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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/237,365	09/24/2008	William DUNN	MAN2241-010D1	9674
8698 7590 08/11/2011 STANDLEY LAW GROUP LLP 6300 Riverside Drive Dublin, OH 43017			EXAMINER KIM, DENNIS Y	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	12/237,365		DUNN, WILLIAM	
	Examiner		Art Unit	
	DENNIS Y. KIM		2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 17 June 2011.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-15 and 29-36 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-15 and 29-36 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 24 September 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892) 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>20110517, 20110617</u> .	4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) ☐ Notice of Informal Patent Application 6) ☐ Other: _____.
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DETAILED ACTION

Information Disclosure Statement

The references cited within the IDS documents submitted on May 17, 2011 and June 17, 2011 have been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 5-11, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viitanen (WO 2005/079129 A1) in view of Dunn et al. (US PGPub 2005/0073632 A1) and Kinoshita et al. (US PGPub 2007/0206158 A1).

With respect to claim 1, Viitanen discloses a cooling system for an electronic display having a viewable area, the system comprising:

- a front glass unit, including:
 - a first front glass 3 having a first and second surface (in at least Fig. 1, Page 5, Line 27 – Page 6, Line 4)
- a first gas chamber (air gap) 8 positioned anterior to the viewable area of the electronic display 6 (in at least Fig. 1, Page 7, Lines 20-28); and

- a second gas chamber 10 positioned posterior to the viewable area of the electronic display and operatively connected to the first gas chamber 8 to provide a closed loop (circulation air stream pattern) 9 for circulating gas (air) (in at least Fig. 1, Page 5, Line 27 – Page 6, Line 4, Page 6, Line 26 – Page 7, Line 2)

However, Viitanen fails to explicitly teach a second front glass having a third and fourth surface, bonded to the first front glass, and a linear polarizer disposed on at least one of the surfaces.

Dunn et al. (in at least Fig. 4, [0034-0038]) discloses a liquid crystal display panel 10 comprising a front glass substrate 12. Furthermore, the front glass substrate 12 comprises a polarizer 52. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the electronic display of Viitanen to be a liquid crystal display panel having a linear polarizer, since it was known in the art that liquid crystal panels are often preferred for use as an electronic display in a variety of applications for their light weight, relative thinness, lower power consumption, and high picture quality, and since it was also well known in the art to place a pair of linear polarizers on the substrates of the liquid crystal display device in order to enable to use of the liquid crystal medium as a light gate. It is noted that if the electronic display of Viitanen was modified to be the liquid crystal display panel of Dunn et al., the front glass substrate of the liquid crystal display could be considered to be the "second front glass" (the claim limitations could be interpreted such that a component of the electronic display is considered to be a part of the cooling system). Furthermore, although Viitanen fails to explicitly teach that the second front glass is bonded to the first front glass, it was known in the art that framing structures can be used within display devices to ensure proper fixture of various

components within the device. For instance, Kinoshita et al. (in at least Fig. 3, [0056]) discloses a holding member 20 which is formed to maintain a distance between a front glass 11a and the glass substrate 3 of a liquid crystal panel. It would have been obvious to one having ordinary skill in the art at the time of the invention to have the first front glass with the second front glass (front glass substrate of the liquid crystal panel) “bonded” together using a holding member, as taught by Kinoshita et al., in order to ensure the proper fixture of the first and second front glass for maintaining the first gas chamber. Therefore, claim 1 is unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 2, Viitanen in view of Dunn et al. and Kinoshita et al. further discloses that the linear polarizer is disposed between the first and second glasses, since the polarizer would be formed above the front glass substrate of the liquid crystal panel (as shown in Fig. 4 of Dunn et al.). Therefore, claim 2 is also unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 5, Viitanen discloses a fan 5a to propel gas through the first and second gas chambers 8 and 10 (see Fig. 1, for instance). Therefore, claim 5 is also unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 6, Viitanen discloses a cooling means (air intake opening 14a) for cooling gas contained within the second gas chamber 10 (see Fig. 2, for instance). It is noted that when the air intake openings 14a are opened, the replacement air stream 13 is mixed into the air stream 9, thereby cooling gas contained within the second gas chamber 10. Therefore, claim 6 is also unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 7, Viitanen in view of Dunn et al. and Kinoshita et al. further discloses a spacer (the portion of the holding member 20 which is formed between the front glass 11a and the front glass substrate 3 of the liquid crystal panel of Kinoshita et al., as shown in Fig. 3), defining the depth of the first gas chamber. Therefore, claim 7 is also unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 8, Viitanen discloses a cooling system for an electronic display having a viewable area, the system comprising:

- a front glass unit, including:
 - a first front glass 3 having a first and second surface (in at least Fig. 1, Page 5, Line 27 – Page 6, Line 4)
- the front glass unit 3 is positioned in front of the electronic display 6 to define an insulator gap (air gap) 8 positioned anterior to the viewable area of the electronic display 6 (in at least Fig. 1, Page 7, Lines 20-28); and

However, Viitanen fails to explicitly teach a second front glass having a third and fourth surface, bonded to the first front glass, and a linear polarizer disposed on at least one of the surfaces.

Dunn et al. (in at least Fig. 4, [0034-0038]) discloses a liquid crystal display panel 10 comprising a front glass substrate 12. Furthermore, the front glass substrate 12 comprises a polarizer 52. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the electronic display of Viitanen to be a liquid crystal display panel having a linear polarizer, since it was known in the art that liquid crystal panels are often preferred for use as an electronic display in a variety of applications for their light weight, relative thinness,

lower power consumption, and high picture quality, and since it was also well known in the art to place a pair of linear polarizers on the substrates of the liquid crystal display device in order to enable to use of the liquid crystal medium as a light gate. It is noted that if the electronic display of Viitanen was modified to be the liquid crystal display panel of Dunn et al., the front glass substrate of the liquid crystal display could be considered to be the "second front glass" (the claim limitations could be interpreted such that a component of the electronic display is considered to be a part of the cooling system). Furthermore, although Viitanen fails to explicitly teach that the second front glass is bonded to the first front glass, it was known in the art that framing structures can be used within display devices to ensure proper fixture of various components within the device. For instance, Kinoshita et al. (in at least Fig. 3, [0056]) discloses a holding member 20 which is formed to maintain a distance between a front glass 11a and the glass substrate 3 of a liquid crystal panel. It would have been obvious to one having ordinary skill in the art at the time of the invention to bond the first front glass with the second front glass (front glass substrate of the liquid crystal panel) using a holding member, as taught by Kinoshita et al., in order to ensure the proper fixture of the first and second front glass for maintaining the first gas chamber. Therefore, claim 8 is unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 9, Viitanen discloses that the insulator gap is a first gas chamber 8 (in at least Fig. 1). Therefore, claim 9 is unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 10, Viitanen discloses a second gas chamber 10 posterior to the viewable area of the electronic display and operatively connected to the first gas chamber 8 so

that gas may circulate through the first and second gas chamber 8 and 10 (in at least Fig. 1).

Therefore, claim 10 is unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 11, Viitanen in view of Dunn et al. and Kinoshita et al. further discloses that the linear polarizer is disposed between the first and second glasses, since the polarizer would be formed above the front glass substrate of the liquid crystal panel (as shown in Fig. 4 of Dunn et al.). Therefore, claim 11 is also unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 14, Viitanen discloses a fan 5a to propel gas through the first and second gas chambers 8 and 10 (see Fig. 1, for instance). Therefore, claim 14 is also unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

With respect to claim 15, Viitanen discloses a cooling means (air intake opening 14a) for cooling gas contained within the second gas chamber 10 (see Fig. 2, for instance). It is noted that when the air intake openings 14a are opened, the replacement air stream 13 is mixed into the air stream 9, thereby cooling gas contained within the second gas chamber 10. Therefore, claim 15 is also unpatentable over Viitanen in view of Dunn et al. and Kinoshita et al.

Claims 1-2, 5-11, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viitanen (WO 2005/079129 A1) in view of Kinoshita et al. (US PGPub 2007/0206158 A1) and Tadic-Galeb et al. (US PGPub 2001/0019454 A1).

With respect to claim 1, Viitanen discloses a cooling system for an electronic display having a viewable area, the system comprising:

- a front glass unit, including:

- a first front glass 3 having a first and second surface (in at least Fig. 1, Page 5, Line 27 – Page 6, Line 4)
- a first gas chamber (air gap) 8 positioned anterior to the viewable area of the electronic display 6 (in at least Fig. 1, Page 7, Lines 20-28); and
- a second gas chamber 10 positioned posterior to the viewable area of the electronic display and operatively connected to the first gas chamber 8 to provide a closed loop (circulation air stream pattern) 9 for circulating gas (air) (in at least Fig. 1, Page 5, Line 27 – Page 6, Line 4, Page 6, Line 26 – Page 7, Line 2)

However, Viitanen fails to explicitly teach a second front glass having a third and fourth surface, bonded to the first front glass, and a linear polarizer disposed on at least one of the surfaces.

Kinoshita et al. (in at least Fig. 5, [0056], [0104]) discloses a liquid crystal stack 2 in an LCD projector which is formed to have a first front glass 11b having a linear polarizer 19 disposed on a surface of the first front glass 11b. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the display unit 3 of Viitanen to be a liquid crystal stack, and also to have a linear polarizer disposed on a surface of the first front glass, as taught by Kinoshita et al., since it was known in the art that liquid crystal displays are often preferred in a variety of applications for their light weight, relative thinness, lower power consumption, and high picture quality, and since it was also known in the art that liquid crystal displays require a pair of linear polarizers to utilize the liquid crystal medium as a light gate, and placing the polarizer on the a front glass unit would ensure better cooling of the polarizer (as taught by Kinoshita et al. in at least [0117]).

Furthermore, although Kinoshita et al. does not teach a second front glass having a third and fourth surface, bonded to the first front glass, Tadic-Galeb et al. discloses (in at least Fig. 4, [0117]) a linear polarizer for use in an LCD projector (see Fig. 3, [0008] for instance), in which the polarizer 32 is sandwiched between two glass substrates which are bonded together (see [0036], for instance). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the first front glass of Viitanen and Kinoshita et al. to further comprise a second front glass having a third and fourth surface, bonded to the first front glass, as taught by Tadic-Galeb et al., in order to provide additional support for protecting the linear polarizer, and also to enclose additional layers such as multilayer optical films for reflecting light of undesired polarization, thereby minimizing the adverse affects of heating as opposed to a traditional absorptive polarizer (see [0059] of Tadic-Galeb et al., for instance). Therefore, claim 1 is unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 2, Viitanen in view of Tadic-Galeb et al. and Kinoshita et al. further discloses that the linear polarizer is interposed between the first and second front glasses (see Fig. 3, [0059] of Tadic-Galeb et al., for instance).

With respect to claim 5, Viitanen discloses a fan 5a to propel gas through the first and second gas chambers 8 and 10 (see Fig. 1, for instance). Therefore, claim 5 is also unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 6, Viitanen discloses a cooling means (air intake opening 14a) for cooling gas contained within the second gas chamber 10 (see Fig. 2, for instance). It is noted that when the air intake openings 14a are opened, the replacement air stream 13 is mixed into the

air stream 9, thereby cooling gas contained within the second gas chamber 10. Therefore, claim 6 is also unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 7, Viitanen in view of Kinoshita et al. and Tadic-Galeb et al. further discloses a spacer (the portion of the holding member 20 which is formed between the front glass 11a and the front glass substrate 3 of the liquid crystal panel of Kinoshita et al., as shown in Fig. 3), defining the depth of the first gas chamber. It would have been obvious to one having ordinary skill in the art at the time of the invention to form a spacer between the first front glass with the second front glass (front glass substrate of the liquid crystal panel) using a holding member, as taught by Kinoshita et al., in order to ensure the proper fixture of the first and second front glass for maintaining the first gas chamber. Therefore, claim 7 is also unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 8, Viitanen discloses a cooling system for an electronic display having a viewable area, the system comprising:

- a front glass unit, including:
 - a first front glass 3 having a first and second surface (in at least Fig. 1, Page 5, Line 27 – Page 6, Line 4)
- wherein the front glass unit 3 is positioned in front of the electronic display 6 to define an insulator gap (air gap) 8, positioned anterior to the viewable area of the electronic display 6 (in at least Fig. 1, Page 7, Lines 20-28); and

However, Viitanen fails to explicitly teach a second front glass having a third and fourth surface, bonded to the first front glass, and a linear polarizer disposed on at least one of the surfaces.

Kinoshita et al. (in at least Fig. 5, [0056], [0104]) discloses a liquid crystal stack 2 in an LCD projector which is formed to have a first front glass 11b having a linear polarizer 19 disposed on a surface of the first front glass 11b. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the display unit 3 of Viitanen to be a liquid crystal stack, and also to have a linear polarizer disposed on a surface of the first front glass, as taught by Kinoshita et al., since it was known in the art that liquid crystal displays are often preferred in a variety of applications for their light weight, relative thinness, lower power consumption, and high picture quality, and since it was also known in the art that liquid crystal displays require a pair of linear polarizers to utilize the liquid crystal medium as a light gate, and placing the polarizer on the a front glass unit would ensure better cooling of the polarizer (as taught by Kinoshita et al. in at least [0117]).

Furthermore, although Kinoshita et al. does not teach a second front glass having a third and fourth surface, bonded to the first front glass, Tadic-Galeb et al. discloses (in at least Fig. 4, [0117]) a linear polarizer for use in an LCD projector (see Fig. 3, [0008] for instance), in which the polarizer 32 is sandwiched between two glass substrates which are bonded together (see [0036], for instance). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the first front glass of Viitanen and Kinoshita et al. to further comprise a second front glass having a third and fourth surface, bonded to the first front glass, as taught by Tadic-Galeb et al., in order to provide additional support for protecting the linear polarizer, and also to enclose additional layers such as mutlilayer optical films for reflecting light of undesired polarization, thereby minimizing the adverse affects of heating as opposed to a

traditional absorptive polarizer (see [0059] of Tadic-Galeb et al., for instance). Therefore, claim 8 is unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 9, Viitanen discloses that the insulator gap is a first gas chamber 8 (in at least Fig. 1). Therefore, claim 9 is unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 10, Viitanen discloses a second gas chamber 10 posterior to the viewable area of the electronic display and operatively connected to the first gas chamber 8 so that gas may circulate through the first and second gas chamber 8 and 10 (in at least Fig. 1). Therefore, claim 10 is unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 11, Viitanen in view of Tadic-Galeb et al. and Kinoshita et al. further discloses that the linear polarizer is interposed between the first and second front glasses (see Fig. 3, [0059] of Tadic-Galeb et al., for instance). Therefore, claim 11 is unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 14, Viitanen discloses a fan 5a to propel gas through the first and second gas chambers 8 and 10 (see Fig. 1, for instance). Therefore, claim 14 is also unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

With respect to claim 15, Viitanen discloses a cooling means (air intake opening 14a) for cooling gas contained within the second gas chamber 10 (see Fig. 2, for instance). It is noted that when the air intake openings 14a are opened, the replacement air stream 13 is mixed into the air stream 9, thereby cooling gas contained within the second gas chamber 10. Therefore, claim 15 is also unpatentable over Viitanen in view of Kinoshita et al. and Tadic-Galeb et al.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viitanen (WO 2005/079129 A1), Kinoshita et al. (US PGPub 2007/0206158 A1), and Tadic-Galeb et al. (US PGPub 2001/0019454 A1) as applied to claim 1 above, and further in view of Sanelle et al. (US PGPub 2002/0033919 A1).

With respect to claim 3, Viitanen, Kinoshita et al., and Tadic-Galeb et al. fail to teach that the first and second glasses are bonded together with an index matched optical adhesive.

Sanelle et al. (in at least Fig. 1, [0046]) discloses a linear polarizer 31 which is sandwiched between two glass substrates 35 and 13, in which the glass substrates 35 and 13 are bonded together by index matched optical adhesive 37 and 33. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the front and second glasses of Viitanen, Kinoshita et al., and Tadic-Galeb et al. such that the first and second front glasses are bonded together with an index matched optical adhesive, as taught by Sanelle et al., since this would ensure that unwanted reflection between the interface of the first and second glasses, thereby improving overall the optical transmittance of the electronic display. Therefore, claim 3 is unpatentable over Viitanen, Kinoshita et al., and Tadic-Galeb et al. in view of Sanelle et al.

With respect to claim 4, Viitanen, Kinoshita et al., and Tadic-Galeb et al. fail to teach an anti-reflective coating on the first and second front glasses.

Sanelle et al. (in at least Fig. 1, [0047]) discloses that an anti-reflection film 39 can be formed on the glass substrates 35 and 13 which cover a polarizer 31. It would have been obvious

to one having ordinary skill in the art at the time of the invention to modify the first and second front glasses of Viitanen, Kinoshita et al., and Tadic-Galeb et al. to further comprises an anti-reflective coating formed thereon, in order to reduce glare, and thereby improving the image quality for the view of the electronic display. Therefore, claim 4 is unpatentable over Viitanen, Kinoshita et al., and Tadic-Galeb et al. in view of Sanelle et al.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Viitanen (WO 2005/079129 A1), Kinoshita et al. (US PGPub 2007/0206158 A1), and Tadic-Galeb et al. (US PGPub 2001/0019454 A1) as applied to claim 1 above, and further in view of Sanelle et al. (US PGPub 2002/0033919 A1).

With respect to claim 12, Viitanen, Kinoshita et al., and Tadic-Galeb et al. fail to teach that the first and second glasses are bonded together with an index matched optical adhesive.

Sanelle et al. (in at least Fig. 1, [0046]) discloses a linear polarizer 31 which is sandwiched between two glass substrates 35 and 13, in which the glass substrates 35 and 13 are bonded together by index matched optical adhesive 37 and 33. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the front and second glasses of Viitanen, Kinoshita et al., and Tadic-Galeb et al. such that the first and second front glasses are bonded together with an index matched optical adhesive, as taught by Sanelle et al., since this would ensure that unwanted reflection between the interface of the first and second glasses, thereby improving overall the optical transmittance of the electronic display. Therefore, claim 12 is unpatentable over Viitanen, Kinoshita et al., and Tadic-Galeb et al. in view of Sanelle et al.

With respect to claim 13, Viitanen, Kinoshita et al., and Tadic-Galeb et al. fail to teach an anti-reflective coating on the first and second front glasses.

Sanella et al. (in at least Fig. 1, [0047]) discloses that an anti-reflection film 39 can be formed on the glass substrates 35 and 13 which cover a polarizer 31. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the first and second front glasses of Viitanen, Kinoshita et al., and Tadic-Galeb et al. to further comprises an anti-reflective coating formed thereon, in order to reduce glare, and thereby improving the image quality for the view of the electronic display. Therefore, claim 13 is unpatentable over Viitanen, Kinoshita et al., and Tadic-Galeb et al. in view of Sanella et al.

Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saccomanno et al. (US PGPub 2004/0105159 A1) in view of Savant et al. (US PGPub 2001/0001459 A1).

With respect to claim 29, Saccomanno et al. discloses liquid crystal display assembly comprising:

- a liquid crystal stack (comprising the passive plate, active plate, and intervening liquid crystal medium) having a front polarizer (analyzer) and rear polarizer (in at least Fig. 6, [0101]); and
- a front glass unit placed in front of the front polarizer and comprising
 - a first front glass panel (AR cover glass) (in at least Fig. 6, [0066])
 - a non-birefringent substrate (diffuser) bonded to the first front glass panel with index matching optical adhesive (in at least [0076], [0135]), and

- an additional polarizer aligned with the front polarizer and placed between the first and second front glass panels (see FIG. 6, for instance)

Furthermore, although Saccomanno et al. does not explicitly state that the additional polarizer is a linear polarizer, it would have been obvious to one having ordinary skill in the art at the time of the invention that the additional polarizer is a linear polarizer, in order to enable the liquid crystal medium to be used as a light gate for displaying images through the liquid crystal panel. However, Saccomanno et al. fails to teach that the non-birefringent substrate is glass.

Savant et al. (in at least Fig. 1A, [0024], [0035]) discloses a diffuser for use within a liquid crystal panel which is made of glass. It would have been obvious to one having ordinary skill in the art at the time of the invention to have the non-birefringent diffuser to be formed of glass, as taught by Savant et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. Therefore, claim 29 is unpatentable over Saccomanno et al. in view of Savant et al.

With respect to claim 31, Saccomanno et al. discloses an anti reflective coating on the first front glass panel (in at least [0101]). Therefore, claim 31 is unpatentable over Saccomanno et al. in view of Savant et al.

Claim 30 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saccomanno et al. (US PGPub 2004/0105159 A1) and Savant et al. (US PGPub

2001/0001459 A1) as applied to claim 29 above, and further in view of Viitanen (WO 2005/079129 A1).

With respect to claim 30, Saccomanno et al. and Savant et al. teaches an air gap between the liquid crystal stack and the front glass unit (see Fig. 6, for instance), but fail to teach a closed loop for circulating gas which passes between the liquid crystal stack and the front glass unit.

Viitanen discloses a first gas chamber (air gap) 8 positioned anterior to the viewable area of the electronic display 6 (in at least Fig. 1, Page 7, Lines 20-28); and a second gas chamber 10 positioned posterior to the viewable area of the electronic display and operatively connected to the first gas chamber 8 to provide a closed loop of circulating gas (circulation air stream pattern) which passes between the liquid crystal stack and the front glass unit (in at least Fig. 1, Page 5, Line 27 – Page 6, Line 4, Page 6, Line 26 – Page 7, Line 2). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the liquid crystal display assembly of Saccomanno et al. and Savant et al. to further comprise the cooling system of Viitanen, in order to encapsulate the display, thereby allowing to have greater durability against external conditions, while at the same time, providing a means for controlling the temperature of an encapsulated display.

With respect to claim 32, Saccomanno et al. and Savant et al. in view of Viitanen further discloses an anti reflective (AR) coating on the second front glass panel (see [0135], for instance). Therefore, claim 32 is also unpatentable over et al. and Savant et al. in view of Viitanen.

With respect to claim 33, Saccomanno et al. and Savant et al. in view of Viitanen further discloses a fan 5a to propel gas through the first and second gas chambers 8 and 10 (see Fig. 1 of Viitanen, for instance), to drive the circulating gas around the closed loop 9. Therefore, claim 33 is also unpatentable over Saccomanno et al. and Savant et al. in view of Viitanen.

With respect to claim 34, Saccomanno et al. and Savant et al. in view of Viitanen discloses a cooling means (air intake opening 14a) for cooling the circulating gas (see Fig. 2 of Viitanen, for instance). It is noted that when the air intake openings 14a are opened, the replacement air stream 13 is mixed into the air stream 9, thereby cooling the circulating gas. Therefore, claim 34 is also unpatentable over Saccomanno et al. and Savant et al. in view of Viitanen.

Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saccomanno et al. (US PGPub 2004/0105159 A1), Savant et al. (US PGPub 2001/0001459 A1), and Viitanen (WO 2005/079129 A1) as applied to claim 33 above, and further in view of Densitron Technologies PLC (GB 2402205), hereinafter referred to as Densitron.

With respect to claim 35, Saccomanno et al., Savant et al., and Viitanen fail to teach a plenum placed behind the liquid crystal stack and accepting the circulating gas.

Densitron (in at least Fig. 1, Page 6, Lines 13-16) discloses a plenum 70 placed behind the display device 20 and accepting circulating gas (air). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the liquid crystal display assembly of Saccomanno et al., Savant et al., and Viitanen to further include a plenum behind the liquid crystal stack, in order to further cool the circulated gas, thereby allowing better control of

the temperature within the encapsulated display device. Therefore, claim 35 is unpatentable over Saccomanno et al., Savant et al., and Viitanen in view of Densitron.

With respect to claim 36, Saccomanno et al., Savant et al., and Viitanen in view of Densitron discloses a fan 5a (see Fig. 1) positioned to draw external air over the plenum. Therefore, claim 36 is also unpatentable over Saccomanno et al., Savant et al., and Viitanen in view of Densitron.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS Y. KIM whose telephone number is (571)270-7849. The examiner can normally be reached on Monday-Friday 9:30 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark A. Robinson can be reached on 571-272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Y. K./
Examiner, Art Unit 2883

/David Nelms/
Supervisory Patent Examiner, Art Unit 2871

Notice of References Cited	Application/Control No. 12/237,365	Applicant(s)/Patent Under Reexamination DUNN, WILLIAM	
	Examiner DENNIS Y. KIM	Art Unit 2883	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2001/0001459 A1	05-2001	Savant et al.	216/24
*	B	US-2001/0019454 A1	09-2001	Tadic-Galeb et al.	359/649
*	C	US-2004/0105159 A1	06-2004	Saccomanno et al.	359/599
*	D	US-2005/0073632 A1	04-2005	Dunn et al.	349/110
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.