

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 NON-CONTINGENT MOTION TO AMEND

TABLE OF CONTENTS

	Page(s)
I. INTRODUCTION	1
II. PATENT OWNER PRESENTS A REASONABLE NUMBER OF SUBSTITUTE CLAIMS.....	3
III. THE REVISED CLAIMS DO NOT ENLARGE THE SCOPE OF THE '638 PATENT.....	3
IV. WRITTEN DESCRIPTION SUPPORT EXISTS FOR EACH PROPOSED SUBSTITUTE CLAIM.	4
V. THE SUBSTITUTE CLAIMS RESPOND TO A GROUND OF UNPATENTABILITY.....	11
A. Parulski Does Not Disclose or Render Obvious the Claimed “Composite Image Generating Unit.”.....	12
1. “Replacing Portions of the Primary Image with Portions of the Secondary Image” Does Not Disclose the Composite Image Generating Unit.	13
2. “Sharpen[ing] Portions of the Primary Image” Does Not Disclose the Composite Image Generating Unit.	19
3. “Modify[ing] the Dynamic Range of the Primary Image” Does Not Disclose the Composite Image Generating Unit.....	20
4. “Provide Scene Analysis Data for Setting the Capture Parameters for the Primary Image” Does Not Disclose the Composite Image Generating Unit.	21
B. Safonov Does Not Disclose or Render Obvious the Claimed “Composite Image Generating Unit.”.....	23
VI. CLAIM LISTING	25
VII. CONCLUSION.....	25

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Icon Health & Fitness, Inc. v. Strava, Inc.</i> , 849 F.3d 1034 (Fed. Cir. 2017).....	14
<i>Intuitive Surgical, Inc. v. Ethicon LLC</i> , IPR2018-00933, Paper 31	1
<i>Lectrosonics, Inc. v. Zaxcom, Inc.</i> , IPR2018-01129, Paper 15 (P.T.A.B. Feb 25, 2019)	<i>passim</i>
<i>NXP USA, Inc. v. Impinj, Inc.</i> , IPR2020-00514, Paper 37 (PTAB Aug. 11, 2021)	1
Statutes	
35 U.S.C. § 316(d).....	1
Other Authorities	
37 C.F.R. § 42.64.....	5
37 C.F.R. § 42.65(a).....	14
37 C.F.R. § 42.121.....	1
37 C.F.R. § 42.121(a).....	2
37 C.F.R. § 42.121(a)(2)(i) and (ii)	3
37 C.F.R. § 42.121(a)(3).....	3

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”) (EX1001). 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.¹

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

¹ Accordingly, Patent Owner is not concurrently filing a Patent Owner Response in this proceeding. *See, e.g., Intuitive Surgical, Inc. v. Ethicon LLC*, IPR2018-00933, Paper 31 at 3, note 5 (PTAB Dec. 3, 2019) (“Because we grant the Motion to Amend, which is a non-contingent motion, and substitute claims 21–40 for challenged claims 1–20, we need not address the patentability of claims 1–20.”); *NXP USA, Inc. v. Impinj, Inc.*, IPR2020-00514, Paper 37 at 9 (PTAB Aug. 11, 2021) (“As Patent Owner’s non-contingent Revised Motion to Amend cancels all of the challenged claims, we address only Patent Owner’s proposed substitute claims 22–36.”).

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. Patent Owner further requests non-binding guidance on the proposed substitute claims and reserves the right to file a revised motion to amend. *See* Paper 7 at 4-6; *see also* 84 Fed. Reg. 9497.

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

In this trial, there are five challenged claims. *See* Paper 1 at 1.² 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 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.

² 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.

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 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.” Appendix A at 1. These additions add to the independent claim features similar to those that were previously included in issued dependent claim 4.

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. (EX1002 at 25-57) and claims priority to Japanese patent app. no. 2009-295202 filed December 25, 2009. (EX2002). 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 varying function of a main lens, the digital camera comprising:	U.S. App. No. 12/976,048: EX1002⁴ 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); <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). 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

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

⁴ Citations are to the page numbers of the file history of the ’638 patent (EX2001), with parentheticals providing pin citations to the paragraphs providing the relevant written description support.

Claim Element	Written Description Support
	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 preamble); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 18 (Figs. 2, 3); <i>id.</i> at 22 (Fig. 6).
a main imaging unit configured to generate a main image by performing a photoelectric conversion from a subject obtained via the main lens;	<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). <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).
a sub-imaging unit configured to generate a sub-image by performing a photoelectric conversion from the subject obtained via a sub-lens;	<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). <u>JP App. No. 2009-295202</u>: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶7); <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).
a focal length acquiring unit configured to acquire the focal length of the main lens;	<u>U.S. App. No. 12/976,048</u> : 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).

Claim Element	Written Description Support
	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 12 (¶34); <i>id.</i> at 15 (original claim 1 preamble); <i>id.</i> at 17 (Fig. 1); <i>id.</i> at 22 (Fig. 7).
a magnification setting unit configured to set a level of magnification on the basis of the focal length;	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). 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).
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 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], 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;</u>	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 (Fig. 1); <i>id.</i> at 52 (Fig. 7); <i>id.</i> at 53 (Fig. 8). JP App. No. 2009-295202: 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

Claim Element	Written Description Support
	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).
an image display unit configured to display the composite image; and	<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). <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).
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.	<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). <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 (¶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).

Claim Element	Written Description Support
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.S. App. No. 12/976,048: 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). JP App. No. 2009-295202: 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.S. App. No. 12/976,048: 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). JP App. No. 2009-295202: 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 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.	U.S. App. No. 12/976,048: EX1002 at 30 (¶28); <i>id.</i> at 35-37 (¶34-36); <i>id.</i> at 38 (¶39); <i>id.</i> at 45 (original claim 4); <i>id.</i> at 47 (Fig. 1); <i>id.</i> at 55 (Fig. 10). JP App. No. 2009-295202: 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.S. App. No. 12/976,048: 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). JP App. No. 2009-295202: EX2001 at 1 (Abstract); <i>id.</i> at 2 (¶¶2, 4, 6, 7); <i>id.</i> at

Claim Element	Written Description Support
	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).
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.

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. 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,

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. Neither of the references at issue in the instituted grounds 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.”

Petitioner relies exclusively on Parulski (EX1005) to disclose the “composite image generating unit” recited in the challenged claims. Parulski, however, 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.”

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. 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. Each of the “purposes” identified in the Petition is addressed below in the context of the proposed substitute claims.

1. “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, nor does Parulski disclose *how* Parulski’s image capture device “replaces” portions of a primary image with portions of a secondary image.

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. *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).

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, Parulski's disclosure of "replacing" would involve a portion of one image completely taking the place of a corresponding portion of another picture. In other words, under Parulski's disclosure, a portion of the main image would need to be removed before that portion could be "replaced" by the corresponding portion of the secondary image. Superimposing two images together, however, is different than replacing one image with another. Specifically, the resultant image of two superimposed images is based on characteristics of both images while the resultant image resulting from replacing one image with another is only the characteristics of the replaced 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 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. 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 statement. *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.

The Petition additionally points to Parulski’s description of sharpening an image of a black dog to support its argument that Parulski’s stated “purpose” of “replacing portions of the primary image with portions of the secondary image” discloses a composite image generating unit. Petition at 45 (citing Parulski, ¶ [0114], [0145]). The Petition asserts that in the black dog example, “portions of the primary image (areas of lower noise but with some motion blur) are replaced with corresponding portions of the secondary image (areas of higher noise but little or no motion blur) to obtain a modified image with relatively low noise and good sharpness.” *Id.* at 45. The Petition misunderstands Parulski’s black dog example, as explained below.

In the black dog example, Parulski presents an embodiment in which a photograph includes a “clouded sky and white capped mountains in the most distant ranges, flowers carpeting the fields in the mid range, and a black dog sitting in the foreground about 5 feet away.” Parulski, ¶ [0114]. “However, the clouds are blown out (over-exposed), as are the white-capped mountains. The black dog is too dark (underexposed) and out of focus.” *Id.* To solve these identified problems within the image, Parulski discloses improving the exposure for various locations “by applying *gain adjustments* to selected object portions of the image: in particular, e.g., to the cloud detail, the snow detail, and the fur on the black dog.” *Id.* (emphasis added). Gain adjustments (*i.e.*, modifying the electrical signals sent from an image sensor) are not the same as cutting out a portion of an image and superimposing the cut out portion on another image, as recited in the proposed substitute claims. Therefore, Parulski’s disclosure of modifying the image using “gain adjustments” fails to disclose the proposed substitute claim element of a composite image generating unit because unlike the specific functionality performed by the composite image generating unit which superimposes two images together, gain adjustments merely adjust the brightness and noise levels of a single image.

Parulski further states with respect to the black dog example that “the range data can be used to isolate the mountains and the flowers, which can then be

blurred, and further to isolate the dog, which is sharpened to obtain a nice sharp image.” *Id.* This disclosure also fails to disclose the specific operations that the composite image generating unit is configured to perform. Parulski does not specifically disclose how the isolated dog is “sharpened.” *See id.* Parulski generically discloses “sharpening” portions of a primary still image with an “enhancement signal” (*See, e.g.*, Parulski, ¶¶ [0072], [0118], [0120]). Parulski, however, never explains *what* the enhancement signal is or *how* it functions to sharpen portions of the primary image, let alone explaining how the “enhancement signal” would perform the operations performed by the composite image generating unit recited in the proposed substitute claims. Thus, Parulski’s disclosure of “sharpening” the black dog (or any portion of a primary image) through an “enhancement signal” fails to disclose the operations that the composite image generating unit is configured to perform, namely, “[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.”

2. “Sharpen[ing] Portions of the Primary Image” Does Not Disclose the Composite Image Generating Unit.

Second, the Petition asserts that Parulski’s disclosed “purpose” of “sharpen[ing] portions of the primary image” independently discloses a composite image generating unit. Petition at 45. According to the Petition, sharpening the dog in the black dog example discussed above “describes Parulski’s process of creating the enhanced or augmented composite image by, for example, cutting out the dog from the sub-image and using it to replace the underexposed and out-of-focus dog in the primary image with one that is sharpened and has better exposure to improve the overall image.” Petition at 45-46. The Petition is incorrect.

Parulski’s disclosure of “sharpen[ing] portions of the primary image” does not disclose a composite image generating unit as recited in the proposed substitute claims. As discussed above, Parulski’s disclosure of sharpening portions of a primary image does not “[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.” Rather, Parulski’s disclosure of sharpening portions of a primary image is based on an undefined and unexplained “enhancement signal.” Parulski, ¶¶ [0072], [0118], [0120]. Because Parulski does not explain what the “enhancement signal” is or how it works,

Parulski cannot possibly disclose a composite image generating unit 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.”

3. “Modify[ing] the Dynamic Range of the Primary Image” Does Not Disclose the Composite Image Generating Unit.

Third, the Petition asserts that that Parulski’s disclosed “purpose” of “modify[ing] the dynamic range of the primary image” discloses a composite image generating unit. Petition at 45. The petition does not explain how the dynamic range relates to a composite image generating unit. Nevertheless, Parulski makes clear that modifying the dynamic range of a primary image does not disclose the composite image generating unit of the proposed, amended claims at least because modifying a dynamic range does not involve “[1] determine[ing] a cutout region in the sub-image, [2] cut[ing] out a partial image from the cutout region, [3] magnify[ing] at the level of magnification at least one of the main image and the sub-image, and [4] generate[ing] a composite image by superimposing the partial image on the main image.”

Parulski does not specifically define dynamic range. However, Parulski does explain that dynamic range can be enhanced by having two images with different

exposure levels. Parulski, ¶¶ [0031], [0114], [0142]-[0143]. Parulski specifically discloses that dynamic range is improved “by applying gain adjustments to objects as a whole within the output image, independently of their position in the range map.” *Id.*, ¶ [0114]. As explained above, making gain adjustments to pixels within an image is not the same as “[1] determine[ing] a cutout region in the sub-image, [2] cut[ing] out a partial image from the cutout region, [3] magnify[ing] at the level of magnification at least one of the main image and the sub-image, and [4] generate[ing] a composite image by superimposing the partial image on the main image” as recited in the proposed substitute claims. Specifically, unlike the specific functionality performed by the composite image generating unit which superimpose two images together, gain adjustments merely adjust the brightness and noise levels of a single image.

4. “Provide Scene Analysis Data for Setting the Capture Parameters for the Primary Image” Does Not Disclose the Composite Image Generating Unit.

Fourth, the Petition asserts that Parulski’s disclosed “purpose” of “provid[ing] scene analysis data for setting the capture parameters for the primary image” discloses a composite image generating unit. Petition at 45. The Petition does not specifically explain how providing scene analysis data relates to a composite image generating unit. Nevertheless, Parulski makes clear that using scene analysis data to set capture parameters for the primary image does not

disclose the composite image generating unit of the proposed, amended claims at least because setting capture parameters of a primary image capture unit does not involve “[1] determine[ing] a cutout region in the sub-image, [2] cut[ing] out a partial image from the cutout region, [3] magnify[ing] at the level of magnification at least one of the main image and the sub-image, and [4] generate[ing] a composite image by superimposing the partial image on the main image.”

Parulski explains that the use of scene analysis data is to modify the capture parameters for the primary image. Parulski, ¶¶ [0132]-[0134]. The scene analysis data is *not* used to generate a composite image by superimposing images at all, but to *simply set the parameters in the main imaging stage*. According to Parulski, scene analysis data comprises information such as “exposure data, dynamic range data, depth of field data, color balance, identification of different aspects of the scene including faces, grass, sunset, snow, etc., and the capture unit parameters could include without limitation aperture value, exposure time, focus position, white balance, ISO setting, etc.” Parulski, ¶ [0132]. Parulski discloses that “once the primary capture unit is put in the preview mode . . . the scene analysis capture unit analyzes the scene . . . and the image processor 50 sets the primary capture unit parameters utilizing the scene analysis data obtained by the scene analysis capture unit.” *Id.* Another preview image is then captured, and if scene conditions have changed, the process loops back, and the image processor 50 resets the

primary capture unit parameters utilizing scene analysis data. *Id.* In other words, Parulski does ***not*** disclose cutting out portions of the image captured by the scene analysis capture unit to replace parts of the preview image. Rather, Parulski discloses using the scene analysis data from the image captured by the scene analysis capture unit ***to change the capture parameters for the primary capture unit, which then captures a new primary image.*** *Id.*

Because Parulski's disclosure related to "provid[ing] scene analysis data for setting the capture parameters for the primary image" does not relate to creating a composite image by superimposing two images, it necessarily fails to disclose the composite image generating unit recited in the proposed substitute claims and specifically fails to disclose the operations of "[1] determin[ing] a cutout region in the sub-image, [2] cut[ing] out a partial image from the cutout region, [3] magnify[ing] at the level of magnification at least one of the main image and the sub-image, and [4] generat[ing] a composite image by superimposing the partial image on the main image."

B. Safonov Does Not Disclose or Render Obvious the Claimed "Composite Image Generating Unit."

The Petition only relies on Safonov to support the Petition's assertion that "a POSITA would have known that alpha blending was a common, conventional

technique to combine images.”⁵ The Petition does not rely on Safonov to disclose any other aspect of a composite image generating unit. As relevant to this Motion to Amend, Safonov does not disclose the composite image generating unit of the proposed substitute claims at least because Safonov does not disclose a composite image generating unit 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.”

Safonov is directed to shadow and highlight correction. Safonov at 7. Specifically, Safonov corrects shadows and highlights using a bilateral filter with a flat domain kernel and universal El-Fallah-Ford edge stop function. *Id.* 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. Accordingly, Safonov does not disclose the composite image generating unit as recited in the proposed substitute claims.

⁵ The Board need not resolve whether or not Safonov establishes that alpha blending was a common, conventional technique to grant Patent Owner’s Motion to Amend.

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.

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: March 24, 2025

Respectfully submitted,

/s/ Cyrus A. Morton

Cyrus A. Morton (Reg. No. 44,954)

CMorton@RobinsKaplan.com

Lead Counsel

Samuel J. LaRoque (Reg. No. 68,542)

SLaRoque@RobinsKaplan.com

Back-Up Counsel

IPR2024-00958

U.S. Patent No. 8,482,638

Robins Kaplan LLP
800 LaSalle Avenue, Suite 2800
Minneapolis, MN 55402
Direct Line: 612-349-8722
Fax: 612-339-4181

Attorneys for Patent Owner

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],

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 March 24, 2025, a copy of PATENT OWNER'S NON-CONTINGENT MOTION TO AMEND was served by electronic mail on Petitioner's counsel at the following addresses indicated in Petitioner's Mandatory Notices:

Counsel for Google LLC

Erika H. Arner - erika.arnner@finnegan.com

Daniel C. Cooley - daniel.cooley@finnegan.com

Kevin D. Rodkey - kevin.rodkey@finnegan.com

Robert K. High - robert.high@finnegan.com

Safiya Aguilar - safiya.aguilar@finnegan.com

Grace K. Mills - gracie.mills@finnegan.com

Alissa E. Green - alissa.green@finnegan.com

Finnegan, Henderson, Farabow, Garrett & Dunner, LLP

Date: March 24, 2025

Respectfully submitted,

/s/ Cyrus A. Morton

Cyrus A. Morton (Reg. No. 44,954)

CMorton@RobinsKaplan.com

Lead Counsel

Samuel J. LaRoque (Reg. No. 68,542)

SLaRoque@RobinsKaplan.com

Back-Up Counsel

IPR2024-00958

U.S. Patent No. 8,482,638

Robins Kaplan LLP
800 LaSalle Avenue, Suite 2800
Minneapolis, MN 55402
Direct Line: 612-349-8722
Fax: 612-339-4181

Attorneys for Patent Owner