

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL

VIZIO, Inc.,
Petitioner,

v.

POLARIS POWERLED TECHNOLOGIES, LLC,
Patent Owner.

Case No. IPR2020-00043
Patent No. 8,223,117

PATENT OWNER PRELIMINARY RESPONSE

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LIST OF EXHIBITS

Exhibit No.	Description
2001	Declaration of Rajeev Surati, Ph.D. (“Surati”)
2002	Declaration of Bruce Ferguson (“Ferguson”)
2003	Declaration of George Henry (“Henry”)
2004	Declaration of Ralph Brandi (“Brandi”)
2005	Declaration of Hwangsoo Choi (“Choi”)
2006	CAD Drawing of LXM1616 Prototype
2007	Excerpt of Service Copy of Petition
2008	Order on Motion for Clarification of Claim Construction
2009	Order Regarding Litigation Schedule
2010	Excerpts of Declaration of Phillip Hobbs, Ph.D.
2011	U.S. Patent No. 6,509,696
2012	Article in Portable Design Magazine
2013	LX1970 Datasheet
2014	LX1691 Datasheet
2015	LX1691 New Product Information
2016	U.S. Patent No. 6,787,757 (“757 patent”)
2017	LX1970 Datasheet
2018	Excerpts of VIZIO Inc.’s Invalidity Contentions (May 3, 2019)
2019	CV of Rajeev Surati, Ph.D.
2020	U.S. Patent No. 6,657,663
2021	U.S. Patent No. 6,762,741
2022	Order Setting Dates For Jury Trial

I. INTRODUCTION

Patent Owner, Polaris PowerLED Technologies, LLC (“Polaris” or “Patent Owner”) submits this Preliminary Response to the Petition filed by VIZIO, Inc. (“VIZIO” or “Petitioner”) requesting *inter partes* review of claims 1-2, 4-7, 9, 13-16, and 18 of U.S. Patent No. 8,223,117 (“’117 patent”). Patent Owner respectfully requests that the Patent Trial and Appeal Board (“Board” or “PTAB”) deny institution because Petitioner has failed to show a reasonable likelihood of prevailing as to any of the challenged claims.

II. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art would have at least a bachelor’s degree in electrical engineering, physics, or computer science, and 2-4 years of experience in the field of visual displays and related technologies.

III. CLAIM CONSTRUCTION

The Board construes claims pursuant to *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*). Two district courts have construed the ’117 patent. The constructions relevant to this response are below:

Term	Court's Construction
“a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal”	“a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal, wherein the combined signal includes, but is not necessarily limited to, the product of the user signal and the sensing signal”
“selectively multiplying the input signal with a sense signal to generate a combined signal, wherein the sense signal indicates an ambient light level”	“selectively multiplying the input signal with sense signal to generate a combined signal, wherein the sense signal indicates an ambient light level and wherein the combined signal includes, but is not necessarily limited to, the product of the input signal and the sense signal”

Ex. 1022, 29-30.

Term	Court's Construction
“a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal”	“a multiplier actually programmed or implemented with hardware or software to selectively generate a combined signal based on both the user signal and the sensing signal”
“a dark level bias configured to adjust the combined signal to generate a brightness control signal that is used to control a brightness level of a visible display”	“a dark level bias actually programmed or implemented with hardware or software to adjust the combined signal to generate a brightness control signal that is used to control a brightness level of a visible display”
“a dark level bias”	“a value that causes a deviation from the combined signal, where the value is a voltage value of an electrical signal or

	value of a software variable
“approximately zero”	“zero or a level close enough to zero that a light sensor would measure zero or a corresponding sensing signal would round to zero”
“a first input configured to receive a user signal indicative of a user selectable brightness setting”	“first input actually programmed or implemented with hardware or software to receive a user signal indicative of a user selectable brightness setting”

Ex. 3002, 34-35; Ex. 3003, 7-8.

The preamble of claim 1 was construed as a limitation. Ex. 3002, 27n.10. The Board should adopt these constructions.

IV. PETITION VIOLATES 35 U.S.C. § 312 AND 37 C.F.R. §§ 42.105(a) AND IS BARRED BY 35 U.S.C. § 315(b)

A. Petition Is Barred by 35 U.S.C. § 315(b)

“For a petition *to receive a filing date, the petition must satisfy the § 312(a) statutory requirements.*” *GEA Process Eng., Inc. v. Steuben Foods, Inc.*, IPR2014-00041, Paper 135 at 10 (PTAB Dec. 23, 2014). The Board has further explained:

If the petition complies with all of the statutory requirements (see 35 U.S.C. §§ 135, **312**, and 322), the original submission date of the petition will be accorded as the filing date. Conversely, *no filing date will be accorded if a statutory requirement is not satisfied.*

Nuna Baby Essentials, Inc. v. Britax Child Safety, Inc., IPR2018-01683, Paper 11 at 3-4n.1 (PTAB Dec. 18, 2018).¹ “The applicable regulations clarify that ***a petition will not be accorded a filing date until the petition satisfies the following:*** (1) the content of the petition complies with 37 C.F.R. § 42.104, (2) the fee to institute has been paid, see 37 C.F.R. §§ 42.15(a), 42.103(b), and (3) ***the petition and relevant documents have been served on the patent owner. 37 C.F.R. § 42.105(a).***” *Luv’N Care, Ltd. v. McGinley*, IPR2017-01216, Paper 13 at 2-3 (PTAB Sept. 18, 2017).

The Petition is not entitled to an October 15, 2019 filing date because Petitioner failed to comply with 35 U.S.C. § 312(a) and 37 C.F.R. §§ 42.105, 42.106. ***First***, the Petition does not comply with 35 U.S.C. § 312(a)(3)(A), which states that “[a] petition...may be considered *only if*” it includes “copies of patents and printed publications that the petitioner relies upon in support of the petition.” When the Petition was filed on October 15, it did ***not*** include a copy of the Japanese Patent Application Publication No. 2003-150291A (“Japanese Oki”), which is the primary reference relied on in Grounds 1-4. Instead, the Petition filed on October 15 included a different Japanese patent application as Exhibit 1003 that was ***not*** the Japanese Oki

¹ All emphasis added.

reference relied on. Ex. 1003 (originally filed); *Cf.* Ex. 1003 (filed Oct. 29, 2019).² Because the Petition filed on October 15, 2019, failed to include the original foreign language Japanese Oki publication, the Petition did not comply with 35 U.S.C. § 312(a) requiring “copies of patents and printed publications that the petitioner relies upon,” and thus cannot be accorded a filing date of October 15, 2019. *GEA*, IPR2014-00041, Paper 135 at 5 (“For a petition *to receive a filing date, the petition must satisfy the § 312(a)* statutory requirements”); *Nuna*, IPR2018-01683, Paper 11 at 3-4n.1.

Second, Petitioner’s translation of Japanese Oki lacks a proper affidavit under 37 C.F.R. §§ 42.63, 1.68. The translator’s certification lacks an attestation “that willful false statements and the like are punishable by fine or imprisonment, or both.” 37 C.F.R. § 1.68; Ex. 1005. Thus, the Petition failed to comply with 35 U.S.C. § 312(a)(3)(B) requiring that “[a] petition...may be considered *only if*” it includes “affidavits or declarations of supporting evidence.”

Third, the Petition is not entitled to the October 15, 2019 filing date because Petitioner failed to comply with its service obligations under 35 U.S.C. § 312(a)(5)

² Without authorization from the Board, Petitioner filed the Japanese Oki reference relied on in Grounds 1-4 on October 29, 2019.

and 37 C.F.R. § 42.105(a). 35 U.S.C. § 312(a)(5) requires that “the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner,” which includes “copies of patents and printed publications that the petitioner relies upon” and “affidavits or declarations of supporting evidence.” Further, 37 C.F.R. § 42.106 states that “[a] petition to institute *inter partes* review will ***not be accorded a filing date until*** the petition satisfies all of the following requirements:...***Effects service of the petition...as provided in § 42.105(a).***” 37 C.F.R. § 42.105(a) states “The petition and ***supporting evidence must be served on the patent owner.***”

Contrary to 35 U.S.C. § 312(a)(5) and 37 C.F.R. §§ 42.105(a), 42.106, the copy of the Petition served on Patent Owner on October 16, 2019, did ***not*** include a copy of the Japanese Oki reference relied on in Grounds 1-4 or a proper affidavit attesting to the accuracy of the alleged translation. Ex. 2007. This failure to serve Patent Owner with the Japanese Oki reference and a proper affidavit is a violation 35 U.S.C. § 312(a)(5) and 37 C.F.R. §§ 42.105(a), 42.106 that expressly prohibit the granting of a filing date until service of *all* copies of evidence relied on in the Petition to Patent Owner is complete. Therefore, the Petition is not entitled to a filing date of October 15, 2019.

In an unauthorized filing without any showing of good cause, Petitioner filed the Japanese Oki reference on October 29, 2019, with the same exhibit number. Ex.

1003 (Oct. 29 version). Petitioner also *never served* the Oct. 29 version of Ex. 1003 or filed a certificate of service. 37 C.F.R. § 42.6(e)(4). This never-served, unauthorized filing should be rejected, and the Petition should be denied a filing date of October 15, 2019 for failing to comply with 35 U.S.C. § 312(a) and 37 C.F.R. §§ 42.105(a), 42.106. The Petition is not entitled to a filing date prior to October 29, 2019, when Petitioner filed the Japanese Oki reference relied on in Grounds 1-4 of the Petition.

Since the Petition is not entitled to a filing date earlier than October 29, 2019, the Petition is barred under 35 U.S.C. § 315(b) as there is no dispute that the Complaint in the corresponding district court case was served on October 12, 2018. Pet. 3; Ex. 1021. Accordingly, institution should be denied.

B. Alternatively, Exhibits 1003 and 1004 Should Be Expunged

Late-filed exhibits not filed with the Petition should be expunged from the record and not considered in the institution decision. *Nuna*, IPR2018-01683, Paper 11 at 9 (holding that late filed exhibits were expunged and not considered in institution); 37 C.F.R. § 42.7(a). Japanese Oki (Ex. 1003) and its translation (Ex. 1004) should be expunged because the original foreign Japanese Oki reference was

filed on October 29, 2019, which is two weeks after the 35 U.S.C. § 315(b) deadline of October 15, 2019, when the Petition was filed.³

The facts here are analogous to *Nuna* where the Board expunged several late-filed exhibits filed about 3 weeks after the Petition was filed. *Nuna*, IPR2018-01683, Paper 11 at 2, 5. Here, Petitioner filed the Japanese Oki reference on October 29, 2019, two weeks *after* filing the Petition on October 15, 2019. In both cases, the late filing of the exhibits occurred after the 35 U.S.C. § 315(b) deadline. *Id.* at 8. Because “[a] petitioner who files a petition shortly before the time bar should be well aware of the risks associated therewith,” the Board found that the situation was of the Petitioner’s own making and thus it was not in the interests of justice to excuse Petitioner for the late-filed exhibits. *Id.* at 8-9. Therefore, as in *Nuna* under a similar set of facts, the Board should expunge Exhibits 1003 and 1004 from the record and not consider them. *Id.* at 9.

Petitioner’s filing of Japanese Oki on October 29, 2019, was not authorized by the Board. Petitioner did not seek authorization or show good cause for the late filing of the exhibit as is required under the normal procedure. As in *Nuna*, there is

³ Petitioner has taken no action to correct its lack of an affidavit complying with 37 C.F.R. §§ 42.63.

no good cause for the late filing of Japanese Oki by Petitioner. Because counsel has an obligation to review filings for completeness, the failure to do so does not constitute good cause for a late filing. *Id.* at 7. The Board explained that “[i]gnorance of the PTAB’s procedures and the breakdown or lack of sufficient internal procedures” to review filings in the docket “does not establish good cause to excuse the late filing.” *Id.* Petitioner thus does not have any good cause for not having reviewed its Petition to make sure that it was complete, especially with regard to the primary prior art reference relied upon in Grounds 1-4.

The Board should thus expunge Exhibits 1003 and 1004 as in *Nuna* and not consider them. *Id.* at 4.

V. BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. § 314

A. Factors 3-5 Weigh in Favor of Discretionary Denial

The majority of the seven factors weigh in favor of discretionary denial under 35 U.S.C. § 314(a). *Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 9-10 (PTAB Sept. 6, 2017). The first two factors are not relevant as it is Petitioner’s first petition. The third factor weighs in favor of denial as Petitioner waited to file its Petition until about 9 months after receiving the institution decision regarding the Samsung petition challenging the same claims and relying on many of the same references (*i.e.*, Toffolo, Morris, and Weindorf).

Petitioner relies extensively on statements made in the prior Samsung proceeding as a roadmap. Pet. 2, 18, 29, 47, 66.

The fourth and fifth factors weigh in favor of denying institution because VIZIO knew of the prior art in its Petition by May 3, 2019 when it served invalidity contentions and delayed filing its Petition until over a year after it was served with the Complaint and over five months after its invalidity contentions. Ex. 2018.⁴ Petitioner delayed filing its Petition to cause maximum interference in the litigation placing the patent owner preliminary response during expert discovery when parties are preparing expert reports. Ex. 2009. If instituted, the Patent Owner's Response will be due about a month prior to the district court trial. Conversely, the Petitioner's Reply would not be due until after the district court trial ends in September 2020.

B. Factors 6 and 7 Weigh in Favor of Denial Since Institution Would Be an Inefficient Use of Board Resources Given the Advanced Stage of Litigation

Factors six and seven relating to the Board's finite resources and the one year deadline for a final written decision weigh in favor of denying institution. Instituting

⁴ Morris, Weindorf, and Bruning are the published applications of U.S. Patent Nos. 6,657,663, 6,762,741, 6,888,529 in Petitioner's invalidity contentions and have the same disclosure.

a trial under the facts and circumstances of this case would be an inefficient use of Board resources given the advanced stage of the district court litigation and the overlap in prior art arguments. The district court has spent considerable resources in addressing the same issues presented in this IPR. The district court has issued three orders regarding claim construction for the '117 patent. Exs. 3002, 3003, 2008. Fact discovery is already closed, and expert discovery closes April 8, 2020. Ex. 2009. By the time of the Board's institution decision, the parties would have completed expert discovery, including opening and rebuttal expert reports and expert depositions regarding invalidity addressing essentially the same prior art and arguments as in the Petition.⁵ The district court trial begins on September 15, 2020, which is *over 7.5 months before the deadline of May 6, 2021 for the final written decision*. Ex. 2022, 1.

The district court case is at a more advanced stage than similar cases where the Board has exercised its discretion to deny institution. In *NHK*, the Board exercised its discretion to deny institution where trial involving similar prior art was set to occur *6 months* before the final written decision if the IPR was instituted.

⁵ The same prior art is asserted in the district court for the '117 patent except Bruning (Ex. 1009), which is *only* used in the Petition for one dependent claim in Ground 7.

NHK Spring Co., Ltd. v. Intri-Plex Tech., Inc., IPR2018-00752, Paper No. 8 at 20-21. (PTAB Sept. 12, 2018). In *Samsung*, the Board similarly exercised its discretion to deny institution where trial was set about **6 months** before a final written decision if the IPR was instituted. *Samsung Elec. Am., Inc. v. Uniloc 2017 LLC*, IPR2019-01219, Paper 7 at 15-17 (PTAB Jan. 9, 2020). In *E-One*, the Board exercised its discretion to deny institution where there was substantial overlap in obviousness arguments between the district court and the petition, and trial was scheduled approximately **one month** prior to the deadline for a final written decision. *E-One, Inc. v. Oshkosh Corp.*, IPR2019-00161, Paper 16 at 6-9 (PTAB May 15, 2019). By contrast, the district court trial in *Polaris v. VIZIO* is scheduled **over 7.5 months before** the final written decision would be due.

Having a parallel proceeding regarding invalidity on essentially the same prior art in both the district court and the PTAB would be prejudicial to Polaris and an inefficient use of Polaris' and the Board's resources. It would force Polaris to defend against invalidity attacks in both venues, giving Petitioner the tactical advantage of seeing Polaris' defenses in one venue and then changing its approach in the other venue in response. This would allow Petitioner to take different positions and assert different theories regarding the same art in the different venues, which would unfairly prejudice Polaris.

Further, Petitioner has timed its Petition to cause maximum prejudice to Polaris in the litigation. Petitioner waited over a year to file its Petition resulting in the Patent Owner Preliminary Response being due during expert discovery while Polaris is preparing expert reports. Similarly, if instituted, Patent Owner's Response will likely be due about one month before the district court trial. Petitioner's Reply, however, will likely not be due until after the district court trial in mid-September 2020.

Parallel proceedings would also be an inefficient use of the Board's resources as the district court will have decided the same claim construction and invalidity issues over 7.5 months before the Board. Having an IPR conducted in parallel with the litigation would add considerable additional expense.

The Board should thus exercise its discretion under 35 U.S.C. § 314(a) and deny institution.

VI. BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. § 325(d)

Patent Owner requests that the Board exercise its discretion to deny institution under Section 325(d) because the *Becton, Dickinson* factors weigh towards denial. *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17-18 (PTAB Dec. 15, 2017). Four of the five references (*i.e.*, Toffolo, Morris, Weindorf, Bruning) in the Petition are duplicative of art considered by the Board in

the Samsung petition and the examiner during prosecution. The remaining reference, Oki, is not prior art.

Morris is the published application of U.S. Patent No. 6,657,663 relied on in Samsung for the same claims (*i.e.*, 13-14). Ex. 1016, 31-32, 62-67; Pet. 43-45, 63-65; Ex. 2020. Weindorf is the published application of U.S. Patent No. 6,762,741 cited during prosecution and used in Samsung's expert declaration. Ex. 2010, ¶¶20, 46, 55, 152; Pet. 45, 64-65; Ex. 1001, 3; Ex. 2021. The Board previously considered Toffolo as a secondary reference in the Samsung petition. *NHK*, IPR2018-00752, Paper 8 at 12-15 (denying IPR when Petition's primary reference was previously used as secondary reference); Ex. 1016, 58-62.

Bruning is only used in Ground 7 for dependent claim 6. Pet. 59-62. Petitioner relies on Bruning's Figure 4 describing a "clamped mode flyback power converter." Pet. 60-62; Ex. 1009, ¶31. This same disclosure was before the examiner during prosecution in U.S. Patent No. 6,509,696 to Bruning. Ex. 1001, 3; Ex. 2011, 4:30-34.

The final reference, Oki, is not prior art as explained below. Petitioner relies on Oki for an equation that is duplicative of Godwin's disclosure. Ex. 1004, ¶29; Ex. 1025, 3:55-56. Petitioner provides no explanation of why the examiner and Board erred in not rejecting or canceling the claims over these redundant prior art references.

Therefore, the Board should exercise its discretion to deny institution under § 325(d). *Cultec, Inc. v. StormTech LLC*, IPR2017-00777 Paper 7 at 12-13 (PTAB Aug. 22, 2017) (denying institution where Office previously considered two references and new prior art was substantially the same); *ZTE (USA) Inc. v. Fractus, S.A.*, IPR2018-01451, Paper 12 at 18-20 (PTAB Feb. 19, 2019) (denying institution where prior art presentation was “slightly different”).

VII. OKI IS NOT VALID EVIDENCE

“When a party relies on a document...in a language other than English, a translation of the document into English and an affidavit attesting to the accuracy of the translation must be filed with the document.” 37 C.F.R. § 42.63(b). Petitioner relies on the English translation (Ex. 1004) of the Japanese Oki reference. However, the translator’s declaration (Ex. 1005) fails to meet the requirements of 37 C.F.R. §§ 42.63(b) and 1.68 rendering the translation unreliable. Exhibit 1005 does not state that “willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon” or that “all statements made of the declarant’s own knowledge are true” as required by 37 C.F.R. §§ 42.63(b) and 1.68.

Over three months later, Petitioner has not corrected the translator’s declaration. Petitioner has also not shown that there was any clerical error. Given counsel’s obligation to review filings for accuracy, it appears that Petitioner did not

acquire a compliant declaration prior to filing the Petition, which is *not* clerical error. *Zhongshan Broad Ocean Motor Co., Ltd. v. Nidec Motor Corp.*, IPR2014-01121, Paper 20 at 10-12 (PTAB Jan. 21, 2015) (holding that failing to obtain a proper translation affidavit is not clerical error).

The translation in Exhibit 1004 should not be considered by the Board because the lack of a proper affidavit renders the Oki translation unreliable. *Zhongshan*, IPR2014-01121, Paper 20 at 13 (denying institution and holding that translations without proper affidavits were not considered by the Board); *Pungkuk EDM Wire Mfg. Co. v. Seong*, IPR2016-00764, Paper 16 at 21n.3 (PTAB Sept. 8, 2016) (“The failure to file a proper affidavit...is an additional ground for denying institution of trial on any ground relating to [a foreign reference].”).

VIII. OKI IS NOT PRIOR ART TO THE '117 PATENT

A. Ferguson Conceived and Actually Reduced to Practice the '117 Patented Inventions Before Oki

Oki, which has a § 102(a) publication date of May 23, 2003, is not prior art to claims 1-2, 6-7, and 13-16 of the '117 patent as Bruce Ferguson conceived of these inventions by March 28, 2003, and actually reduced these inventions to practice during the first two weeks in May 2003, prior to May 23, 2003. *Purdue Pharma L.P. v. Boehringer Ingelheim GMBH*, 237 F.3d 1359, 1365-6 (Fed. Cir. 2001).

⁶ Mr. Lewis is deceased. Ex. 2003, ¶11.

A series of horizontal black bars of varying lengths, some with yellow borders, arranged in a list-like structure. The bars are stacked vertically, with some having a thin yellow border on the top and bottom edges. The lengths of the bars vary, with some spanning the full width of the image and others being shorter, creating a stepped effect. The bars are arranged in a way that suggests a list or a sequence of items, with the shorter bars appearing to be indented or grouped together. The overall composition is minimalist and abstract, focusing on the contrast between the black bars and the white background.

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B. Prototype Practices Claims 1-2, 6-7, 9, and 13-16

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1. Claims 1 and 15

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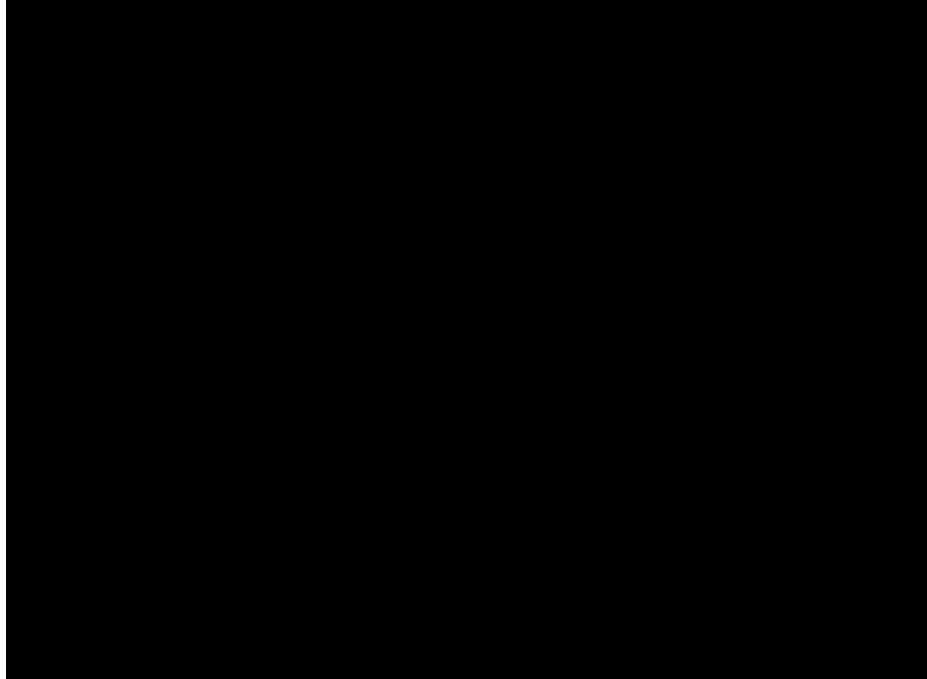
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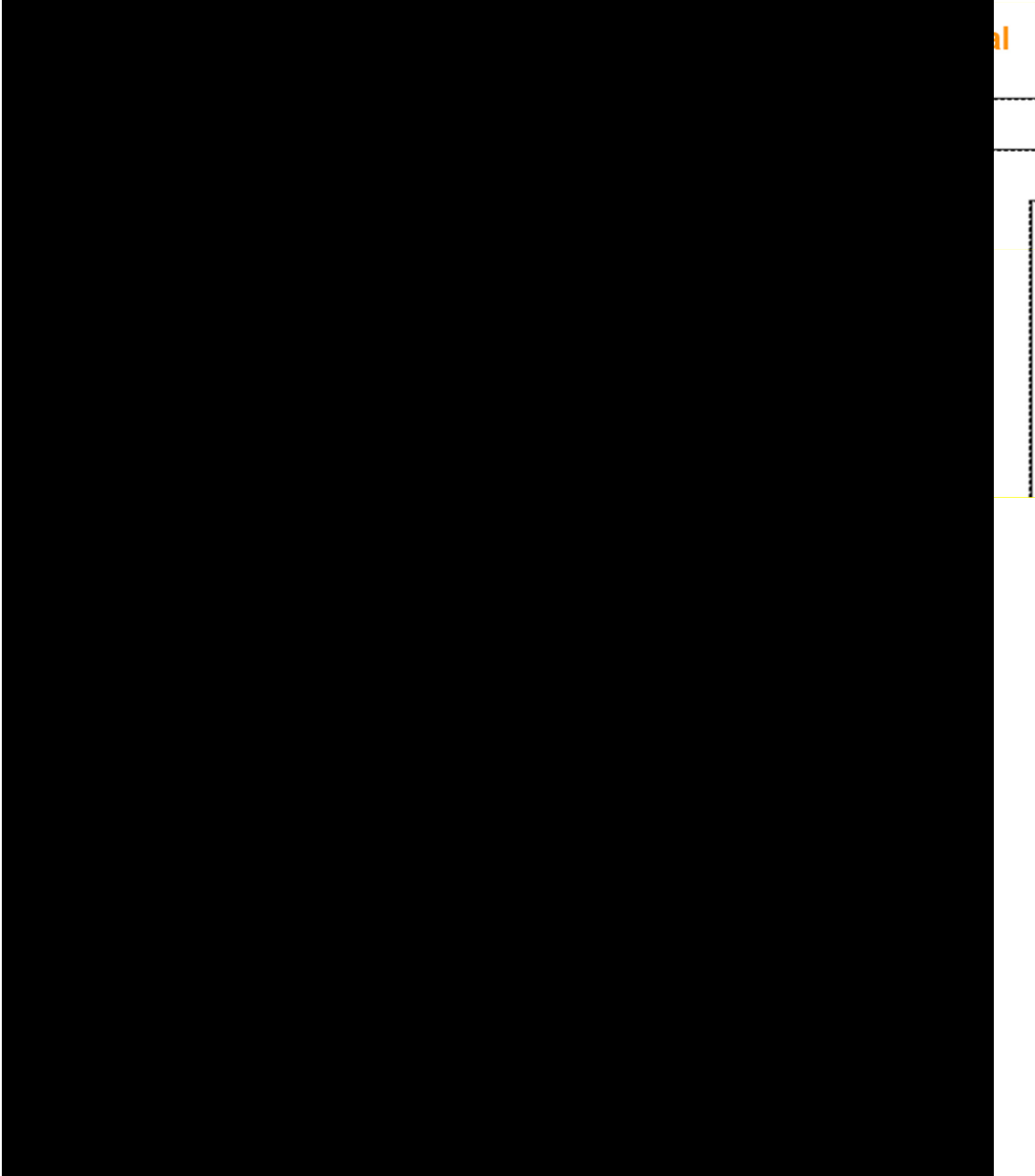
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[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁷ “Approximately zero” is construed as “zero or a level close enough to zero that a light sensor would measure zero or a corresponding sensing signal would round to zero.” Ex. 3002, 35

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

2. Claim 2

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3. Claim 6

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4. Claim 7

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5. Claim 13

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

6. Claim 14

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7. Claim 16

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

8. Institution Should Be Denied as Oki Is Not Prior Art

Oki is not prior art to *all* independent claims and the vast majority of dependent claims in the Petition. The Board should deny institution because

resolving the patentability of a couple dependent claims is not an efficient use of the Board's resources, especially here where the *same* arguments and prior art are asserted in the district court and will be resolved at trial about 7.5 months before a final written decision. *Chevron Oronite Co. LLC v. Infineum USA L.P.*, IPR2018-00923, Paper 9 at 11 (PTAB Nov. 7, 2018) (denying institution because instituting an IPR on a couple dependent claims is an inefficient use of the Board's resources).

IX. GROUNDS 1-4 FAIL AS OKI DOES NOT DISCLOSE SEVERAL LIMITATIONS OF INDEPENDENT CLAIMS 1 AND 15

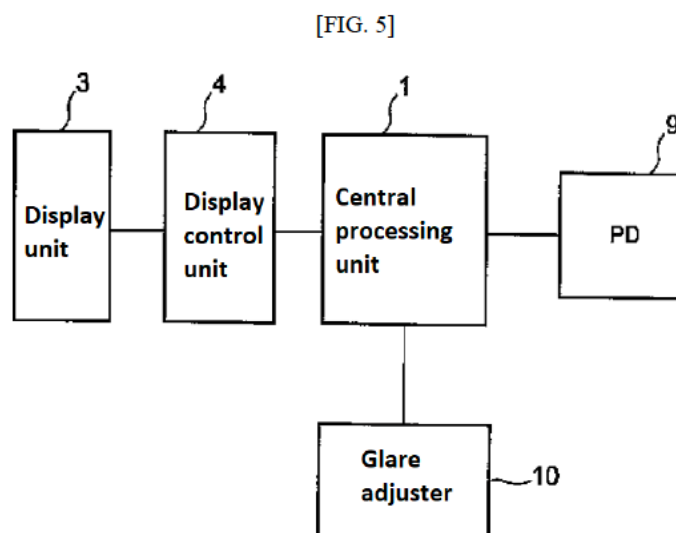
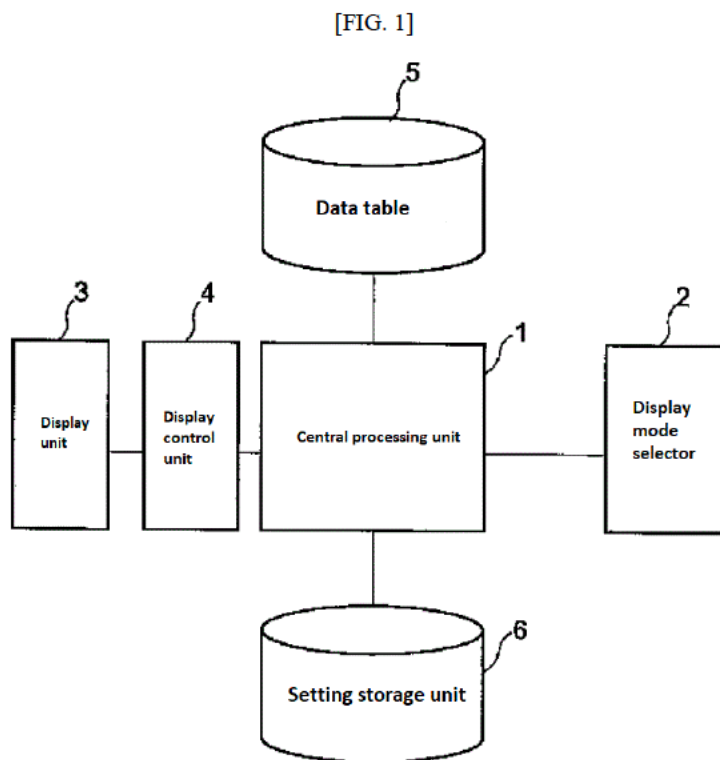
For Grounds 1-4, Petitioner relies *only* on Oki for disclosure of *all* limitations in the two independent claims (*i.e.*, 1, 15).⁸ If Oki does not disclose all limitations of claims 1 and 15, Grounds 1-4 fail to demonstrate a reasonable likelihood of prevailing.

A. Oki Does Not Disclose the Preamble of Claim 1

The district court held that the preamble of claim 1, which states “A *brightness control circuit* with selective ambient light correction,” is a limitation. Ex. 3002, 27n.10. Petitioner alleges that the “display controller” is the “brightness control circuit.” In support, Petitioner cites to two paragraphs that do not describe any circuitry or software. Ex. 1004, ¶¶6, 26; Pet. 28-29. They merely state the

⁸ “Oki” refers to the purported English translation of Japanese Oki in Exhibit 1004.

names of generic functional blocks in Figures 1 and 5. Ex. 1004, ¶¶6, 26.



Ex. 1004, Figs. 1, 5. The words “circuit,” “circuitry,” and “software” are not used in Oki. Grounds 1-4 fail as Petitioner has not identified a “brightness control circuit” in Oki.

Further, Ground 1 fails as Oki cannot anticipate since Petitioner is combining the two different embodiments (*i.e.*, Figs. 1, 5) in paragraphs 6 and 26. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F. 3d 1359, 1371 (Fed. Cir. 2008). The Petition's obviousness grounds fail because, for this limitation, Petition has ***no analysis*** of (1) *how* these embodiments would be combined, (2) a *motivation to combine* these embodiments, (3) a *reasonable expectation of success*, and (4) differences between the claimed invention and the prior art. *CIVIQ Smartscapes LLC v. Mfg. Res. Int'l, Inc.*, IPR2018-00774, Paper 6 at 14 (PTAB Sept. 25, 2018) (denying institution where "[t]he Petition includes no actual obviousness arguments or analysis").

B. 1[a]: "a first input configured to receive a user signal indicative of a user selectable brightness setting"

15[a]: "receiving a user input signal indicative of a user selectable brightness setting"

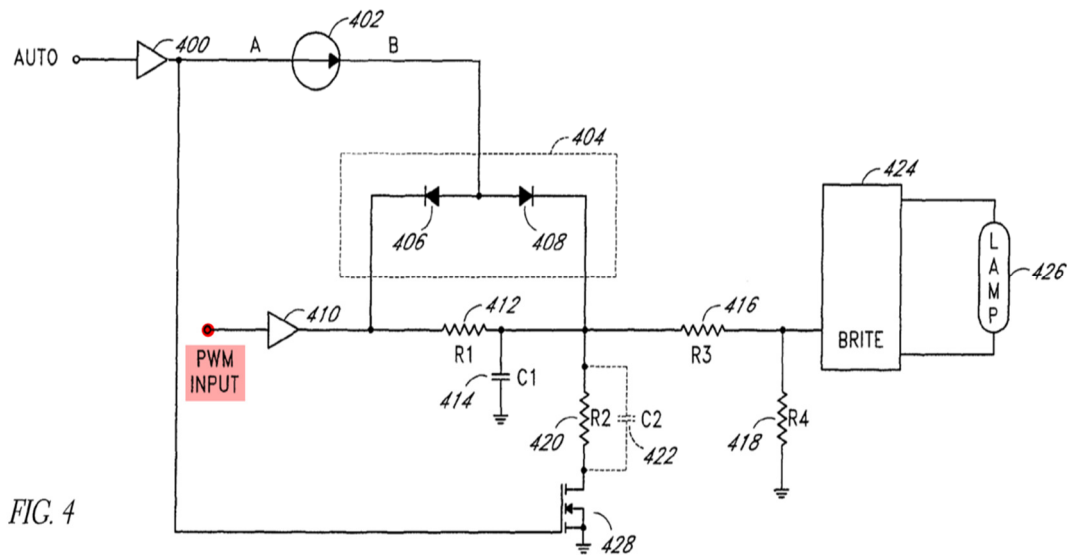
1. Oki Does Not Disclose "A First Input"

Petitioner does not identify "a *first input* configured to receive a user signal indicative of a user selectable brightness setting." ***First***, Petitioner's alleged "first input" is ***not*** part of the "brightness control circuit" as required by the claims.

1. A ***brightness control circuit*** with selective ambient light correction ***comprising***:

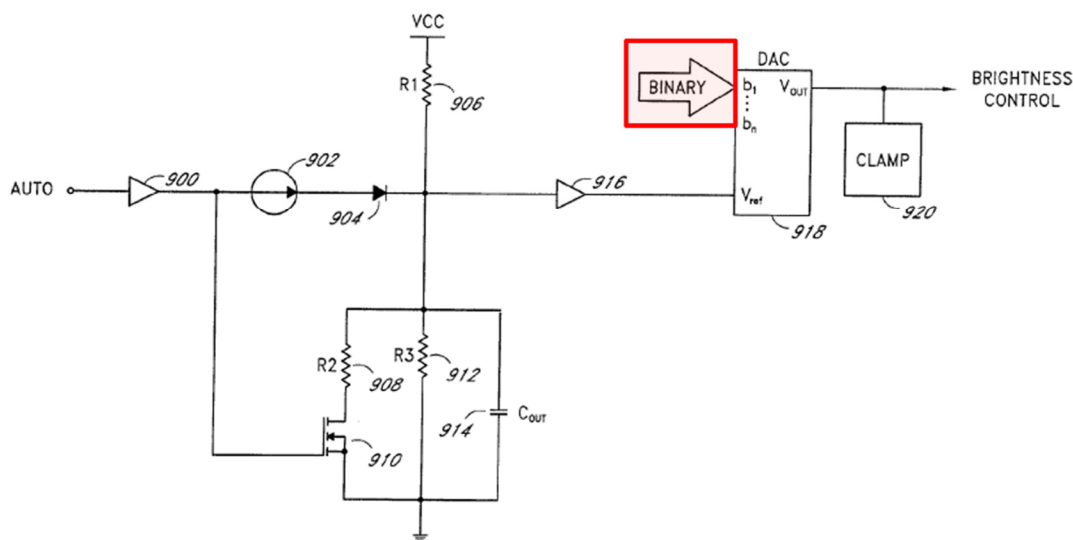
a first input configured to receive a user signal...

Ex. 1001, claim 1. Claim 1 is clear that the “first input configured to receive a user signal” is *part of* the “brightness control circuit.” Consistent with the claims, Figures 4 and 9 of the ’117 patent show the “first input” that receives the user signal as part of the brightness control circuit. In Figure 4, the “PWM input” is the “first input” receiving the PWM user signal.



Ex. 1001, Fig. 4, 6:22-32. In Figure 9, the “first input” that receives the digital word user signal is the digital-to-analog converter (“DAC”) 918 in the “brightness control circuit.”

FIG. 9

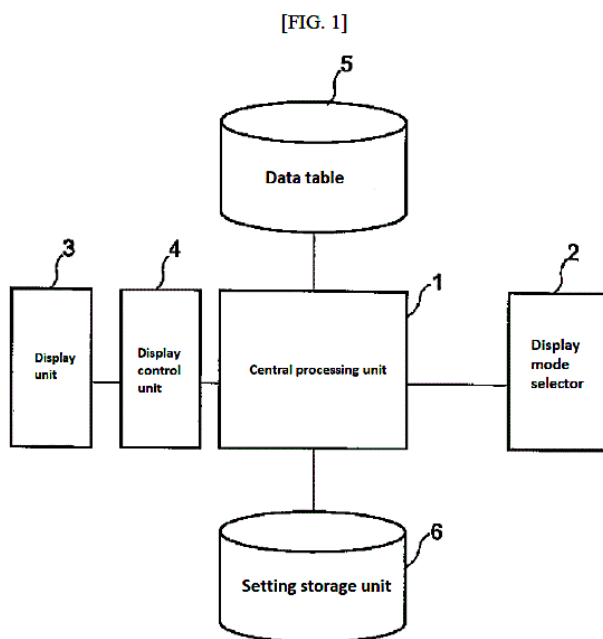


Ex. 1001, Fig. 9, 10:33-39. The construction of “a first input configured to receive a user signal” as “a *first input actually programmed or implemented with hardware or software* to receive a user signal” emphasizes that the “first input” is part of the “brightness control circuit.” Ex. 3003, 7.

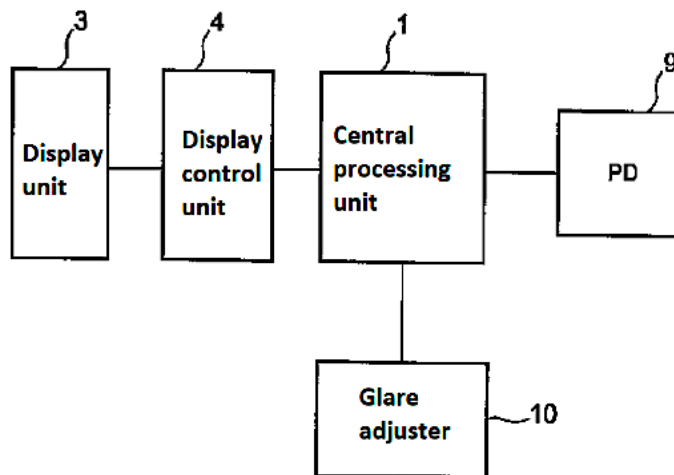
Contrary to claim 1, the district court’s construction, and the embodiments, Petitioner alleges that the “first input” is “numerical keys on the mobile terminal” or “an input device other than the numerical keys of the mobile terminal.” Pet. 30. The “numerical keys on the mobile terminal” refer to “numerical keys for inputting a telephone number.” Ex. 1004, ¶¶22, 27. “An input other than the numerical keys of the mobile terminal” refers to other keys of the mobile terminal (*e.g.*, volume, arrow buttons, *etc.*).



Petitioner’s alleged “first input” (*i.e.*, push keys on a mobile terminal) is *not* part of Petitioner’s alleged “brightness control circuit” (*i.e.*, “display controller”) as required by claim 1 and shown in Figures 1 and 5.



[FIG. 5]



Ex. 1004, Figs. 1, 5, ¶¶6, 26; Pet. 28-29. Because keys of a mobile terminal are *not* within Petitioner’s alleged “brightness control circuit” as required by claim 1, Petitioner’s has failed to identify a “first input” in Oki.

Second, Petitioner failed to show that Oki discloses a “first input” by failing to identify any specific hardware or software used to implement it as required by the construction of “a first input configured to receive a user signal” as “a *first input actually programmed or implemented with hardware or software* to receive a user signal.” Ex. 3003 at 7.

Third, Petitioner’s alleged “first input” (*i.e.*, push keys on a mobile terminal) does *not* “receive a user signal” (*e.g.*, PWM signal, digital word, electrical signal) as required by claim 1. Ex. 1001, claim 1; Pet. 30. Numerical and other push keys are for human input *not* for receiving electrical or software signals and are thus not a “first input.”

2. Oki Does Not Disclose “a user [input] signal indicative of a user selectable brightness setting”

Petitioner fails to disclose this limitation of claims 1 and 15. *First*, in its one paragraph analysis, Petitioner fails to identify a “user selectable brightness setting” in Oki. Rather, Petitioner only addresses the “user [input] signal” limitation while ignoring the separate “user selectable brightness setting” limitation.

Claim Element	Example Elements in <i>Oki</i>
1[a] a first input configured to receive a user signal indicative of a user selectable brightness setting;	- First input = numerical keys of the mobile terminal; an input device other than the numerical keys of the mobile terminal Ex. 1004, [0027]
15[a] receiving a user input signal indicative of a user selectable brightness setting;	- user [input] signal indicative of a user selectable brightness setting = maximum used luminance value; minimum used luminance value; luminance setting Ex. 1004, [0027]

Pet. 30. Petitioner alleges that the “maximum used luminance value,” “minimum used luminance value,” and “luminance setting” (which refers to the minimum used luminance value” in Oki) are the “user [input] signal.” Ex. 1004, ¶27.

Petitioner never identifies a “user selectable brightness setting.” Petitioner’s indisputable failure to identify with particularity where the “user selectable brightness setting” is found in Oki requires rejection of Grounds 1-4.

Petitioner cannot argue that “user [input] signal” and “user selectable brightness setting” are the *same* thing. Under well-established precedent, “user [input] signal” and “user selectable brightness setting” are two separate claim

limitations. *HTC Corp. v. Cellular Commc'n. Equip. LLC*, 701 F. App'x. 978, 982 (Fed. Cir. 2017) (“The separate naming of two structures in the claim strongly implies that the named entities are not one and the same structure.”); *Becton Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.”). Because the claims require “a user [input] signal *indicative of* a user selectable brightness setting,” “user [input] signal” and “user selectable brightness setting” must be different elements as one has to be *indicative* of the other. Therefore, the maximum and minimum used luminance values *cannot be both* a “user [input] signal” and “user selectable brightness setting” as that would be contrary to the claim language and the law.

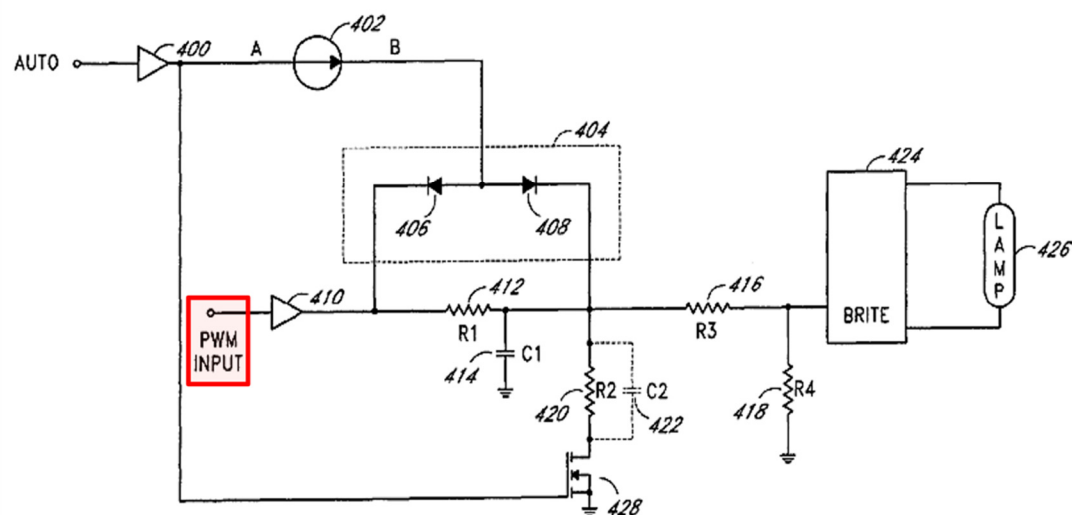
In the '117 patent, the distinction between “user [input] signal” and “user selectable brightness setting” is important. The “user selectable brightness setting” is chosen by the user whereas the “user [input] signal” is a signal (*e.g.*, electrical or software) generated by the internal circuitry and software of the device. For example, in Figure 4, the user chooses a screen brightness setting. The microprocessor takes that information and generates a pulse width modulation (“PWM”) signal, which is the “user [input] signal” received by the “first input” of

the “brightness control circuit.” That PWM user signal generated by the microprocessor is different than the “user selectable brightness setting.”

The PWM logic signal can be generated by a microprocessor based on user preference.

A microprocessor can generate the user adjustable PWM logic signal based on user input...

FIG. 4

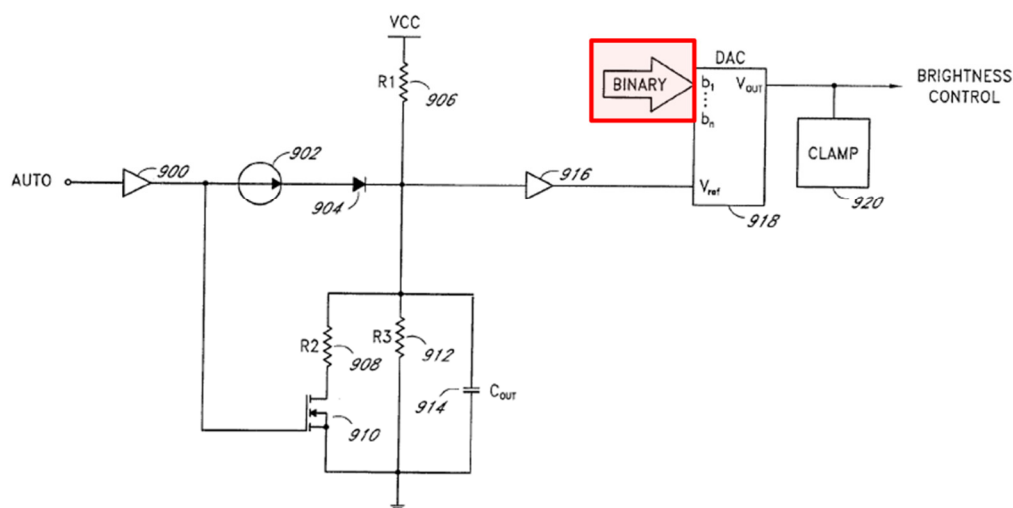


Ex. 1001, Fig. 4, 3:23-24, 6:28-31.

Similarly, the “user [input] signal” in Figure 9 is a binary word, which is a series of 0s and 1s (e.g., 00101110). Ex. 1001, 3:59-4:4, 4:35-37, 10:33-43. A user does not enter a binary word. The binary word is a “user [input] signal” generated by the device’s software. While it may be indicative of a “user

selectable brightness setting,” the binary word “user [input] signal” is *not* a “user selectable brightness setting.”

FIG. 9



Ex. 1001, Fig. 9. Thus, the embodiments show that a “user [input] signal” is different from a “user selectable brightness setting.”

Second, the maximum and minimum used luminance values are not “user [input] signals.” Petitioner alleges:

The first input includes “the numerical keys of the mobile terminal” or any input device “other than the numerical keys of the mobile terminal” that can be used to input the maximum used luminance value and the minimum used luminance value, one or both of which is the user signal (claim 1), which is referred to as the user input signal in claim 15.

Pet. 30. By Petitioner’s own admission, the maximum and minimum used luminance values are entered by keys on the mobile terminal by a human user.

While the maximum and minimum used luminance values may be a user input, they are not a “user [input] *signal*” received by a brightness control circuit as required by the claims. The “user [input] signal” is an actual *signal*, like the PWM “user [input] signal” generated by a microprocessor in Figure 4 or the binary word (*i.e.*, 00101110) “user [input] signal” generated by software in Figure 9. Ex. 1001, Figs. 4, 9, 3:23-24, 3:59-4:4, 4:35-37, 6:28-31, 10:33-43. The “user [input] signal” in the ’117 patent is not generated by humans like the maximum and minimum values alleged by Petitioner.

Therefore, the maximum and minimum used luminance values are not “user [input] signals” like the PWM and digital word signals in the ’117 patent. Because it describes no circuitry or software, there are no “user [input] signals” described in Oki. Grounds 1-4 fail because Oki does not disclose a “user [input] signal.”

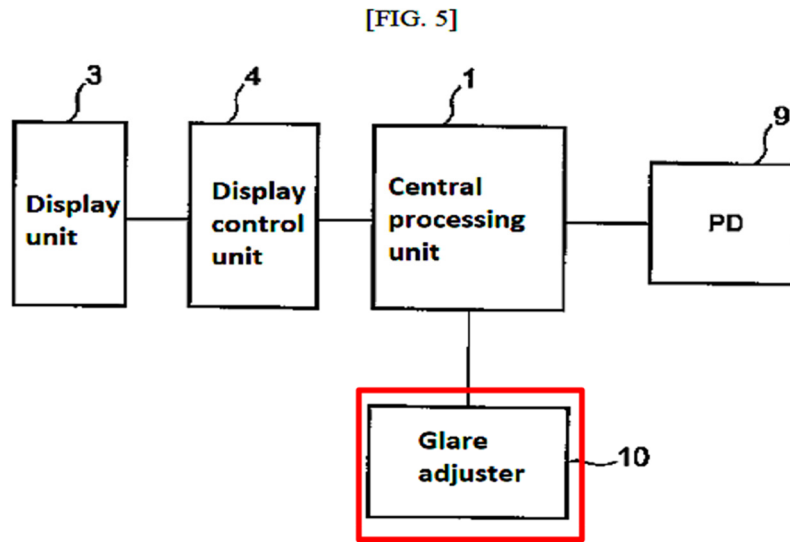
C. 1[c]: “a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal”

15[b]: “selectively multiplying the input signal with a sense signal to generate a combined signal”

Oki fails to disclose these limitations in claims 1 and 15. *First*, Oki does not disclose “a ***multiplier*** configured to selectively generate a combined signal” or “***multiplying*** the input signal with a sense signal to generate a combined signal.” By their plain language, these terms require multiplication. Further, the district court construed “combined signal” to require multiplication as “the combined

signal” includes, but is not necessarily limited to, “the product of the [user/input] signal and the [sensing/sense] signal.” Ex. 1022, 29-30.

Petitioner argues that the alleged “multiplier” (*i.e.*, display controller, glare adjuster 10) uses an equation $Y=(b-a)x+a$ wherein “ $(b-a)x$ ” is the “combined signal.”⁹ Pet. 31-32. Petitioner’s theory is not supported by Oki’s disclosure. Oki does not disclose any circuitry or software that performs multiplication of signals, including in the glare adjuster of the display controller.¹⁰ The glare adjuster is just a black box.



⁹ “b” and “a” are the maximum and minimum luminance value, respectively; and “x” is the output of the photodiode. Ex. 1004, ¶27.

¹⁰ The equation cannot be implemented in software because the glare adjuster and not the “central processing unit” determines the brightness. Ex. 1004, ¶29.

Ex. 1004, Fig. 5. Oki states that brightness can vary linearly with the ambient light level where “the straight line is given by the equation $Y=(b-a)x+a$.” However, Oki never states that there is any circuitry or software that actually performs this equation.

In the context of the entire Oki reference, the equation is an explanation describing the behavior of the system, which uses lookup tables to calculate the display brightness. Oki’s summary of the “present invention” states that “screen brightness” and display “illuminance” are “provided beforehand” and “set beforehand.”

[Means for Solving the Problem] To solve the above-noted problem, *the present invention is provided beforehand with a plurality of screen display methods*, that is, display modes in which character sizes, *screen brightness*, display speeds, and the like are defined, by combinations of user vision characteristics, use environment, and the like when a large amount of information is displayed on a small display such as a mobile terminal. In each display mode, *values of the* character size, *illuminance*, and display speed *are set beforehand*, and the display settings are changed by selecting a display mode. Additionally, by automatic adjustment of the illuminance of a screen to which an illuminance sensor has been mounted in a mobile terminal or the like, the above-noted problem is solved.

Ex. 1004, ¶5.

Oki then describes lookup data tables containing “screen brightness” values, which is how the “screen brightness” is “provided beforehand” and “set beforehand” consistent with the description of the “present invention” above.

[0016] An example of the data of the *data table 5 that stores display parameters of the screen will now be described, using FIG. 4.* The *screen display parameters* are the size of characters that are displayed, the speed of the character display, the *screen brightness* and contrast, and the color and the like.

[FIG. 4]

Terminal Identification Information	(A) Mobile telephone			(B) PDA			(C) ○○○	...
Display mode	-	*	+	-	*	+		
Character size (dots)	9 × 9	12 × 12	16 × 16	12 × 12	16 × 16	20 × 20		
Character display speed	18 lines/s	12 lines/s	6 lines/s	16 lines/s	10 lines/s	5 lines/s		
⋮	⋮	⋮	⋮	⋮	⋮	⋮		
⋮	⋮	⋮	⋮	⋮	⋮	⋮		
⋮	⋮	⋮	⋮	⋮	⋮	⋮		

Ex. 1004, Fig. 4, ¶16. There is no other context in Oki for storing “screen brightness” in a lookup table other than in relation to automatic brightness adjustment as this is the only “brightness” feature in Oki. Manual adjustment would not require lookup tables. Further, since no circuitry or software is disclosed for performing multiplication of [user/input] signals and [sensing/sense] signals, Oki only discloses using lookup tables for adjusting the brightness, which do not perform any multiplication whatsoever.

Therefore, Oki does not disclose the “multiplier...” or “multiplying...” limitations because Oki does not disclose any circuitry or software that performs multiplication, including multiplication of [user/input] signals and [sensing/sense] signals.

Second, Oki does not disclose a “combined signal,” which the district court construed as “the combined signal includes, but is not necessarily limited to, the product of the [user/input] signal and the [sensing/sense] signal.” Ex. 1022, 29-30. Petitioner argues that “(b-a)x” is the combined signal where “b” and “a” are the maximum and minimum luminance value, respectively, and “x” is the photodiode output. Pet. 31-32. As discussed above, the maximum and minimum used luminance values are input by a user with numerical push keys on a mobile terminal. Pet. 30. They are *not* “user [input] signals” like the PWM and digital word signals in the ’117 patent. Ex. 1001, Fig. 4, 9, 6:22-32, 10:33-39. Therefore, “(b-a)x” is not a “combined signal” as it lacks “the product of the [user/input] signal and the [sensing/sense] signal” as required by the construction of “combined signal.” Further, because “b” and “a” are not [user/input] signals, the term “(b-a)x” cannot be a “combined signal” because it is not “based on...the user signal” as required by claim 1 and not “multiplying the input signal with a sense signal” as required by claim 15.

Third, Petitioner fails to identify a “multiplier configured to generate a combined signal” in Oki. The district court construed “a multiplier configured to generate a combined signal...” as “a multiplier *actually programmed or implemented with hardware or software* to selectively generate a combined signal...” Petitioner has not identified with particularity any multiplier that is programmed or implemented with circuitry or software in Oki. Petitioner does not identify any circuitry or software implementations of the glare adjuster or display controller in Oki. Pet. 31-32.

Grounds 1-4 thus fail.

D. 1[d]: “a dark level bias configured to adjust the combined signal to generate a brightness control signal that is used to control a brightness level of a visible display such that the brightness control signal is maintained above a predetermined level when the ambient light level decreases to approximately zero.”

15[d]: “adjusting the combined signal with a dark level bias to generate a brightness control signal for controlling brightness of a visible display such that the brightness control signal is maintained above a predetermined level when the ambient light level decreases to approximately zero.”

Petitioner’s analysis mischaracterizes “dark level bias” by arguing that it just needs to be a minimum, which is contrary to the proper construction and the Board’s prior decision. In denying the Samsung petition, the board previously held that the “dark level bias” term in claims 1 and 15 “recites more than merely

maintaining screen brightness above a minimum level; it recites maintaining the screen brightness above a minimum level *in a particular way*.” Ex. 1002, 14.

The court construed “a dark level bias configured to adjust the combined signal” as “a dark level bias actually programmed or implemented with hardware or software to adjust the combined signal.” Ex. 3002, 34. The same court construed “dark level bias” as “a value that causes a deviation from the combined signal, where the value is a voltage value of an electrical signal or value of a software variable.” *Id.*

Oki does not disclose a “dark level bias.” **First**, Petitioner has not identified a “dark level bias.” Petitioner alleges that the minimum used luminance value “a” is **both** a “dark level bias” and a “user [input] signal,” which is contrary to Federal Circuit precedent and the claim language. Pet. 30-31, 33. The minimum used luminance value “a” cannot be *both* the “dark level bias” and the “user [input] signal” because they are two different claim limitations. *HTC*, 701 F. App’x. at 982 (“The separate naming of two structures in the claim strongly implies that the named entities are not one and the same structure.”); *Becton*, 616 F.3d at 1254 (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.”). Therefore, because “dark level bias” and “user [input] signal” are

used separately in claims 1 and 15, these are necessarily two *different* limitations of the claims. *Id.*

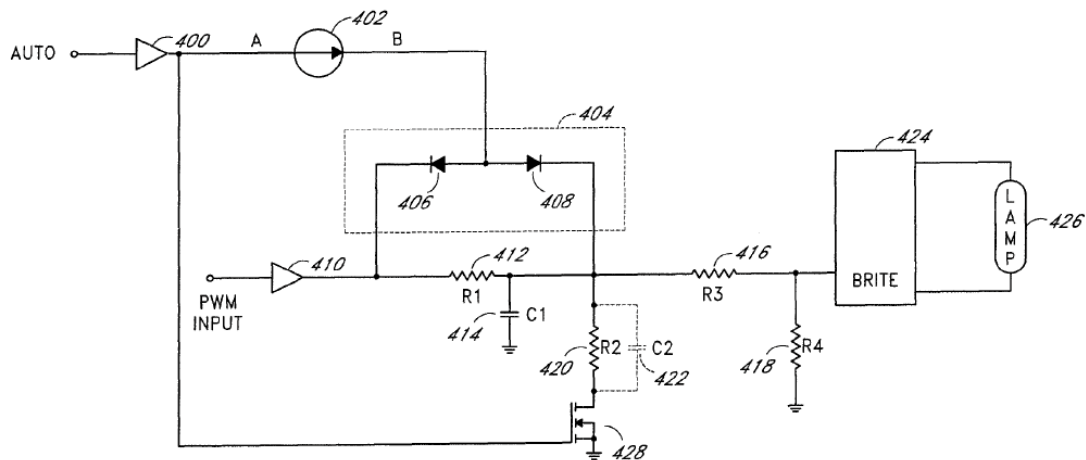
The dependent claims similarly show that “dark level bias” and “user [input] signal” are two different, mutually exclusive elements.

3. The brightness control circuit of claim 2, wherein the multiplier multiplies a sum of the ***user signal*** and the sensing signal by the ***dark level bias*** to generate an output signal corresponding to the brightness control signal.

Ex. 1001, claim 3. Petitioner’s argument is thus contrary to the claim language.

Petitioner’s argument is also contrary to all embodiments, which show the “dark level bias” and “user [input] signal” as different values derived from different sources as illustrated in the equations accompanying Figures 4, 8, and 9.

FIG. 4

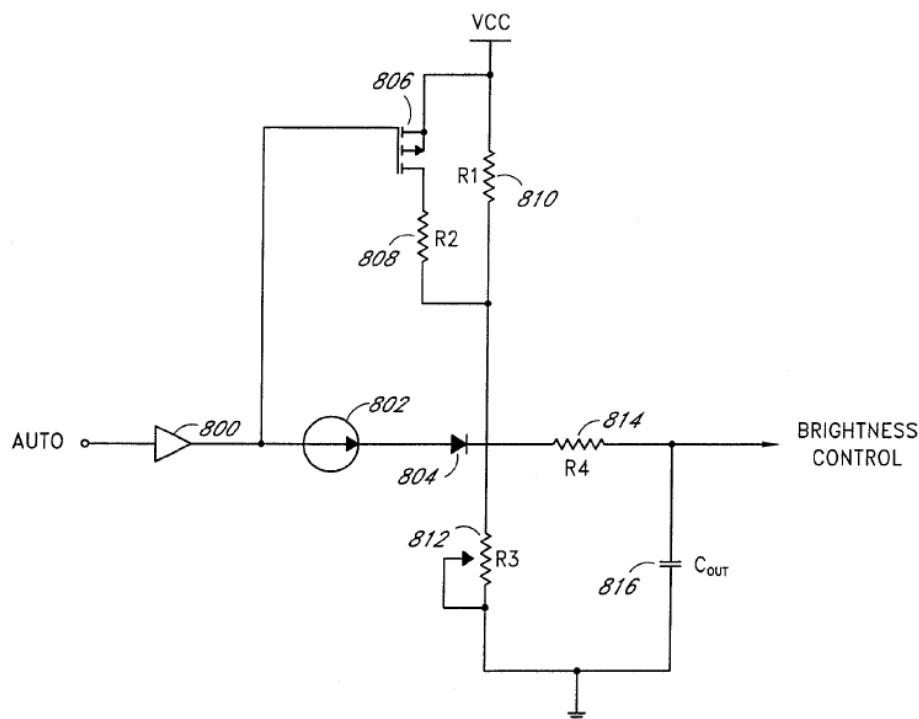


$$BCS1 = \text{User Signal } \boxed{\text{duty cycle}} \times \left[\left(\frac{VCC \times R2 \times R4}{[(R1 + R2) \times (R3 + R4)] + (R1 \times R2)} \right) + \right. \\ \left. \text{Sensing Signal } \left(\frac{\boxed{ISRC} \times R1 \times R2 \times R4}{[(R1 + R2) \times (R3 + R4)] + (R1 \times R2)} \right) \right]$$

The term “duty cycle” corresponds to the duty cycle of the user adjustable PWM logic signal...The term “ISRC” corresponds to the sensor current signal. The first major term within the brackets corresponds to a scaled dark bias level of the brightness control signal in total ambient darkness.

Ex. 1001, Fig. 4, 7:17-32.

FIG. 8

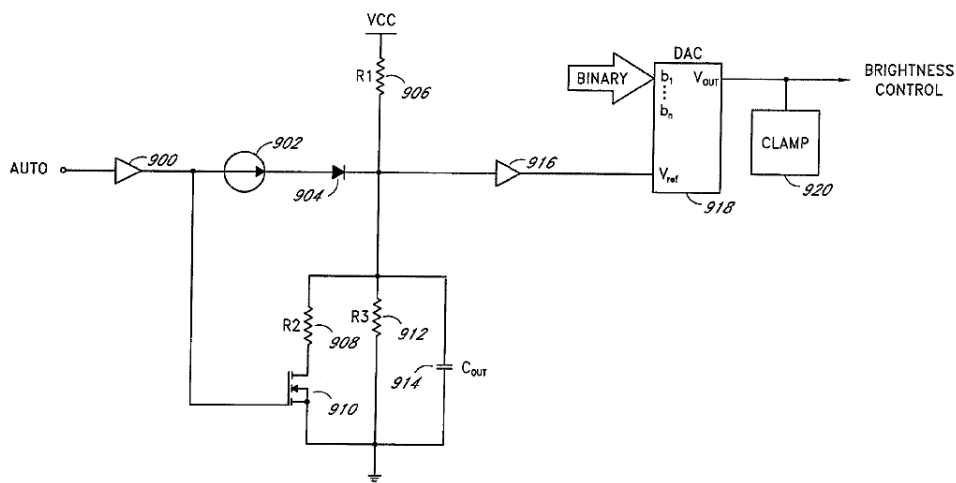


$$BCS3 = \left[VCC \times \frac{R3}{(R1 + R3)} \right] + \left[ISRC \times \frac{(R1 \times \boxed{R3})}{(R1 + R3)} \right]$$

Dark Level Bias Sensing Signal User Signal

Ex. 1001, Fig. 8, 10:9-12.

FIG. 9



$$BCS5 = \boxed{\text{binary \% fullscale}} \times \left[\left(\frac{VCC \times (R2 \times R3)}{(R1 \times R2) + (R1 \times R3) + (R2 \times R3)} \right) + \left[ISRC \times \frac{R1 \times R2 \times R3}{(R1 \times R2) + (R1 \times R3) + (R2 \times R3)} \right] \right]$$

User Signal Dark Level Bias Sensing Signal

Ex. 1001, Fig. 9, 11:10-15. Consistent with the claim language, the “dark level bias” and “user [input] signal” are different elements in the ’117 patent’s embodiments.

Therefore, Petitioner’s theory that the minimum used luminance value “a” is **both** the “user [input] signal” and the “dark level bias” is contrary to Federal Circuit precedent, the claim language, and the embodiments in the specification. Accordingly, the Board should reject Grounds 1-4.

Second, Oki does not disclose “a dark level bias configured to adjust the combined signal” or “adjusting the combined signal with a dark level bias.”

Petitioner’s theory rests on the $Y=(b-a)x+a$ equation. However, Oki never discloses any hardware circuitry or software algorithms that implement that equation because there is none. The equation is an explanation describing the result of lookup tables for display brightness. Oki’s “present invention” summary states that “screen brightness” is “provided beforehand” and “set beforehand.”

[Means for Solving the Problem] To solve the above-noted problem, **the present invention is provided beforehand with a plurality of screen display methods**, that is, display modes in which character sizes, **screen brightness**, display speeds, and the like are defined, by combinations of user vision characteristics, use environment, and the like when a large amount of information is displayed on a small display such as a mobile terminal. In each display mode, **values of the character size, illuminance, and display speed are set beforehand**, and the display settings are changed by selecting a display mode. Additionally, by automatic adjustment of the illuminance of a screen to which an illuminance sensor has been mounted in a mobile terminal or the like, the above-noted problem is solved.

Ex. 1004, ¶5.

Oki describes lookup tables containing the “screen brightness” that are “provided beforehand” and “set beforehand.”

[0016] An example of the data of the *data table 5 that stores display parameters of the screen* will now be described, using FIG. 4. The *screen display parameters* are the size of characters that are displayed, the speed of the character display, the *screen brightness* and contrast, and the color and the like.

[FIG. 4]

Terminal identification information	(A) Mobile telephone			(B) PDA			(C) ○○○○	...
Display mode	-	*	+	-	*	+		
Character size (dots)	9 × 9	12 × 12	16 × 16	12 × 12	16 × 16	20 × 20		
Character display speed	18 lines/s	12 lines/s	6 lines/s	16 lines/s	10 lines/s	5 lines/s		
⋮	⋮	⋮	⋮	⋮	⋮	⋮		
⋮	⋮	⋮	⋮	⋮	⋮	⋮		
⋮	⋮	⋮	⋮	⋮	⋮	⋮		

Ex. 1004, Fig. 4, ¶16. There is no other context in Oki for storing “screen brightness” in lookup tables other than for automatic brightness adjustment as this is the only “brightness” feature of Oki.

The equation $Y=(b-a)x+a$ describes the result of lookup tables. That is why Oki states that “the straight line *is given by* the equation $Y=(b-a)x+a$ ” rather than disclosing circuitry or a software algorithm for performing this computation. Ex. 1004, ¶29.

Therefore, the “dark level bias configured to adjust the combined signal...” and “adjusting the combined signal with a dark level bias...” limitations are not disclosed in Oki.

Third, Oki does not disclose a “dark level bias,” which was construed as “a value that causes a deviation from the combined signal, where the value is a *voltage value of an electrical signal or value of a software variable.*” Petitioner asserts that the minimum used luminance value “a” is the “dark level bias.” Pet. 33-34. As Petitioner admits, the minimum used luminance value “a” is entered by a human using the numerical keys of the mobile terminal. Pet. 30. Therefore, the minimum used luminance value “a” in Oki is **not** an electrical signal with a voltage value or a software variable. Because Petitioner does not identify any disclosure of any signals, circuitry, or software algorithms in Oki, Petitioner has failed to identify a “dark level bias” in Oki as properly construed.

Fourth, Oki does not disclose “a dark level bias configured to adjust the combined signal” in claim 1. “A dark level bias configured to adjust the combined signal” was construed as “a dark level bias *actually programmed or implemented with hardware or software* to adjust the combined signal.” Ex. 3002, 34. The same court construed “dark level bias” as “a value that causes a deviation from the combined signal, where the value is a voltage value of an electrical signal or value of a software variable.” *Id.* Thus, as construed, this claim element requires a dark level bias (*i.e.*, voltage value of an electrical signal or value of a software variable) actually programmed or implemented with hardware or software to adjust the combined signal. Petitioner has not identified any hardware circuitry or software

algorithms in Oki that actually implement the “dark level bias” as an electrical signal or software variable. Therefore, Grounds 1-4 fail.

X. PETITIONER OFFERS NO SUBSTANTIVE ANALYSIS OF OBVIOUSNESS FOR GROUNDS 2 AND 6

A Petition must identify in detail how a claim is unpatentable and cite specific portions of evidence supporting each challenge. 37 C.F.R.

§§ 42.104(b)(4), 42.104(b)(5); *Intelligent Bio–Sys., Inc. v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016). Ground 2 asserts that claims 1-2, 4-7, 9, 15-16, and 18 are obvious based on Oki alone. Ground 6 asserts that claims 1-2, 4-5, 9, 15-16, and 18 are unpatentable as obvious over Toffolo alone. However, the Petition contains *no analysis* of (1) *how* Oki and Toffolo would be modified to meet the claim limitations, (2) *why* one of ordinary skill in the art would have been motivated to modify either Oki or Toffolo, (3) whether there would be a reasonable expectation of success in modifying Oki or Toffolo, and (4) differences between the claims and Oki or Toffolo.¹¹

¹¹ *In re Stepan Co.*, 868 F.3d 1342, 1345–46, 1346n.1 (Fed. Cir. 2017) (holding that single reference obviousness “requires finding both that a skilled artisan would have been motivated to combine the teachings of the prior art...and that the skilled artisan would have had a reasonable expectation of success in doing so.”).

Therefore, Grounds 2 and 6 fail. *CIVIQ*, IPR2018-00774, Paper 6 at 14 (denying institution where “[t]he Petition includes no actual obviousness arguments or analysis”).

XI. GROUND 5-10 FAIL AS TOFFOLO DOES NOT DISCLOSE SEVERAL LIMITATIONS OF CLAIMS 1 AND 15

For Grounds 5-10, Petitioner relies *only* on Toffolo for disclosure of *all* limitations in the two independent claims (*i.e.*, 1 and 15). If Toffolo is found not to disclose all limitations of claims 1 and 15, then Grounds 5-10 fail to demonstrate a reasonable likelihood of prevailing.

A. 1[a]: “a first input configured to receive a user signal indicative of a user selectable brightness setting”

15[a]: “receiving a user input signal indicative of a user selectable brightness setting”

1. Toffolo Does Not Disclose “First Input”

Toffolo does not disclose “a first input.” Petitioner fails to state with particularity what it alleges is the “first input” in Toffolo. Petitioner’s analysis lists 3 different, unrelated structures as the “first input” without any explanation.

Claim Element	Example Elements in <i>Toffolo</i>
1[a] a first input configured to receive a user signal indicative of a user selectable brightness setting;	- First input = user activated input device 28 first user input device 32; second user input device 34 <i>Toffolo</i> , 1:65-67; 2:1-2; 2: 29-43
15[a] receiving a user input signal indicative of a user selectable brightness setting;	- user [input] signal indicative of a user selectable brightness setting = the user can adjust the illuminance at which the display 22 displays its maximum luminance; <i>Id.</i> , 2:30-33

Id. at 47.

The Petition never states whether all three structures together are the “first input” or whether there are three alternative theories for the “first input.” It is not clear how any or all of these could be a “first input.” For example, Petitioner identifies “a user activated input device 28,” which *Toffolo* describes as “a switch or rotary knob.” Ex. 1006, 1:65-66. A switch or rotary knob is not part of a “brightness control circuit” and cannot receive an electrical or software signal as required by the claims (*e.g.*, PWM user signal or binary word user signal). Ex. 1001, Fig. 4, 9, 6:22-32, 10:33-39.

Grounds 5-10 fail due to Petitioner’s failure to state with particularity what the “first input” is in *Toffolo*. 37 C.F.R. §§ 42.104(b)(4), 42.104(b)(5); 35 U.S.C. § 312(a)(3). For this reason, Grounds 5-10 fail.

2. Petitioner Fails to Identify a “User Signal” And “User Selectable Brightness Setting”

The Petition fails to identify where *both* the “user [input] signal” and “user selectable brightness setting” limitations are found in Toffolo. Petitioner *only* identifies “the user can adjust the illuminance at which the display 22 displays its maximum illuminance.” Pet. 47-48.

Claim Element	Example Elements in <i>Toffolo</i>
1[a] a first input configured to receive a user signal indicative of a user selectable brightness setting;	- First input = user activated input device 28 first user input device 32; second user input device 34 <i>Toffolo</i> , 1:65-67; 2:1-2; 2: 29-43
15[a] receiving a user input signal indicative of a user selectable brightness setting;	- user [input] signal indicative of a user selectable brightness setting = the user can adjust the illuminance at which the display 22 displays its maximum luminance; <i>Id.</i> , 2:30-33

Pet. 47. “The *user* can adjust...” is not a “user [input] signal” (e.g., electrical or software signal) or a “user selectable brightness setting.”

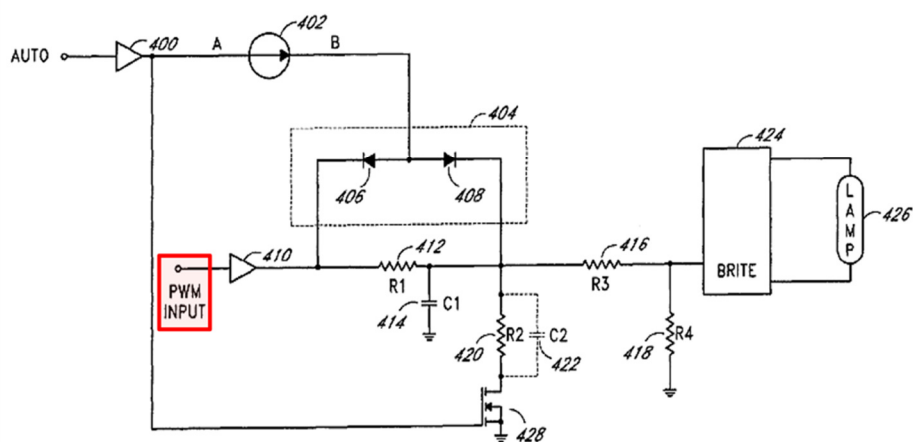
The Petition fails to identify whether “the user can adjust the illuminance at which the display 22 displays its maximum illuminance” is allegedly a “user [input] signal” or a “user selectable brightness setting.” It *cannot be both* since the claims specifically identify the “user [input] signal” and “user selectable brightness setting” as separate elements of the claim. *HTC*, 701 F. App’x. at 982 (“The separate naming of two structures in the claim strongly implies that the named entities are not one and the same structure.”); *Becton*, 616 F.3d at 1254 (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are

distinct component[s] of the patented invention.”). The claim language also requires that “user [input] signal” and “a user selectable brightness setting” are different elements as one has to be *indicative* of the other. Ex. 1001, claims 1, 15.

The '117 patent distinguishes between a “user [input] signal” and a “user selectable brightness setting.” The user must choose the “user selectable brightness setting” whereas circuitry and/or software generates the “user [input] signal.” For example, in Figure 4, a microprocessor (not the user) generates a PWM signal “user [input] signal” indicative of the user selectable brightness setting.

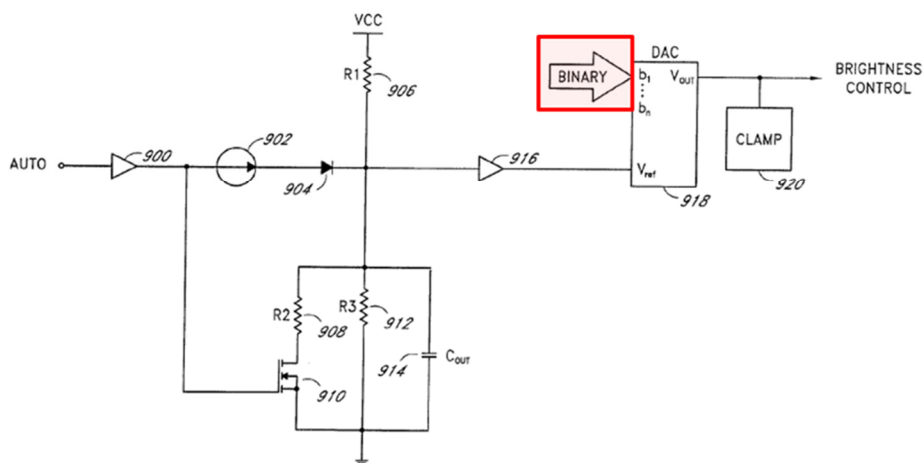
A microprocessor can generate the user adjustable PWM logic signal based on user input...

FIG. 4



Ex. 1001, Fig. 4, 6:28-31. Similarly, the binary word “user [input] signal” (e.g., 00101110) received by the digital-to-audio-converter (“DAC”) is generated by software (not the user) in Figure 9. Ex. 1001, 3:59-4:4, 4:35-37, 10:33-43.

FIG. 9



Ex. 1001, Fig. 9. Petitioner’s identification of “the user can adjust the illuminance at which the display 22 displays its maximum luminance” is not an identification of a “user [input] signal” as it fails to identify with particularity any specific electrical or software signal in Toffolo.

Because the Petition does not identify with particularity *both* a “user [input] signal” and “a user selectable brightness setting” in Toffolo, Grounds 5-10 fail. 35 U.S.C. § 312(a)(3).

B. 1[c]: “a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal”

15[b]: “selectively multiplying the input signal with a sense signal to generate a combined signal”

1[d]: “a dark level bias configured to adjust the combined signal to generate a brightness control signal that is used to control a brightness level of a visible display such that the brightness control signal is maintained above a predetermined level when the ambient light level decreases to approximately zero.”

15[d]: “adjusting the combined signal with a dark level bias to generate a brightness control signal for controlling brightness of a visible display such that the brightness control signal is maintained above a predetermined level when the ambient light level decreases to approximately zero.”

Petitioner addresses the “multiplier”/“multiplying” and “dark level bias” terms together. Petitioner’s analysis is mostly attorney argument that is unsupported by, and even contradicts, Toffolo’s disclosure as explained below.

1. Claim Construction

The “multiplier...,” “multiplying...,” and “combined signal” limitations require multiplication of the user/input signal and the sensing/sense signal as construed.

Term	Court’s Construction
“a multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal” (claim 1)	“a <i>multiplier</i> configured to selectively generate a combined signal based on both the user signal and the sensing signal, wherein <i>the combined signal includes, but is not necessarily limited to, the product of the user signal and the sensing signal</i> ”
“selectively multiplying the input signal with a sense signal to generate a combined signal, wherein the sense	“ <i>selectively multiplying the input signal with sense signal</i> to generate a combined signal, wherein the sense

signal indicates an ambient light level” (claim 15)	signal indicates an ambient light level and wherein <i>the combined signal includes, but is not necessarily limited to, the product of the input signal and the sense signal</i> ”
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Ex. 1022, 29-30.

2. Toffolo Does Not Disclose the “Multiplier...” or “Multiplying...” Limitations

Toffolo does not disclose the “multiplier...” or “multiplying...” limitations; and Petitioner’s theory is unsupported by Toffolo’s disclosure. *First*, Petitioner’s theory relies entirely on an equation “ $y = [(A-B)/x_A]x + B$ ” that is indisputably *not disclosed* in Toffolo. Toffolo has no disclosure of multiplication as required by the claims and their constructions. Toffolo contains no equations and never uses the words “multiplier,” “multiply,” “multiplied,” “multiplication,” or “product.”

Tellingly, Petitioner does *not* cite to Toffolo regarding this equation because it is not disclosed in Toffolo. Rather, Petitioner alleges that “A POSA would have further understood” that this equation is used despite the complete absence of any disclosure in Toffolo. Pet. 53. Petitioner’s counsel and expert made up this equation for its Petition.

Petitioner’s alleged “multiplier” is the “display controller,” which only appears in claims 1-3 of Toffolo. Pet. 49; Ex. 1006, claim 1-3. There is no disclosure of the “display controller” performing any multiplication of signals. Ex. 1006,

claims 1-3. Rather, Toffolo states that the “display controller automatically varies said luminance of said display between a maximum luminance and a minimum luminance based upon said signal from said light sensor.” *Id.* at claim 1. Therefore, the *only* disclosure of Toffolo is that the display controller varies the display luminance based on the light sensor signal.

This is consistent with the embodiments of Toffolo where only the light sensor signal is used to adjust the brightness with no mention of multiplication. Toffolo states that “[a] brightness controller varies the brightness (‘luminance’) of the display *based upon* the ambient light (‘illuminance’), as sensed by an ambient light sensor.” Ex. 1006, 1:21-24. For example, the display is at maximum luminance when the light sensor senses illuminance greater than or equal to the maximum illuminance.

The display displays the maximum luminance when the ambient light sensor senses ambient light greater than or equal to the maximum illuminance.

Any illuminance sensed by the photosensor 36 to be at or above the illuminance level at point A would cause the display system 20 to display the display 22 at its maximum luminance.

When the photosensor 36 detects that the *ambient light level is at or above that indicated at point A*, as selected by user input device 32, the *display 22 is displayed at a maximum luminance level*, which is

preferably the maximum luminance level that can be displayed by the display 22.

Ex. 1006, 1:28-30, 2:33-36, 2:53-58. Similarly, the display is at minimum luminance when the light sensor senses illuminance less than or equal to the minimum illuminance.

The display displays the minimum luminance when the ambient light sensor senses less than or equal to the minimum illuminance.

When the photosensor 36 detects that the *level of ambient light is below point B, the display 22 is displayed at a minimum luminance level*, which is selected by the second user input device 34.

Ex. 1006, 1:30-33, 2:48-53. Therefore, the decision to use maximum or minimum luminance is based only on the value of the light sensor illuminance signal with no multiplication.

For light sensor illuminance values between the minimum and maximum, Toffolo only discloses changing the luminance of the display based on the value of the light sensor illuminance signal.

Between points A and B, the luminance of the display 22 increases with the illuminance as measured by the photosensor 36. Although shown linearly in FIG. 2, any rate or shape of the increase between points A and B could be utilized, such as logarithmic, exponential, linear, etc.

When the photosensor 36 detects that *ambient light level is between points A and B, the display 22 is displayed as a function of the illuminance* between the light levels indicated at points A and B.

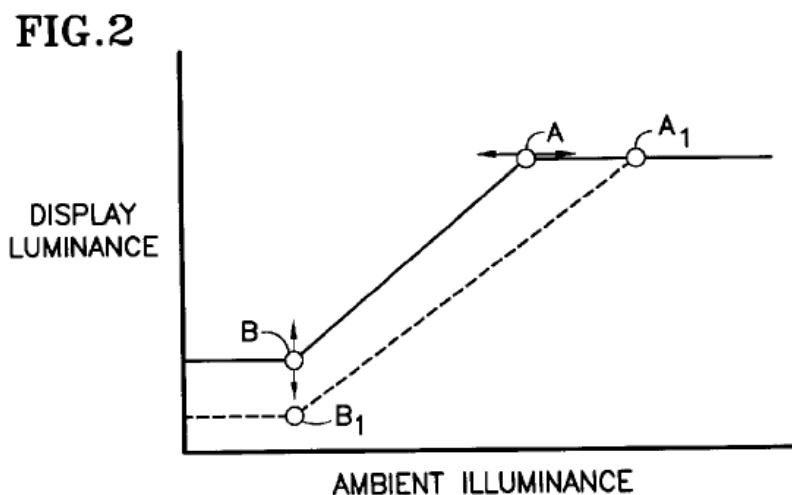
Ex. 1006, 2:24-28, 2:58-61. This is consistent with Toffolo's disclosure of using a lookup table based on the light sensor detected illuminance.

For example, the *signal from the photosensor 36* could be converted to digital form and processed in software, such as *with a lookup table*.

Ex. 1006, 2:16-19.

Therefore, Toffolo does not disclose a “multiplier configured to selectively generate a combined signal” or “selectively multiplying the input signal with a sense signal.”

Second, Petitioner's theory relying on the equation “ $y = [(A-B)/x_A]x + B$ ” is contrary to Toffolo's disclosure. Petitioner relies on Figure 2 as the basis for its conjecture that the system in Toffolo is performing the equation. Pet. 51-55. Figure 2 does not support Petitioner's position.



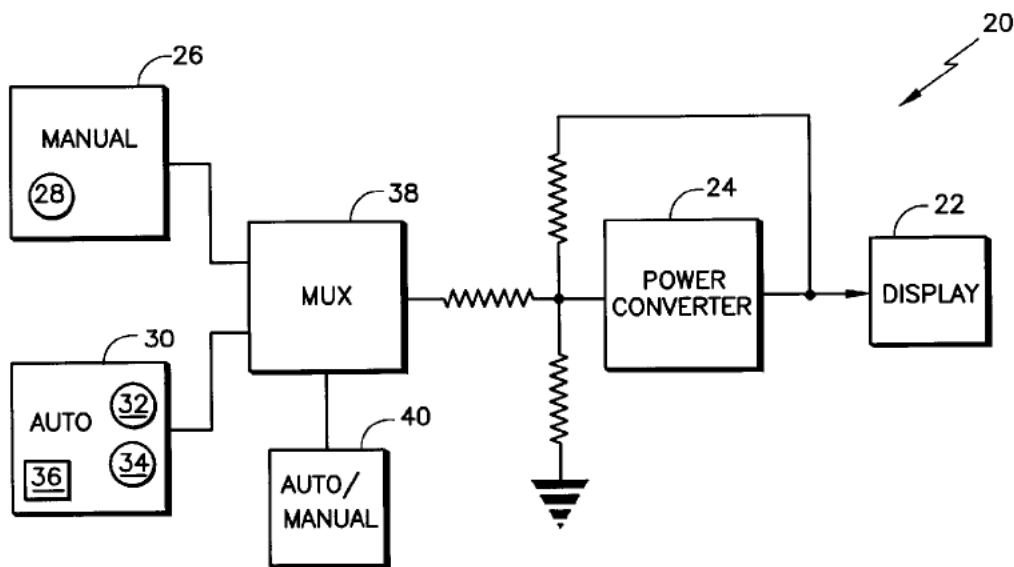
Ex. 1006, Fig. 2.

Toffolo indisputably does not disclose Petitioner's equation. Petitioner does not argue inherency; and Figure 2 could be generated using lookup tables, which are explicitly disclosed in Toffolo, or other equations involving constants (*e.g.*, $10x+20$).

Ex. 1006, 3:16-19. Toffolo further states that "FIG. 2 is a graph showing the operation of the display system of FIG. 1," which does not have a microprocessor and thus cannot execute any equations, including Petitioner's equation, in software.

Id. at 1:50-51.

FIG. 1



Id. at Fig. 1. The only software implementation with a microprocessor disclosed by Toffolo is using "a lookup table," which does not execute any such equations. *Id.* at 3:16-19. The Petition does not identify any circuitry in Toffolo that performs multiplication.

Third, Toffolo fails to disclose the “multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal” and “multiplying the input signal with a sense signal to generate a combined signal.” As an initial matter, the “[user/input] signal” and “user selectable brightness setting” are two different claim limitations. *HTC*, 701 F. App’x. at 982; *Becton*, 616 F.3d at 1254 (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.”).

The claim language similarly requires that “user [input] signal” and “a user selectable brightness setting” are different elements.

1. A brightness control circuit with selective ambient light correction comprising:

a first input configured to receive a **user signal** indicative of a *user selectable brightness setting*;

a multiplier configured to selectively generate a ***combined signal based on*** both the **user signal** and the sensing signal...

15. A method to selectively provide ambient light correction, said method comprising:

receiving a **user input signal** indicative of a *user selectable brightness setting*;

selectively multiplying the **input signal** with a sense signal to generate a combined signal...

Ex. 1001, claims 1, 15.

Petitioner alleges that the “user [input] signal” is “the user can adjust the illuminance at which the display 22 displays its maximum luminance.” Pet. 47. The Petition then alleges that “*user selectable brightness settings*” A and B, which are the maximum and minimum illuminance values, respectively, are multiplied by the alleged sensing signal, x, to generate the “combined signal” using the equation “[$(A-B)/x_A$]x”.

Toffolo discloses that the user may select one or both of these *two brightness settings*, i.e., a *minimum luminance value B, corresponding to “a user selectable brightness setting”, B*, under very low ambient light conditions, and the level of ambient light at which a *maximum luminance value A is used, corresponding to “a user selectable brightness setting”, A*, under high ambient light conditions.

Where points A, B, or both A and B is the user selectable brightness setting, and the ambient light is at or near zero such that x, the sensing signal, is zero, the brightness control signal is defined by the equation $y = [(A-B)/x_A]x + B$. The control circuit of Toffolo performs a multiplication operation, *[$(A-B)/x_A$]x, to generate a combined signal*, which equals zero under very low ambient light conditions.

...whether the user selectable brightness setting is A, B, or both A and B...

Pet. 54-55.

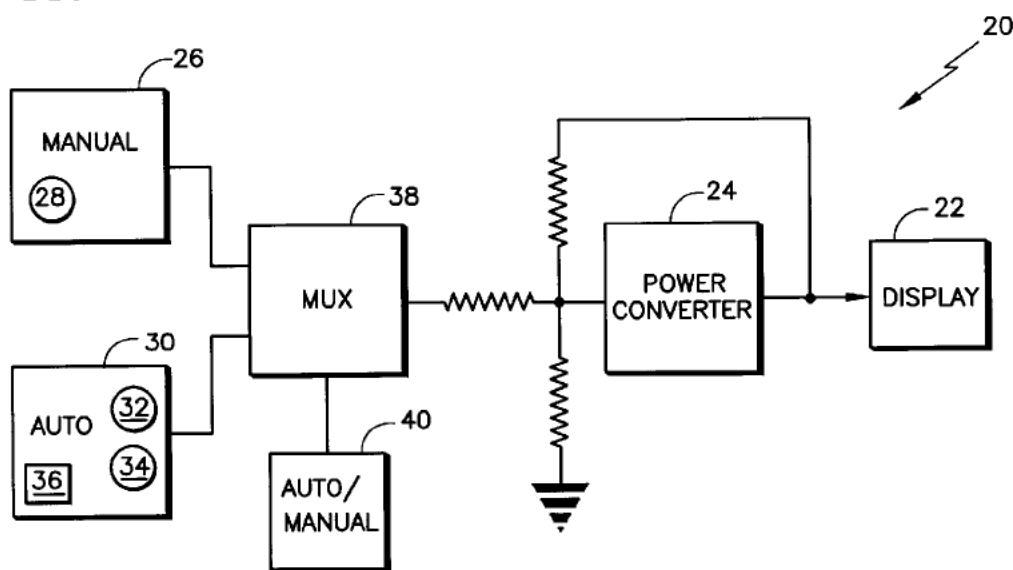
On its face, Petitioner’s allegation that the “*user selectable brightness settings*” A and B are multiplied by the alleged sensing signal, x, to generate the “combined

signal” unambiguously fails to meet the “multiplier...” and “multiplying...” limitations. *Id.* **One**, in the “multiplier...” limitation of claim 1, the “combined signal” is “based on the *user signal*” **not** a “*user selectable brightness setting*.” Ex. 1001, claim 1. Therefore, Petitioner’s allegation that multiplying by the maximum and minimum luminance “*user selectable brightness settings*” generates the “combined signal” fails to meet the explicit claim language requiring the “combined signal based on the *user signal*.” Ex. 1001, claim 1. **Two**, multiplying the maximum and minimum luminance “user selectable brightness settings” (A and B) by the sense signal as Petitioner alleges does not meet the plain language of claim 15 requiring “multiplying the *input signal* with a sense signal to generate a combined signal.” Ex. 1001, claim 15. **Three**, “combined signal” has been construed to include “the product of the [user/input] signal and the [sensing/sense] signal.” Ex. 1022, 29-30. Multiplying maximum and minimum luminance “user selectable brightness settings” (A and B) by a sensing/sense signal is not a “combined signal” because it does not include “the product of the [user/input] signal and the [sensing/sense] signal.” *Id.*

Therefore, on its face, the Petition fails to identify any disclosure of the “multiplier configured to selectively generate a combined signal based on both the user signal and the sensing signal” and “multiplying the input signal with a sense signal to generate a combined signal” limitations in Toffolo.

Fourth, Petitioner’s alleged “multiplier” (*i.e.*, “display controller”) is **not** part of Petitioner’s alleged “brightness control circuit.” Claim 1 requires “a brightness control circuit with selective ambient light correction comprising:...a multiplier...” Petitioner alleges that the “brightness control circuit” is the “display system 20 with a brightness controller” shown in Figure 1. Pet. 46.

FIG. 1



Ex. 1006, Fig. 1. Neither the text nor figures in Toffolo disclose any “display controller” in the “display system 20 with a brightness controller.” Therefore, under Petitioner’s own theory, Toffolo does not disclose “a brightness control circuit...comprising...a multiplier.”

3. Toffolo Does Not Disclose the “Dark Level Bias” Limitations

Toffolo does not disclose “a dark level bias configured to adjust the combined signal” or “adjusting the combined signal with a dark level bias.” **First**, Petitioner’s

entire theory that “[t]he minimum used luminance value defined by B serves as the dark level bias...” rests on its made up equation “ $y = [(A-B)/x_A]x + B$,” which is indisputably not disclosed anywhere in Toffolo. Pet. 54-55.

Second, the district court construed “dark level bias” as “a value that causes a deviation from the combined signal, where the *value is a voltage value of an electrical signal or value of a software variable.*” Ex. 3002, 34. Petitioner has *not* identified any electrical signal or software variable in Toffolo whose value is the “dark level bias.” Petitioner alleges that the “minimum used luminance value” setting is a “dark level bias.” However, it is not an electrical signal or software variable. Petitioner fails to identify any circuitry in which the “minimum used luminance value” is an electrical signal. The only software embodiment in Toffolo uses lookup tables based on only the ambient light level and not the minimum used luminance value. Ex. 1006, 3:10-20. Petitioner has thus failed to state where a “dark level bias” is found in Toffolo.

Third, “a dark level bias configured to adjust the combined signal” has been construed as “a dark level bias actually *programmed or implemented with hardware or software* to adjust the combined signal.” Ex. 3002, 34. Petitioner has not identified any “hardware or software” in Toffolo that implements the “dark level bias.” Therefore, Petitioner has failed to identify where this limitation is found in Toffolo.

Fourth, Petitioner’s allegations are contrary to Federal Circuit precedent. The Petition improperly asserts that the minimum luminance value B is *both* a “dark level bias” and a “user selectable brightness setting.”

The *minimum used luminance value defined by B serves as the dark level bias*...

...a *minimum luminance value B*, corresponding to ‘*a user selectable brightness setting*’, *B*...

Where points A, B, or both A and B is the *user selectable brightness setting*...

...whether the *user selectable brightness setting* is A, B, or both A and B...

Pet. 54-55.

The minimum illuminance value B *cannot be both* a “user selectable brightness setting” and a “dark level bias,” which are separate limitations. *HTC*, 701 F. App’x. at 982 (“The separate naming of two structures in the claim strongly implies that the named entities are not one and the same structure.”); *Becton*, 616 F.3d at 1254 (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention.”).

Therefore, because the minimum illuminance value B cannot be both a “user selectable brightness setting” and a “dark level bias,” the Petition fails to identify one or both of these limitations in Toffolo requiring denial of Grounds 5-10.

Fifth, Toffolo does not disclose “a dark level bias configured to adjust the combined signal” and “adjusting the combined signal with a dark level bias” because there is no “combined signal.” Petitioner’s theory rests on an equation $y = [(A-B)/x_A]x + B$ that is indisputably not disclosed in Toffolo. Petitioner alleges that the “combined signal” is “ $[(A-B)/x_A]x$ ” wherein B and A are each a “*user selectable brightness setting*.” Pet. 54-55. Petitioner thus alleges that the “combined signal” is the result of multiplying “user selectable brightness settings” by a light sensor signal, which unambiguously fails to meet the construction of “combined signal” as including “the product of the *[user/input] signal* and the [sensing/sense] signal” because a “[user/input] signal” is **not** a “user selectable brightness setting” as these are different claim limitations. Ex. 1022, 29-30. Therefore, Grounds 5-10 fail as Petitioner failed to identify a “dark level bias” that adjusts the “combined signal.”

Seventh, Petitioner fails to identify a “brightness control signal.” Petitioner states “brightness control signal = signal that is used to control the display luminance; voltage can be varied, or other techniques for varying the luminance of the display 22.” Pet. 50. However, this is attorney argument and **not** a quote from Toffolo and thus does not identify any actual disclosure in Toffolo. Petitioner’s only other

reference to “brightness control signal” is the statement that “the brightness control signal is defined by the equation $y = [(A-B)/xA]x + B$.” Pet. 54. However, it is undisputed that this equation is **not** disclosed in Toffolo. Petitioner’s failure to identify with particularity where the “brightness control signal” is found in Toffolo means that Grounds 5-10 fail.

XII. CONCLUSION

The Petition is deficient for the aforementioned reasons and, therefore, fails to demonstrate that the claims are more likely than not unpatentable. The Petition should thus be denied as to all challenged claims.

Respectfully submitted,

Dated: February 6, 2020

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WORD COUNT CERTIFICATION PURSUANT TO 37 C.F.R. § 42.24(d)

The undersigned hereby certifies, pursuant to 37 C.F.R. § 42.24(d), that the foregoing PATENT OWNER'S PRELIMINARY RESPONSE in IPR2020-00043 filed on this date contains no more than 14,000 words, and more specifically contains 13,987 words. The word count feature of the word processing program used to prepare this Response is relied upon in making this certification.

Respectfully submitted,

Dated: February 6, 2020

/Kevin Greenleaf/
Kevin Greenleaf

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§42.6(e)(4) and 42.205(b), the undersigned certifies that on February 6, 2020, a complete and entire copy of this Patent Owner's Preliminary Response and related exhibits were served on Lead and Backup Attorneys for Petitioner, via the consented-to method of email to the following email addresses:

jcroft@mabr.com
jgadd@mabr.com
cbarquist@mabr.com

Respectfully submitted,

Dated: February 6, 2020

/Kevin Greenleaf/
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