

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Hisense USA Corporation

Petitioner

v.

Brightplus Ventures LLC

Patent Owner

Case IPR2023-01311

U.S. Patent No. 8,177,382

PATENT OWNER'S PRELIMINARY RESPONSE

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Exhibit List

Exhibit	Description
2001	Declaration of William K. Bohannon (“Bohannon Decl.”)
2002	Curriculum vitae of William K. Bohannon

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USE OF EMPHASIS IN QUOTATIONS

All emphases in quotations and exhibit citations have been added, unless otherwise indicated.

APPLICABLE STATUTES

References to 35 U.S.C. §§ 102 and 103 are to the AIA versions applicable to the '382 Patent.

I. INTRODUCTION

Brightplus Ventures LLC (“Patent Owner”) submits this preliminary response showing that each of the 12 grounds set forth by Hisense USA Corporation (“Petitioner”) fail to render obvious challenged claims 1-4, 7-9, and 11-20 of U.S. Patent No. 8,177,382 (“the ’382 Patent”)

A. Grounds 1-6 – Kobayashi as Primary Reference

As to Ground 1, Kobayashi in view of a POSITA would not render obvious independent claims 1 and 13 nor dependent claims 2-3, 7, 9, 11-12, and 14-15.

As to Grounds 2 and 3, Petitioner relies on the same arguments as Ground 1 with respect to dependent claims that depend on independent claims 1 and 13, and because Ground 1 fails, Grounds 2 and 3 fail as well.

As to Ground 4, Kobayashi in view of Tabito in view of a POSITA would not render obvious dependent claims 4-6 as Petitioner relies on same failed arguments of Ground 1 for the base independent claim. Furthermore, Ground 4 also fails with respect to independent claim 17 as claim 17 includes limitations similar to claim 1 as well as additional limitations which are not rendered obvious by the combination.

As to Grounds 5 and 6, Petitioner relies on the same arguments as Ground 1 for Claim 1. However, because Ground 1 fails with respect to Claim 1, Grounds 5 and 6 fail as well.

B. Grounds 7-12 – Schiavoni in view of Lim as Primary References

As to Ground 7, Schiavoni in view of Lim in view of a POSITA would not render obvious independent claims 1 and 13 nor dependent claims 2-3, 7, 9, 11-12, and 14-15.

As to Grounds 8 and 9, Petitioner relies on the same arguments as Ground 7 with respect to dependent claims that depend on independent claims 1 and 13, and because Ground 7 fails, Grounds 8 and 9 fail as well.

As to Ground 10, Schiavoni in view of Lim, in view of Tabito, and in view of a POSITA would not render obvious dependent claims 4-6 as Petitioner relies on same failed arguments of Ground 7 for the base independent claim. Furthermore, Ground 10 also fails with respect to independent claim 17 as claim 17 includes limitations similar to claim 1 as well as additional limitations which are not rendered obvious by the combination.

As to Grounds 11 and 12, Petitioner relies on the same arguments as Ground 7 with respect to dependent claims that depend on independent claim 1. However, because Ground 7 fails with respect to claim 1, Grounds 11 and 12 fail as well.

Accordingly, Patent Owner respectfully requests that the Board deny the petition for *inter partes* review of 1-4, 7-9, and 11-20 of the '382 Patent on the merits.

II. THE '382 PATENT DISCLOSES AN IMPROVED LIGHTING SOURCE FOR DISPLAYS.

The '382 Patent is directed to solid state lighting devices, and more particularly to an invention using multiple solid state light emitters operating with a multiplane light diffuser.

Generally, the prior art focused on using arrangement of cold cathode fluorescent lamps (CCFLs) within a reflective enclosure. '382 Patent, col. 1:16-18. Multiple CCFL's can be arranged between a reflective surface and an LCD panel. *Id.* col. 1:19-20. Light from the CCFL's can be reflected from the reflective surface and partially reflected from the inside surface of the LCD panel. *Id.* col. 1:21-23. A portion of the light directed to the LCD panel can [be] transmitted to provide illumination for the LCD panel. *Id.* col. 1:23-24. The combination of the light directly transmitted to the LCD panel from the CCFL's and the reflected light from the various surfaces can create a relatively uniform backlighting unit. *Id.* col. 1:25-28. The CCFL's, however, can require higher than signal level voltages and can generate undesirable amounts of heat, which can be problematic to dissipate. *Id.* col. 1:28-30.

However, the '382 Patent improves over the prior art by the use of multiple solid state light emitters arranged in a substantially planar configuration. '382 Patent, col. 4:43-46. A multiplane light diffuser with a first diffusion plane that is a first distance from the plurality of solid state emitters and a second diffusion plane that

is a second distance from the plurality of solid state emitters that is different from the first distance. *Id.* col. 1:42-51. The light from solid state light emitters is received at the first diffusion plane and then transmitted to the second diffusion plane to finally transmit diffused light to an LCD display panel. *Id.* col. 2:26-37. The '382 Patent further discloses that the distance between the base of the solid state light emitters and the first diffusion plate is a function of the distance between adjacent solid state light emitters for optimal uniform backlighting. *Id.* col. 6:23-26. A primary novelty of '382 Patent is to utilize the distance between the solid state emitters and the diffusion planes in order to create an optimal display panel. One optimal example is that the first distance may be approximately $\frac{1}{2}$ of the third distance and in some embodiments, the second distance may be in a range of 1 to 1.5x of the third distance. *Id.* col. 6:26-30

III. EXPERT TESTIMONY, LEVEL OF SKILL IN THE ART, AND CLAIM CONSTRUCTION

A. Declaration Evidence

This Preliminary Response is supported by the declaration of William K. Bohannon, an expert with long-standing experience in the industry. Ex. 2001. Mr. Bohannon has (30) years of commercial industrial electronics experience including experience in the areas of LCD, Plasma, CRT and Large Screen Display Equipment: LCD manufacturing, substrates, drivers, and other related components for rear screen displays including Avionics and cockpit displays Ex. 2001, ¶¶8-10.

B. Person of Ordinary Skill in the Art

On or before March 11, 2008, a POSITA relating to the technology of the '382 Patent would have (a) a Bachelor's of Science degree in a technical field and at least four years of experience in the field of design and/or manufacture of display systems; (b) a Master's of Science degree in a technical field and at least two years of experience in the field of design and/or manufacture of display systems; or (c) a PhD in a technical field relating to the design and/or manufacture of display systems. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

C. Claim Construction

For the purposes of this Petition, Patent Owner does not believe any claim construction is necessary.

IV. PRIOR ART CITED BY PETITIONER.**A. Kobayashi**

Japanese Patent Application Publication No. JP 2007-329016 (Ex. 1006 - "Kobayashi") was published December 20, 2007, and Petitioner relies on Kobayashi as the primary reference for Grounds 1-6.

Kobayashi describes a backlight unit having multiple LEDs placed on a base at equal intervals with a diffusing plate having a total light transmittance of 80 to 98% and a light diffusivity of 0.5 to 30% is placed on the side close to the LED 1, a

diffusing plate 5 with a total light transmittance of 40 to 80% and a light diffusivity of 70 to 90% is placed on the side far to the LED 1, and a reflector 3 with a reflectance of 80% or more is placed between the diffusing plate 4 and the base 2. Kobayashi at 1.

As discussed in detail below, although Kobayashi discloses a “diffusing plate 4” it is not a “diffusing plate” as used in the '382 Patent or by a POSITA. Ex. 2001, ¶¶43-45. For example, Kobayashi specifically states that “the light diffusivity of the lensed diffusing plate 4 close to the LED 1 is 0.5 to 30%, and the light diffusivity of the diffusing plate 5 on the side farther than the LED is 70 to 90%.” Kobayashi, [0033] Unlike diffusing plate 5 which does diffuse, diffusing plate 4 does not. It is referred to in Kobayashi as a Fresnel Lens, which is used to collimate or maintain a tight beam of light. Ex. 2001, ¶45, *see* Kobayashi, [0035], [0038], [0047], Table 1.

B. Schiavoni

One of Petitioner's primary references for Grounds 6-12 is PCT Publication WO2008/025909 (Ex. 1011 – “Schiavoni”) published March 6, 2008. Schiavoni relates to an optical system for a lighting device having one or more sources of visible and/or ultraviolet radiation which consist of light-emitting diodes, especially for backlighting a liquid-crystal display screen, comprising: a first substantially planar optical element transparent to said radiation and intended to be installed between said sources and a substantially planar diffuser that makes the normal

luminance uniform, the first optical element being approximately parallel to the diffuser and being capable of contributing to making the normal luminance output by the diffuser uniform. Schiavoni, 1011, Abstract. The first optical element is capable of sectorizing the normal luminance output by the diffuser, and/or the optical system includes a second substantially planar optical element transparent to said radiation, which is intended to be installed between the first element and the diffuser, being approximately parallel to said first optical element, the second optical element being capable of sectorizing the normal luminance output by the diffuser. *Id.* The invention also relates to the lighting device and to a method of controlling this device. *Id.*

Schiavoni describes the first substantially planar optical element as follows in page 4: “to control the sectorization of the normal luminance, so that, for a given row of point sources (or a given extended source occupying a row), the average of the profile of the normal luminance along a direction orthogonal to the sources does not mix significantly with the average luminance profile of a neighboring row (or of a neighboring source).” Schiavoni at 4. This explains that in Schiavoni the purpose is to control the local contrast and reduce electrical power by dimming one or more LED's output to create dark areas or sectors on screen when needed. Ex. 2001, ¶48.

C. Lim

Petitioner's other primary references for Grounds 6-12 is US Patent Publication No. 2002/0071288 (Ex. 1013 – "Lim") published June 13, 2002. Lim relates to a backlight unit in a liquid crystal display to enable a high brightness over and provide a thin backlight unit. Lim, Abstract. The backlight unit of Lim uses LED as a backlight lamp in a field Sequence type liquid crystal display including a light-guiding plate, a reflection plate, and a diffusion plate. *Id.* A plurality of lamps or chips are arranged such that LED chips realizing R, G, and B colors are built in the respective lamps or chips." *Id.* Lim uses these R, G and B LEDs separately to illuminate a color filter-free "field sequential" LCD such that during one image line, one led color is used, and this process is done sequentially per line and per R-G-B led color to produce a full color, high light output display of "over 2000 nits" which is about 10 times brighter than the typical display. Ex. 2001, ¶49

D. Kirita

U.S. Patent Application Publication No. US 2006/0050198 (Ex. 1008 – "Kirita") was published on March 9, 2006. Petitioner relies on Kirita as a secondary reference for Grounds 2 and 9.

Kirita describes an LCD having a wide color reproduction range. The LCD contains a "light selective transmission filter, which has wavelength selective transmission characteristics corresponding to spectral characteristics of the light

source, selectively transmits light generated from the light source in the specific wavelength regions based on the wavelength selective transmission characteristics” Kirita at 1.

E. Tabito

U.S. Patent Application Publication No. US 2007/0103908 (Ex. 1007 – “Tabito”) was published on May 10, 2007. Petitioner relies on Tabito as a secondary reference for Grounds 4, 5, 6, 10, 11, and 12.

Tabito describes a light transmitting LCD apparatus. The device is formed by several rows of many light emitting units mounted on an interconnection substrate and a heat dissipating plate, as well as a reflecting section formed by a number of reflective sheet pieces and a reflective plate secured to reflective plate supports formed on the heat dissipating plate. Tabito at 1.

F. Onishi

U.S. Patent Application Publication No. US 2005/0243551 (Ex. 1009 – “Onishi”) was published on November 3, 2005. Petitioner relies on Onishi as a secondary reference for Grounds 5, 6, 11, and 12.

Onishi describes “A lighting system, a reflector, light sources and a light control member are sequentially disposed from a light incident side to a light outgoing side.” Onishi further explains that the “invention achieves total

transmittance of more than 50% when light is incident on the normal direction of the incident plane at a predetermined angle α " Onishi at 1.

V. GROUND 1 - PETITIONER'S KOBAYASHI IN VIEW OF A POSITA FAILS TO RENDER OBVIOUS CLAIMS 1-3, 7, 9, AND 11-15.

Petitioner relies on Kobayashi as its primary reference for Gound 1. But Petitioner fails to demonstrate that a POSITA in view of Kobayashi would render obvious Claim 1. Ex. 2001, ¶55.

Claim 1 recites:¹

[*Preamble*] A solid state lighting device, comprising:
[*IA*] a plurality of solid state light emitters that are configured to emit light; and
[*IB*] a plurality of solid state light emitters that are configured to emit light; and
[*IC*] a multiplane light diffuser including a first diffusion plane that is a first distance from the plurality of solid state emitters and a second diffusion plane that is a second distance from the plurality of solid state emitters that is different from the first distance, the multiplane light diffuser including first side that corresponds to the first plane and that is configured to receive the light emitted from the plurality of solid state light emitters and a second side that corresponds to the second plane and that is configured to transmit diffused light,
[*ID*] wherein the multiplane light diffuser comprises a diffuser plate that includes the first side of the multiplane light, the diffuser plate configured to define the first diffusion plane, and,
[*IE*] wherein the plurality of solid state emitters comprise a third distance between adjacent ones of the plurality of solid state light emitters, and wherein the first distance is a function of the third distance.

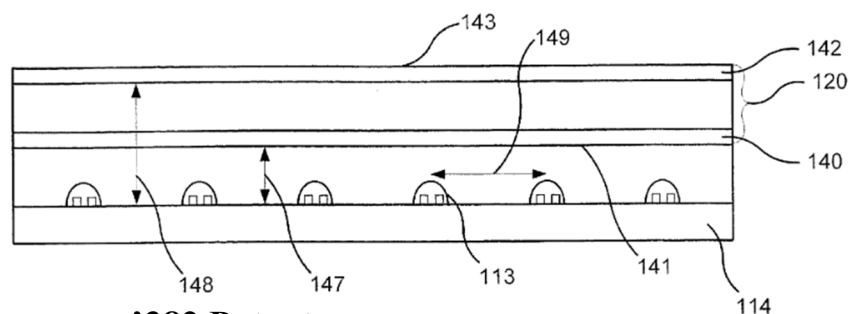
'382 Patent, Claim 1.

¹ The elements in Claim 1 are numbered to match Petitioner's numbering.

Even with the knowledge of a POSITA, Kobayashi does not teach or render obvious at least elements *IB*, *ID* and *IE* as understood in view of the specification of the '382 Patent.

A. Kobayashi in View of a POSITA Fails to Disclose [Claim 1B] “a multiplane light diffuser including a first diffusion plane that is a first distance from the plurality of solid state emitters and a second diffusion plane that is a second distance from the plurality of solid state emitters that is different from the first distance”

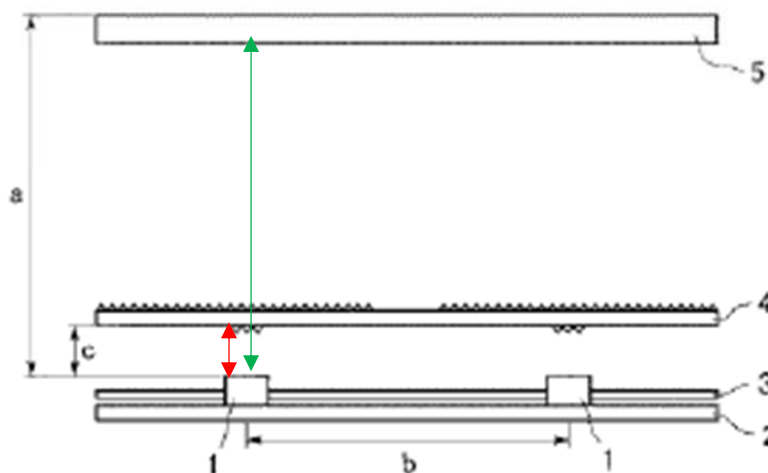
A primary novelty of '382 Patent is to optimize the distance between the solid state emitters and the diffusion planes in order to create an ideal illumination in the display panel. Ex. 2001, ¶56. Thus, the '382 Patent is specific in its implementation of a first distance and a second distance as a function of a third distance. *Id.* As shown in Fig. 3 of the '382 Patent the first and second distance (“147” and “148”, respectively) are both measured from the bottom of the solid-state emitters 113 / top of the support structure 114. Likewise, claim 1B explicitly requires “a first distance from the plurality of solid-state emitters” which in view of the '382 Patent refers to the distance as measured from the bottom of the emitters / top of the support structure to the first diffusion plate / plane 140.



'382 Patent, FIG. 3

Petitioner argues that the first distance and second distance are met in Kobayashi by distances “a” and “c” as described in FIG. 1 of Kobayashi. This is incorrect, Kobayashi describes a distance (c of Fig. 1 of Kobayashi) from the *top of the light emitters 1 to the bottom of a first plane² 4*. This is different from the claimed invention in the '382 Patent, where a “first or second distance” is measured from the bottom of the solid state light emitters. This measuring difference is significant because the backlighting for LCD displays is designed to be thin so a measurement difference of the thickness of a solid state emitters³ will alter the optimal distance and ideal illumination intended by the '382 Patent. Ex. 2001, ¶57.

[FIG. 1] Kobayashi



² As discussed *Infra*, first plane (4) is not a “diffusing plate” as claimed in the '382 Patent.

³ Furthermore, Kobayashi provides no description on the size or height of the light emitters.

Therefore, Kobayashi does not render obvious the first distance and second distance as claimed recited in claim 1 of the '382 Patent.

**B. Kobayashi in View of a POSITA Fails to Disclose [Claim 1D]
“wherein the multiplane light diffuser comprises a diffuser plate
that includes the first side of the multiplane light, the diffuser
plate configured to define the first diffusion plane, and.”**

Claim element 1D explicitly requires that the diffuser plate defines the first diffusion plane. As discussed below, lens plate 4 of FIG. 1 of Kobayashi above does not meet this element.

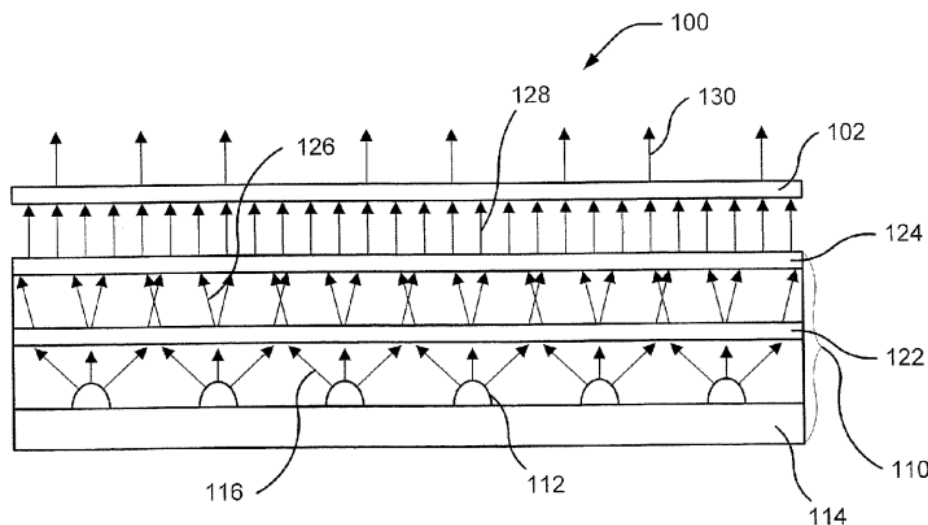
Petitioner argues that translated Japanese patent application Kobayashi discloses a “diffusion” plate 4 which discloses the “diffuser plate configured to define the first diffusion plane.” However, the “diffusion” plate 4 of Kobayashi is not a diffuser as used in the '382 Patent or understood by a POSITA. Ex. 2001, ¶58.

More specifically, Kobayashi describes “diffusion” plate 4 as follows: “a diffusing plate of the side closer to the LED is a diffusing plate with a lens having a total light transmittance of 80 to 98% and *a light diffusivity of 0.5 to 30%* and having a lens shape on at least one surface.” See Kobayashi, claim 1 (emphasis added). Additionally, Kobayashi states that the lens is preferably a *Fresnel lens* and “The light emitting surface is preferably *Fresnel* with a convex apex angle of 40 to 70°, more preferably 45 to 65°, a pitch of 0.1 to 0.5mm, and a diameter of 20 to 50mm.” Kobayashi, [0034]. However, a POSITA would understand a Fresnel lens, especially one with such a low light diffusivity to not qualify as the “diffusion plate”

in element [D]. Ex. 2001, ¶¶ 43-45, 59 Fresnel lenses are typically used to collimate or maintain a tight beam of light. Ex. 2001, ¶¶ 43

Kobayashi explicitly states that its “diffusing” plate 4 has a small amount of light diffusivity (.5 to 30%) and further the “diffusing” plate 4 utilizes convex Fresnel lenses, which focus the light emitted from the diffusing plate 4. Ex. ¶¶ 1006, 14 and 35. As a POSITA would know, Fresnel lenses are typically used to collimate or maintain a tight beam of light. Ex. 2001, ¶¶ 44-45,

This teaches away from the claimed diffuser plate in 1D as the diffuser of the '382 Patent is a “scattering diffuser” ('382 Patent, 5:1-2), which is intended to scatter and spread light emitted therethrough. This is exemplified in Fig. 2, which shows the diffusive effect of diffuser 122. Ex. 2001, ¶ 58

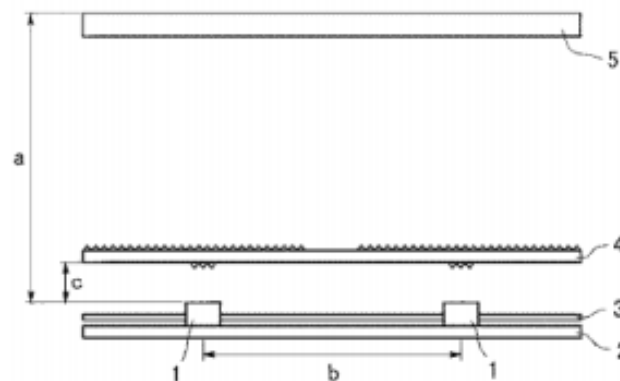


'382 Patent FIG. 2

Kobayashi on the other hand describes an entirely different process whereby focused light becomes more diffuse. Ex. 2001, ¶¶ 44-45, 59. That is the Fresnel

lenses of diffusing plate 4 focus the light emitted by emitter 1 and diffuser plate 5 diffuses that focused light as it passes therethrough towards the LCD panel. Ex. 2001, ¶¶44-45, 59. Therefore, the “diffusing” lens plate 4 of Kobayashi is not equivalent to the diffuser plate as described in the '382 Patent.

[FIG. 1] Kobayashi

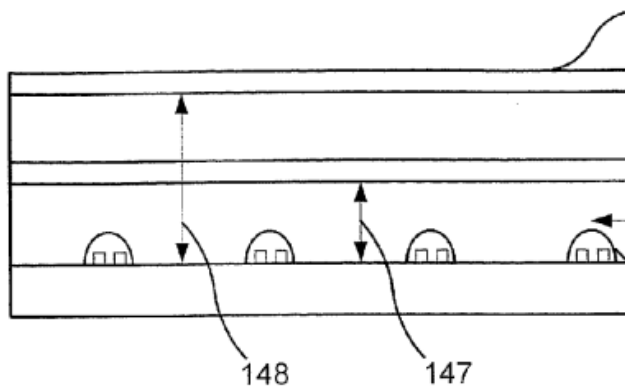


In summary, Kobayashi does not disclose Claim element 1D.

C. Kobayashi in View of a POSITA Fails to Disclose [Claim 1E] “wherein the plurality of solid state emitters comprise a third distance between adjacent ones of the plurality of solid state light emitters, and wherein the first distance is a function of the third distance.”

As discussed in element 1B above, Kobayashi does not teach or disclose the “first distance” as used in the '382 Patent and claim 1.

[FIG. 1] Kobayashi



'382 Patent **FIG. 3**

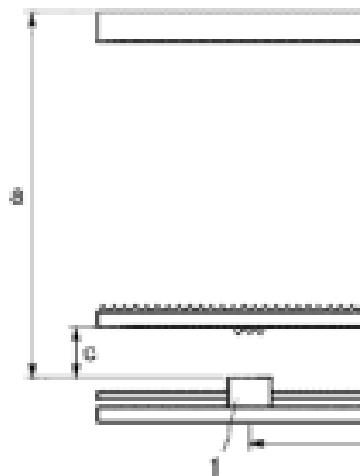


FIG. 1 of Kobayashi discloses only that the distance from the light emitters to a first plane (*c*) is measured from the top of the light emitters, whereas FIG. 3 of the '382 Patent discloses that the first distance is measured from the bottom of the light emitters / top of the support structure.

As such, because Kobayashi does not disclose a “first distance” as claimed, Kobayashi does not meet this claim element.

D. Kobayashi in View of a POSITA Fails to Disclose the Brightness Enhancing Film of Claim 7.

Claim 7 depends from claim 2 and further recites “wherein the diffuser sheet comprises a diffuser film, *a brightness enhancing film*, a polarizing film and a substantially clear plate configured to support the diffuser film, *the brightness enhancing film*, the polarizing film.” '382 Patent, Claim 7.

However, Kobayashi does not disclose a brightness enhancement film. While Petitioner and their expert state that the “prism collection film” is a brightness enhancing film, neither the Petitioner nor its expert provide support for this claim. *See* Petition at Pg. 21. A prism collection film is not a brightness enhancing film. Ex. 2001, ¶46. There is no standard definition of “prism collection film” that would support equating it for “brightness enhancing film” Ex. 2001, ¶46

E. Kobayashi Fails to Disclose “wherein the second distance comprises a distance in a range between the third distance and 1.5 times the third distance” of Claim 9

Petitioner correctly states that Kobayashi discloses that a “ratio of a/b is preferably in the range or 0.2 to 1.0.” Kobayashi, [0020]. However, as recited in claim 9 of the '382 Patent, the second distance comprises a distance in a range between the third distance and 1.5 times the third distance. In Kobayashi, the maximum second distance (“a”) is equal to the third distance (“b”). The second distance in Kobayashi (“a”) is not between the third distance and 1.5 times the third distance. Ex. 2001, ¶62.

Recognizing this, Petitioner's faulty fallback argument claims that “a POSITA would be motivated to make the distance to diffusion plate 5... slightly larger to be between the third distance and 1.5 times the third distance” Petition at 22. Ex. 2001, ¶¶62-63. Because Kobayashi explicitly discloses the ratio of the second distance to the third distance there would not motivation for a POSITA to

make the second distance greater than what is described in Kobayashi as it would negatively impact the performance of the backlight unit. *Id.*

F. Kobayashi Fails to Disclose “means for transmitting first diffused light from the first diffusion plane to the second diffusion plane” of Claim 11

As discussed above in Ground 1 with respect to claim 1D, Kobayashi does not disclose a first diffusion plate. Additionally, the light emitted from “diffuser plate 4” in Kobayashi is not “transmitted first diffused light,” but rather focused light emitted from convex Fresnel lenses. Ex. 2001, ¶¶44-45, 58-59, 64.

G. For the Same Reasons Kobayashi in View of a POSITA Fails to Disclose Elements of Independent Claim 1, Kobayashi in View of a POSITA Fail to Render Obvious Independent Claim 13.

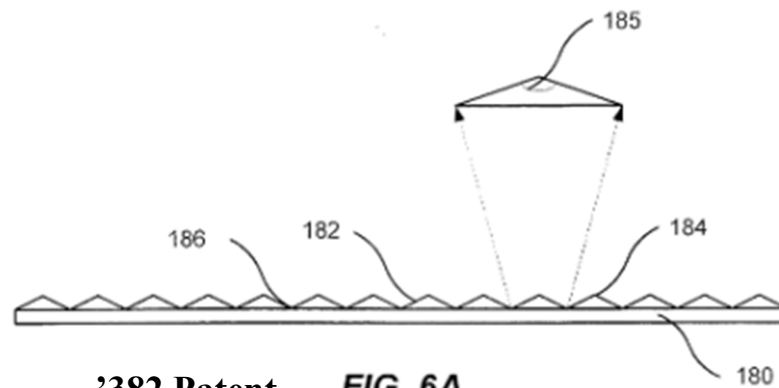
Independent claim 13, recites

[13 Preamble] A method of providing diffused light comprising:
[13A] emitting light from a plurality of Solid state light emitters arranged in a planar configuration;
[13B] receiving the emitted light at a first side of a first diffusion plane that is a first distance from the plurality of solid state light emitters;
[13C] transmitting first diffused light from a structured refractive diffuser plate at a second side of the first diffusion plane;
[13D] receiving the first diffused light from the first diffusion plane at a first side of a second diffusion plane that is a second distance from the plurality of solid state light emitters; and
[13E] transmitting second diffused light from a second side of the second diffusion plane,
[13F] wherein the plurality of solid state light emitters comprise a third distance between adjacent ones of the plurality of solid state light emitters, wherein the first distance is a function of the third distance.

H. Kobayashi Fails to Disclose [Claim 13C] “transmitting first diffused light from a structured refractive diffuser plate at a second side of the first diffusion plane.”

As discussed above in Ground 1 with respect to *claim 1D*, the Fresnel lens of Kobayashi with a diffusivity of 0.5 to 30% does not actually qualify as a diffuser and there it does not “transmit[] a first diffused light.” Ex. 2001, ¶¶44-45, 58-59

Furthermore, Kobayashi does not disclose a “structured refractive diffuse plate” as claimed. Ex. 2001, ¶65 The '382 Patent describes “a structured refractive diffuser plate at a second side of the first diffusion plane.” '382 Patent, Claim 13. As illustrated in Fig 6A and explained in the '382 specification, “a structured refractive diffuser plate 180 may include multiple refractive extrusions 182.”



Kobayashi on the other hand only teaches a refractive index of the diffusion plate 4, “The light diffusing agents used in the diffusing plates 4 and 5 may be the same as each other, different, alone or in combination. Although the refractive index of such light diffusing agents is not particularly limited...” Kobayashi at [0028]. Thus,

Kobayashi only discloses refractivity of diffusing agents inside the diffusing plates (4 and 5) and does not disclose any refractive structure. Ex. 2001, ¶65. Further, there is not mention of a structured refractive element in Kobayashi. Additionally, Kobayashi teaches that the diffusing plate 4 comprises lenses. However, the '382 Patent accomplishes light diffusion without the use of lenses, but instead with a structured refractive diffuser plate.

Furthermore, the structured refractive element helps to scatter and spread light. The convex lenses in Kobayashi, as described above do the exact opposite and focus light. Ex. 2001, ¶¶44-45, 58-59

I. Kobayashi Fails to Disclose [Claim 13F] “wherein the plurality of solid state light emitters comprise a third distance between adjacent ones of the plurality of solid state light emitters, wherein the first distance is a function of the third distance.”

For the same reasons as discussed above with respect to Claim 1E, Kobayashi in view of a POSITA fails to disclose this limitation.

J. Dependent Claims 2-3, 12, and 14-15.

Just as Kobayashi in view of a POSITA does not render Independent Claims 1 and 13 obvious, Petitioner has also not met its burden that any of the dependent claims are rendered obvious.

VI. GROUND 2 - PETITIONER'S KOBAYASHI AND KIRITA IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS DEPENDENT CLAIMS 10 AND 16.

Just as Kobayashi in view of a POSITA does not render Independent Claims 1 and 13 obvious, Petitioner cannot demonstrate that the combination with the addition of Kirita renders obvious dependent claims 10 and 16.

Kirita is directed to an LCD display using CFFL light sources in combination with a light selective transmission filter to improve color reproduction quality in the LCD. Kirita does not disclose any of the elements of independent claims 1 and 13 which are absent from Kobayashi such that Kobayashi in view of Kirita and further in view of a POSITA would render obvious claims 1 and 13. As such, this combination fails to render obvious dependent claims 10 and 16.

VII. GROUND 3 - PETITIONER'S KOBAYASHI AND LIM IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS DEPENDENT CLAIM 8.

Just as Kobayashi in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Lim renders obvious dependent claim 8.

Lim is directed to an LED backlight unit having a light-guiding plate, a reflection, and a diffusion plate to achieve an LCD with high brightness and thin backlight. Lim does not disclose any of the elements of independent claim 1 which are absent from Kobayashi such that Kobayashi in view of Lim and further in view

of a POSITA would render obvious claim 8. As such, this combination fails to render obvious dependent claim 8.

VIII. GROUND 4 - PETITIONER'S KOBAYASHI AND TABITO IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS DEPENDENT CLAIMS 4-6 AND INDEPENDENT CLAIM 17.

A. A POSITA Would Not be Motivated to Combine Kobayashi and Tabito

Petitioner contends that a POSITA would be motivated to combine the diffuser mounting structure of Tabito with the backlight structure of Kobayashi. Patent Owner disagrees.

Kobayashi provides direct guidance on how its backlight unit is intended to operate. Kobayashi discloses the ideal light transmittance of diffusing plate 4 and 5 (See abstract). Ex. 2001, ¶67. Additionally, Kobayashi describes exact distances between the components inside the backlight unit (see distances a, b, and c) Ex. 1106, [0020]. *Id.*, Kobayashi derived these distances from an extensive specific testing process (*see*, Kobayashi, [0046] - [0081]) further illustrated in Table 1:

(11)

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[Table 1]

	Diffusing Plate 4										Diffusing Plate 5				Reflector
	Incident side Fresnel			Light emitting side Fresnel			Total light transmittance (%)	Light diffusivity (%)	Plate thickness (mm)	Distance from LED (cm)	Total light transmittance (%)	Light diffusivity (%)	Plate thickness (mm)	Distance from LED (cm)	
	Apex angle (°)	Pitch (mm)	Diameter (mm)	Apex angle (°)	Pitch (mm)	Diameter (mm)									
Example 1	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 2	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.6	83
Example 3	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.7	83
Example 4	80	0.2	5	50	0.3	40	98.5	15	1.5	0.02	80	83	2	0.8	83
Example 5	80	0.2	5	50	0.3	40	98.5	15	1.5	0.20	80	83	2	0.8	83
Example 6	50	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 7	65	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 8	80	0.2	3	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 9	80	0.2	10	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 10	80	0.2	5	45	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 11	80	0.2	5	85	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 12	80	0.1	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 13	80	0.3	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 14	80	0.2	5	50	0.1	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 15	80	0.2	5	50	0.6	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 16	80	0.2	5	50	0.3	20	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 17	80	0.2	5	50	0.3	50	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 18	80	0.2	5	50	0.3	40	94.6	0.5	1.5	0.08	80	83	2	0.8	83
Example 19	80	0.2	5	50	0.3	40	92.4	80	1.5	0.08	80	83	2	0.8	83
Example 20	80	0.2	5	50	0.3	40	98.5	15	0.75	0.08	80	83	2	0.8	83
Example 21	80	0.2	5	50	0.3	40	91.5	15	6.0	0.08	80	83	2	0.8	83
Example 22	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	50	87	2	0.8	83
Example 23	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	70	73	2	0.8	83
Example 24	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	60	83	1	0.6	83
Example 25	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	3	0.8	83
Example 26	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	80
Example 27	—	—	—	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	83
Example 28	80	0.2	5	—	—	—	98.5	15	1.5	0.08	80	83	2	0.8	83
Comparative Example 1	—	—	—	—	—	—	98.5	15	1.5	0.08	80	83	2	0.8	83
Comparative Example 2	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	75
Comparative Example 3	80	0.2	5	50	0.3	40	98.5	15	1.5	0.08	80	83	2	0.8	—
Comparative Example 4	—	—	—	—	—	—	—	—	—	—	80	83	2	0.8	83

Employing the optical stud members disclosed by Tabito into Kobayashi would result in completely different optical characteristics of the lighting panel, therefore a POSITA would not be motivated to combine the two. Ex. 2001, ¶68.

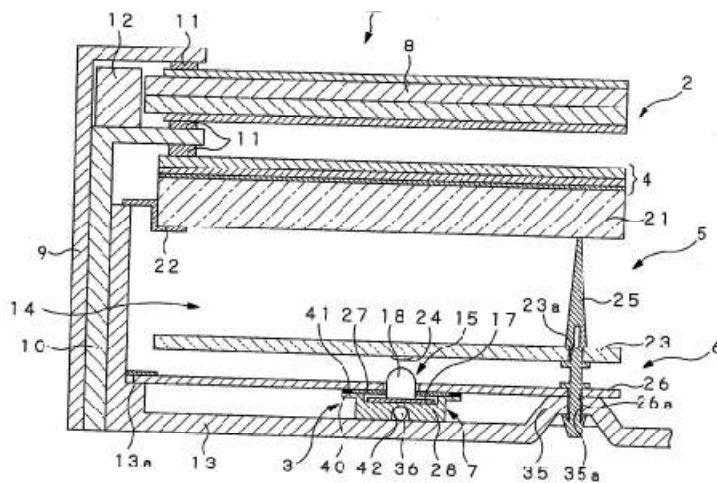


FIG. 2

The optical stud members 25 are “formed by the milk-white light conducting polymer material, as described above, and hence diffuses the illuminating light introduced into its inside from the outer peripheral surface to prevent the distal end 25h from being partially illuminated to enable the illuminating light to be incident evenly from the light guide section 14 into the light diffusing conducting plate 21.” Tabito, [0095]. This means that the optical stud members of Tabito are intended to absorb light and partially diffuse light. Ex. 2001, ¶68. If combined, the interaction between light emitted from the LEDs (Kobayashi) and the optical studs (Tabito) would cause the amount of light entering the diffusing plate to change, as well as the amount of internal reflection/interference of the light traveling in the regions between the plates. *Id.* It is not reasonable to assume that there would be an optimal relationship, in terms of backlight performance, between the two distances (b and c) in Kobayashi when optical studs are present. *Id.*,

As such, a POSITA would not be motivated to combine Tabito with Kobayashi, thereby altering Kobayashi's ideal light transmission structure.

B. Dependent Claims 4-6.

Just as Kobayashi in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Tabito renders obvious dependent claims 4-6.

Tabito is directed to providing backlighting for a larger sized LCD display. A backlight section sending out illuminating light is formed by a plural number of rows made up of many light emitting units arranged on the back Surface of a liquid crystal display panel. Tabito does not disclose any of the elements of independent claim 1 which are absent from Kobayashi such that Kobayashi in view of Tabito and further in view of a POSITA would render obvious claim 4-6. As such, this combination fails to render obvious dependent claims 4-6.

C. Kobayashi in view of Tabito and a POSITA Fails to Render Obvious Independent Claim 17

Independent claim 17 recites:

[17 Preamble] A display comprising:

[17A] a backlighting panel comprising:

[17B] a plurality of Solid state light emitters arranged in a substantially planar configuration including a third distance between adjacent ones of the plurality of Solid state light emitters;

[17C] a first diffusion plane that is configured to receive light from the plurality of solid state light emitters and to transmit first diffused light, the first diffusion plane including a diffuser plate that is positioned a first distance from the plurality of solid state light;

[17D] a second diffusion plane that is configured to receive the first diffused light and to transmit second diffused light;

[17E] a plurality of diffuser Supports configured to support a first diffuser plane structure at a first distance from the plurality of Solid state light emitters and to support a second diffuser plane structure at a second distance from the plurality of solid state light emitters, wherein the second distance is greater than the first distance; and

[17F] a LCD display panel that is configured to receive the second diffused light and selectively transmit received light as display content, [17G] wherein the first distance is a function of the third distance.

- D. Kobayashi in view of Tabito and a POSITA Fails to Disclose [Claim 17C] “a first diffusion plane that is configured to receive light from the plurality of solid state light emitters and to transmit first diffused light, the first diffusion plane including a diffuser plate that is positioned a first distance from the plurality of solid state light.”**

See Responses to claims 1B and 11

- E. Kobayashi in view of Tabito and a POSITA Fails to Disclose [Claim 17D] a second diffusion plane that is configured to receive the first diffused light and to transmit second diffused light;**

See Responses to claims 1B and 1[C]

- F. Kobayashi in view of Tabito and a POSITA Fails to Disclose [Claim 17E] “a plurality of diffuser Supports configured to support a first diffuser plane structure at a first distance from the plurality of Solid state light emitters and to support a second diffuser plane structure at a second distance from the plurality of solid state light emitters, wherein the second distance is greater than the first distance; and**

See Responses to claims 1[C] and the lack of motivation to and inoperability of combining Kobayashi and Tabito above.

- G. Kobayashi in view of Tabito and a POSITA Fails to Disclose [Claim 17G] “wherein the first distance is a function of the third distance.”**

See response to Claim 1[E]

IX. GROUND 5 - PETITIONER'S KOBAYASHI AND TABITO AND ONISHI IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS DEPENDENT CLAIMS 18 AND 20.

Just as Kobayashi and Tabito in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Onishi renders obvious dependent claims 18 and 20.

Onishi is directed to a lighting System, a reflector, light sources, and a light control member sequentially disposed from a light incident side to a light outgoing Side. The disclosure of Onishi is preferably used for large displays requiring high uniformity and eliminates lamp image and removes the necessity to do light source repositioning, while enabling luminance in the exit plane to achieve excellent luminosity and uniformity. Onishi, at Abstract. Onishi does not disclose any of the elements of independent claim 1 which are absent from the combination of Kobayashi at Tabito such that Kobayashi in view of Tabito and Kirita and further in view of a POSITA would render obvious claim 1. As such, this combination fails to render obvious dependent claims 18 and 20.

X. GROUND 6 - PETITIONER'S KOBAYASHI, TABITO, ONISHI AND EPSTEIN IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS DEPENDENT CLAIM 19.

Just as Kobayashi, Tabito, Onishi in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Epstein renders obvious dependent claim 19.

Epstein is directed to an optical film for use in transparent displays, such as LCDs. Epstein, at Abstract. Epstein does not disclose any of the elements of independent claim 1 which are absent from the combination of Kobayashi, Tabito, and Onishi such that Epstein in view of Kobayashi, Tabito, and Onishi and further in view of a POSITA would render obvious claim 1. As such, this combination fails to render obvious dependent claim 19.

XI. GROUND 7 - PETITIONER'S SCHIAVONI AND LIM IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS CLAIMS 1-2, 7-8 AND 11-15.

A. A POSITA Would Not Be Motivated to Combine Schiavoni and Lim.

The combination of Schiavoni with Lim is inappropriate. Petitioner does not make clear or even imply that optical system/element 100 of Schiavoni would be functional in the context of an R,G,B lighting system. Ex. 2001, ¶69. This is because Schiavoni's LEDs are used to make white light, whereas Lim's multiple RGB LEDs are used for R-G-B separately, line by line in a field sequential type of LCD system which Schiavoni does not operate with. *Id.* Nor does Petitioner demonstrate or imply that the light sources 11 of Schiavoni would achieve optimal illumination of an LCD panel by employing the distance relationship between the light sources and the diffusion film of Lim. *Id.*

B. Schiavoni and Lim in view of a POSITA Fails to Disclose [Claim 1B] “a multiplane light diffuser including a first diffusion plane that is a first distance from the plurality of solid state emitters and a second diffusion plane that is a second distance from the

Petitioner contends that Schiavoni discloses element 1B above. Petition at 51. However, Schiavoni teaches a different system to solve a similar problem patent (achieving optimal illumination of an LCD screen) as the '382 Patent. Instead, the “optical system / optical element 100 transparent to said radiation and intended to be installed between said sources and substantially planar diffuser [22]...” taught in Schiavoni does not teach a “multiplane light diffuser”⁴ as claimed in claim 1.

Figure 1A of Schiavoni

⁴ The translation of Schiavoni uses the terms “optical element” and “optical system” interchangeably.

prism type with a triangular section, with an apex angle preferable of 90° ." Schiavoni at 18. This is not a diffuser. Ex. 2001 at ¶71.

This is further exemplified in figure 5 of Schiavoni:

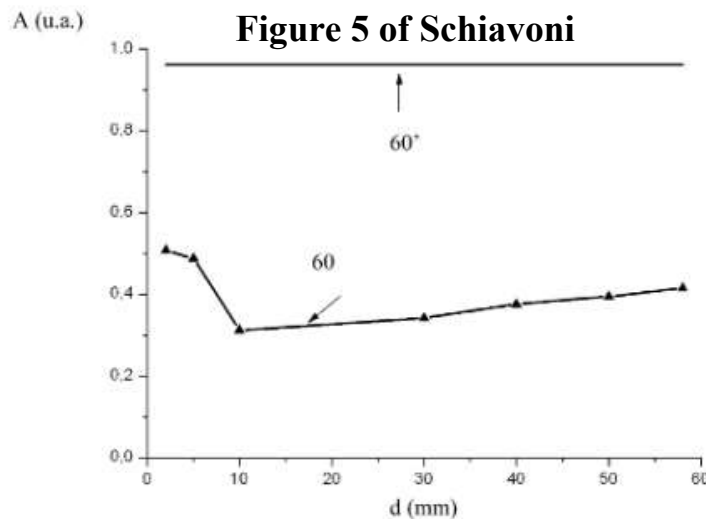


FIG. 5 shows a first curve 60 giving the evolution of the parameter called normalized minimum area A as a function of the width d of the scattering zones for the optical element 100 and a second comparative curve 60' giving the parameter A without the optical element.

Schiavoni defines parameter A as "normalized minimum area" which is used to evaluate "sectorization". Sectorization is defined in Schiavoni in the following excerpt:

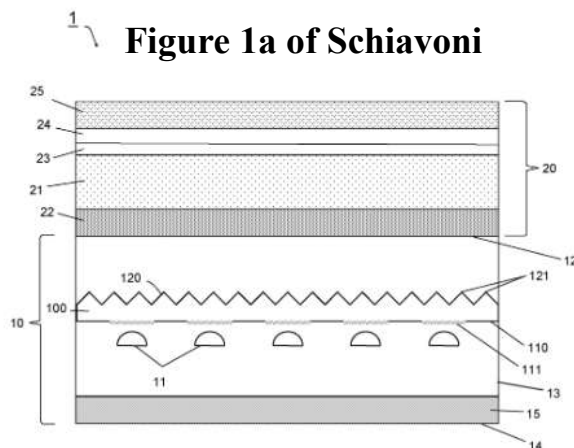
The first optical element [optical system 100] according to the invention...has the dual function...to control the sectorization of the normal luminance, so that for a given row of point sources (or a given extended source occupying the row) the average of the normal luminance profile in a direction orthogonal to the sources does not significantly mix with the average luminance profile of a neighboring row (or a neighboring source). Schiavoni at 5-6.

The purpose of optical system 100 in Schiavoni is to ensure that the light from light sources 11 do not “significantly mix.” This is antithetical to the purpose of a diffuser of the '382 patent which is to spread out the light from the light sources to achieve an even luminance profile. Ex. 2001, ¶¶70-71.

Thus, when viewed as a whole, rather than cherry-picking verbiage as Petitioner does, Schiavoni does not teach “a multiplane light diffuser including a first diffusion plane that is a first distance from the plurality of solid state emitters and a second diffusion plane that is a second distance from the plurality of solid state emitters that is different from the first distance” as Schiavoni does not teach the first diffusion plane, but rather an optical element that sectorizes light.

C. Schiavoni and Lim in view of a POSITA Fails to Disclose: [Claim 1E] “wherein the plurality of solid state emitters comprise a third distance between adjacent ones of the plurality of solid state light emitters, and wherein the first distance is a function of the third distance.”

Petitioner's argument incorrectly posits that the distance relationships described in Schiavoni discloses those described in the '382 patent. Figure 1a of Schiavoni is shown below:



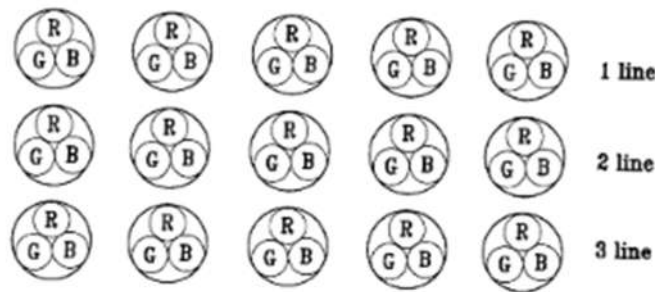
The “first distance” as claimed in the ’382 Patent is measured by the distance between the bottom of the plurality of solid state emitters/top of the support structure and the first diffusion plane. *See* Response to Ground 1 Claim 1[E] above.

However, as discussed above, the optical system/element 100 of Schiavoni is not a diffuser and as such Schiavoni does not describe the relationship between the distance of adjacent solid state lighting emitters to the spacing between the bottom of the plurality of solid state emitters/top of the support structure and the first diffusion plane.

Lim also does not disclose this element. While Lim does acknowledge the relationship “between a diffusion plate and a lamp in accordance with the distance between lamps having the same visible angle,” it does so in the context of color mixing. Petitioner fails to recognize that the light sources of Lim are R,G,B (red, green, blue) LEDs. Thus the LEDs of Lim do not emit white light as those in the ’382 patent (“In some embodiments, light emitters 112 may include white LED

lamps that include a blue-emitting LED coated with a fluorescing compound that may modify the wavelength of at least some light that is emitted from the blue light emitting LED.”) Figure 3A of Lim is shown below:

Lim FIG.3A



Because of the RGB light sources, the relationship of the distance between adjacent LED lamps and the distance between the LED lamps and a diffuser in Lim is intended to ensure that there are not peaks of specific colors at the intersection of the light emitted by the R,G,B light sources. Read with this context the language from Lim quoted by Petitioner becomes evident:

"Referring to FIG. 4A, the farther the interval between the lamps realizing the same color is, the longer the interval between the lamp and the diffusion plate is. A plurality of diffusion plates are required for shortening the distance between the lamp and diffusion plate, which eventually thickens the backlight unit as well as reduces brightness therefrom." (emphasis added) Lim, [0058]

The relationship between the spacing of the light sources and the distance from the light sources to the diffuser in color mixing is different from the relationship in the use of white light sources such as in the claimed invention. The purpose of the

distance between the light sources and the diffusion plate in the '382 patent is intended to achieve optimal illumination of the LCD panel, whereas the purpose of the distance between the light source and diffuser in Lim is ensure optimal color mixing.

D. For the Same Reasons Schiavoni and Lim in View of a POSITA Fails to Disclose Elements of Independent Claim 1, Kobayashi in View of a POSITA Fail to Render Obvious Independent Claim 13.

Independent claim 13, recites

[13 Preamble] A method of providing diffused light comprising:
[13A] emitting light from a plurality of Solid state light emitters arranged in a planar configuration;
[13B] receiving the emitted light at a first side of a first diffusion plane that is a first distance from the plurality of solid state light emitters;
[13C] transmitting first diffused light from a structured refractive diffuser plate at a second side of the first diffusion plane;
[13D] receiving the first diffused light from the first diffusion plane at a first side of a second diffusion plane that is a second distance from the plurality of solid state light emitters; and
[13E] transmitting second diffused light from a second side of the second diffusion plane,
[13F] wherein the plurality of solid state light emitters comprise a third distance between adjacent ones of the plurality of solid state light emitters, wherein the first distance is a function of the third distance.

E. Schiavoni and Lim in View of a POSITA Fails to Disclose [Claim 13B] “receiving the emitted light at a first side of a first diffusion plane that is a first distance from the plurality of solid state light emitters.”

See Response to claim 1[B]

F. Schiavoni and Lim in View of a POSITA Fails to Disclose [Claim 13F] “wherein the plurality of solid state light emitters comprise a third distance between adjacent ones of the plurality of solid state

light emitters, wherein the first distance is a function of the third distance.”

See Response to claim 1[E]

G. Dependent Claims.

Just as Schiavoni and Lim in view of a POSITA does not render Independent Claims 1 and 13 obvious, Petitioner has also not met its burden that any of the dependent claims are rendered obvious.

XII. GROUND 8 - PETITIONER'S SCHIAVONI AND LIM AND KOBAYASHI IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS CLAIM 9.

A. A POSITA Would Not be Motivated to Combine Schiavoni or Kobayashi with Lim

Because Lim's RGB lamps uses R-G-B separately, line by line in a field sequential type of LCD system which Schiavoni, Kobayashi (and the '382 Patent) does not. There is not motivation to combine Schiavoni and/or Kobayashi with Lim. Ex. 2001, ¶72.

B. Schiavoni and Lim Does Not Render Obvious Independent Claims and Naturally Not Render Dependent Obvious Dependent Claim 9

Just as Schiavoni and Lim in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Kobayashi renders obvious dependent claims 9.

XIII. GROUND 9 - PETITIONER'S SCHIAVONI AND LIM AND KIRITA IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS DEPENDENT CLAIMS 10 AND 16.**A. A POSITA Would Not be Motivated to Combine Schiavoni or Kirita with Lim**

Because Lim's RGB lamps uses R-G-B separately, line by line in a field sequential type of LCD system which Schiavoni, Kirita (and the '382 Patent) does not. There is not motivation to combine Schiavoni and/or Kirita with Lim. Ex. 2001, ¶73.

B. Schiavoni and Lim Does Not Render Obvious Independent Claims 1 and 13 and Therefore Does Not Render Obvious Dependent Claims 10 and 16.

Just as Schiavoni and Lim in view of a POSITA does not render Independent Claims 1 and 13 obvious, Petitioner cannot demonstrate that the combination with the addition of Kirita renders obvious dependent claims 10 and 16.

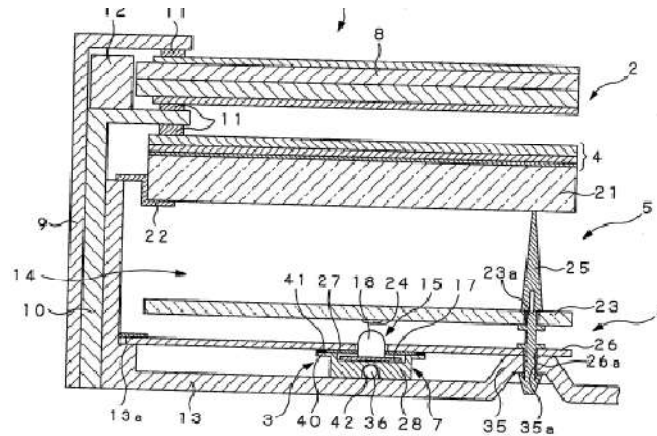
Kirita is directed to an LCD display using CFFL light sources in combination with a light selective transmission filter to improve color reproduction quality in the LCD. Kirita does not disclose any of the elements of independent claims 1 and 13 which are absent from the combination of Schiavoni and Lim such that Schiavoni and Lim in view of Kirita and further in view of a POSITA would render obvious claims 1 and 13. As such, this combination fails to render obvious dependent claims 10 and 16

XIV. GROUND 10 - PETITIONER'S SCHIAVONI AND LIM AND TABITO IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS CLAIMS 4-6 AND 17.**A. A POSITA Would Not be Motivated to Combine Schiavoni and/or Lim with Tabito**

A POSITA would not be motivated to combine Tabito and Schiavoni as the combination would lead to potential faults in the invention of Schiavoni. Ex. 2001, ¶¶74-75

The lens closest to the light emitters of Schiavoni (*e.g.* optical system 100) is “preferably glass, 3mm thick” and its “upper face 120 is textured...to obtain grooves 121 of the prism type with a triangular section.” Schiavoni at 18.

Even assuming *arguendo* that optical element/system 100 of Schiavoni qualifies as a diffuser for the moment, it would be unworkable to insert Tabito's diffuser supports through this glass optical element. Ex. 2001, ¶¶74-75. Glass is not an optimal material for the holes that are required for mounting the diffuser supports. *Id.* Further, Tabito's diffuser supports would disrupt the triangular grooves of Schiavoni, thus reducing the efficacy of the optical system.



Tabito FIG. 2

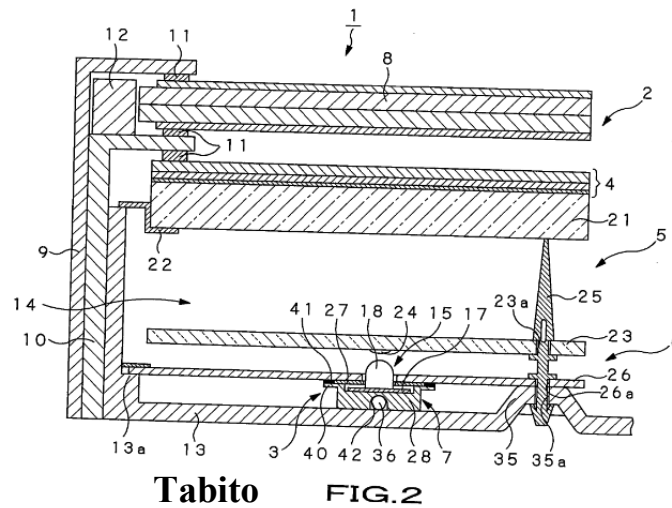
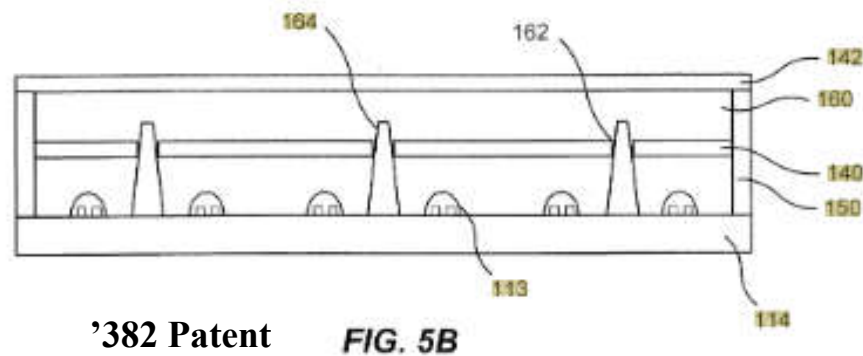
Adopting a more informed view of Schiavoni in light of the arguments advanced above (i.e. that optical system/element 100 of Schiavoni is not a diffuser within the meaning of the '382 patent), combining the diffuser supports of Tabito with Schiavoni would have the diffuser supports situated through diffusing layer 22 of Schiavoni. A diffuser support that passed through Schiavoni's diffusing layer 22 would punch into the "transparent support 21 preferably glass". This arrangement is obviously unworkable as it would cause the structure to be more fragile. Ex. 2001, ¶¶75.

- B. Petitioner's Schiavoni and Lim and Tabito Fails to Disclose [Claim 17E] "a plurality of diffuser supports configured to support a first diffuser plane structure at a first distance from the plurality of Solid state light emitters and to support a second diffuser plane structure at a second distance from the plurality of solid state light emitters, wherein the second distance is greater than the first distance; and."**

Petitioner cites Schiavoni in combination with Tabito as anticipating element 17E of the '382 patent. The diffuser supports of Tabito (optical stud member 25) are

inserted through the support structure (back panel 13) and through a first light diffusing plate 23 which is mounted above the lighting elements (LEDs 18).

Specifically, the diffuser supports of the '382 patent are mounted on, not through, the support structure as per figure 5B of the '835 application. Figure 5B of the '382 patent is shown below:



See also response to Ground 4, Claim 17E.

C. Dependent Claims 4-6.

Just as Schiavoni and Lim in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Tabito renders obvious dependent claims 4-6.

Tabito is directed to providing backlighting for a larger sized LCD display. A backlight section sending out illuminating light is formed by a plural number of rows made up of many light emitting units arranged on the back Surface of a liquid crystal display panel. Tabito does not disclose any of the elements of independent claim 1 which are absent from Schiavoni and Lim such that Schiavoni and Lim in view of Tabito and further in view of a POSITA would render obvious claim 4-6. As such, this combination fails to render obvious dependent claims 4-6.

XV. GROUND 11 - PETITIONER'S SCHIAVONI AND LIM AND TABITO AND ONISHI IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS CLAIMS 18 AND 20.

Just as Schiavoni and Lim and Tabito in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Onishi renders obvious dependent claims 10 and 16.

Onishi is directed to a lighting System, a reflector, light sources, and a light control member sequentially disposed from a light incident side to a light outgoing Side. The disclosure of Onishi is preferably used for large displays requiring high uniformity and eliminates lamp image and removes the necessity to do light source repositioning, while enabling luminance in the exit plane to achieve excellent

luminosity and uniformity. Onishi, at Abstract. Onishi does not disclose any of the elements of independent claim 1 which are absent from the combination of Schiavoni and Lim and Tabito such that Onishi in view of Schiavoni and Lim and Tabito and Onishi Kirita and further in view of a POSITA would render obvious claim 1. As such, this combination fails to render obvious dependent claims 18 and 20.

Likewise there is no motivation to combine Schiavoni, Tabito, and Onishi, with Lim.

XVI. GROUND 12 - PETITIONER'S SCHIAVONI AND LIM AND TABITO AND ONISHI AND EPSTEIN IN VIEW OF A POSITA FAIL TO RENDER OBVIOUS CLAIM 19.

Just as Schiavoni, Tabito, Onishi in view of a POSITA does not render Independent Claim 1 obvious, Petitioner cannot demonstrate that the combination with the addition of Epstein renders obvious dependent claim 19.

Epstein is directed to an optical film for use in transparent displays, such as LCDs. Epstein, at Abstract. Epstein does not disclose any of the elements of independent claim 1 which are absent from the combination of Kobayashi, Tabito, and Onishi such that Epstein in view of Kobayashi, Tabito, and Onishi and further in view of a POSITA would render obvious claim 1. As such, this combination fails to render obvious dependent claim 19.

Likewise there is no motivation to combine Schiavoni, Tabito, Onishi, and Epstein with Lim.

XVII. CONCLUSION

The Board should exercise its discretion to deny the petition on each of Ground 1 thru 12 for the reasons above.

Respectfully submitted,

/Hao Ni/
Hao Ni
Counsel for Petitioner

CERTIFICATE OF COMPLIANCE

Per 37 C.F.R. §42.24(a) and (d), the undersigned hereby certifies that the
Petition complies with the type-volume limitation of 37 C.F.R. §42.24(a)(i)
because, exclusive of exempted portions, it contains 8618 words as counted by the
word-processing program used to prepare it.

Dated: November 30, 2023,

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that the above-captioned Mandatory Notice was served on counsel of record for the Petitioner by filing this document through the Patent Review Processing System as well as by delivering a copy via electronic mail to:

MFerrario@kilpatricktownsend.com (Lead Counsel)
MMorlock@kilpatricktownsend.com (Back-Up Counsel)

Dated: November 30, 2023

/s/ Hao Ni
Hao Ni (Reg. No. 53,858)