

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Hisense USA Corporation

Petitioner,

v.

Brightplus Ventures LLC,

Patent Owner

Case No. IPR2023-01411

U.S. Patent No. 7,872,705

**PATENT OWNER'S CONTINGENT MOTION TO AMEND UNDER 37
C.F.R. § 42.121**

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I. INTRODUCTION

Patent Owner Brightplus Ventures LLC (“Brightplus” or “Patent Owner”) respectfully submits this contingent request to substitute claims 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, and 48 for challenged claims of U.S. Patent No. 7,872,705 (the “’705 Patent”). In the instituted trial, the Petitioner Hisense USA Corporation (“Hisense” or “Petitioner”) has challenged the patentability of claims 1, 2, 5, 6, 9, 11, 13, 14, 16, 17, 22, 28, 29, 31, 32, 33, and 34 as obvious under 35 U.S.C. § 103, as follows:

- Claims 1, 2, 5, 6, 9, 11, 13, 14, 16, 17, 22, 28, 29, 31, 32, 33, 34 as obvious over Johnson in view of the Knowledge of a POSITA (Ground 1).
- Claims 1, 2, 5, 11, 13, 14, 16, 17, 32, and 34 as obvious over Suzuki in view of the Knowledge of a POSITA (Ground 2).
- Claims 32 and 33 as obvious over the combination of Johnson and Fine in view of the Knowledge of a POSITA (Ground 3).
- Claims 6, 22, 28, 29, 32, and 34 as obvious over the combination of Suzuki and Fine in view of the Knowledge of a POSITA (Ground 4).

Patent Owner submits that this Motion satisfies the statutory and regulatory requirements for a motion to amend the claims under 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121 because the proposed amendments: (i) do not enlarge the scope of the claims or introduce new subject matter; (ii) are responsive to at least one ground

of patentability instituted in this proceeding; (iii) are supported by the disclosure of the originally-filed application; and (iv) are patentable over the closest known prior art Johnson, Suzuki, and Fine references asserted in the Petition.

II. MOTION TO AMEND IS CONTINGENT

Patent Owner submits that this Motion is contingent upon a finding in a final written decision that challenged claims 1, 2, 6, 11, 13, 14, 16, 17, 28, 29, 31, 32, 33, and 34 are unpatentable. Specifically, Patent Owner requests the following contingencies:

- if claims 1, 2, 32, 33, 17, 34, and 31 are found to be unpatentable, substitute proposed amended claims 35, 36, 37, 38, 39, 40, and 41.
- if claims 6, 11, 13, 14, 28, 16, and 29 are found to be unpatentable, substitute proposed amended claims 42, 43, 44, 45, 46, 47, and 48.

III. MOTION TO AMEND PILOT PROGRAM

Patent Owner requests that this Motion be subject to the MTA Pilot Program (84 F.R. 9497). This proceeding was instituted on Apr 25, 2024, *see* Paper 7, and thus qualifies for the MTA Pilot Program effective on March 15, 2019. Patent Owner requests preliminary guidance from the Board on this Motion and whether to file a revised motion to amend. Patent Owner reserves its right to file a revised motion to amend subject to the Board's preliminary guidance.

IV. A REASONABLE NUMBER OF CLAIMS ARE AMENDED

Under 37 C.F.R. §42.121(a)(3), a motion to amend may propose a reasonable

number of substitute claims for each challenged claim. Generally, it is presumed “that only one substitute claim would be needed to replace each challenged claim,” but that presumption may be rebutted upon a showing of need. 37 C.F.R. § 42.121(a)(3); *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 4-5 (PTAB Feb. 25, 2019). “An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.” 35 U.S.C. § 316(d)(3); *Pulse Elecs., Inc. v. U.D. Elec. Corp.*, No. 3:20-cv-01676-BEN-DEB, 2021 U.S. Dist. LEXIS 69938, at *22 (S.D. Cal. 2021). Patent Owner submits that this Motion complies with the requirement because Patent Owner proposes 14 substitute claims for 14 original claims. None of the proposed substitute claims include new matter.

V. THE PROPOSED AMENDMENTS RESPOND TO A GROUND OF UNPATENTABILITY INVOLVED IN THIS TRIAL

Under 37 C.F.R. § 42.121(a)(2)(i), the amendment(s) to the claims must be responsive to at least one ground of unpatentability involved in the trial. In the Institution Decision, the Board determined—in regard to each respective Ground—that:

- (i) “In summary, based on the current record, and for purposes of this institution decision, we determine that Petitioner shows a reasonable likelihood that it would prevail in showing that claim 1 would have been obvious to one of ordinary skill in the art in view of Johnson... We find Petitioner’s showing for... claims [2, 5, 6, 11, 13, 14, 16, 17, 22, 28, 29, and 31-34] sufficient for institution. Pet. 20–25, 28–40.” (Institution

Decision at 17)

- (ii) “Petitioner argues that the combination of Johnson and Fine renders claims 32 and 33 obvious... We have the reviewed Petitioner’s arguments and evidence regarding claims 32 and 33 for this ground, and, on the current record, we find them persuasive for purposes of institution.” (Institution Decision at 23)

As set forth below, the amendments recited in proposed substitute claims 35-48 add further new limitations that render the claim patentable over the closest known prior art — Johnson, Suzuki, the combination of Johnson with Fine, and Suzuki with Fine cited in the Petition. Therefore, Patent Owner submits that the amendments recited in proposed substitute claims 35-48 are directly responsive to the grounds of unpatentability involved in the trial.

VI. THE PROPOSED AMENDMENTS DO NOT SEEK TO ENLARGE THE SCOPE OF THE CHALLENGED CLAIMS

The proposed amendments to the challenged claims of the ’705 Patent are listed in **Appendix A** below. The proposed amendments are indicated with underlining for the additional limitations that have been added and strikethroughs for deletions. Under 35 U.S.C. § 316(d)(3) and 37 C.F.R. § 42.121(a)(2)(ii), a motion to amend may not seek to enlarge the scope of the challenged claims. This Motion satisfies the requirement because the amendments recited in proposed substitute claims 35-48 add further new limitations to the challenged claims and, thus, further narrow the scope of these claims.

With respect to substitute claim 35, independent claim 1 has been rewritten to include the addition of the claim limitation “a first waveguide element and a second waveguide element respectively comprising a first light entry region and a second light entry region” which further limits the claim’s scope to require a first and second waveguide corresponding to a first and second light-emitting source, respectively.

With respect to substitute claim 36, original claim 2 has been substituted with a dependent claim from proposed substitute independent claim 35. The limitation “wherein the first and second waveguide elements each have a transmissive surface, wherein each transmissive surface is smaller than the viewable surface” further limits the claim’s meaning to the require each waveguide element to have a transmissive surface that is smaller than the viewable surface.

With respect to substitute claim 37, original claim 32 has been substituted with a dependent claim from proposed substitute independent claim 35. The limitation “wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel” further limits the claim’s meaning to the require each waveguide element to light a portion of the LCD panel in a television.

With respect to substitute claim 38, original claim 33 has been substituted with a dependent claim from proposed substitute independent claim 35. The limitation “wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel” further limits the claim’s meaning to the require each waveguide element to light a portion of the LCD panel in a computer monitor.

With respect to substitute claim 39, original claim 17 has been substituted with

a dependent claim from proposed substitute independent claim 35. The limitation “first light-emitting source and second light-emitting source are embedded within a surface of the first and second waveguide, respectively” further limits the claim’s meaning to require the first and second light-emitting sources to be embedded within a surface of first and second waveguide element, respectively.

With respect to substitute claim 40, original claim 34 has been substituted with a dependent claim from proposed substitute independent claim 35. The limitation “a third plurality of LEDs arranged in a third strip and positioned to emit light into the third waveguide element at a third light entry region” further limits the claim’s meaning to the require a third plurality of LEDs arranged in a third strip and positioned to emit light into the third waveguide element.

With respect to substitute claim 41, original claim 31 has been substituted with a dependent claim from proposed substitute dependent claim 40. The limitation “a fourth plurality of LEDs arranged in a fourth strip and positioned to emit light into the fourth waveguide element at a fourth light entry region” further limits the claim’s meaning to the require a fourth plurality of LEDs arranged in a fourth strip and positioned to emit light into the fourth waveguide element.

With respect to substitute claim 42, original claim 6 has been rewritten into an independent claim including the limitations of original claim 1, with the added limitations “a first waveguide element and a second waveguide element... wherein the first waveguide element is positioned to receive light emitted by one or more of the LEDs of the first plurality of LEDs... wherein the second waveguide element in

positioned to receive light emitted by one or more of the LEDs of the second plurality of LEDs” further limits the claim’s meaning to the require a first and second waveguide element that receive light emitted by one or more of the LEDs of the first or second plurality of LEDs, respectively.

With respect to substitute claim 43, original claim 11 has been substituted with a dependent claim from proposed substitute independent claim 42. The limitation “wherein the LCD panel has a viewable surface and the first and second waveguide elements each have a transmissive surface, wherein each transmissive surface is smaller than the viewable surface” further limits the claim’s meaning to the require each waveguide element to have a transmissive surface that is smaller than the viewable surface of the LCD panel.

With respect to substitute claim 44, original claim 13 has been substituted with a dependent claim from proposed substitute independent claim 42. The limitation “embodied in a television, wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel” further limits the claim’s meaning to the require each waveguide element to light a portion of the LCD panel in a television.

With respect to substitute claim 45, original claim 14 has been substituted with a dependent claim from proposed substitute independent claim 42. The limitation “the system further embodied in a computer monitor, wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel” further limits the claim’s meaning to the require each waveguide element to light a

portion of the LCD panel in a computer monitor.

With respect to substitute claim 46, original claim 28 has been substituted with a dependent claim from proposed substitute independent claim 42. The limitation “the first plurality of LEDs and second plurality of LEDs are embedded within a surface of and emit light into the first and second waveguide, respectively” further limits the claim’s meaning to the require the first and second plurality of LEDs to be embedded within a surface of first and second waveguide element, respectively.

With respect to substitute claim 47, original claim 16 has been substituted with a dependent claim from proposed substitute independent claim 42. The limitation “a third plurality of LEDs arranged in a third strip, wherein a third waveguide is positioned to receive light emitted by one or more of the LEDs of the third plurality of LEDs” further limits the claim’s meaning to the require a third plurality of LEDs arranged in a third strip and a third waveguide positioned to receive light emitted by one or more of the LEDs of the third plurality of LEDs.

With respect to substitute claim 48, original claim 29 has been substituted with a dependent claim from proposed substitute dependent claim 47. The limitation “a fourth plurality of LEDs arranged in a fourth strip, wherein a fourth waveguide is positioned to receive light emitted by one or more of the LEDs of the fourth plurality of LEDs” further limits the claim’s meaning to the require a fourth plurality of LEDs arranged in a fourth strip and a fourth waveguide positioned to receive light emitted by one or more of the LEDs of the fourth plurality of LEDs.

Patent Owner submits that the proposed amendments recited in substitute

claims 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, and 48 further narrow the scope of original challenged claims 1, 2, 32, 33, 17, 34, 31, 6, 11, 13, 14, 28, 16, and 29, and therefore comply with the statutory and regulatory requirements of 35 U.S.C. § 316(d)(3) and 37 C.F.R. § 42.121(a)(2)(ii).

VII. THE PROPOSED AMENDMENTS DO NOT INTRODUCE NEW SUBJECT MATTER

Under 35 U.S.C. § 316(d)(3) and 37 C.F.R. § 42.121(a)(2)(ii), a motion to amend may not introduce new subject matter. Patent Owner submits this requirement is satisfied because the claim limitations recited in proposed substitute claims 35-48 find support in the specification of the '705 Patent.

A. Proposed Substitute Claims 35 and 42 Are Supported by the Specification of the '705 Patent

Support for the amendment in proposed substitute claim 35 can be found in the '705 Patent at 3:38-47; 4:59-64; 5:29-34; and 9:36-48. The '705 Patent's invention demonstrates the use of multiple waveguides, each with their own light entry region. Additionally, support for the amendment in proposed substitute claim 42 can be found in the '705 Patent at 3:38-47 and 11:46-67. The '705 Patent's invention teaches that the first waveguide and second waveguide element are positioned to receive light emitted by one or more of the LEDs of the first plurality and second plurality of LEDs, respectively.

B. Proposed Substitute Claims 36 and 43 Are Supported by the Specification of the '705 Patent

Support for the amendment in proposed substitute claims 36 and 43 can be

found in the '705 Patent at 4:59-64; 5:29-34; 6:38-49 7:23-35; and 9:36-48. Specifically, the '705 Patent demonstrates that the first and second waveguides each have a transmissive surface, wherein each transmissive surface is smaller than the viewable surface.

C. Proposed Substitute Claims 37, 38, 44, and 45 Are Supported by the Specification of the '705 Patent

Support for the amendment in proposed substitute claims 37, 38, 44, and 45 can be found in the '705 Patent at 4:59-64; 5:12-18; 5:29-34; 6:38-49 7:23-35; and 9:36-48. Specifically, the '705 Patent demonstrates that the first and second waveguide elements are positioned to light a portion of the LCD panel.

D. Proposed Substitute Claims 39 and 46 Are Supported by the Specification of the '705 Patent

Support for the amendment in proposed substitute claims 39 and 46 can be found in the '705 Patent at 4:59-64; 5:29-34; 6:38-49 7:23-35; 9:36-48; 10:14-22. Specifically, the '705 Patent demonstrates that each light source or plurality of LEDs can be embedded within a surface its respective waveguide element.

E. Proposed Substitute Claims 40, 41, 47, and 48 Are Supported by the Specification of the '705 Patent

Support for the amendment in proposed substitute claims 40, 41, 47, and 48 can be found in the '705 Patent at 4:59-64; 5:29-34; 6:38-49 7:23-35; 7:66-8:5; 8:39-50; and 9:36-48. Specifically, the '705 Patent demonstrates the use of multiple waveguides and teaches embodiments that include three or four waveguide elements.

VIII. THE PROPOSED SUBSTITUTE CLAIMS 35-48 ARE PATENTABLE

A. Claims 35 and 42 Compared to Johnson, Suzuki, and Fine

Johnson is an U.S. Patent titled “LED-Based LCD Backlight With Extended Color Space.” Johnson is directed to a backlight for a liquid-crystal display that utilizes a combining element to combine light from the first LED array and the second LED array. EX 1005 at Abstract.

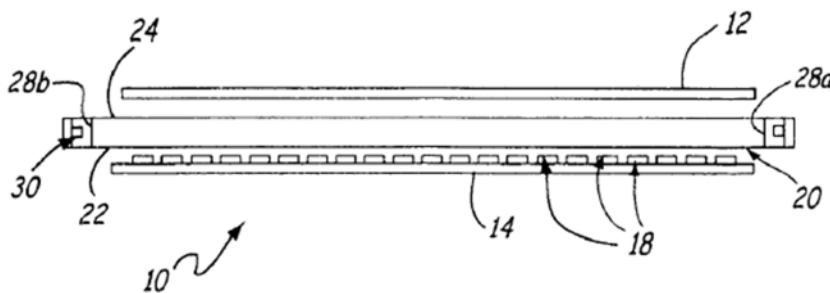


Fig. 2

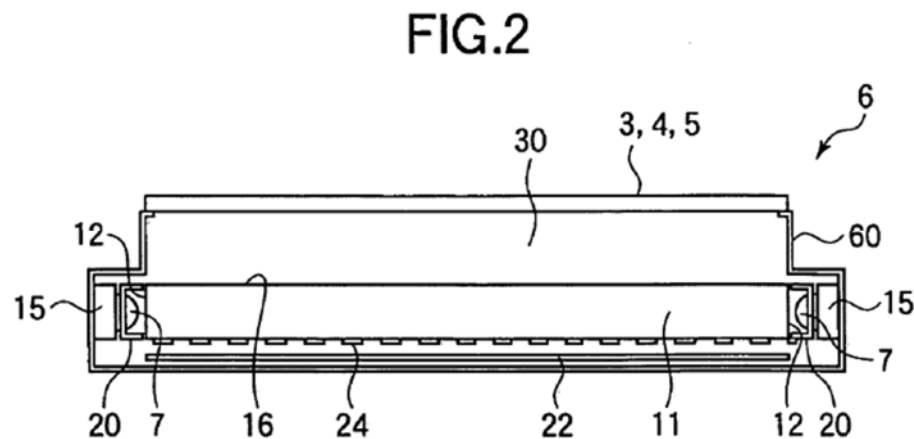
As shown in Fig. 2 above, Johnson discloses a waveguide 20 that has a first major surface 22 and an edge surface 28a. EX 1005 at 2:49-3:24.

Johnson is silent about multiple waveguide elements or multiple light entry regions corresponding to the multiple waveguide elements. As shown in Fig. 2 above, Johnson is only directed to a single waveguide element. *Id.* This is the exact opposite of the inventions of the '705 Patent, wherein there is a first waveguide corresponding to a first light emitting source or plurality of LEDs and a second waveguide element corresponding to a second light emitting source or plurality of LEDs. *Id.*

Patent Owner submits that Johnson, by being wholly silent on multiple waveguide elements or multiple light entry regions corresponding to the multiple

waveguide elements, does not render obvious proposed substitute claims 35 and 42, which specifically recite those elements.

Suzuki is a published U.S. Patent application titled “Surface Illuminator and Liquid Crystal Display Having The Same.” Suzuki is directed to a surface illuminator for a liquid crystal display and provides a surface illuminator employing an array of discrete light sources. EX 1006 at Abstract.



As shown in Fig. 2 above, Suzuki discloses a lightguide 11 having an exit region 16 and light entry regions 12. EX 1006 at ¶¶ 0025-0027.

Suzuki is silent about multiple waveguide elements or multiple light entry regions corresponding to the multiple waveguide elements. As shown in Fig. 2 above, Suzuki is only directed to a single waveguide element. *Id.* This is the exact opposite of the inventions of the '705 Patent, wherein there is a first waveguide corresponding to a first light emitting source or plurality of LEDs and a second waveguide element corresponding to a second light emitting source or plurality of LEDs. *Id.*

Patent Owner submits that Suzuki, by being wholly silent on multiple

waveguide elements or multiple light entry regions corresponding to the multiple waveguide elements, does not render obvious proposed substitute claims 35 and 42, which specifically recite those elements.

Fine is an U.S. Patent titled “Illumination Apparatus.” Fine is directed to an illumination apparatus having a light emitting source embedded in a flexible waveguide material. EX 1007 at Abstract.

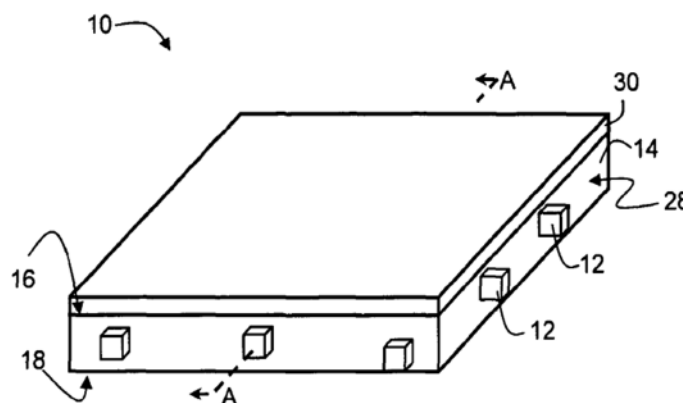


Fig. 1a

As shown in Fig. 1a above, Fine discloses “light emitting sources 12 embedded in a waveguide material 14 having a first surface 16 and a second surface 18.” *Id.* at 11:50-55.

Fine is silent about multiple waveguide elements or multiple light entry regions corresponding to the multiple waveguide elements. As shown in Fig. 2 above, Fine is only directed to a single waveguide element. *Id.* This is the exact opposite of the inventions of the '705 Patent, wherein there is a first waveguide corresponding to a first light emitting source or plurality of LEDs and a second waveguide element corresponding to a second light emitting source or plurality of LEDs. *Id.*

Patent Owner submits that Fine, by being wholly silent on multiple waveguide elements or multiple light entry regions corresponding to the multiple waveguide elements, does not render obvious proposed substitute claims 35 and 42, which specifically recite those elements.

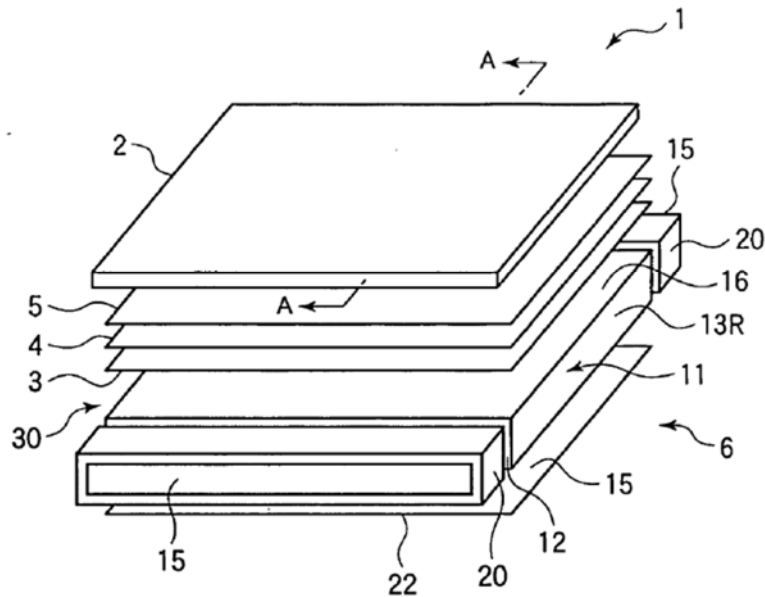
B. Claims 36 and 43 Compared to Johnson, Suzuki, and Fine

Johnson is discussed above, and the summary provided is incorporated by reference. Johnson is silent about multiple waveguides each having a transmissive surface smaller than the viewable surface of the LCD panel. In Fig. 2 of Johnson, the single waveguide 20 is substantially the same size as the LCD stack 12.

Patent Owner submits that Johnson does not demonstrate multiple waveguides each having a transmissive surface smaller than the viewable surface of the LCD panel as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 36 and 43, which specifically recite those elements.

Suzuki is discussed above, and the summary provided is incorporated by reference. Suzuki is silent about multiple waveguides each having a transmissive surface smaller than the viewable surface of the LCD panel.

FIG.1



As shown above in Fig. 1 of Suzuki, the single light guide 11 is substantially the same size as the LCD panel 2.

Patent Owner submits that Suzuki does not demonstrate multiple waveguides each having a transmissive surface smaller than the viewable surface of the LCD panel as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 36 and 43, which specifically recite those elements.

Fine is discussed above, and the summary provided is incorporated by reference. Fine is silent about multiple waveguides each having a transmissive surface smaller than the viewable surface of the LCD panel.

Patent Owner submits that Fine does not demonstrate multiple waveguides each having a transmissive surface smaller than the viewable surface of the LCD panel as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 36 and 43, which specifically recite those elements.

C. Claims 37, 38, 44, and 45 Compared to Johnson, Suzuki, and Fine

Johnson is discussed above, and the summary provided is incorporated by reference. Johnson is silent about multiple waveguides positioned to light a portion of the LCD panel. In Fig. 2 of Johnson, the single waveguide 20 is positioned to light the entire LCD panel.

Patent Owner submits that Johnson does not demonstrate multiple waveguides positioned to light a portion of the LCD panel as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 37, 38, 44, and 45, which specifically recite those elements.

Suzuki is discussed above, and the summary provided is incorporated by reference. Suzuki is silent about multiple waveguides positioned to light a portion of the LCD panel. As shown in Fig. 1 of Suzuki, the single light guide 11 is positioned light the entire LCD panel.

Patent Owner submits that Suzuki does not demonstrate multiple waveguides positioned to light a portion of the LCD panel as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 37, 38, 44, and 45, which specifically recite those elements.

Fine is discussed above, and the summary provided is incorporated by reference. Fine is silent about multiple waveguides positioned to light a portion of the LCD panel.

Patent Owner submits that Fine does not demonstrate multiple waveguides positioned to light a portion of the LCD panel as taught by the '705 Patent, and

therefore does not render obvious proposed substitute claims 37, 38, 44, and 45, which specifically recite those elements.

D. Claims 39 and 46 Compared to Johnson, Suzuki, and Fine

Johnson is discussed above, and the summary provided is incorporated by reference. Johnson is silent about light emitting sources or LEDs embedded into multiple waveguides. In Fig. 2 of Johnson, the LEDs 18 and 30 are positioned away from the single waveguide 20.

Patent Owner submits that Johnson does not demonstrate light emitting sources or LEDs embedded into multiple waveguides as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 39 and 46 which specifically recite those elements.

Suzuki is discussed above, and the summary provided is incorporated by reference. Suzuki is silent about light emitting sources or LEDs embedded into multiple waveguides. In Fig. 2 of Suzuki, the LEDs 15 are positioned away from the single light guide 11.

Patent Owner submits that Suzuki does not demonstrate light emitting sources or LEDs embedded into multiple waveguides as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 39 and 46 which specifically recite those elements.

Fine is discussed above, and the summary provided is incorporated by reference. Fine is silent about light emitting sources or LEDs embedded into multiple waveguides. In Fig. 1a of Fine, the LEDs 12 are within a single waveguide 14, not

multiple waveguides.

Patent Owner submits that Suzuki does not demonstrate light emitting sources or LEDs embedded into multiple waveguides as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 39 and 46 which specifically recite those elements.

E. Claims 40, 41, 47, and 48 Compared to Johnson, Suzuki, and Fine

Johnson is discussed above, and the summary provided is incorporated by reference. Johnson is silent about a third or fourth waveguide element corresponding to a third or fourth light source. Johnson only discloses a single waveguide element.

Patent Owner submits that Johnson does not demonstrate a third or fourth waveguide element corresponding to a third or fourth light source as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 40, 41, 47, and 48, which specifically recite those elements.

Suzuki is discussed above, and the summary provided is incorporated by reference. Suzuki is silent about a third or fourth waveguide element corresponding to a third or fourth light source. Suzuki only discloses a single waveguide element.

Patent Owner submits that Suzuki does not demonstrate a third or fourth waveguide element corresponding to a third or fourth light source as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 40, 41, 47, and 48, which specifically recite those elements.

Fine is discussed above, and the summary provided is incorporated by reference. Fine is silent about a third or fourth waveguide element corresponding to a third or

fourth light source. Fine only discloses a single waveguide element.

Patent Owner submits that Fine does not demonstrate a third or fourth waveguide element corresponding to a third or fourth light source as taught by the '705 Patent, and therefore does not render obvious proposed substitute claims 40, 41, 47, and 48, which specifically recite those elements.

F. The Advantages of the Amendments Recited in Proposed Substitute Claims 35-48

There are many advantages to the features recited in the amendments set forth in this Motion. For example:

- One significant advantage of the amendment recited in claims 35, 40, 41, 42, 47, and 48 is that the use of multiple waveguides allows for improved light uniformity within the lighting panel. Additionally, rather than designing a backlight with one large waveguide, the use of multiple waveguides allows for an easier, more customizable, and cheaper backlight design (*See*, '705 Patent 5:29-37; 4:51-64; and 6:34-52).
- One significant advantage of the amendment recited in claim 36, 37, 38, 43, 44, and 45 is that the use of smaller waveguides improves light uniformity, and allows for the backlight to use less powerful LEDs, which helps to prevent “hot spots” and overheating in the panel (*See*, '705 Patent 5:12-37, 6:34-52 and 2:25-38).
- One significant advantage of the amendment recited in claim 39 and 46 is that by embedding the LEDs into multiple waveguides it improves the light

uniformity, and allows for a thinner backlight panel (See, '705 Patent 2:25-38; 10:14-28).

IX. PRIORITY

All of the proposed substitute claims contain subject matter included in and supported by the original disclosure of the '705 Patent and, therefore, claim priority to the original disclosure.

X. REQUEST FOR PRELIMINARY GUIDANCE

As discussed in the call with the Board, Patent Owner requests preliminary guidance from the Board. Patent Owner understands this will be provided by a date four weeks after Due Date 2.

XI. CONCLUSION

For the reasons set forth herein, Patent Owner submits that proposed substitute claims 35-48 satisfy all of the statutory requirements for a motion to amend set forth in paragraphs (1) and (3) of 35 U.S.C. § 316(d) and paragraphs (a)(1), (a)(2), (a)(3), (b)(1) and (b)(2) of 37 C.F.R. § 42.121 and respectfully requests the Motion be granted contingent upon a finding that the challenged claims 1, 2, 32, 33, 17, 34, 31, 6, 11, 13, 14, 28, 16, and 29 are unpatentable.

Respectfully Submitted,

/Neal Massand /

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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 June 25, 2024

/Neal Massand/
Neal Massand (Reg. No. 54,296)

APPENDIX A

(Proposed Amendments)

35. (proposed substitute for Claim 1) A liquid crystal display (LCD) system comprising:

a) a LCD panel;

b) ~~at least one~~ a first waveguide element and a second waveguide element respectively comprising a plurality a first light entry region and a second light entry regions;

c) a first light-emitting source comprising a first plurality of LEDs arranged in a first strip and positioned to emit light into the ~~at least one first waveguide element at a first light entry region of the plurality of light entry regions;~~

d) a second light-emitting source comprising a second plurality of LEDs arranged in a second strip and positioned to emit light into the ~~at least one second waveguide element at a second light entry region of the plurality of light entry regions;~~ and

e) a common control circuit in electrical communication with at least one of the first plurality of LEDs and the second plurality of LEDs.

36. (proposed substitute for claim 2) The LCD system of claim 1 ~~35~~, wherein the LCD panel has a viewable surface, and the at least one first and second waveguide element has a elements each have a transmissive surface, and the wherein each transmissive surface is smaller than the viewable surface. approximately the same size as the viewable surface.

37. (proposed substitute for claim 32) The LCD system of claim 1 ~~35~~, embodied in a television, wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel.

38. (proposed substitute for claim 33) The LCD system of claim 1 ~~35~~, embodied in a computer monitor, wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel.

39. (proposed substitute for claim 17) The LCD system of claim 1 ~~35~~, wherein ~~any of the first light-emitting source and the second light-emitting source is optically coupled to the at least one waveguide element~~ are embedded within a surface of the first and second waveguide, respectively.

40. (proposed substitute for claim 34) The LCD system of claim 4 35, further comprising a third light-emitting source comprising a third plurality of LEDs arranged in a third strip and positioned to emit light into the at least one third waveguide element at a third light entry region.

41. (proposed substitute for claim 31) The LCD system of claim 4 40, further comprising ~~at least a third~~ a fourth light-emitting source comprising a plurality of LEDs arranged in a fourth strip and, positioned to emit direct backlight onto the LCD panel light into the fourth waveguide element at a fourth light entry region.

42. (proposed substitute for claim 6) ~~The LCD system of claim 1, wherein any of the first light-emitting source and the second light-emitting source comprises a plurality of direct LEDs.~~

A liquid crystal display (LCD) system comprising:

a) a LCD panel;

b) at least one a first waveguide element and a second waveguide element respectively comprising a first light entry region and a second light entry region;

c) a first light-emitting source comprising a first plurality of LEDs arranged in a first strip and positioned to emit light into the at least one wherein the first waveguide element is positioned to receive light emitted by one or more of the LEDs of the first plurality of LEDs; at a second light entry region of the plurality of light entry regions

d) a second light-emitting source comprising a second plurality of LEDs arranged in a second strip and positioned to emit light into the at least one wherein the second waveguide element is positioned to receive light emitted by one or more of the LEDs of the second plurality of LEDs; and at a second light entry region of the plurality of light entry regions

e) a common control circuit in electrical communication with at least one of the first plurality of LEDs and the second plurality of LEDs.

43. (proposed substitute for claim 11) The LCD system of claim 4 42, ~~further comprising a common control circuit in electrical communication with each LED of at least one of the first plurality of LEDs and the second plurality of LEDs.~~

wherein the LCD panel has a viewable surface and the first and second waveguide elements each have a transmissive surface, wherein each transmissive surface is smaller than the viewable surface.

44. (proposed substitute for claim 13) ~~The LCD system of claim 1 42, wherein each LED of at least one of the first plurality of LEDs and the second plurality of LEDs is linearly arranged.~~ embodied in a television, wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel.

45. (proposed substitute for claim 14) The LCD system of claim 1 42, wherein the common control circuit is in electrical communication with ~~each of the first plurality of LEDs and the second plurality of LEDs,~~ the system further embodied in a computer monitor, wherein each of the first and second waveguide elements are positioned to light a portion of the LCD panel.

46. (proposed substitute for claim 28) The LCD system of claim 1 42, wherein ~~any of the first light emitting source and the second light emitting source is disposed along a center region of the LCD system behind the LCD panel, and is positioned to emit light into a back side of the at least one waveguide element.~~ the first plurality of LEDs and the second plurality of LEDs are embedded within a surface of and emit light into the first and second waveguide, respectively.

47. (proposed substitute for claim 16) The LCD system of claim 1 42, wherein ~~each of the first plurality of LEDs and the second plurality of LEDs is linearly arranged.~~

further comprising a third plurality of LEDs arranged in a third strip wherein a third waveguide is positioned to receive light emitted by one or more of the LEDs of the third plurality of LEDs.

48. (proposed substitute for claim 29) The LCD system of claim 1 47, wherein ~~any of the first light emitting source and the second light emitting source is disposed at a location selected from: (a) along an edge region of the LCD system, positioned to emit light into an edge of the at least one waveguide element, and (b) along a center region of the LCD system behind the LCD panel, positioned to emit light into a back side of the at least one waveguide element.~~

further comprising a fourth plurality of LEDs arranged in a fourth strip wherein a fourth waveguide is positioned to receive light emitted by one or more of the LEDs of the fourth plurality of LEDs.