensive arithmetic unit. *Id.* at ¶ [0007].

Shiota first obtains coordinates on a surface of a hemisphere (X, Y, Z) that are projected from a plane display image (u, v), then obtains corresponding coordinates in the fisheye image (p, q) projected from the hemisphere. *Id.* at ¶¶ [0008], [0022]-[0023]. The center of the plane display image coordinate system (u, v) is assumed to be a distance 1 apart from the original of the (X, Y, Z) coordinate system origin. *Id.* at ¶ [0022]. A coefficient k_1 , used to map coordinates from the hemispherical surface to the plane image in the (X, Y, Z) coordinate system, is stored in a lookup table for various distances L from the origin in the (u, v) coordinates. *Id.* at ¶¶ [0028]-[0032]. In the first step, calculation is limited to addition, subtraction, multiplication, and square root, while all other functions are obtained using a lookup table. *Id.* at ¶ [0042].

In the second step, Shiota may use the distribution function of the lens to compute a coefficient k_2 , which equals h (defined by the distribution function)

divided by distance r from the origin. *Id.* at ¶¶ [0036]-[0040]. The radius of the fisheye image is assumed as 1. *Id.* at ¶ [0023]. To reduce the complexity (and, therefore, expense) of the arithmetic unit, the second step involves only multiplication and the use of a lookup table to find k_2 . *Id.* at ¶ [0042]. Shiota mentions that “[a]t the time of actually (sic) use, magnification adjustment is performed” (*id.* at ¶ [0023]),³ but does not explain how the magnification adjustment is determined, implemented within the calculations or lookup tables, or otherwise utilized as part of the projection process. Nothing in Shiota describes the use of a size L in pixels of the obtained panoramic image to correct the non-linearity of the obtained image.

C. Fisher

Fisher relates to a lens design that distorts the field of view in such a way that objects in the center “occupy a disproportionately large area” and objects at the periphery “occupy a disproportionately small area.” Ex. 1009 at 2:19-26. At the time of Fisher’s invention, advanced television systems utilized an 875 line

³ Petitioner flags the “scale factor (zoom ratio) as the size of the plane image” in Shiota’s paragraph [0024] as being relevant to its argument (Petition at 51), but this refers to the scaling/zooming of the plane display image, not the size of the original image disk (Ex. 1012 at ¶¶ [0022], [0024]).

system and a bandwidth of 10.9 MHz, which allowed a field of view of 20° at one minute arc resolution. *Id.* at 1:37-42. This equipment was insufficient for 180° or similar fields of view. *Id.* at 1:30-42.

Recognizing that the human eye has one minute arc resolution only along the optical axis, Fisher sought to allow wide angle video transmission approaching 160° but reduce the required bandwidth by tailoring the final cast image resolution to resemble the optical characteristics of the eye. *Id.* at 1:52-2:3, 2:56-59, 4:35-5:21. Instead of using the traditional linear distribution function, Fisher's lens exhibits a variable function relationship approximating $H = \sin^{1/3}(\theta)$, in which objects centered on the optical axis cast a much larger image than those at the periphery. *Id.* at 2:60-3:20.

Fisher also discloses a viewing system including a projector at the observer location. *Id.* at 3:43-48. The projector projects the image onto a spherical screen. *Id.* at 4:1-4. The projector is fitted with a non-linear lens having identical distortion characteristics to the camera lens described above, but the lens is mounted in reverse to rectify the distortion caused by the camera lens. *Id.* at 3:48-53. With this mechanical correction, Fisher does not provide any algorithm or other processing for addressing distortion caused by the camera lens.

IV. PRIOR REEXAMINATION OF THE ‘990 PATENT

Patent Owner filed a reexamination request in 2014 asserting, *inter alia*, a substantial new question of patentability as to original claims 10-11 of the ‘990 Patent in view of the combination of Baker and Shiota. Ex. 1011 at 116-118, 226-237. The request also separately raised a substantial new question of patentability as to original claims 1-3, 6-7, 17-19, and 22-23 based on Fisher. *Id.* at 228. Fisher was cited in the original examination of the ‘990 Patent, but Baker and Shiota were not. *Id.* at 229-230.

The request described Shiota as disclosing an arithmetic unit for transforming a captured image into a plane image for display through projection mapping, and cited paragraphs including [0001], [0022], and [0028]-[0041]. *Id.* at 230-231. The detailed explanation of pertinency further cited paragraphs [0024], [0030]-[0035], [0037]-[0042], and [0049] in Shiota to explain how the reference disclosed correcting the non-linearity of an initial image using a non-linear distribution function. *Id.* at 117-118. Patent Owner simultaneously submitted an amendment to claim 10 to distinguish over the Baker-Shiota combination, as well as two other combinations (one of which also relied on Shiota). *Id.* at 248.

Patent Owner added new claim 27 in the same amendment. *Id.* at 242. Patent Owner distinguished the new claim over the cited references, including Shiota, at least because none used the size of the image disk to correct the image.

Id. at 249-250. Patent Owner also added claims 28-31, which depended on claim 27. *Id.* at 242. Patent Owner further amended original claims 2-4 and 15⁴ to depend from claim 27. *Id.* at 239-240.

The examiner granted the reexamination request. *Id.* at 283. In the subsequent Office action, the examiner found amended claim 10 patentable and deemed claim 27 (and its dependent claims) to contain patentable subject matter. *Id.* at 322. The examiner acknowledged Shiota's teaching of "correcting the non-linearity of an image captured by a lens" and cited paragraphs [0001], [0022], and [0028]-[0041] in support. *Id.* at 323. The examiner remarked:

the prior art of record, including ... ***Baker*** ... ***Fisher***, ***Shiota*** ... does not specifically disclose or fairly teach a method for capturing a digital panoramic image or a panoramic objective lens including all of the elements, steps, and limitations recited in claims 2-4, 10, 11, 15, 16, and 27-47 (including all of the limitations of any respective parent claims), particularly including

...

displaying the obtained panoramic image by correcting the non-linearity of the initial image, performed by retrieving image points on the obtained image in a

⁴ The reexamination request also applied Baker and Shiota, in combination with a third reference, against claim 15. Ex. 1011 at 232.

coordinate system of center O' using at least the non-linear distribution function and *a size L of the obtained image* (e.g., claims 2-4, 15, 16, and 27-31)

Id. (emphasis added). The examiner reiterated these conclusions in the Notice of Intent to Issue *Ex Parte* Reexamination Certificate. *Id.* at 343.

V. PERSON OF ORDINARY SKILL IN THE ART

Solely for purposes of this Preliminary Response, Patent Owner does not object to Petitioner's definition of a POSA. Patent Owner reserves the right to assert an alternative definition for a POSA in this or another proceeding involving the '990 Patent, where appropriate.

VI. CLAIM CONSTRUCTION

While not necessarily agreeing with Petitioner's proposed constructions (or lack thereof) for certain claim terms, *solely* for purposes of this Preliminary Response, Patent Owner does not object to the constructions proposed by Petitioner. Patent Owner reserves the right to assert alternative constructions for relevant claim terms in this or another proceeding involving the '990 Patent, where appropriate.

VII. THE PTAB SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION UNDER § 325(d)

Petitioner asserted independent claim 27 of the ‘990 Patent is obvious over Baker and Shiota⁵ – a reference combination the examiner considered during reexamination. Petitioner misapplied the established framework for analyzing prior art previously before the Office and failed to demonstrate the material error necessary to warrant reconsideration of the prior art. The PTAB should exercise its discretion and reject the Petition because “the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d).

A. Legal Standard

The PTAB uses the following two-part framework to determine whether to exercise its discretion to deny institution of an *inter partes* review under § 325(d):

- (1) whether the same or substantially the same art previously was presented to the Office *or* whether the same or substantially the same arguments previously were presented to the Office; and

⁵ The Petition also implicated dependent claims 2, 4, 29, and 30 under the same combination or with the addition of Fisher. Petition at 1. However, Petitioner confined its argument under § 325(d) exclusively to independent claim 27. *Id.* at 79.

(2) if ***either condition*** of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims

Advanced Bionics, IPR2019-01469, Paper 6 at 8 (emphasis added).

In the first part of the framework, the PTAB considers the following non-exclusive factors from *Becton, Dickinson*:⁶ (a) similarities and differences between the asserted art and art involved during examination; (b) the cumulative nature of the asserted art and the prior art involved during examination; and (d) the extent of overlap between arguments made during examination and the manner in which the Petitioner relies on the prior art or Patent Owner distinguishes the prior art. *Id.* at 9-10. For the second part of the framework, the PTAB considers the remaining *Becton, Dickinson* factors: (c) the extent the asserted art was evaluated during examination, including whether it formed the basis for rejection; (e) whether Petitioner sufficiently pointed out how the examiner erred in evaluating the art; and (f) the extent additional evidence and facts present in the Petition warrant reconsideration of the art or arguments. *Id.* Petitioner bears the burden of showing

⁶ *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph).

the examiner erred. *See e.g., Nespresso USA, Inc. v. K-Fee System GmbH*, IPR2021-01222, Paper 9 at 26 (PTAB Jan. 18, 2022).

B. Petitioner Does Not Meet Its Burden Under *Advanced Bionics* Due to Irrelevant Arguments and a Failure to Properly Support a Finding of Error by the Office

Despite *Advanced Bionics* setting out a two-part framework, Petitioner opted to rest its case for avoiding discretionary denial entirely on the first part. Petitioner spent all six pages of its § 325(d) analysis portraying the Petition as advancing new arguments not previously considered by the Office. This effort is wasted since one need only find the art is the same, which it is in this case, to move to the second part of the framework. Petitioner relied on the exact same references considered by the examiner during reexamination, mooted its whole § 325(d) argument. Consequently, Petitioner failed to address part two – demonstrating material error by the Office – despite its burden prove this element. But even if such an argument could be extracted from the Petition, any assertion of error is insufficient because the Petition ignored portions of the record and depended on expert testimony that is entitled to little weight due to its conclusory and unsupported nature.

1. Petitioner Admitted Part One of the *Advanced Bionics* Framework is Met

There is no dispute that Ground 1 relies on a two reference combination (Baker with Shiota) the examiner expressly considered during reexamination. *See*

Section IV, above; Petition at 73 (Petitioner admitted “these references were relied upon during the ’990 Patent’s reexamination”). This fact alone is sufficient to satisfy the first part of the *Advanced Bionics* framework. *See Advanced Bionics*, Paper 6 at 20.

Petitioner’s attempt to avoid discretionary denial relied exclusively on whether the Petition presents new arguments (Petition at 73-79) – which is irrelevant in view of the admission above. Once the PTAB determines a petition implicates the identical, previously considered prior art, “the first condition of the first part of the framework is satisfied, and we need not reach whether ‘same or substantially the same arguments’ previously were presented to the Office.” *Advanced Bionics*, Paper 6 at 20; *see also Nespresso*, Paper 9 at 11 (“Where *either* the prior art references advanced *or* the arguments raised in a petition previously were presented to the Office, the inquiry shifts to whether the petitioner establishes a material error” (emphasis original) (citing *Advanced Bionics*)).

2. Petitioner Did Not Demonstrate the Office Erred in the Reexamination

The burden falls on Petitioner to demonstrate material error by the Office once identity of the prior art is established. *Advanced Bionics*, Paper 6 at 8. As explained above, Petitioner made no attempt to show material error by the Office other than the bare allegation that “[h]ad this evidence been properly put forth and considered by the Office, the Office would not have reached its erroneous finding

of patentability of claim 27,” instead focusing entirely on the first prong of the *Advanced Bionics* framework. Petition at 78. Petitioner does not meet its burden on this record. To the extent any of Petitioner’s arguments may, nevertheless, be deemed relevant to the second part of the framework, Petitioner still failed to meet its burden to show error.

a. The Examiner’s Prior Consideration of Baker and Shiota is Well Developed

Patent Owner presented the exact combination of Baker and Shiota to the examiner in the reexamination request in connection with multiple original claims in the ‘990 Patent. Ex. 1011 at 116-118, 226-237. The examiner found the combination raised a substantial new question of patentability and granted the reexamination, at least in part, on that basis. *Id.* at 283, 289-290. Patent Owner amended certain claims, and the examiner expressly considered whether those amendments overcame Baker and Shiota. *Id.* at 248, 322-323.

Moreover, Patent Owner added claim 27 during the reexamination process and presented arguments to distinguish the claim over, *inter alia*, Baker and Shiota. *Id.* at 242, 249-250. The examiner *twice* remarked on Baker and Shiota in finding claim 27 contained patentable subject matter, which included the feature at issue: correcting the non-linearity using a size L of the obtained image. *Id.* at 322-323, 343. “This is not a case where the prior art was simply listed in an IDS during prosecution.” *Becton, Dickinson*, Paper 8 at 23. The record demonstrates that the

examiner thoroughly evaluated the Baker and Shiota reference combination, and specifically considered Baker and Shiota with respect to claim 27.

b. Petitioner's Allegation of Error is Unsupported and its Expert Testimony is Entitled to No Weight

The sole alleged error that can be gleaned from the Petition is a supposed failure by the examiner to consider Shiota's paragraph [0023], and to a lesser extent, paragraphs [0024]-[0026]. Petition at 77-78. Petitioner accused Patent Owner of leading the examiner away from these passages through citation to supposedly less relevant paragraphs later in the reference. *Id.*

First, Petitioner cited no authority holding an examiner is only deemed to have considered portions of a reference cited by others. Second, the record demonstrates the examiner fully evaluated Shiota. For example, when describing the patentable subject matter in claim 27, the examiner cited to Shiota's paragraphs [0001], [0022], and [0028]-[0041]. Ex. 1011 at 323. In the detailed explanation of pertinency, Patent Owner highlighted Shiota's paragraphs [0024], [0030]-[0035], [0037]-[0042], and [0049]. Ex. 1011 at 117-118. The examiner cited and/or was directed to paragraphs in Shiota immediately surrounding and including portions of the description Petitioner alleges are relevant. There is no evidence the examiner skipped over the identified paragraphs in Shiota, particularly when the description around it was explicitly under review for the feature at issue here (size L of the obtained image as a factor in correcting non-linearity).

Petitioner also suggested that the examiner lacked an explanation “from the vantage of a POSITA” for the “pertinent teachings in Shiota,” which its expert allegedly provided in paragraphs 205-207 from his declaration. Petition at 74, 77-78. However, these passages from Dr. Kessler’s declaration are a nearly *verbatim* copy of argument from the Petition. *Compare* Ex. 1003 at ¶¶ 205-207 with Petition at 50-52. Dr. Kessler (and the Petition) merely repeated language from Shiota’s paragraph [0023] and made the conclusory assertion that a POSA would have understood “magnification adjustment” to refer to the size L of the image. Ex. 1003 at ¶ 205. Dr. Kessler cited no other evidence in support of his conclusion, nor did he provide any technical reasoning. *Id.*

“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.” 37 C.F.R. § 42.65(a). Where an expert’s declaration “merely repeats, *verbatim*, the conclusory assertion for which it is offered to support,” it is entitled to little weight. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential). Such conclusory and unsupported declarations have previously been found insufficient to demonstrate examiner error. *See e.g., Becton, Dickinson*, Paper 8 at 28 (“[The expert’s] declaration does not provide persuasive facts, data, or analysis to support the stated opinion. Without such testimony, we are not persuaded that the mere existence of the elements in the prior art warrants

reconsideration of the prior art and arguments presented earlier to the Office”); *Autel Intelligent Tech. Corp., Ltd. v. Orange Elec. Co., Ltd.*, IPR2021-01545, Paper 8 at 26-27 (PTAB Apr. 8, 2022) (finding no additional evidence warranting reconsideration of the prior art where “when opining the [reference’s] disclosure ‘would require’ certain things, [the expert] does not cite any objective support that would give his testimony persuasive weight”); *Nespresso*, Paper 9 at 26 (expert testimony “is undeveloped by further analysis and, therefore, is ineffective to show that the Examiner materially erred by failing to discuss the same prior art combinations advanced in the Petition, or that ‘additional evidence and facts presented in the Petition warrant reconsideration of the prior art’”). Petitioner’s conclusory argument that Shiota teaches correcting the non-linearity of an image using the size L of the obtained image fails to demonstrate the Office erred.

On this record, the PTAB should exercise its discretion under § 325(d) and decline to institute review of the ‘990 Patent.

VIII. PETITIONER VIOLATED THE WORD COUNT FOR THE PETITION

37 C.F.R. § 42.24(a)(1) limits a petition for *inter partes* review to 14,000 words. Petitioner certified to a word count of 13,886. However, the Petitioner used improper formatting to obtain that word count, which in reality is approximately 400 words over the limit.

Petitioner adopted an irregular exhibit citation format such as “APPLE-1001” instead of “Ex. 1001” or “Exhibit 1001,” thereby omitting a space to undercount each citation as one word instead of two. *See e.g.*, Petition at 5. Petitioner similarly omitted spaces between paragraph and section symbols and numbers – *e.g.*, “¶86” instead of “¶ 86” (*see e.g.*, Petition at 9) or “§112” instead of “§ 112” (*see e.g.*, Petition at 4). The gamesmanship is confirmed by reviewing Section VIII (“Mandatory Notices”) of the Petition. There, in a portion not considered for the word count (37 C.F.R. § 42.24(a)(1) (excluding mandatory notices from limit)), Petitioner properly utilized a space between the section symbol and the number. *See* Petition at 79.

The following table estimates the number of words omitted by Petitioner’s improper formatting, demonstrating the Petition’s word count is nearly 400 words over the limit, at least:

Improper Formatting	Estimated Number of Omitted Words
Use of “APPLE-” instead of “Ex.” or similar (excluding Exhibit List)	341
No space between ¶ and numeral	128
No space between § and numeral	38
TOTAL (estimated)	507

Such formatting irregularities to reduce word count have previously been found improper. *See e.g., Nvidia Corp. v. Polaris Innovations Ltd.*, IPR2017-01781, Paper 9 at 6-7 (PTAB Jan. 9, 2018) (cautioning petitioner to use ordinary

spacing in phrases and citations or risk sanctions); *EMC Corp. v. Intellectual Ventures I LLC*, IPR2017-00429, Paper 11 at 27-29 (PTAB July 5, 2017) (warning Petitioner against similar formatting tricks to reduce word count); *see also* Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019) at 40 (“deleting spacing between words, or using excessive acronyms or abbreviations for word phrases, in order to circumvent the rules on word count, may lead to a party’s brief not being considered”). Patent Owner therefore respectfully requests the PTAB grant Patent Owner any relief deemed appropriate for Petitioner’s rules violation.

IX. CONCLUSION

For at least the reasons recited above, Patent Owner requests that the PTAB deny institution of the Petition.

Date: April 13, 2023

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. §§ 42.24(a)(1)(i), 42.24(b)(1), and 42.24(d), the undersigned certifies that, according to the “Word Count” tool in Microsoft Word, which was used to prepare this paper, the number of words in this Patent Owner’s Preliminary Response Under 37 C.F.R. § 42.107 is 4,770.

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CERTIFICATE OF SERVICE UNDER 37 CFR § 42.6(e)

I hereby certify that a true copy of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 CFR § 42.107 has been served in its entirety this 13th day of April 2023, by electronic mail on Petitioner's lead and back-up counsel, as follows:

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