

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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LUXOTTICA OF AMERICA INC.,  
Petitioner,

v.

E-VISION OPTICS, LLC,<sup>1</sup>  
Patent Owner.

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IPR2024-01069  
Patent 10,613,355 B2

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Before RICHARD H. MARSCHALL, JOHN D. HAMANN, and  
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314

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<sup>1</sup> The Notice of Filing Date Accorded lists in its case style an additional party as a petitioner that Petitioner does not identify as being a petitioner. Thus, we have corrected the case style here, and the parties should use the corrected case style going forward. If the parties have concerns regarding these corrections to the style, they should promptly request a conference with the Board.

## I. INTRODUCTION

### A. Background

Luxottica of America Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–21 (“the challenged claims”) of U.S. Patent No. 10,613,355 B2 (Ex. 1001, “the ’355 patent”). Paper 1 (“Pet.”), 1. E-Vision Optics, LLC (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). With our authorization, Petitioner filed a Preliminary Reply (Paper 9, “Prelim. Reply”) and Patent Owner filed a Preliminary Sur-reply (Paper 10, “Prelim. Sur-reply”).

Institution of an *inter partes* review is authorized by statute only when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). A decision to institute may not institute on fewer than all claims challenged in the petition. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018). If the Board institutes a trial, the Board will institute on all challenges raised in the petition. *See* 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). For the reasons set forth below, upon considering the parties’ briefs and evidence of record, we conclude that the information presented shows that there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of the challenged

claims. Thus, we institute *inter partes* review of all challenged claims based on all asserted grounds.

#### B. Real Parties in Interest

Petitioner identifies itself and Luxottica Group S.p.A as real parties in interest. Pet. 76. Petitioner asserts that EssilorLuxottica S.A. is the parent company of each of these entities. *Id.*

Patent Owner identifies itself as the sole real party in interest.  
Paper 4, 1.<sup>2</sup>

The parties are reminded of their continuing obligation to update their mandatory notice information “within 21 days of a change of the information.” 37 C.F.R. § 42.8(a)(3).

#### C. Related Matters

The parties indicate that the ’355 patent is the subject of the following district court proceeding:

*e-Vision Optics, LLC v. Luxottica Group SpA*, No. 8-23-cv-02013 (C.D. Cal. filed October 26, 2023).

Pet. 16, 76; Paper 4, 1. Patent Owner also indicates that the ’355 patent is the subject of the following district court proceeding:

*e-Vision Optics, LLC v. Lenovo Group Ltd.*, No. 8-23-cv-01860 (C.D. Cal. filed October 3, 2023).

Paper 4, 1.

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<sup>2</sup> Patent Owner filed a duplicate copy of its mandatory notices as Paper 7.

#### D. The Challenged Patent

The '355 patent discloses “various types of eyewear including electronic functional members, including, for example, electronic focusing eyeglasses, electro-active eyeglasses, electronic eyewear providing 3D capabilities, etc.” Ex. 1001, 2:18–22. According to the '355 patent, high humidity or sweat can cause electronic applications in such eyewear to fail. *Id.* at 2:23–28. The '355 purports to resolve this problem by providing fewer electrical contact points that are exposed to the environment. *Id.* at 2:29–35.

Figures 1 and 2 illustrate electro-active spectacles and are reproduced below.

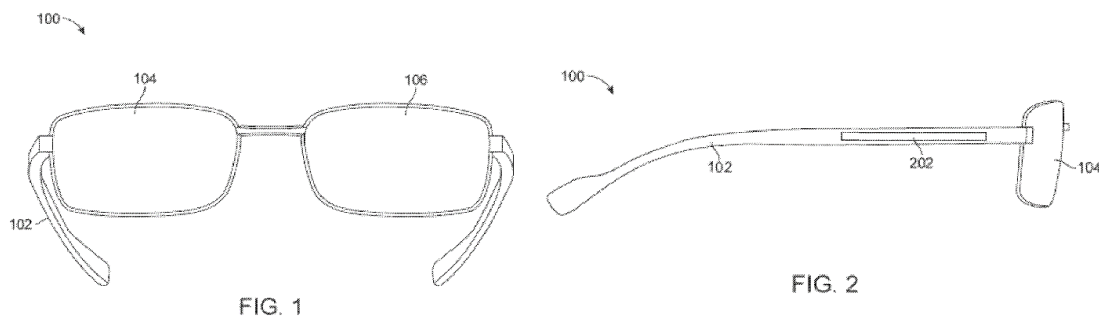


Figure 1 is a perspective view of electro-active spectacles 100, and Figure 2 is a side view of the electro-active spectacles. *Id.* at 5:66–6:3. The electro-active spectacles illustrated in these figures “are fully rimmed eyeglasses comprising left and right temples,” but can also be partially rimmed or rimless. *Id.* at 7:51–59. The electro-active spectacles include frame 102, first electro-active lens 104, second electro-active lens 106, and electronic module or control unit 202. *Id.* at 7:59–61, 9:4–6. The electro-active lenses “can be any lens or optic capable of changing, varying or tuning the optical power they each provide with the application of electricity.” *Id.* at 8:1–3.

The electronic module can include various electronics components and can be positioned near the front temple of the frame or within the frame, and can be removable and replaceable or built into the frame so as to form a part of the frame. *Id.* at 9:6–13. The electronic module can be a right and a left control unit connected to a right and a left electro-active lens, respectively, and can include an isolation switch, driver circuits, and transmitter circuits to activate the lenses. *Id.* at 18:61–19:17, Fig. 13. The '355 patent discloses that

[t]he module may further include one or more of the following: a manual switch (for example, a touch button, photo-detector, motion detector, capacitive touch sensor), a controller and/or micro-processor, a power source (for example, a small battery), a sensor (for example, one or more miniature or micro tilt switches, accelerometer, micro gyro, range finder, view detector, imager), an antenna, a transmitter, a transceiver or a receiver.

*Id.* at 25:48–55. The switch may be a touch switch that may be touched by an object to operate, in which case a moisture-resistant capacitive touch switch is preferred. *Id.* at 26:3–15. “A ‘capacitive touch switch’ may refer to any sensor that may utilize an electrical field to detect, for instance, the presence of a human finger or other conducting object to activate a switch.” *Id.* at 26:18–21. The electronic assembly may have a conformal layer deposited on it in order to seal the electronic components and protect them from damage. *Id.* at 26:30–40, 26:67–27:5.

#### E. The Challenged Claims

Petitioner challenges claims 1–21 of the '355 patent. Claims 1, 13, and 14 are independent. Claim 1 is illustrative of the challenged claims and is reproduced below.

1. An eyewear system comprising:  
an eyewear frame;  
an electronics assembly comprising electronic components configured to control an electrical functional member;  
a capacitive touch switch coupled to at least one electronic component in the electronics assembly;  
at least one electrical connective element electrically connected to the electronic assembly and the electrical functional member; and  
a conformal layer over the electronic assembly to seal the electronic components;  
wherein the conformal layer is moisture proof and seals electrical connections of the electronic component;  
wherein the conformal layer is disposed in an enclosure of the eyewear frame;  
wherein the eyewear frame comprises a temple; and  
wherein the electronic assembly is enclosed in the temple.

Ex. 1001, 28:66–29:16.

F. Asserted Grounds of Unpatentability

The Petition relies on the following prior art references:

| Name       | Reference                                                                                                     | Exhibit |
|------------|---------------------------------------------------------------------------------------------------------------|---------|
| Howell-719 | US 2005/0248719 A1, published November 10, 2005                                                               | 1004    |
| Sikonowiz  | Sikonowiz, Walter, <i>Designing and Creating Printed Circuits</i> , Hayden Book Company, Inc., published 1981 | 1005    |
| Blum       | US 6,733,130 B2, issued May 11, 2004                                                                          | 1006    |
| Howell-158 | US 2006/0023158 A1, published February 2, 2006                                                                | 1007    |
| Thomas     | US 3,612,744, issued October 12, 1971                                                                         | 1008    |

| Name         | Reference                               | Exhibit |
|--------------|-----------------------------------------|---------|
| Vogt         | US 5,606,743, issued February 25, 1997  | 1009    |
| Eichelberger | US 4,290,052, issued September 15, 1981 | 1010    |

Petitioner asserts the following grounds of unpatentability:

| Claim(s) Challenged | 35 U.S.C. §         | Reference(s)/Basis                  |
|---------------------|---------------------|-------------------------------------|
| 1, 3–13             | 103(a) <sup>3</sup> | Howell-719, Sikonowiz               |
| 4                   | 103(a)              | Howell-719, Sikonowiz, Thomas, Vogt |
| 13                  | 103(a)              | Howell-719, Sikonowiz, Eichelberger |
| 14–21               | 103(a)              | Howell-719, Sikonowiz, Howell-158   |
| 14–21               | 103(a)              | Howell-719, Sikonowiz, Blum         |
| 1–21                | 103(a)              | Blum, Sikonowiz, Howell-719         |
| 13, 14, 18          | 103(a)              | Blum, Sikonowiz, Eichelberger       |

Pet. 17. Petitioner submits a declaration of John M. Feland, III, Ph.D. (Ex. 1002, “Feland Declaration”) in support of its contentions. Patent Owner does not submit any witness testimony with its Preliminary Response.

## II. DISCRETIONARY DENIAL

Patent Owner argues that we should discretionarily deny institution of *inter partes* review under 35 U.S.C. § 325(d) because substantially the same

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<sup>3</sup> The application resulting in the ’355 patent claims priority to a date prior to the date when the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011), took effect. Thus, we refer to the pre-AIA version of section 103.

prior art and arguments advanced by Petitioner were presented during prosecution of the application resulting in the '355 patent. Prelim. Resp. 1–20. For the reasons discussed below, we decline to do so.

#### A. Legal Framework

Institution of *inter partes* review is discretionary. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”); 35 U.S.C. § 314(a). Pursuant to 35 U.S.C. § 325(d), in determining whether to institute an *inter partes* review, “the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.”<sup>4</sup> In evaluating whether to exercise our discretion to deny institution under § 325(d), we weigh the following non-exclusive factors:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and

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<sup>4</sup> The Board institutes trial on behalf of the Director. 37 C.F.R. § 42.4(a).

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

*Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential in relevant part). The enumerated factors “should be read broadly . . . to apply to any situation in which a petition relies on the same or substantially the same art or arguments previously presented to the Office during a proceeding pertaining to the challenged patent.” *Advanced Bionics, LLC v. Med-El Electromedizinische Geräte GMBH*, IPR2019-01469, Paper 6 at 10 (PTAB Feb. 13, 2020) (precedential). Factors (a), (b), and (d) relate to whether the art and arguments presented in the petition are the same or substantially the same as those previously presented to the Office. *Id.* Factors (c), (e), and (f) “relate to whether the petitioner has demonstrated a material error by the Office” in its prior consideration of that art or arguments. *Id.*

Thus, under § 325(d), the Board uses the following two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of [the] first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of [the] challenged claims.

*Id.* at 8.

## B. Background

The ’355 patent was filed as application number 13/890,809 (“the ’809 application”) on May 9, 2013, and contained thirteen claims, of which only claim 1 was independent. Ex. 1003, 2–71, 108. Over the following

five years, the Examiner issued six Office Actions rejecting all of the claims in view of a variety of references including Howell-596<sup>5</sup> and Archambeau,<sup>6</sup> and the Applicant responded by amending, canceling, and adding claims, and arguing that the cited references failed to disclose all of the recited features. *Id.* at 128–721. During this time, the Applicant submitted a twenty-four page Information Disclosure Statement (“IDS”) that identified 326 U.S. patent documents, sixty-three foreign patent documents, and fifty-seven non-patent literature documents. *Id.* at 212–34. This IDS included Howell-719 and Howell-158. *Id.* at 224.

On March 12, 2018, the Applicant held an interview with the Examiner during which the Examiner “recommended that if Applicant seeks continued prosecution, the particular silicone gasket structure shown in [F]igures 12A, B and/or the capacitive touch switch shown in [Figure] 25 of the original drawings may provide a basis for future narrowing amendments to advance the case.” Ex. 1003, 752. Accordingly, on April 27, 2018, the Applicant filed a Request for Continued Examination amending independent claims 1 and 28 to recite “a capacitive touch switch.” *Id.* at 756–62. The Applicant also added new claims including independent claim 29 that recited “a touch switch.” *Id.* at 762–63. The Applicant also submitted a ten page IDS that identified 204 U.S. patent documents and eight foreign patent documents. *Id.* at 773–84. This IDS included Blum. *Id.* at 775.

On August 14, 2018, the Applicant filed a supplemental response amending independent claim 29 for clarity and to specify that the recited touch switch was a capacitive touch switch. Ex. 1003, 1092–99. The

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<sup>5</sup> U.S. 2005/0230596 A1, published October 20, 2005 (Ex. 2002).

<sup>6</sup> U.S. 2011/0013136 A1, published January 20, 2011 (Ex. 2003).

Applicant indicated that the amendments were made in response to an interview with the Examiner. *Id.* at 1095; *see also id.* at 1101 (Interview Summary). On September 20, 2018, the Examiner issued a Notice of Allowance indicating that claims 1, 4, 10, 11, 20–32, and 34–37 were allowed. *Id.* at 1103–10. The Examiner indicated that recitation of “a capacitive touch switch” was the reason the claims were allowed. *Id.* at 1108.

### C. Analysis

#### 1. Advanced Bionics *Part One*

Applying the *Advanced Bionics* framework, we first determine whether the same or substantially the same art or arguments were presented previously to the Office. As noted above, Petitioner asserts seven references in challenging the claims of the ’355 patent: Howell-719, Sikonowiz, Blum, Howell-158, Thomas, Vogt, and Eichelberger. *See* Pet. 17. Patent Owner argues that Howell-719, Blum, Howell-158, and Vogt were before the Office during prosecution of the ’809 application and that Sikonowiz, Thomas, and Eichelberger are cumulative of the prior art considered during prosecution. Prelim. Resp. 4. We focus our analysis on the references Petitioner asserts against the independent claims of the ’355 patent.

##### a. Howell-719, Howell-158, and Blum

Petitioner concedes that “[t]he [A]pplicant disclosed Howell-719, Howell-158, and [Blum]” during prosecution of the ’809 application, but argues that the “[E]xaminer never relied on those references or discussed them.” Pet. 73.

As both parties acknowledge, Howell-719, Howell-158, and Blum were listed on IDSs filed by the Applicant during prosecution of the '809 application, and the Examiner indicated that each was considered. Ex. 1003, 224, 271, 775, 1111. Our precedent establishes that “[p]reviously presented art includes . . . art provided to the Office by an applicant, such as on an Information Disclosure Statement (IDS), in the prosecution history of the challenged patent.” *Advanced Bionics*, Paper 6 at 7–8.

b. Sikonowiz

Patent Owner acknowledges that Sikonowiz was not before the Office during prosecution of the '809 application, but argues that it is cumulative of art previously considered. Prelim. Resp. 10. Specifically, Patent Owner alleges it is duplicative of Howell-596 and Archambeau. *Id.* at 10–11.

During prosecution, the Examiner relied on Howell-596 to teach “an eyewear system wherein a conformal layer (1490) is moisture[-]proof and seals electrical connections of an electronic component.” Ex. 1003, 521 (citations omitted). The Examiner relied on Archambeau to teach “an eyewear system wherein a thickness of the conformal coating is less than 1 mm.” *Id.* at 523 (citations omitted).

In the Petition, Petitioner relies on Sikonowiz to teach protecting printed circuit boards (“PCBs”) with a conformal coating. *See, e.g.*, Pet. 5, 23–25. Petitioner asserts that “the [E]xaminer cited no conformal coating in any reference analyzed in a rejection,” instead initially relying “on a flexible plastic ribbon but ultimately agree[ing] this was not a conformal layer and

was not moisture[-]proof.” *Id.* at 73–74 (citing Ex. 1003, 1108<sup>7</sup>). Petitioner argues that Sikonowiz is not cumulative of art of record during prosecution because it discloses a moisture-proof conformal coating. *Id.* at 74.

We disagree with Petitioner’s interpretation of the prosecution history of the ’355 patent. Notably, the Examiner relied on Howell-596 to teach a moisture-proof conformal layer. Ex. 1003, 521, 633. Howell-596 discloses using an encapsulant on its UV detector, wherein the encapsulant “can be epoxy” to “assist in blocking radiation.” Ex. 2002 ¶ 151; *see also* Prelim. Resp. 10 (citing same). Similarly, Sikonowiz discusses conformal coatings for protecting electronics from environmental hazards. Ex. 1005, 135–36; *see also* Pet. 23–24 (citing same). As Howell-596 and Sikonowiz both contemplate using similar materials with the goal of protecting electronics against environmental damage, we agree with Patent Owner that Petitioner’s use of Sikonowiz is cumulative of a reference previously before the Office.

c. Eichelberger

Patent Owner asserts that Eichelberger is substantially the same as Howell-719 (Prelim. Resp. 14), which we have already established as having been considered by the Examiner during prosecution of the ’809 application.

Petitioner relies on Eichelberger to teach a capacitive touch switch with electronics disposed thereon. *See, e.g.*, Pet. 39–40. Petitioner argues that Eichelberger is “new, noncumulative prior art” because “Eichelberger

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<sup>7</sup> Petitioner cites to what appear to be Bates numbers appearing on the lower right of each page of Exhibit 1003. We convert Petitioner’s citations to the exhibit pagination.

was never before the [E]xaminer, and the [E]xaminer allowed the claims based on their recitation of a capacitive touch switch.” Pet. 74.

Howell-719 discloses that, “in a number of embodiments, the glasses include a switch,” which “can be activated depending on electrical forces 158.” Ex. 1004 ¶¶ 74, 82. “In one embodiment, the electrical force depends on capacitive effect.” *Id.* ¶ 82. Petitioner relies on this disclosure in arguing that Howell-719 discloses a capacitive touch switch. *See* Pet. 21 (citing Ex. 1004 ¶ 82). Similarly, Eichelberger discloses “[a] capacitive touch entry structure [that] utilizes an array of at least one capacitive touch sensor.” Ex. 1010, code (57). Petitioner acknowledges that it uses Eichelberger to disclose substantially the same subject matter it asserts is disclosed by Howell-719. *See* Pet. 37–38 (asserting that both Howell-719 and Eichelberger disclose a capacitive touch switch comprising a printed circuit board with electronic components mounted thereon). We are therefore persuaded by Patent Owner’s contention that Eichelberger is substantially similar to Howell-719, and we agree that Eichelberger is cumulative of references previously before the Office.

#### d. Summary

In sum, we agree with Patent Owner that Howell-719, Blum, Howell-158, and Vogt were before Office during prosecution of the ’809 application and that Sikonowiz, Thomas, and Eichelberger are cumulative of prior art considered during prosecution. We thus find that the first prong of the *Advanced Bionics* framework is met for the art asserted for the independent claims.

## 2. Advanced Bionics *Part Two*

Having determined that the first part of the *Advanced Bionics* framework is satisfied, we turn to the second part of the framework in which we consider whether Petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims.

The Examiner cited one specific reason for allowance: the recitation of a capacitive touch switch.<sup>8</sup> *See* Pet. 75 (citing Ex. 1003, 1108, 765); Prelim. Sur-reply 1–2 (citing Ex. 1003, 765, 1095, 1108). Petitioner argues that the Examiner erred in concluding that Howell-719 and Eichelberger failed to disclose a capacitive touch switch. Pet. 75; Prelim. Reply 4.

Patent Owner argues that Petitioner does not address the specifically recited arrangement of the capacitive touch switch, and therefore does not establish error on the part of the Examiner. Prelim. Resp. 18–19.

We agree with Petitioner. The '355 patent explains that “[a] ‘capacitive touch switch’ may refer to any sensor that may utilize an electrical field to detect, for instance, the presence of a human finger or other conducting object to activate a switch.” Ex. 1001, 26:18–21. As discussed in more detail in § III.D.2.d below, Howell-719 discloses a capacitive touch switch. Howell-719 discloses that, “in a number of embodiments, the

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<sup>8</sup> Although the Examiner referred to “the . . . third paragraph of page 7 of Applicant’s Remarks filed 04/27/18” (Ex. 1003, 1108) which discusses the recited conformal layer (*id.* at 765), we understand the Examiner’s intended reference was to paragraph four, which discusses the recited capacitive touch switch (*id.*). The Examiner maintained the finding that Cochran and Howell-596 disclose a conformal layer, even after the Applicant argued that those references did not disclose a moisture-proof conformal layer. *Id.* at 628–30; *see also id.* at 752 (the Examiner suggesting an amendment to recite a capacitive touch switch).

glasses include a switch,” which “can be activated depending on electrical forces 158.” Ex. 1004 ¶¶ 74, 82. “In one embodiment, the electrical force depends on capacitive effect. By changing the capacitance, the switch is turned on and off. For example, the capacitance is changed by placing one’s finger over a metallic pad.” *Id.* ¶ 82.

Similarly, Eichelberger discloses “[a] capacitive touch entry structure [that] utilizes an array of at least one capacitive touch sensor.” Ex. 1010, code (57). The capacitive touch entry panel includes a surface and, “[w]hen user personnel digit 12 is in contact with front surface 11a of the panel, a touch capacitance  $C_T$  is formed between touch electrode 18a and ground potential.” *Id.* at 3:6–14, 4:5–8.

Accordingly, we are persuaded that the Examiner erred in a manner material to patentability by overlooking these disclosures of Howell-719 and Eichelberger.

### 3. Conclusion

After considering the framework set forth in *Advanced Bionics* and the underlying *Becton, Dickinson* factors, we find that § 325(d) is not sufficiently implicated under the circumstances here, and we determine that denying institution under § 325(d) is unwarranted.

## III. PATENTABILITY ANALYSIS

### A. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter 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 the subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) when in evidence, any objective evidence of nonobviousness.<sup>9</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

#### B. Level of Ordinary Skill in the Art

The level of ordinary skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The person of ordinary skill in the art is a hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In determining the level of ordinary skill in the art, we may consider certain factors, including: “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Best Med. Int’l, Inc. v. Elekta Inc.*, 46 F.4th 1346, 1353 (Fed. Cir. 2022) (quoting *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007)). “The patent’s purpose can also be informative.” *Id.*

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<sup>9</sup> At this stage of the proceeding, the parties have not directed us to any such objective evidence.

Petitioner contends that a person having ordinary skill in the art at the time of the invention would have had “at least a bachelor’s degree in mechanical or manufacturing engineering; mechatronics; electrical engineering plus coursework in mechanical engineering, manufacturing engineering, or mechatronics; or a similar technical degree,” and “would have also had at least 2 years of experience designing consumer electronics, such as eyewear with electronics.” Pet. 15–16 (citing Ex. 1002 ¶ 32). Petitioner contends that “[w]ork experience could substitute for formal education and additional formal education could substitute for work experience.” *Id.* at 16 (citing Ex. 1002 ¶ 32).

Patent Owner does not contest Petitioner’s proposed definition or proffer a definition of its own. *See generally* Prelim. Resp.

We find Petitioner’s definition to be consistent with the problems and solutions disclosed in the ’355 patent and prior art of record, and adopt it as our own for purposes of this Decision. *See, e.g., GPAC*, 57 F.3d at 1579 (approving the determination of the level of ordinary skill in the art by appeal to the references of record).

### C. Claim Construction

In an *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b), including construing the claims in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b). “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have

to a person of ordinary skill in the art in question at the time of the invention” and “after reading the entire patent.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc). In addition to the specification and prosecution history, we also consider use of the terms in other claims and extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises, although extrinsic evidence is less significant than the intrinsic record. *Id.* at 1312–17. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* at 1315.

“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (alteration in original) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner contends that “no claim terms require construction to resolve the obviousness challenges here.” Pet. 16. Petitioner contends that, in its mappings of the challenged claims, it “identifies passages from the specification demonstrating that the prior art discloses claim terms in the manner [that] the ’355 patent uses them.” *Id.* at 17.

Patent Owner does not oppose Petitioner’s contentions or proffer any constructions of its own. *See generally* Prelim. Resp.

At this time, we determine that no express construction of any term is necessary. We note that this determination does not preclude the parties from arguing their proposed constructions of the claims during trial. Indeed, the parties are hereby given notice that claim construction, in general, is an issue to be addressed at trial. A final determination as to claim construction

will be made at the close of the proceeding, after any hearing, based on all the evidence of record. The parties are expected to assert all of their claim construction arguments and evidence during the trial, as permitted by our rules.

#### D. Asserted Obviousness Based on Howell-719 and Sikonowiz

Petitioner argues that claims 1 and 3–13 would have been obvious in view of Howell-719 and Sikonowiz. Pet. 19–35. In support of its showing, Petitioner relies upon the Feland Declaration. *Id.* (citing Ex. 1002). Patent Owner does not contest Petitioner’s assertions. *See generally* Prelim. Resp. We have reviewed Petitioner’s assertions and supporting evidence. For the reasons discussed below, and based on the record before us, we determine that Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one challenged claim would have been obvious in view of the combination of Howell-719 and Sikonowiz.

##### *1. Summary of the Asserted References*

###### a. Howell-719

Howell-719 discloses eyeglasses for events. Ex. 1004 ¶ 4. Figure 1 illustrates a pair of glasses with a speaker in one of the temples and is reproduced below.

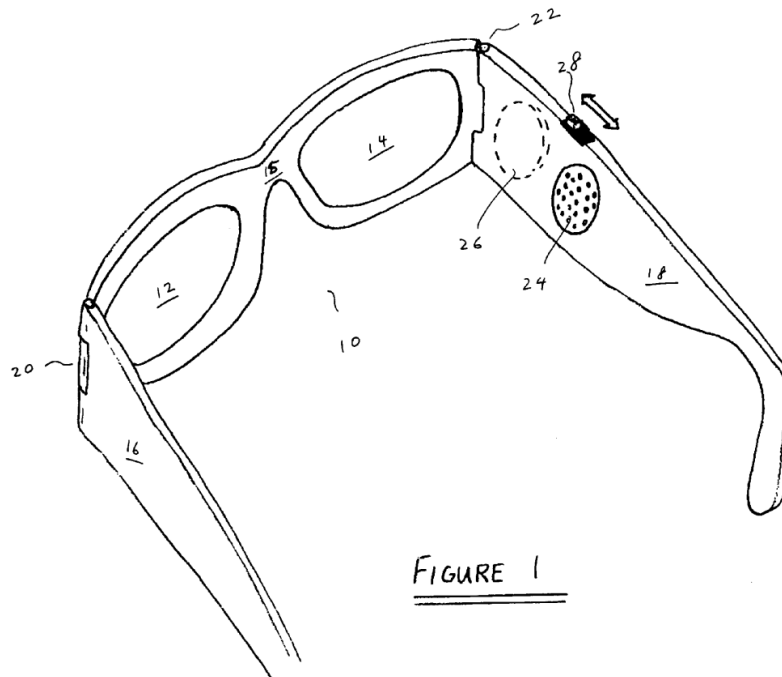


Figure 1 shows glasses 10 including first lens holder 12 and second lens holder 14 for receiving lenses, bridge element 15 therebetween, first temple 16 pivotally secured to the first lens holder through joint 20, and second temple 18 pivotally secured to the second lens holder through joint 22. *Id.* ¶¶ 27–28. The glasses further include speaker 24, power source 26, and switch 28, in which the speaker is powered by the power source and the switch is used to turn the speaker on and off. *Id.* ¶ 28. The speaker allows information to be delivered to the user of the glasses. *Id.* In an embodiment, the speaker is a part of a radio, and “[a]ll the electronics for the radio are at least partially embedded in the glasses.” *Id.* ¶ 50. “[T]he electronics can be on a printed circuit board, and the board is in one of the temples of the glasses.” *Id.* “The switch . . . can be activated by different type of forces, including mechanical, radiation, magnetic, electrical, and temperature.” *Id.* ¶ 75. “In one embodiment, the electrical force depends on capacitive effect. By changing the capacitance, the switch is turned on and

off. For example, the capacitance is changed by placing one's finger over a metallic pad.” *Id.* ¶ 82.

b. Sikonowiz

Sikonowiz is a textbook about designing and creating printed circuits. Petitioner includes only chapter nine, titled “Final Assembly.” Ex. 1005, 122.<sup>10</sup> Sikonowiz explains,

The purpose of a conformal coating is to cover a printed-circuit assembly and protect it from environmental hazards such as moisture, dirt, and chemicals. Of these, moisture protection is probably of the greatest general significance. Ideally, a conformal coating covers not only the circuit board but the components mounted on it as well.

*Id.* at 135–36.

2. *Independent Claim 1*

a. The Preamble

Claim 1 recites “[a]n eyewear system.” Ex. 1001, 28:66. Petitioner maps Howell-719’s glasses 10 to the recited eyewear system. Pet. 19 (citing Ex. 1004 ¶¶ 27–29, Fig. 1; Ex. 1002 ¶ 65).

Howell-719 discloses glasses 10 including first lens holder 12 and second lens holder 14 for receiving lenses, bridge element 15 therebetween, first temple 16 pivotally secured to the first lens holder through joint 20, and second temple 18 pivotally secured to the second lens holder through joint 22. Ex. 1004 ¶¶ 27–28.

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<sup>10</sup> Petitioner did not add pagination to Exhibit 1005, instead referring to the page numbers of the textbook. *See, e.g.*, Pet. 23. For consistency, we likewise cite to the original pagination of the textbook.

Accordingly, for the foregoing reasons and on this preliminary record, to the extent the preamble is limiting, Howell-719 supports Petitioner's contentions.

b. The Frame Recitation

Claim 1 recites "an eyewear frame." Ex. 1001, 28:67. Petitioner maps the frames of Howell-719's glasses to the recited frames. Pet. 19 (citing Ex. 1004 ¶¶ 27–29, Fig. 1; Ex. 1002 ¶ 65).

Howell-719 discloses that glasses 10 include frames that may have more surface area than wire frames. Ex. 1004 ¶ 29.

Accordingly, for the foregoing reasons and on this preliminary record, Howell-719 supports Petitioner's contentions.

c. The Electronics Assembly Recitation

Claim 1 recites "an electronics assembly comprising electronic components configured to control an electrical functional member." Ex. 1001, 29:1–3. Petitioner maps Howell-719's audio system to the recited electronics assembly, its speaker to the recited electrical functional member, and components used to control the speaker, such as a data bus, processor, and storage device, to the recited electronic components. Pet. 19–20 (citing Ex. 1004 ¶¶ 27, 50, 64, 67, 97, Fig. 1; Ex. 1002 ¶¶ 66–67).

Howell-719 discloses that its glasses include speaker 24 through which information is delivered to the user. Ex. 1004 ¶¶ 28, 49. The speaker can be part of a radio system, wherein "[a]ll the electronics for the radio are at least partially embedded in the glasses." *Id.* ¶ 50. The speaker can also be part of a player that is embedded in the glasses and that plays information

stored in a memory device. *Id.* ¶ 63. The player includes a processor and a storage device. *Id.* ¶ 67.

Accordingly, for the foregoing reasons and on this preliminary record, Howell-719 supports Petitioner’s contentions.

#### d. The Capacitive Touch Switch Recitation

Claim 1 recites “a capacitive touch switch coupled to at least one electronic component in the electronics assembly.” Ex. 1001, 29:4–5. Petitioner argues that Howell-719’s glasses include a switch for powering the speaker, and that the switch can be a capacitive touch switch. Pet. 21 (citing Ex. 1004 ¶¶ 28, 69, 74, 82, 97; Ex. 1002 ¶ 70).

Howell-719 discloses that its glasses include “switch 28 [that] is used to turn the speaker 24 on and off.” Ex. 1004 ¶ 28. “The switch can be activated depending on electrical forces 158. In one embodiment, the electrical force depends on capacitive effect. By changing the capacitance, the switch is turned on and off. For example, the capacitance is changed by placing one’s finger over a metallic pad.” *Id.* ¶ 82.

Accordingly, for the foregoing reasons and on this preliminary record, Howell-719 supports Petitioner’s contentions.

#### e. The Connective Element Recitation

Claim 1 recites “at least one electrical connective element electrically connected to the electronic assembly and the electrical functional member.” Ex. 1001, 29:6–8. Petitioner argues that “Howell-719 discloses putting the electronics for controlling the speaker on a printed circuit board” and that an ordinarily skilled artisan would know that “printed circuit boards have conductive traces on their surfaces electrically connecting electronic

components mounted on the board to each other, and they have conductive leads or connectors to electrically connect the mounted electronics to offboard electronic components.” Pet. 22 (citing Ex. 1004 ¶¶ 50, 97; Ex. 1002 ¶ 71; Ex. 1030, 1498–99).

As noted above regarding the Electronics Assembly Recitation, Howell-719 discloses that the speaker can be part of a radio system, wherein “[a]ll the electronics for the radio are at least partially embedded in the glasses.” Ex. 1004 ¶ 50. Howell-719 further discloses that “the electronics can be on a printed circuit board, and the board is in one of the temples of the glasses.” *Id.*; *see also id.* ¶ 97 (“All of the electronic components can be self-contained inside the temple of the glasses. The components can be coupled to a printed circuit board.”). Petitioner’s witness, Dr. Feland, testifies that it “would be basic common knowledge to [an ordinarily skilled artisan]” that “[p]rinted circuit boards have conductive traces on their layers electrically connecting electronic components mounted on the board to each other, and they have conductive leads or connectors to electrically connect the mounted electronics to off-board electronic components.” Ex. 1002 ¶ 71.

Accordingly, for the foregoing reasons and on this preliminary record, Howell-719 and Dr. Feland’s testimony support Petitioner’s contentions.

#### f. The Conformal Layer Recitations

Claim 1 recites “a conformal layer over the electronic assembly to seal the electronic components; wherein the conformal layer is moisture proof and seals electrical connections of the electronic component.” Ex. 1001, 29:9–12. Petitioner argues “Sikonowiz teaches that applying a

conformal coating to a PCB and mounted electronics is desirable” to “protect it from environmental hazards such as moisture, dirt, and chemicals.” Pet. 23 (citing Ex. 1005, 135–37). Petitioner argues that it would have been obvious to an ordinarily skilled artisan “to coat Howell-719’s PCB and mounted electronics with a conformal coating . . . to prevent moisture and contaminants from damaging the PCB and its related electronics.” *Id.* at 24 (citing Ex. 1002 ¶ 74).

As noted above regarding the Connective Element Recitation, Howell-719 discloses that its electronic components can be coupled to a printed circuit board and embedded within the temple of the glasses frame. Ex. 1004 ¶¶ 49–50, 97. Sikonowiz teaches the use of a conformal coating on printed circuit boards, with “[t]he purpose of a conformal coating [being] to cover a printed-circuit assembly and protect it from environmental hazards such as moisture, dirt, and chemicals. . . . Ideally, a conformal coating covers not only the circuit board but the components mounted on it as well.” Ex. 1005, 135–36. Petitioner’s contentions are supported by the testimony of Dr. Feland. *See* Ex. 1002 ¶ 74.

Accordingly, for the foregoing reasons and on this preliminary record, Howell-719 and Sikonowiz support Petitioner’s contentions. We determine that, on this preliminary record, Petitioner sets forth reasoning with rational underpinning as to why a person having ordinary skill in the art would have applied a conformal coating over Howell-719’s printed circuit board and electronics. *See, e.g.*, Pet. 24–25; Ex. 1002 ¶ 74.

g. The Enclosure Recitations

Claim 1 recites “wherein the conformal layer is disposed in an enclosure of the eyewear frame; wherein the eyewear frame comprises a temple; and wherein the electronic assembly is enclosed in the temple.” Ex. 1001, 29:13–16. Petitioner argues that Howell-719 discloses “that its PCB and related electronics are enclosed in a temple.” Pet. 25 (citing Ex. 1004 ¶¶ 50, 97).

As noted above regarding the Connective Element Recitation, Howell-719 discloses that its electronic components can be coupled to a printed circuit board and, with the added conformal layer, embedded within the temple of the glasses frame. Ex. 1004 ¶¶ 49–50, 97; *see also* Ex. 1002 ¶ 76 (“Because the conformal layer Sikonowiz teaches is a coating of the PCB, the conformal layer would also be enclosed in the temple.”).

Accordingly, for the foregoing reasons and on this preliminary record, Howell-719 and Dr. Feland’s testimony support Petitioner’s contentions.

h. Conclusion

Accordingly, at this stage of the proceeding, we determine that Petitioner has established a reasonable likelihood of prevailing on its assertion that claim 1 would have been obvious in view of Howell-719 and Sikonowiz.

E. Asserted Obviousness Based on Howell-719, Sikonowiz, and Blum

Petitioner argues that claims 14–21 would have been obvious in view of Howell-719, Sikonowiz, and Blum. Pet. 42–51. In support of its showing, Petitioner relies upon the Feland Declaration. *Id.* (citing

Ex. 1002). Patent Owner does not contest Petitioner’s assertions. *See generally* Prelim. Resp. We have reviewed Petitioner’s assertions and supporting evidence. For the reasons discussed below, and based on the record before us, we question whether Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one challenged claim would have been obvious in view of Howell-719, Sikonowiz, and Blum.

### *1. Summary of Blum*

Blum discloses a system, apparatus, and method for correcting vision using an electro-active lens. Ex. 1006, 1:36–39. Figure 21 illustrates an electro-active eyewear and is reproduced below.

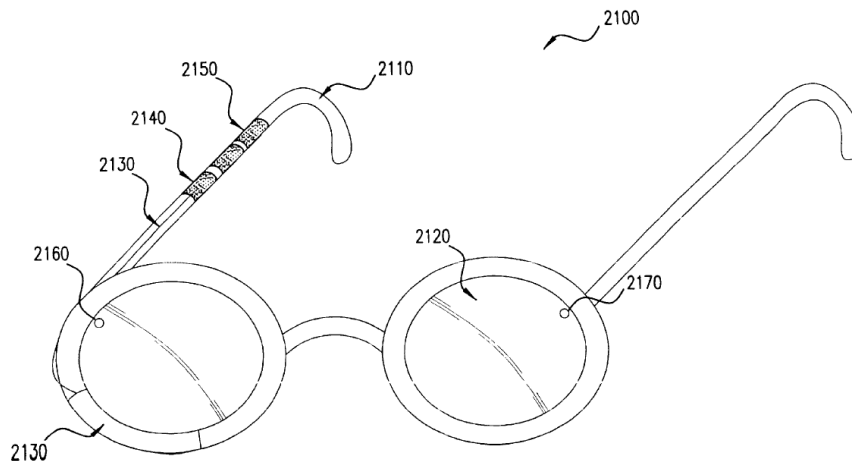


FIG. 21

Figure 21 shows electro-active eyewear 2100 including frames 2110 that contain electro-active lenses 2120 “that are connected by connecting wires 2130 to controller 2140 (integrated circuit) and power source 2150.” *Id.* at 29:66–30:3. “A ‘controller’ can include or be included in a processor, a microprocessor, an integrated circuit, an IC, a computer chip, and/or a chip.” *Id.* at 3:46–49. The electro-active eyewear further includes range

finder transmitter 2160 attached to one electro-active lens and range finder receiver 2170 attached to the other electro-active lens. *Id.* at 30:3–6. The range finder transmitter and range finder receiver can be embedded in the lenses or the frame, and can be controlled by the controller. *Id.* at 30:6–11.

## *2. Independent Claim 14*

Claim 14 recites eyewear comprising, in relevant part, “a plurality of electronic components . . . comprising . . . at least one of an accelerometer or a gyroscope.” Ex. 1001, 30:15–28. Petitioner relies on Howell-719 to disclose a switch that the user operates “to control audio while wearing the glasses.” Pet. 47 (citing Ex. 1004 ¶ 93). Petitioner relies on Blum to disclose glasses including an accelerometer or gyroscope that allows the user to control a switch, thereby “allowing the user to use a head movement to change the functionality of the glasses.” *Id.* at 46–47 (citing Ex. 1006, 30:39–45). Petitioner argues that it would have been obvious to an ordinarily skilled artisan to

[i]ncorporat[e] [Blum’s] accelerometer- or gyroscope-based switch controls into Howell-719” as “a simple substitution of one known alternative (accelerometer/gyroscope-based motion detector allowing for head movement to activate switch) for a component (physical switches) serving the same purpose (allowing the user to activate switch to control functionality while the user is wearing the glasses and cannot see the switches) with the added benefit of handsfree control.

*Id.* at 47 (citing Ex. 1002 ¶ 130). Thus, it appears that Petitioner’s modification is to *replace* Howell-719’s “physical switch” with Blum’s “accelerometer/gyroscope-based motion detector.”

Claim 14 also recites “a capacitive touch switch operably coupled to an electronic component in the plurality of electronic components.”

Ex. 1001, 30:26–28. Petitioner argues that “Howell-719 discloses a capacitive touch switch operably coupled to the speaker to control the speaker.” Pet. 48. However, as noted above, Petitioner appears to modify Howell-719’s glasses to replace its switch with an accelerometer/gyroscope-based motion detector. If so, the glasses as modified by Petitioner do not include Howell-719’s switch, and it is not clear, based on the current record, how the requirement for a capacitive touch switch is satisfied in this combination of references.

### *3. Conclusion*

For at least these reasons, we question whether Petitioner demonstrates a reasonable likelihood of prevailing in showing that claim 14 would have been obvious in view of Howell-719, Sikonowiz, and Blum. Because we institute as to all challenges, including this one, the parties may continue to address these issues during trial.

#### F. Petitioner’s Other Assertions that the Independent Claims are Unpatentable

Petitioner argues that: claim 13 would have been obvious in view of Howell-719, Sikonowiz, and Eichelberger (Pet. 37–42); claims 14–21 would have been obvious in view of Howell-719, Sikonowiz, and Howell-158 (*id.* at 42–51); claims 1–21 would have been obvious in view of Blum, Sikonowiz, and Howell-719 (*id.* at 52–65); and claims 13, 14, and 18 would have been obvious in view of Blum, Sikonowiz, and Eichelberger (*id.* at 66–68). We have reviewed Petitioner’s assertions and supporting evidence and determine that, based on the record before us, Petitioner

demonstrates a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in each of these grounds.

#### IV. CONCLUSION

For the foregoing reasons, we determine that the information presented establishes a reasonable likelihood that Petitioner would prevail in showing that at least one of the challenged claims is unpatentable. At this preliminary stage, we have not made a final determination with respect to the patentability of the challenged claims or any underlying factual and legal issues. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial”).

Accordingly, *inter partes* review is instituted as to all challenged claims and all proposed grounds of unpatentability. *See* 37 C.F.R. § 42.108(a).

#### V. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–21 of the ’355 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this decision.

IPR2024-01069  
Patent 10,613,355 B2

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