

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

138 EAST LCD ADVANCEMENTS LIMITED,
Patent Owner.

Case No. IPR2024-00958
U.S. Patent No. 8,482,638

**PATENT OWNER'S REVISED NON-CONTINGENT MOTION TO
AMEND**

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I. INTRODUCTION

Patent Owner 138 East LCD Advancements Limited respectfully moves under 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121 to amend U.S. Pat. No. 8,482,638 (“the ’638 patent”) (EX. 1001). The ’638 patent is not presently involved in any pending district court or administrative matters. As such, Patent Owner is mindful of the finite resources of the Board and wishes to efficiently reach conclusion of this trial. Patent Owner files this Revised Motion to Amend in response to Petitioner Google LLC’s Opposition to Patent Owner’s Non-Contingent Motion to Amend (Paper 19) (the “Opposition”) and the Board’s Preliminary Guidance (Paper 21) (the “Preliminary Guidance”).

Patent Owner respectfully submits that this non-contingent motion and the proposed substitute claims discussed herein meet all of the requirements of 37 C.F.R. § 42.121. On March 21, 2025, Patent Owner conferred with the Board prior to filing this motion, as required by 37 C.F.R. § 42.121(a). Further, this motion comports with the guidelines set forth in *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 (P.T.A.B. Feb 25, 2019) (precedential). Specifically, as set forth herein, Patent Owner establishes (1) there is a reasonable number of proposed substitute claims, (2) the proposed substitute claims do not enlarge the scope of the claims of the ’638 patent or introduce new subject matter, (3) the proposed amendments respond to a ground of unpatentability involved in the trial,

and (4) the attached claim listing shows clearly the changes in the proposed substitute claims with respect to the original patent. *Id.* at 4-8.

Patent Owner respectfully requests the Board grant this motion, cancel claims 1-6, and substitute claims 7-12. *See* Appendix A.

II. PATENT OWNER PRESENTS A REASONABLE NUMBER OF SUBSTITUTE CLAIMS.

In this trial, there are five challenged claims. *See* Paper 1 at 1.¹ With this non-contingent motion, Patent Owner requests cancellation of six claims and substitution of six claims, which is presumed to be reasonable. *Lectrosonics*, Paper 15 at 4; 37 C.F.R. § 42.121(a)(3).

III. THE REVISED CLAIMS DO NOT ENLARGE THE SCOPE OF THE '638 PATENT.

“A substitute claim will meet the requirements of § 42.121(a)(2)(i) and (ii) if it narrows the scope of at least one claim of the patent, for example, the challenged claim it replaces, in a way that is responsive to a ground of unpatentability involved in the trial.” *Lectrosonics*, Paper 15 at 6-7. “In addition, a proposed

¹ Petitioner Google LLC did not challenge claim 3 of the '638 patent. Claim 3, however, is a dependent claim that depends from claim 1. Accordingly, any substitute claim submitted for claim 1 necessarily impacts claim 3. Patent Owner therefore submits a substitute claim for claim 3 as well.

substitute claim adding a novel and nonobvious feature or combination to avoid the prior art in an instituted ground of unpatentability will not enlarge the scope of the claims of the patent.” *Id.* at 7.

As explained in detail below (*infra*, Section V), the proposed substitute claims add novel and nonobvious features to independent claim 1 to narrow the scope of that claim in a way that is responsive to a ground of unpatentability, responsive to the Preliminary Guidance, responsive to the Opposition, and avoids the prior art. Specifically, substitute claim 7 replaces issued claim 1 and amends the “composite image generating unit” to add the novel and nonobvious features that the composite generating unit is configured to “determine a cutout region in the sub-image, cut out a partial image from the cutout region, magnify at the level of magnification at least one of the main image and the sub-image, and generate a composite image by superimposing the partial image on the main image by mixing pixel values of the partial image with pixel values of the main image.” Appendix A at 1. These additions add to the independent claim features similar to those that were previously included in issued dependent claim 4 as well as additional features not previously explicitly recited in the claims. The proposed substitute dependent claims are amended to recite their correct dependency. The proposed substitute dependent claims therefore include only the narrowing amendments that are responsive to a ground of unpatentability involved in the trial.

IV. WRITTEN DESCRIPTION SUPPORT EXISTS FOR EACH PROPOSED SUBSTITUTE CLAIM.

“[T]he Board requires that a motion to amend set forth written description support in the originally filed disclosure of the subject patent for each proposed substitute claim[.]” *Lectrosonics* Paper 15 at 7 (citing See 37 C.F.R. §§ 42.121(b)(1), 42.121(b)(2)). The ’638 patent issued from non-provisional Patent App. No. 12/976,048 filed December 22, 2010. (EX. 1002 at 25-57) and claims priority to Japanese Patent App. No. 2009-295202 filed December 25, 2009. (EX. 2002).² Patent Owner respectfully submits that the substitute claims are entitled to the earliest claimed priority date of December 25, 2009.

Claim Element	Written Description Support
7. (Proposed substitute for issued ³ claim 1) A digital camera having a focusing function and a focal length	<u>U.S. App. No. 12/976,048</u> : EX1002 ⁴ at 25 (¶¶2, 4); <i>id</i> at 26 (¶7); <i>id</i> at 27-30 (¶¶21-28); <i>id</i> . at 33 (¶31); <i>id</i> . at 35 (¶34); <i>id</i> . at 37 (¶37); <i>id</i> . at 40 (¶49);

² Citations herein to Japanese Patent App. No. 2009-295202 are to the certified English translation, previously submitted as EX2001.

³ For clarity, Patent Owner refers to the issued claims of the ’638 patent as “issued claims” and the claims filed with the priority applications as “original claims.”

⁴ Citations are to the page numbers of the file history of the ’638 patent (EX1002), with parentheticals providing pin citations to the paragraphs providing the relevant written description support.

Claim Element	Written Description Support
varying function of a main lens, the digital camera comprising:	<p><i>id.</i> at 44 (original claim 1 preamble); <i>id.</i> at 46 (Abstract); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 48 (Figs. 2, 3); <i>id.</i> at 51 (Fig. 6).</p> <p><u>JP App. No. 2009-295202</u>: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶¶2, 4, 6, 7); <i>id.</i> at 3 (¶¶ 8-10); <i>id.</i> at 5-6 (¶¶15-17); <i>id.</i> at 6-7 (¶21); <i>id.</i> at 7-8 (¶¶25-26); <i>id.</i> at 10 (¶29); <i>id.</i> at 11-12 (¶¶31-32); <i>id.</i> at 12 (¶34); <i>id.</i> at 13 (¶42); <i>id.</i> at 15 (original claim 1 preamble); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 18 (Figs. 2, 3); <i>id.</i> at 22 (Fig. 6).</p>
a main imaging unit configured to generate a main image by performing a photoelectric conversion from a subject obtained via the main lens;	<p><u>U.S. App. No. 12/976,048</u>: EX1002 at 26 (¶7); <i>id.</i> at 27 (¶¶21-22); <i>id.</i> at 28 (¶24); <i>id.</i> at 29 (¶25); <i>id.</i> at 33 (¶31); <i>id.</i> at 37 (¶37); <i>id.</i> at 44 (original claim 1); <i>id.</i> at 46 (Abstract); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 51 (Fig. 6); <i>id.</i> at 52 (Fig. 7).</p> <p><u>JP App. No. 2009-295202</u>: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶7); <i>id.</i> at 4 (¶11); <i>id.</i> at 6 (¶19); <i>id.</i> at 9 (¶26); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 21 (Fig. 6); <i>id.</i> at 22 (Fig. 7).</p>
a sub-imaging unit configured to generate a sub-image by performing a photoelectric conversion from the subject obtained via a sub-lens;	<p><u>U.S. App. No. 12/976,048</u>: EX1002 at 26 (¶7); <i>id.</i> at 27 (¶21); <i>id.</i> at 28 (¶24); <i>id.</i> at 29 (¶25); <i>id.</i> at 33 (¶31); <i>id.</i> at 37 (¶37); <i>id.</i> at 44 (original claim 1); <i>id.</i> at 46 (Abstract); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 51 (Fig. 6); <i>id.</i> at 52 (Fig. 7).</p> <p><u>JP App. No. 2009-295202</u>: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶7); <i>id.</i> at 6 (¶19); <i>id.</i> at 9 (¶26); (Fig. 1); <i>id.</i> at 21 (Fig. 6); <i>id.</i> at 22 (Fig. 7).</p>

Claim Element	Written Description Support
a focal length acquiring unit configured to acquire the focal length of the main lens;	<p>U.S. App. No. 12/976,048: EX1002 at 26 (¶7); <i>id.</i> at 29-30 (¶27); <i>id.</i> at 32-33 (¶¶30-31); <i>id.</i> at 35 (¶34); <i>id.</i> at 36-39 (¶¶36-40); <i>id.</i> at 40 (¶47); <i>id.</i> at 41-42 (¶54); <i>id.</i> at 44 (original claim 1); <i>id.</i> at 46 (Abstract); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 52 (Fig. 7).</p> <p>JP App. No. 2009-295202: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶¶2, 4, 6, 7); <i>id.</i> at 3 (¶¶ 8-10); <i>id.</i> at 5-6 (¶¶15-17); <i>id.</i> at 6-7 (¶21); <i>id.</i> at 7-8 (¶¶25-26); <i>id.</i> at 10 (¶29); <i>id.</i> at 11-12 (¶¶31-32); <i>id.</i> at 12 (¶34); <i>id.</i> at 13 (¶42); <i>id.</i> at 15 (original claim 1 preamble); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 22 (Fig. 7).</p>
a magnification setting unit configured to set a level of magnification on the basis of the focal length;	<p>U.S. App. No. 12/976,048: EX1002 at 26 (¶7); <i>id.</i> at 30 (¶28); <i>id.</i> at 32-39 (¶¶30-41); <i>id.</i> at 44 (original claim 1); <i>id.</i> at 46 (Abstract); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 51 (Fig. 6); <i>id.</i> at 52 (Fig. 7).</p> <p>JP App. No. 2009-295202: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶7); <i>id.</i> at 3 (¶9); <i>id.</i> at 4 (¶11); <i>id.</i> at 7 (¶22); <i>id.</i> at 8-9 (¶25); <i>id.</i> at 9 (¶¶26-27); <i>id.</i> at 10-11 (¶¶30-31); <i>id.</i> at 12 (¶34); <i>id.</i> at 15 (original claim 1); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 22 (Fig. 6); <i>id.</i> at 22 (Fig. 7); <i>id.</i> at 23 (Fig. 8); <i>id.</i> at 24 (Fig. 9); <i>id.</i> at 25 (Fig. 10).</p>
a composite image generating unit configured to <u>determine a cutout region in the sub-image, cut out a partial image from the cutout region, magnify at the level of magnification at least</u>	<p>U.S. App. No. 12/976,048: EX1002 at 26 (¶¶5, 7); <i>id.</i> at 29 (¶25); <i>id.</i> at 30 (¶¶28); <i>id.</i> at 31-35 (¶¶29-33); <i>id.</i> at 44 (original claim 1); <i>id.</i> at 45 (original claim 5); <i>id.</i> at 46 (Abstract); <i>id.</i> at 47</p>

Claim Element	Written Description Support
<p><u>one of the main image and the sub-image, and generate a composite image by [combining] superimposing the partial image on the main image[and the sub-image] by mixing pixel values of the partial image with pixel values of the main image,</u> <u>wherein the generation of the composite image occurs</u> after at least one of the main image and the sub-image is magnified at the level of magnification;</p>	<p>(Fig. 1); <i>id.</i> at 52 (Fig. 7); <i>id.</i> at 53 (Fig. 8).</p> <p><u>JP App. No. 2009-295202</u>: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶¶5, 7); <i>id.</i> at 3 (¶¶8-10); <i>id.</i> at 3-4 (¶¶11-12); <i>id.</i> at 6 (¶19); <i>id.</i> at 7-10 (¶¶22-28); <i>id.</i> at 11-12 (¶32); <i>id.</i> at 12 (¶34); <i>id.</i> at 12-13 (¶36); <i>id.</i> at 13 (¶¶40-41); <i>id.</i> at 14 (¶¶45-46); <i>id.</i> at 15 (original claims 1 and 5); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 20 (Fig. 5); <i>id.</i> at 21 (Fig. 6); <i>id.</i> at 22 (Fig. 7); <i>id.</i> at 23 (Fig. 8); <i>id.</i> at 24 (Fig. 9).</p>
<p>an image display unit configured to display the composite image; and</p>	<p><u>U.S. App. No. 12/976,048</u>: EX1002 at 26 (¶7); <i>id.</i> at 27 (¶21); <i>id.</i> at 29 (¶¶25-26); <i>id.</i> at 34 (¶33); <i>id.</i> at 44 (original claim 1); <i>id.</i> at 46 (Abstract); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 48 (Fig. 3); <i>id.</i> at 52 (Fig. 7); <i>id.</i> at 54 (Fig. 9).</p> <p><u>JP App. No. 2009-295202</u>: EX2001 at 1 (Abstract); <i>id.</i> at 2-3 (¶¶7-8); <i>id.</i> at 3-4 (¶11); <i>id.</i> at 5 (¶15); <i>id.</i> at 6 (¶¶19-20); <i>id.</i> at 9 (¶28); <i>id.</i> at 10 (¶30); <i>id.</i> at 12 (¶35); <i>id.</i> at 13 (¶38); <i>id.</i> at 15 (original claim 1); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 18 (Figs. 2, 3); <i>id.</i> at 22 (Fig. 7); <i>id.</i> at 23 (Fig. 8); <i>id.</i> at 24 (Fig. 9).</p>
<p>wherein the magnification setting unit is configured to set the level of the magnification in order to match substantially a size of the main image and a size of the sub-image.</p>	<p><u>U.S. App. No. 12/976,048</u>: EX1002 at 32 (¶30); <i>id.</i> at 44 (original claim 2); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 51-54 (Figs. 6-8).</p> <p><u>JP App. No. 2009-295202</u>: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶7); <i>id.</i> at 3 (¶9); <i>id.</i> at 4 (¶11); <i>id.</i> at 6 (¶19); <i>id.</i> at 7</p>

Claim Element	Written Description Support
	(¶22); <i>id.</i> at 8-9 (¶25); <i>id.</i> at 9 (¶¶26-27); <i>id.</i> at 10-11 (¶¶30-31); <i>id.</i> at 12 (¶34); <i>id.</i> at 15 (original claim 1); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 22 (Fig. 6); <i>id.</i> at 22 (Fig. 7); <i>id.</i> at 23 (Fig. 8); <i>id.</i> at 24 (Fig. 9); <i>id.</i> at 25 (Fig. 10).
8. (Proposed Substitute for issued claim 2) The digital camera according to claim [1]7, wherein the sub-lens is a pan-focus lens.	<u>U.S. App. No. 12/976,048</u> : EX1002 at 28 (¶24); <i>id.</i> at 44 (original claim 3). <u>JP App. No. 2009-295202</u> : EX2001 at 3 (¶9); <i>id.</i> at 6 (¶18); <i>id.</i> at 15 (original claim 3).
9. (Proposed substitute for issued claim 3) The digital camera according to claim [1]7, wherein the magnification setting unit is configured to set the level of the magnification in a correction mode in which a predetermined magnification rule applies in setting the level of the magnification, and	<u>U.S. App. No. 12/976,048</u> : EX1002 at 30 (¶27); <i>id.</i> at 35-36 (¶34); <i>id.</i> at 39 (¶41); <i>id.</i> at 44 (original claim 4); <i>id.</i> at 55 (Fig. 10); <i>id.</i> at 56 (Fig. 11). <u>JP App. No. 2009-295202</u> : EX2001 at 3 (¶9); <i>id.</i> at 6-7 (¶21); <i>id.</i> at 7 (¶22); <i>id.</i> at 10-12 (¶¶29-34); <i>id.</i> at 12 (¶36); <i>id.</i> at 15 (original claim 4); <i>id.</i> at 25 (Fig. 10); <i>id.</i> at 26 (Fig. 11).
the digital camera further includes an instruction receiving unit configured to receive an instruction to change the level of the magnification such that difference between the size of the main image and the size of the sub-image in the composite image is less than or equal to a predetermined amount in the correction mode, and	<u>U.S. App. No. 12/976,048</u> : EX1002 at 29-30 (¶27); <i>id.</i> at 36 (¶35); <i>id.</i> at 38 (¶39); <i>id.</i> at 44-45 (original claim 4); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 55 (Fig. 10). <u>JP App. No. 2009-295202</u> : EX2001 at 3 (¶9); <i>id.</i> at 6-7 (¶21); <i>id.</i> at 7 (¶22); <i>id.</i> at 10-12 (¶¶29-34); <i>id.</i> at 12 (¶36); <i>id.</i> at 15 (original claim 4); <i>id.</i> at 25 (Fig. 10); <i>id.</i> at 26 (Fig. 11).
a correcting unit configured to correct the magnification rule by using amount	<u>U.S. App. No. 12/976,048</u> : EX1002 at 30 (¶28); <i>id.</i> at 35-37 (¶34-36); <i>id.</i> at

Claim Element	Written Description Support
to change the level of the magnification as amount of correction in the correction mode, when the focal length of the main lens is in predetermined length.	38 (¶39); <i>id.</i> at 45 (original claim 4); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 55 (Fig. 10). <u>JP App. No. 2009-295202</u> : EX2001 at 3 (¶9); <i>id.</i> at 6-7 (¶21); <i>id.</i> at 7 (¶22); <i>id.</i> at 10-12 (¶¶29-34); <i>id.</i> at 12 (¶36); <i>id.</i> at 15 (original claim 4); <i>id.</i> at 25 (Fig. 10); <i>id.</i> at 26 (Fig. 11).
10. (Proposed substitute for issued claim 4) The digital camera according to claim [1]7, further comprising A[n] focusing amount acquiring unit configured to acquire amount of the focusing, wherein	<u>U.S. App. No. 12/976,048</u> : EX1002 at 28 (¶23); <i>id.</i> at 29-30 (¶27); <i>id.</i> at 31 (¶29); <i>id.</i> at 33 (¶31); <i>id.</i> at 45 (original claim 5); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 55 (Fig. 10). <u>JP App. No. 2009-295202</u> : EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶¶2, 4, 6, 7); <i>id.</i> at 3 (¶¶ 8-10); <i>id.</i> at 5-6 (¶¶15-17); <i>id.</i> at 6-7 (¶21); <i>id.</i> at 7-8 (¶¶25-26); <i>id.</i> at 10 (¶29); <i>id.</i> at 11-12 (¶¶31-32); <i>id.</i> at 12 (¶34); <i>id.</i> at 13 (¶42); <i>id.</i> at 12 (¶34); <i>id.</i> at 15 (original claim 1); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 22 (Fig. 7).
misalignment of the composite image decreases as the composite image is in focus with the subject on the basis of the amount and a predetermined cutout rule.	<u>U.S. App. No. 12/976,048</u> : EX1002 at 34 (¶33); <i>id.</i> at 31-32 (¶29); <i>id.</i> at 41 (¶51); <i>id.</i> at 45 (original claim 5); <i>id.</i> at 49 (Fig. 4); <i>id.</i> 50 (Fig. 5); <i>id.</i> 52 (Fig. 7); <i>id.</i> at 54 (Fig. 9). <u>JP App. No. 2009-295202</u> : EX2001 at 1 (Abstract); <i>id.</i> at 3 (¶10); <i>id.</i> at 7-8 (¶23-25); <i>id.</i> at 9-10 (¶28); <i>id.</i> at 12-13 (¶36); <i>id.</i> at 15 (original claim 5); <i>id.</i> at 19 (Fig. 4); <i>id.</i> 20 (Fig. 5); <i>id.</i> at 22 (Fig. 7); <i>id.</i> at 24 (Fig. 9).

Claim Element	Written Description Support
11. (Proposed substitute for issued claim 5) The digital camera according to claim [4]10, wherein the predetermined cutout rule is based on a principle of triangulation based on an interval between the main lens and the sub-lens, and distance from the digital camera to the subject on the basis of the amount.	<u>U.S. App. No. 12/976,048</u> : EX1002 at 31-32 (¶29); <i>id.</i> at 45 (original claim 6); <i>id.</i> at 49 (Fig. 4). <u>JP App. No. 2009-295202</u> : EX2001 at 7-8 (¶23-25); <i>id.</i> at 15 (original claim 6); <i>id.</i> at 19 (Fig. 4); <i>id.</i> 20 (Fig. 5); <i>id.</i> at 22 (Fig. 7); <i>id.</i> at 24 (Fig. 9).
12. (Proposed substitute for issued claim 6) The digital camera according to claim [1]7, wherein the main image of the object is captured from a different angle from the sub-image of the subject.	<u>U.S. App. No. 12/976,048</u> : EX1002 at 31-32 (¶29); <i>id.</i> at 45 (original claim 6); <i>id.</i> at 49 (Fig. 4). <u>JP App. No. 2009-295202</u> : EX2001 at 7-8 (¶23-25); <i>id.</i> at 15 (original claim 6); <i>id.</i> at 19 (Fig. 4); <i>id.</i> 20 (Fig. 5); <i>id.</i> at 22 (Fig. 7); <i>id.</i> at 24 (Fig. 9).

V. THE SUBSTITUTE CLAIMS RESPOND TO A GROUND OF UNPATENTABILITY, PETITIONER’S OPPOSITION, AND THE PRELIMINARY GUIDANCE.

The proposed substitute claims narrow the challenged claims, including the lone independent claim, to incorporate additional limitations that are not disclosed in the prior art, including art newly introduced by Petitioner in its Opposition. The proposed substitute claims are responsive to the grounds at issue in this trial, as discussed below.

Specifically, proposed substitute claim 7 (which replaces issued claim 1) recites a digital camera comprising, *inter alia*:

a composite image generating unit configured to determine a cutout region in the sub-image, cut out a partial image from the cutout region, magnify at the level of magnification at least one of the main image and the sub-image, and generate a composite image by superimposing the partial image on the main image by mixing pixel values of the partial image with pixel values of the main image,

wherein the generation of the composite image occurs after at least one of the main image and the sub-image is magnified at the level of magnification.

Notably, the amendments that are made in proposed substitute claim 7 add limitations related specifically to *how* the composite image generating unit is configured to generate a composite image. Namely, the composite image generating unit is configured to [1] determine a cutout region in the sub-image, [2] cut out a partial image from the cutout region, and [3] magnify at the level of magnification at least one of the main image and the sub-image before [4] generating the composite image by superimposing the partial image on the main image. Further, as presented in this revised motion, proposed substitute claim 7 clarifies that the claimed superimposing involves the mixing of pixel values (as opposed to wholesale replacement) between the main image and the partial image. Neither of the references at issue in the instituted grounds, nor the references raised for the first time in the Opposition, discloses or renders obvious the “composite image generating unit” as recited in proposed substitute claim 7.

A. Parulski Does Not Disclose or Render Obvious the Claimed “Composite Image Generating Unit.”

Parulski (EX1005) does not disclose a composite image generating unit that is configured to “[1] determine a cutout region in the sub-image, [2] cut out a partial image from the cutout region, [3] magnify at the level of magnification at least one of the main image and the sub-image, and [4] generate a composite image by superimposing the partial image on the main image by mixing pixel values of the partial image with pixel values of the main image.”

Parulski discloses a two-stage image capture device where “the two image capture stages are configured as a high resolution rangefinder in order to determine distances to different portions of the scene to form a range map.” Parulski, ¶ [0071]. According to Parulski, “the range map is then used to modify the captured image signal or the output image for a variety of purposes.” *Id.* The Petition identifies the following “purposes” from Parulski that allegedly disclose a composite image generating unit: (1) “replacing portions of the primary image with portions of the secondary image,” (2) “sharpen portions of the primary image,” (3) “modify the dynamic range of the primary image,” and (4) “provide scene analysis data for setting the capture parameters for the primary image.” Petition at 21, 45-46. The Opposition and the Preliminary Guidance focus on the first of these alleged purposes: replacing portions of the primary image with portions of the

secondary image. None of the identified “purposes” disclose the composite image generating unit of the proposed substitute claims, however, because Parulski either (1) fails to explain *how* the alleged purpose is achieved or (2) discloses that the purpose is achieved in a completely different way from how the claimed composite image generating unit is configured in the proposed amended claims.

1. Parulski’s “Replacing Portions of the Primary Image with Portions of the Secondary Image” Does Not Disclose the Composite Image Generating Unit.

Parulski’s stated purpose of “replacing portions of the primary image with portions of the secondary image” fails to disclose the proposed substitute “composite image generating unit” because Parulski does not disclose superimposing a partial image on a main image by mixing pixel values of the partial image with pixel values of the main image. Indeed, Parulski fails to disclose *how* Parulski’s image capture device “replaces” portions of a primary image with portions of a secondary image, and therefore necessarily fails to disclose mixing of pixel values.

Parulski generically states that portions of a primary image can be “replaced” with portions of a secondary image, but does not state how to do so. *See* Parulski, ¶¶ [0031], [0140], [0145]. No further description is provided in Parulski as to this purpose. *See id.* Parulski provides no discussion, for example, related to determining a cutout region in the secondary image, cutting out a partial image,

magnifying one of the primary image and the secondary image, and then superimposing the partial image on the primary image to generate a composite image by mixing pixel values of the partial image with pixel values of the main image. *See id.* Parulski’s description of the “replacement” is entirely result-oriented, stating only that “*in effect*, portions of the primary image . . . are replaced with corresponding portions of the secondary image . . . to obtain a modified image.” Parulski, ¶ [0145] (emphasis added).

Petitioner argues in its Opposition, and the Board credits in the Preliminary Guidance, that Parulski describes three steps allegedly detailing how to replace the image including (1) identifying an object in an image, (2) extracting an object from an image, and (3) replacing a portion of one image with a corresponding portion. Opposition at 4-5; Preliminary Guidance at 11-12. Patent Owner respectfully submits that Petitioner’s contention still fails to explain *how* the replacement happens. The first two steps listed by Petitioner, identifying and extracting an object from an image, are not replacement operations. They are precursor operations to the actual replacement. In other words, one must identify an object that is to be replaced and also identify the new image that will replace that object. But these are merely the inputs to a replacement operation. They are not, themselves, the replacement operation and do not explain *how* the replacement

operation is performed. Thus, the first and second steps identified by Petitioner do not describe how the actual replacement operation is performed.

The third step identified by Petitioner states that Parulski describes “‘replacing’ a portion of one image with a ‘corresponding portion’ of the second image.” Opposition at 4. Again, Petitioner and Parulski fail to explain *how* the replacement takes place. Petitioner’s explanation is tautological. By using the word “replace” in the definition of “replacing,” neither Petitioner nor Parulski provide any additional information as to *how* to achieve the replacement.

In contrast, proposed amended claim 7 expressly recites that the partial image is superimposed on the main image “by mixing pixel values of the partial image with pixel values of the main image” to create the composite image. Thus, the proposed substitute claims recite how the superimposing is performed.

Further, mixing of pixel values is not the same as “replacing” as taught in Parulski. As interpreted by the Board in the Preliminary Guidance, “replacing” a portion of an image with, for example, α -blending requires that the transparency coefficient be set to either 1 or 0. Preliminary Guidance at 10-11. Mixing, on the other hand, requires a non-zero and non-one transparency coefficient. This conclusion follows from the word “mixing.” If a pixel consists entirely of pixel values from either the main image or the partial image, then the pixel values cannot possibly be said to be “mixed.”

Even if “replacing” could be interpreted as an operation step performed by Parulski (it cannot), Parulski’s disclosure of “replacing” is not the same as “superimposing,” as recited in the proposed substitute claims. At the very least and as interpreted by the Board, Parulski’s disclosure of “replacing” involves “pixels in a portion of a first image completely tak[ing] the place of pixel of a corresponding portion of a second image” (at least by setting transparency coefficients to 0 or 1). Preliminary Guidance at 10-11. As explained above, superimposing two images together by mixing pixel values precludes completely replacing a portion of one image with a corresponding portion of another image. Specifically, the pixel values of a combined image created by superimposing two images by mixing pixel values is based on characteristics of both images. Alternatively, the pixel values of a combined image resulting from replacing one image with another are only based on the characteristics of the replacement image. For example, as provided in embodiments in the ’638 patent, “synthesis processing” is used to superimpose the partial image on the main image. ’638 patent at 3:63-65. Synthesis processing superimposes two images together using “so-called α blending whereby a coefficient α indicating the transparency of the image to be superimposed on top of the bottom image is used to mix the pixel values of the bottom image with the pixel values of the top image to generate pixel values of a composite image.” *Id.* at 4:1-7. Thus, Parulski’s “replacing” disclosure does not disclose “superimposing” a

partial image on a main image by mixing pixel values of the partial image and the main image as recited in the proposed substitute claims.

Parulski also fails to disclose the proposed substitute claims because Parulski fails to disclose *any* mechanism for “replacing” portions of the primary image with corresponding portions of the secondary image, let alone by mixing pixel values. The Petition incorrectly asserts that Parulski “describes cutting out an extracted object or portion from the secondary image” and asserts that “Parulski’s system registers a cutout position at the portion of the second image that will be added to the first image and cuts out that portion of the second image, which is then used to replace, enhance, or augment the main image to create the enhanced or augmented image.” Petition at 44-45. These statements are false. Parulski includes no such disclosure, as demonstrated by the fact that the Petition provides no citation to Parulski in support of these statements. *See id.* The Petition does cite to its expert, Dr. Stevenson’s declaration, but Dr. Stevenson’s declaration simply parrots the Petition without any supporting explanation or citation. *Compare* Petition at 44-45 *with* EX1003, ¶147. Thus, the Petition’s (and expert’s) statements are pure attorney argument, unsupported by facts, and not entitled to any weight. *See Icon Health & Fitness, Inc. v. Strava, Inc.*, 849 F.3d 1034, 1043 (Fed. Cir. 2017) (“Attorney argument is not evidence.”); 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion

is based is entitled to little or no weight.”). At best, Parulski generically discloses a “purpose” or goal of replacing a portion of the primary image with a corresponding portion of the secondary, but does not describe *how* to do so. Nowhere does Parulski’s generic description of “replacing” disclose the specific method of generating a composite image recited in the proposed amended claims by superposing a partial image on a main image by mixing the pixel values of the partial image with the main image.

B. Safonov Does Not Remedy Parulski’s Shortcomings and Petitioner’s Proposed Combination Is Based on Improper Hindsight.

1. Safonov Does Not Remedy Parulski’s Shortcomings.

As set forth above, Parulski fails to disclose any particular method of “replacing” a portion of one image with a corresponding portion of another image. As such, Parulski fails to disclose the proposed amended claims’ recitation of “superimposing the partial image on the main image by mixing pixel values of the partial image with pixel values of the main image.” Safonov (EX1007) also fails to disclose this element because, while Safonov does generally disclose alpha blending, Safonov does not disclose alpha blending as a mechanism for superimposing a partial image on a main image.

Safonov is directed to shadow and highlight correction. Safonov at 7. Specifically, Safonov discloses using a bilateral filter with a flat domain kernel and

universal El-Fallah-Ford edge stop function on a source image, *I*. *Id.* Safonov then corrects for shadows and highlighting by performing certain processing operations on the source image to generate what it calls a “detail image” (D_s) and a “digital image” (D_h), and finally adds the results of that processing back to the source image. *Id.* According to Safonov, however, the “detail image” and “digital image” “are functions of the ratio between the image filtered using a bilateral filter and the source image.” *Id.* at 9. In other words, Safonov simply discloses a particular feedback loop operation to correct shadows and highlights in the source image. *Id.* Safonov’s method does not combine images, it performs mathematical operations using nothing more than the pixel values of a single image to correct shadows and highlights in that single image. Safonov’s reference to “digital images” are nothing more than a shorthand notation for intermediate pixel values in the midst of that mathematical processing. Thus, nothing in Safonov relates to the combining images at all, let alone doing so with a composite image generating unit configured to perform the operations recited in the proposed substitute claims including by mixing pixel values of the partial image with pixel values of the main image.

Accordingly, Safonov does not disclose the composite image generating unit as recited in the proposed substitute claims.

2. The Proposed Combination of Parulski and Safonov is Based on Improper Hindsight.

“[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Courts “cannot allow hindsight bias to be the thread that stitches together prior art patches into something that is the claimed invention.” *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) (citation omitted). Yet that is exactly what Petitioner attempts to do here. Specifically, Petitioner seeks to stitch Safonov’s alpha blending patch together with Parulski’s “replacement” patch to create something that allegedly looks like the claimed invention.

The Petition and the Opposition rely only on Safonov to support the assertion that “a POSITA would have known that alpha blending was a common, conventional technique to combine images.” The Opposition asserts that a POSITA would have found it obvious to employ Safonov’s alpha blending in Parulski’s image in which a portion of one image “replaces” a portion of another image. Opposition at 8. According to Petitioner, a POSITA would have found it obvious to use Safonov’s alpha blending to “minimize[] or hide[] the edges where the main image and the sub-image . . . meet . . . and would have recognized that blending the

images would have smoothed the transition between the replaced portion of the main image (cutout sub-image portion) and the main image.” *Id.*

Parulski does not mention minimizing or hiding edges, nor does it mention alpha blending (or any kind of blending at all). Rather, Parulski simply says “replace,” which the Board interprets to mean “completely take the place of.” Preliminary Guidance at 10-11. Under Parulski’s disclosure, there is no minimization or hiding of edges. Safonov likewise does not use alpha blending to minimize or hide edges, or to smooth a transition between a replaced portion and a main image. As discussed above, Safonov uses a particular mathematical algorithm to correct for shadows and highlighting in a single image. Safonov does not mention, and Petitioner does not point to any disclosure in Safonov that relates to minimizing or hiding edges using alpha blending.

To the extent that both Safonov and Parulski discuss similar goals, such as improving sharpness or correcting shadows and highlights, the methods employed by the two references are entirely different. Parulski, on one hand, captures two images and replaces a portion of one image with a corresponding portion of another image. *See* Parulski at ¶¶ [0031], [0145]. Safonov, on the other hand, enhances a single image using a series of mathematical operations on that single image to perform bilateral filtering and then add the results of the filtering back to the original image using alpha blending. Safonov at 7. Given the vast differences in

performing the desired corrections, Petitioner's reliance on generic goals of improving sharpness or correcting shadows and highlights is nothing more than "thread that stitches together prior art patches into something that is the claimed invention." *Metalcraft of Mayville*, 848 at 1367. The Petitioner's proposed combination of Parulski and Safonov, therefore, is based on impermissible hindsight reasoning. Because neither Parulski nor Safonov alone or in combination, disclose the composite image generating unit as recited in the proposed substitute claims, the proposed substitute claims respond to the grounds for unpatentability at issue in the trial. *Lectrosonics*, Paper 15 at 6-7.

C. Johnson Does Not Remedy the Shortcomings of Parulski or Safonov.

Johnson (EX1018) does not remedy the shortcomings of Parulski alone or the combination of Parulski and Safonov discussed above. Specifically, Johnson, even in combination with Parulski and Safonov, does not disclose "generat[ing] a composite image by superimposing the partial image on the main image by mixing pixel values of the partial image with pixel values of the main image." Johnson purports to disclose a way to eliminate blink-related closed eyes in portrait photography. Johnson, (54). According to Johnson, an unspecified algorithm identifies regions that have "significant differences that also conform to the characteristics associated with differences between open eyes, and eyes that are

fully or partially closed.” Johnson at 2:57-59. Next, Johnson applies another unspecified algorithm to “choose[] one preferred rendition from among the first image 46 and the second image 48.” *Id.* at 2:60-61. A final unspecified algorithm “blends” preferred regions from one image into the other image. *Id.* at 3:47-50.

Johnson does not specify any particular method or algorithm by which it “blends” the images together. In particular, Johnson is completely silent as to any mixing of pixel values, as recited in the proposed amended claims. Johnson does, however, explain that the result of the “blending” is that open eyes “effectively replace” closed eyes. *Id.* As acknowledged in the Preliminary Guidance, “replacement” means that “pixels in a portion of one image completely take the place of pixels of a corresponding portion of a second image.” Preliminary Guidance at 11. Thus, in replacement as described in Johnson, there is no mixing of pixel values as in the proposed amended claims because Johnson’s “blending operation” results in the “replacement” of pixels.

D. Hoshino is not Prior Art.

Petitioner contends that Hoshino (EX1021) is prior art under pre-AIA 35 U.S.C. § 102(e). Petitioner is wrong. Hoshino was filed on March 19, 2010. Hoshino at (22). Although Hoshino claims the benefit Japanese Pat. App. No. 2009-068030 (filed March 19, 2009), Hoshino is not prior art as of that date because the Japanese priority application is not an international application that

meets the requirements under § 102(e)(2) (*i.e.*, an application filed under the Patent Cooperation Treaty that designates the United States and was published under Article 21(2) of the PCT in English). Thus, Hoshino is only prior art under § 102(e) as of March 19, 2010, the date Hoshino was filed in the United States.

Petitioner contends that “Patent Owner has not established that substitute claims 7-12 are entitled to a priority date of December 25, 2009” because Patent Owner “has not provided a proper certified translation from which priority can be established because the declarant does not speak Japanese and therefore cannot confirm the accuracy” of the translation. Opposition at 20. Petitioner is incorrect. Patent Owner provided a declaration by a project manager at Morningside IP that attests “[t]o the best of my knowledge, the aforementioned documents are a true, full and accurate translation of the specified documents.” The Board has previously found that such declarations are sufficient, including with respect to a project manager from the very same company, Morningside IP. *Globus Medical, Inc. v. Moskowitz Family LLC*, IPR2020-01306, Paper 7 at 18-20, (P.T.A.B. Jan. 8, 2021). Tellingly, Petitioner cites no law or Board decision to the contrary, nor does Petitioner identify any alleged inaccuracy or error in the translation.

Accordingly, the ’638 patent has a priority date of December 25, 2009 by virtue of its priority claim to Japanese Pat. App. No. 2009-295202. This Revised Motion to Amend establishes that the proposed substitute claims are entitled to a

priority date of December 25, 2009. *Supra*, Section IV; *see also* Preliminary Guidance at 5. Because the '638 patent's priority date (December 25, 2009) is before Hoshino's effective prior art date (March 19, 2010), Hoshino is not prior art and may not be considered as part of an obviousness combination under § 103.

VI. CLAIM LISTING

A motion to amend must include a claim listing reproducing each proposed substitute claim. *Lectrosonics* Paper 15 at 8 (citing 37 C.F.R. § 42.121(b)). Patent Owner respectfully submits the required claim listing as Appendix A. *See Lectrosonics* Paper 15 at 8 ("The claim listing may be filed as an appendix to the motion to amend, and shall not count toward the page limit for the motion.").

VII. CONCLUSION

For the reasons stated above, Patent Owner respectfully requests that the Board grant its Motion to Amend, cancel claims 1-6, and substitute claims 7-12 as set forth in Appendix A. Patent Owner further requests non-binding, preliminary guidance on the proposed substitute claims.

Date: July 28, 2025

Respectfully submitted,

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Appendix A – Claim Listing

1-6. (Canceled)

7. (Proposed Substitute for original claim 1) A digital camera having a focusing function and a focal length varying function of a main lens, the digital camera comprising:

a main imaging unit configured to generate a main image by performing a photoelectric conversion from a subject obtained via the main lens;

a sub-imaging unit configured to generate a sub-image by performing a photoelectric conversion from the subject obtained via a sub-lens;

a focal length acquiring unit configured to acquire the focal length of the main lens;

a magnification setting unit configured to set a level of magnification on the basis of the focal length;

a composite image generating unit configured to determine a cutout region in the sub-image, cut out a partial image from the cutout region, magnify at the level of magnification at least one of the main image and the sub-image, and generate a composite image by

[combining] superimposing the partial image on the main image[and the sub-image] by mixing pixel values of the partial image with pixel values of the main image,

wherein the generation of the composite image occurs after at least one of the main image and the sub-image is magnified at the level of magnification;

an image display unit configured to display the composite image; and

wherein the magnification setting unit is configured to set the level of the magnification in order to match substantially a size of the main image and a size of the sub-image.

8. (Proposed Substitute for original claim 2) The digital camera according to claim [1]7, wherein the sub-lens is a pan-focus lens.
9. (Proposed Substitute for original claim 3) The digital camera according to claim [1]7, wherein

the magnification setting unit is configured to set the level of the magnification in a correction mode in which a predetermined magnification rule applies in setting the level of the magnification, and

the digital camera further includes

an instruction receiving unit configured to receive an instruction to change the level of the magnification such that difference between the size of the main image and the size of the sub-image in the composite image is less than or equal to a predetermined amount in the correction mode, and

a correcting unit configured to correct the magnification rule by using amount to change the level of the magnification as amount of correction in the correction mode, when the focal length of the main lens is in predetermined length.

10. (Proposed Substitute for original claim 4) The digital camera according to claim [1]7, further comprising

A[n] focusing amount acquiring unit configured to acquire amount of the focusing, wherein

[the composite image generating unit is configured to generate the composite image by combining the main image and the sub-image by setting a cutout position on the sub-image, cutting out a partial image from the cut out position, and adding the partial image on the main image, and]

misalignment of the composite image decreases as the composite image is in focus with the subject on the basis of the amount and a predetermined cutout rule.

11. (Proposed Substitute for original claim 5) The digital camera according to claim [4]10, wherein

the predetermined cutout rule is based on a principle of triangulation based on an interval between the main lens and the sub-lens, and distance from the digital camera to the subject on the basis of the amount.

12. (Proposed Substitute for original claim 6) The digital camera according to claim [1]7, wherein

the main image of the object is captured from a different angle from the sub-image of the subject.

CERTIFICATE OF SERVICE

I certify that on July 28, 2025, a copy of PATENT OWNER'S REVISED NON-CONTINGENT MOTION TO AMEND was served by electronic mail on Petitioner's counsel at the following addresses indicated in Petitioner's Mandatory Notices:

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