

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC., META PLATFORMS TECHNOLOGIES, LLC, and
TWISTED PIXEL GAMES, LLC,
Petitioner,

v.

EIGHT KHZ, LLC,
Patent Owner.

Case No. IPR2023-01020
Patent No. 10,448,184

**PATENT OWNER'S OBJECTIONS TO
PETITIONER'S REPLY EVIDENCE**
37 C.F.R. §§42.62, and 42.64

Pursuant to 37 C.F.R. §§42.62, and 42.64, and the Federal Rules of Evidence, Patent Owner Eight kHz, LLC (“8KHZ”) provides the following objections to evidence submitted by Petitioner Meta Platforms, Inc. in its Reply. These objections are timely served within five (5) business days of service of the evidence. The fact that 8KHZ has not objected below to certain pieces of evidence or certain portions of certain evidence provides no indication that 8KHZ agrees to the positions asserted therein. In addition, 8KHZ reserves the right to present further objections to this or additional evidence submitted by Meta Platforms, Inc., as allowed by the applicable rules or other authority.

I. 8KHZ’S OBJECTIONS TO EVIDENCE

Exhibit 1146 – Supplemental Declaration of Dr. Agnieszka Roginska

8KHZ objects to the declaration of Dr. Agnieszka Roginska (the “Declarant”) in Support of Petitioner’s Reply, Exhibit 1146, under Fed. R. Evid. 106, 401-403, 702-703, 705, and 37 C.F.R. §§42.65(a), and 42.104(b)(5). These evidentiary failures cannot be cured. 8KHZ specifically objects to:

(1) Paragraphs 24, 37, 38, 39, 41, 42, 44, 47, 48, 62, 64, 65, 81, 82, 85, 94, 102, 107, and 108 of Exhibit 1146 on the ground that they are irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401-403; and speculation under Fed. R. Evid. 702, 703, and 705;

(2) Paragraphs 16, 17, 18, 23, 29, 30, 34, 36, 39, 51, 52, 68, 77, 79, 99, 100, 102, and 108 of Exhibit 1146 on the grounds that the probative value of the testimony contained therein is outweighed by a danger of prejudice and confusion under Fed. R. Evid. 403 and to the extent that at least some of these paragraphs fail to include all related parts “that in fairness ought to be considered at the same time” under Fed. R. Evid. 106;

(3) Paragraphs 16, 17, 18, 23, 29, 30, 34, 36, 39, 51, 52, 68, 77, 79, 99, 100, 102, and 108 of Exhibit 1146 on the ground that they contain “[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based” in violation of 37 C.F.R. §42.65(a) and Fed. R. Evid. 702-703;

(4) Paragraphs 1-9, 19-21, 25, 28-29, 31-35, 39, 43, 44, 46, 53-59, 66-76, 80, 81, 88, and 94-108 of Exhibit 1146 on the ground that they are not cited to or relied upon by the Reply (Paper 25) in violation of 37 C.F.R. §42.104(b)(5).¹

(5) The fact that 8KHZ has not objected to certain paragraphs of Exhibit 1146 provides no indication that 8KHZ agrees to the positions asserted therein.

¹ For completeness, 8KHZ includes objections under categories (1)-(3) to paragraphs that are not cited in the Reply and also objected to on that basis under category (4).

A. Objections to Irrelevant, Misleading, Unduly Prejudicial and Confusing Testimony

8KHZ objects to Exhibit 1146 as unsupported and conclusory testimony that is irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401-403 and purported expert opinion that is pure speculation under Fed. R. Evid. 702, 703, and 705.

Specifically, and without limitation, 8KHZ objects to any such paragraph in which the Declarant speculates as to a POSA's understanding and state of mind, including, without limitation, paragraphs 24, 37, 38, 39, 41, 42, 44, 47, 48, 62, 64, 65, 81, 82, 85, 94, 102, 107, and 108 for relying on conclusory statements that are unsupported by factual evidence and which is pure speculation and/or unsupported by facts or data of a type reasonably relied upon by experts in the field in order to form the opinion or inferences made therein. 8KHZ also objects to any such paragraph in which the Declarant speculates as to Dr. Begault's opinion by relying on Dr. Begault's lack of statement on a topic, including, without limitation, paragraphs 44, 47, 48, 62, 81, 94, and 108.

In paragraph 24, Declarant purely speculates, without providing any supporting evidence, that "Although the specification mentions a Virtual Audial Display in one passage ('184 patent, 30:35), a POSA would not understand the "displaying" of the "3D virtual environment" in claim 1 to refer to a Virtual Audial

Display.” In this same paragraph 24, Declarant also purely speculates, without providing any supporting evidence, that “[A] POSA would have understood that a Virtual Audial Display uses speakers, headphones, or earphones, and not the recited display of an HMD.”

In paragraph 37, Declarant purely speculates, without providing any supporting evidence, “[a] POSA would have combined Clement and Osman with Sauk to provide additional teachings regarding binaural sound, including signaling the importance of things or events to provide flexibility and additional options for different conditions, that enhance the system's ability to alert or warn the user when the user approaches the boundary or when transitioning from a virtual environment to the real world.” In this same paragraph 37, Declarant also purely speculates, without providing any supporting evidence, that “a POSA would have sought Sauk’s teachings to introduce multiple layers of warnings, to ensure user safety as the user leaves a virtual environment.”

In paragraph 38, Declarant purely speculates, without providing any supporting evidence, that “POSAs would have understood from Sauk that binaural alerts can be used to alert/warn the user of immediate hazards, and that less relevant audio can be transitioned to mono/stereo to alert that user that the audio is becoming less important/relevant.” In this same paragraph 38, Declarant also purely speculates, without providing any supporting evidence, that “POSAs would have understood that

these alerts/warnings could be used together to introduce multiple layers of warnings: transitioning less relevant sound to mono/stereo would encourage a user to focus on the remaining binaural warning indicating an immediate hazard. A POSA would have combined Sauk with Clement and Osman to use a binaural alert when the user is approaching a hazard (as taught by Sauk) such as a wall (as taught by Clement).”

In paragraph 39, Declarant purely speculates, without providing any supporting evidence, that “[t]he POSA further would have combined Sauk with Clement and Osman such that the sound from the environment, which is becoming less important or relevant, would switch to mono or stereo from binaural.” In this same paragraph 39, Declarant also purely speculates, without providing any supporting evidence, that “on top of the binaural alert that the user is heading toward an obstacle, a POSA would have been motivated “to provide an *additional audible indication*” by way of “degrading the]binaural [audio” from the environment as it becomes less relevant.”

In paragraph 41, Declarant purely speculates, without providing any supporting evidence, that “To the contrary a POSA would have been motivated to apply that teaching to Clement and Osman—binaural alerts when the user is approaching a hazard such as an obstacle. Ex.1003 ¶¶ 111-13, 175. Though the fact that the user is leaving the environment is relevant, a POSA would have understood that the audio from the environment—or from the image in the environment—becomes less important or relevant as the user transitions out of the environment and/or approaches

a hazard. Therefore, the POSA would have been motivated to apply Sauk's teachings about relevance to that audio and degrade it to a mono or stereo dimensionality. It would make no sense to add directionality to the sound from the image in the environment as the user exits the environment and approaches a hazard that could be from a direction that's different than the image, as there is no danger coming from the image. In other words, the user is leaving the image, not approaching the image."

In paragraph 42, Declarant purely speculates, without providing any supporting evidence, that "A POSA would have been motivated to transition out of binaural audio to alert the user that it is leaving the environment whether or not the user is approaching an immediate hazard (which generates its own binaural alert)." In that same paragraph 42, Declarant also purely speculates, without providing any supporting evidence, that "even in scenarios without the immediate hazard, transitioning the environment's audio to mono/stereo helps the user with a smooth transition out of the environment and helps them focus on the physical environment which as become more relevant."

In paragraph 47, Declarant purely speculates, without providing any supporting evidence, that "a POSA would not rigidly apply Sauk to Clement such that a user would have to select the dimensionality of the audio, and therefore in the Clement-Osman-Sauk combination, Sauk's disclosure of user selection does not appear to be relevant to the patentability of the claims."

In paragraph 64, Declarant purely speculates, without providing any supporting evidence, that “[b]ut virtual images, as in games, often become much less relevant, and eventually entirely irrelevant, when they disappear from the display. Ex.1003¶¶ 197, 213. This diminished relevancy is typical in the gaming context, and therefore gives POSAs a reason to apply Sauk’s switching to 1-D or 2-D audio.”

In paragraph 65, Declarant purely speculates, without providing any supporting evidence, that “a POSA would understand that this passage simply teaches what POSAs understood: when images are not in view, a good 3D sound model is important, assuming the sound is still relevant. But this passage does not contradict the general knowledge of a POSA that virtual images that are not in view are generally less relevant than those that are in view and it does not suggest that images that are not in view need 3D sound or that they are generally relevant.”

In paragraph 81, Declarant purely speculates, without providing any supporting evidence, that “None of these, or similar questions, are addressed or considered in the ’140 Application, and therefore a POSA would not have understood the ’140 Application to disclose warning the user that it is leaving an immersive virtual environment.”

In paragraph 82, Declarant purely speculates, without providing any supporting evidence, that “Nor is there any reason why a POSA would have understood the ’140

Application to be teaching modifying Figure 6 to apply to visually immersive environments.”

In paragraph 85, Declarant purely speculates, without providing any supporting evidence, that “A POSA would understand that a change in the ability to detect position in a physical environment implies that the user is still in the environment and not leaving it.”

In paragraph 102, Declarant purely speculates, without providing any supporting evidence, that “the audio from the environment is not a physical hazard that the user would need alerting of its position and thus benefit from 3D audio as it leaves the environment—to the contrary, it becomes less relevant as the user leaves the environment, and the user needs to be more aware of their new environment rather than the environment they’re leaving.”

In paragraph 107, Declarant purely speculates, without providing any supporting evidence, that “For example, a POSA would not have understood such language to be explicit disclosure that a WED is used in every embodiment—instead this catch-all language discloses that the methods/blocks can be performed in a variety of ways, and does not show written description support because the embodiments of, e.g., Alice entering a car, clearly do not and would not use a WED.”

In this same paragraph 107, Declarant also purely speculates, without providing any supporting evidence, that “A POSA would not have had any reason to modify these

embodiments to add a virtual image as Alice, e.g., walks around outside. But even if this embodiment were modified to substitute the HPED for a WED/HMD, the act of Alice getting into the car would not constitute her leaving an environment that includes virtual images.”

In paragraphs 44, 47, 48, 62, 81, 94, and 108 Declarant includes purely speculative statements regarding Dr. Begault’s opinions and testimony such as

- Dr. Begault “does not seem to dispute that Clement combined with Osman discloses binaural audio” (at paragraph 44),
- “Dr. Begault seems to ignore the combination of Clement, Osman, and Sauk” (at paragraph 47),
- “Dr. Begault does not seem to address or dispute these issues” (at paragraph 48),
- “Dr. Begault does not seem to dispute any of the POSA knowledge I described nor does he seem to dispute the motivation to combine and reasonable expectation of success” (at paragraph 62),
- “Dr. Begault’s interpretation of ‘3D virtual environment’ includes visual immersive environments, which he does not appear to argue written description of in the context of claim 1” (at paragraph 81), and

- “Dr. Begault does not appear to dispute any of these arguments [regarding the combination of Lyren and Reif], as he does not mention Lyren or Reif in either of his declarations” (at paragraphs 94 and 108).

Declarant’s pure speculation regarding Dr. Begault’s opinions by relying on a lack of statement by Dr. Begault is improper.

Accordingly, such unsupported and conclusory testimony is objected to as irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401-403 and pure speculation under Fed. R. Evid. 702, 703, and 705.

B. Objections to Testimony Whose Probative Value is Substantially Outweighed by a Danger of Prejudice and Confusion

8KHZ objects to paragraphs 16, 17, 18, 23, 29, 30, 34, 36, 39, 51, 52, 68, 77, 79, 99, 100, 102, and 108 of Exhibit 1146 to the extent that the probative value of the testimony contained therein is substantially outweighed by a danger of prejudice and confusion under Fed. R. Evid. 403.

Specifically, 8KHZ objects to the misleading statement in paragraph 16 that “Dr. Begault appears to agree with me in this respect” that circumstances, objects, or conditions can be in a virtual environment. This statement ignores the total of Dr. Begault’s testimony in his deposition and in his declarations. Thus, Declarant provides an out-of-context, incomplete picture of Dr. Begault’s testimony, and

pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

8KHZ similarly objects to the misleading characterization in paragraph 17 that “Dr. Begault’s interpretation of ‘environment’ contradicts other interpretations of ‘environment’ he provides.” Declarant ignores the testimony in Dr. Begault’s deposition on this topic. *See, e.g.*, Ex. 1147 at 120-21. Thus, Declarant provides an out-of-context, incomplete picture of incomplete picture of Dr. Begault’s testimony and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

Further, 8KHZ objects to the misleading characterization in paragraph 18 that “Dr. Begault does not explain his interpretation [of leaving the environment]nor rely on anything from the ‘179 or ‘184 patents to justify it.” Dr. Begault explains his interpretation of this term at length in his deposition. *See, e.g.*, Ex. 1147 at 215-16. Thus, Declarant provides an out-of-context, incomplete picture of Dr. Begault’s testimony and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

Further, 8KHZ objects to the misleading characterization in paragraph 23 that “Dr. Begault’s prior art research papers discuss virtual environments as requiring (visual) virtual images.” Declarant fails to mention Dr. Begault’s testimony on this topic in his declarations and in his deposition. Thus, Declarant provides an out-of-

context, incomplete picture of Dr. Begault's testimony and pursuant to Fed. R. Evid. 106 fails to include all related parts "that in fairness out to be considered at the same time."

Similarly, 8KHZ objects to the misleading characterization in paragraph 29 that "Dr. Begault's quotations from his prior art book do not counsel otherwise" regarding the interpretation of a user leaving the environment. This ignores Dr. Begault's testimony on this topic in his declarations and in his deposition. Thus, Declarant provides an out-of-context, incomplete picture of Dr. Begault's testimony and pursuant to Fed. R. Evid. 106 fails to include all related parts "that in fairness out to be considered at the same time."

Moreover, 8KHZ objects to the misleading characterization in paragraph 30 that "in his first declaration, Dr. Begault stated "a PHOSITA would recognize that the stated 'environment', a '3D virtual environment', or a 'virtual image in the environment' in the subject claims all refer to the same type of immersive virtual world context that the user interacts within" and thus did not interpret the term as including a sound-only virtual environment." Declarant ignores Dr. Begault's testimony on this topic in his declarations and in his deposition. Thus, Declarant provides an out-of-context, incomplete picture of Dr. Begault's testimony and pursuant to Fed. R. Evid. 106 fails to include all related parts "that in fairness out to be considered at the same time."

Similarly, 8KHZ objects to Declarant's citation to Dr. Begault's testimony in paragraph 34 that "the claims do not preclude the use of external sensors and external reference points." This testimony was beyond the scope of Dr. Begault's declaration and thus improper. 37 CFR section. 42.53(d)(5)(ii) ("For cross-examination testimony, the scope of the examination is limited to the scope of the direct testimony."). Thus, any probative value of these statements by Declarant are outweighed by a danger of prejudice and confusion under Fed. R. Evid. 403.

Also, 8KHZ objects to the misleading characterization in paragraph 36 that "Sauk discloses that the dimensionality of the audio makes the user *perceive* the sounds differently." In providing this testimony, Declarant mischaracterizes the Selective Relevance Mode disclosed in Sauk, which provides that the user makes a selection regarding the relevance of audio and, according to the user's selection, the user receives different audio (e.g., stereo for audio that the user has selected as less relevant). Thus, Declarant provides an out-of-context, incomplete picture of Sauk (Ex. 1007), and pursuant to Fed. R. Evid. 106 fails to include all related parts "that in fairness out to be considered at the same time."

Further, 8KHZ objects to the misleading characterization in paragraph 39 that "The POSA further would have combined Sauk with Clement and Osman such that the sound from the environment, which is becoming less important or relevant, would switch to mono or stereo from binaural." Clement and Osman do not disclose

anything about less important or less relevant sound. Thus, Declarant's position that a POSA would have combined Sauk with Clement and Osman ignores and mischaracterizes the disclosure in Clement and Osman. Thus, Declarant provides an out-of-context, incomplete picture of Clement and Osman, and pursuant to Fed. R. Evid. 106 fails to include all related parts "that in fairness out to be considered at the same time."

Moreover, 8KHZ objects to the misleading characterization in paragraph 51 that "These statements by Dr. Begault support that the alert is obvious to a POSA. For example, a POSA would have known that they could use the change from binaural to mono/stereo as an alert and would have had reason to do so in the combination (to provide additional layers of warning to promote and ensure user safety)." Declarant ignores the claim language, which requires, e.g., that the sound experienced by the user—which is binaural sound—is altered and says nothing about providing "additional layers of warning." Claim 1 requires "processing ... sound with the HRTFs to generate binaural sound that plays to the user" and "warning the user that the user is leaving the 3D virtual environment by filtering, by the DSP, the binaural sound to alter a spectral cue and lower a volume of the sound playing to the user." Claims 7 and 14 have similar limitations where the sound that is provided to the user is binaural sound and then that binaural sound is altered to alert the user that the user is leaving the environment. Thus, Declarant provides an out-of-context, incomplete

picture of the '184 patent claims, and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

Moreover, 8KHZ objects to the misleading characterization in paragraph 52 that “Dr. Begault asserts that Sauk alone or “in combination with Osman and Clement disclose a method of alerting/warning the user by removing/degrading the binaural sound received by the user (claims 8, 10, 15-19 of the '184 Patent).” Declarant misquotes Dr. Begault’s declaration, which actually says “*Neither* Sauk nor Sauk in combination with Osman and Clement disclose a method of alerting/warning the user by removing/degrading the binaural sound received by the user (claims 8, 10, 15-19 of the '184 Patent).” Ex. 2012 paragraph 100 (emphasis added). Thus, Declarant provides an out-of-context, incomplete picture of Dr. Begault’s testimony in his declaration, and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

Further, 8KHZ objects to the misleading characterization in paragraph 68 that “However, none of these examples provide written description support for the claims, and Dr. Begault does not even assert that they do,” citing pages 20-24 of Ex. 2012. Declarant ignores Dr. Begault’s testimony in his declaration and deposition where he clearly relies on the information in the two tables mentioned to provide written description support for the claims. *See, e.g.*, Ex. 2012 at paragraph 30 (“The types of environmental transitions addressed in the specification sections of the '179 and '184

Patents include both a transition in the physical environment of the user (either caused by movement of the user, or a change in the circumstances or conditions of things within the physical environment of the user), as well as transitions in the 3D virtual environment heard and seen by the user.”); *see also* Ex. 2012 at paragraphs 48-62. Thus, Declarant provides an out-of-context, incomplete picture of Dr. Begault’s testimony, and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

Moreover, 8KHZ objects to the misleading characterization in paragraph 77 that “I note that Dr. Begault said the opposite in his deposition, explaining that not every alteration of binaural sound is an alert (Ex.1147 86:22-87:5) and therefore it cannot be inherent.” This could be interpreted to suggest that Dr. Begault said in his deposition that the disclosure “cannot be inherent.” He made no such statement. At the cited portion of his deposition, Dr. Begault testified as follows: “Q: So it sounds like you are saying that changing binaural sound to stereo or mono would provide an alert or warning to user? A: No. Not necessarily. It depends.” But Dr. Begault made no statements regarding inherency. Thus, Declarant provides an out-of-context, incomplete picture of Dr. Begault’s testimony, and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

Further, 8KHZ objects to the misleading characterization in paragraph 79 that “This is in stark contrast to the combination of Clement, Osman, and Sauk, where the

sound altered from binaural to monaural are the sounds from the virtual environment that are no longer relevant.” As shown above, Sauk discloses a user selecting the relevance of certain sounds and then, based on the user’s selection that such sounds are less relevant, those sounds are produced as mono or stereo instead of binaural. Thus, Declarant provides an out-of-context, incomplete picture of Sauk and the alleged combination of Clement, Osman, and Sauk, and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

In addition, 8KHZ objects to the misleading characterization in paragraph 99 that “Indeed, POSAs knew before the time of the alleged inventions that HMDs could independently determine position and orientation information and when a user is leaving an environment using cameras, light-emitting trackers, inertial sensors (e.g., accelerometers and/or gyroscopes), and any type of tracker (e.g., magnetic, optical, electrical, sonar, radar, ultrasonic, or any combination thereof). See Ex.1080 (Pedrotti) 5:8-24; 4:59-61 (“Such trackers, and the processors which determine the position and orientation of such trackers, are well know to those of skill in the art.”); see also Ex.1150 (Donner) [0013] (HMD based display system “determines the current pose (that is, one or both of position and rotational orientation)” of the HMD “relative to reference coordinate frame (that is, ‘world space’) and then generates imagery of a scene from a perspective associated with that pose (that is, ‘screen space’).”), [0027-0028] (hardware includes an inertial management unit (IMU)

(including, for example a gyroscope, magnetometer, and accelerometer), image capture, image sensors, structured-light or time-of flight (ToF) depth sensor).”

Pedrotti, cited by Declarant, relies on an external base station to determine the position and orientation of the headset. *See, e.g.*, Ex. 1080 at 4:49-54 (“Attached to or incorporated in the HMD 106 is a tracker 108, which can be used to determine the position and orientation of the headset 104, and thus of the head of user 102, by, for example, sensing an electromagnetic field generated from a **local base station**, video game console or other apparatus (not shown).”; 5:29-34 (“In addition to tracker 108 in HMD 106, handheld controller 110 may also have a tracker, from which a processor can derive the position and orientation of handheld controller 110 relative to the base station, by any of the tracking techniques described above”).

Donner, also cited by Declarant, also relies upon an external reference framework: at [0002] “The displays together present a stereoscopic, or 3D, representation of a scene in the represented world, where the presented scene reflects the user's relative perspective of the scene based on the user's current pose (that is, the **location and orientation of the user's head relative to a reference coordinate frame** for the depicted scene)”; at [0013]: “In operation, the display system 100 executes a VR or AR application that determines the current pose (that is, one or both of position and rotational orientation) of the HMD device 102 (and thus the user's head 104) **relative to a reference coordinate frame** (that is, “world space”) and then

generates imagery of a scene from a perspective associated with that pose (that is, “screen space”); at [0018]: “In parallel with the motion analysis process 124, the display system 100 performs a HMD motion conversion process 130 whereby the display system 100 samples one or more motion-based sensors (e.g., gyroscope, accelerometer, magnetometer, etc.) *to determine a current motion vector, denoted “MVHMD”, of the HMD device 102 relative to the world space.*” (All emphasis added.)

Thus, Declarant provides an out-of-context, incomplete picture of the ‘179 patent, Pedrotti, and Donner and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

In addition, 8KHZ objects to the misleading characterization in paragraph 100 that “the ‘179 patent does not provide any express disclosure of a WED determining that the user is leaving an environment independently of a stationary tracking device.” To the contrary, the ‘179 patent specification discloses that a wearable electronic device (WED) may include components, such as a memory, one or more displays, a processor, interfaces, a camera, sensors, a location or motion tracker, a GPS tracking system, speakers, a head tracker, an imagery system, a sound localization system, an onboard predictor, and a microphone. ‘179 patent, 39:9-12, 39:25-48, 40:7-15; *see also* Figure 20. These components are all contained within the WED and can be used to determine when a user is leaving the environment. Thus, Declarant provides an

out-of-context, incomplete picture of the ‘179 patent, and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

Moreover, 8KHZ objects to the misleading characterization in paragraph 102 that “the audio from the environment is not a physical hazard that the user would need alerting of its position and thus benefit from 3D audio as it leaves the environment—to the contrary, it becomes less relevant as the user leaves the environment, and the user needs to be more aware of their new environment rather than the environment they’re leaving. The degrading/filtering of the binaural audio warns/alerts the user in conjunction with an additional layer of warning when the user is heading towards danger, as I previously discussed.” As shown above, Sauk’s Selective Relevance mode requires the user to pre-select the relevance of certain sounds and, based on the user’s pre-selection, sounds that are selected to be less relevant are presented in mono or stereo. In addition, as shown above, the claim language says nothing about “additional layers of warning,” as Declarant suggests. Thus, Declarant provides an out-of-context, incomplete picture of Sauk and the ‘179 patent, and pursuant to Fed. R. Evid. 106 fails to include all related parts “that in fairness out to be considered at the same time.”

C. Objections to Purported Expert Testimony That Does Not Disclose the Underlying Facts or Data on Which the Opinion is Based

8KHZ further objects to Exhibit 1146 as including “[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based” in violation of 37 C.F.R. §42.65(a) and Fed. R. Evid. 702-703, and 705.

Specifically, each of paragraphs 16, 17, 18, 23, 29, 30, 34, 36, 39, 51, 52, 68, 77, 79, 99, 100, 102, and 108 contain sentences that do not cite to any evidence or facts to support the assertions made therein, and these uncited sentences are unsupported testimony that are accordingly objected to for failing to provide the underlying facts or data on which such opinion is based, as shown in more detail in Section (1) above.

D. Objections to Testimony Not Cited to or Relied Upon by the Reply

8KHZ further objects to Exhibit 1146 as to the extent the testimony provided by Declarant in paragraphs 1-9, 19-21, 25, 28-29, 31-35, 39, 43, 44, 46, 53-59, 66-76, 80, 81, 88, and 94-108 is not cited to or relied upon by the Reply in violation of 37 C.F.R. §42.104(b)(5). Accordingly, this testimony is also irrelevant, misleading, and confusing under Fed. R. Evid. 401-403.

Exhibit 1149 – Durand R. Begault et al., Invited Paper Manuscript: Headphone and Head-Mounted Visual Displays for Virtual Environments, 15TH INT’L CONF. AUDIO ENG’G SOC’Y

8KHZ objects to Exhibit 1149 under Fed. R. Evid. 401-403 and 37 C.F.R. §42.104(b)(5).

8KHZ objects to Exhibit 1149 under Federal Rule of Evidence 401 as this Exhibit has no bearing on any issue in this proceeding. Furthermore, 8KHZ objects to this Exhibit under 37 C.F.R. §42.104(b)(5) because it is not cited to or relied upon by the Reply in this proceeding, and, accordingly, it lacks relevance and fails to support a patentability challenge. Petitioner does not explain how this Exhibit is relevant to the proceeding (i.e., the Petitioner fails to provide the relevance of the evidence to the challenge raised), and the Board may exclude evidence where a party has failed to state its relevance. Further, 8KHZ objects to this Exhibit because it has no bearing on the patentability of any of the claims of the Patent.

For these reasons, 8KHZ further objects to this Exhibit as irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401-403.

Exhibit 1150 – U.S. Patent Application Publication No. 2017/0148206 A1

8KHZ objects to Exhibit 1150 under Fed. R. Evid. 401-403 and 37 C.F.R. §42.104(b)(5).

8KHZ objects to Exhibit 1150 under Federal Rule of Evidence 401 as this Exhibit has no bearing on any issue in this proceeding. Furthermore, 8KHZ objects to this Exhibit under 37 C.F.R. §42.104(b)(5) because it is not cited to or relied upon by the Reply in this proceeding, and, accordingly, it lacks relevance and fails to support a patentability challenge. Petitioner does not explain how this Exhibit is relevant to the proceeding (i.e., the Petitioner fails to provide the relevance of the

evidence to the challenge raised), and the Board may exclude evidence where a party has failed to state its relevance. Further, 8KHZ objects to this Exhibit because it has no bearing on the patentability of any of the claims of the Patent.

For these reasons, 8KHZ further objects to this Exhibit as irrelevant, misleading, unduly prejudicial, and confusing under Fed. R. Evid. 401-403.

“RESERVED” Exhibits

8KHZ objects to Exhibits 1096-1140 under 37 C.F.R. §§42.63(c) and (e), and 42.104(b)(5), and Fed. R. Evid. 401-403.

8KHZ objects to Exhibits 1096-1140 (hereafter the “RESERVED Exhibits”) to the extent the exhibits are not cited to or relied upon by the Reply (Paper 25) in violation of 37 C.F.R. §42.104(b)(5) (A petition challenging the claims of a patent must identify “[t]he exhibit number of the supporting evidence relied upon to support the challenge and the relevance of the evidence to the challenge raised, including identifying specific portions of the evidence that support the challenge. The Board may exclude or give no weight to the evidence where a party has failed to state its relevance or to identify specific portions of the evidence that support the challenge.”). For example, the RESERVED Exhibits were not filed with the Reply and there is no discussion of the relevance of the evidence represented by the RESERVED Exhibits in the Reply. Further, Petitioner has not indicated such exhibits are not used. 37 C.F.R. §42.63(e) (“Each party must maintain an exhibit list

with the exhibit number and a brief description of each exhibit. If the exhibit is not filed, the exhibit list should note that fact.”). There is no brief description of the evidence represented by the RESERVED Exhibits, nor are they described as “not filed”.

Any use during the trial of these unused RESERVED Exhibits and the associated evidence causes confusion in the proceedings because Petitioner’s evidence would be untimely and would not be presented sequentially numbered. 37 C.F.R. §§42.63(a) (“All evidence must be in the form of an exhibit.”), and 42.63(c) (“Each party’s exhibits must be uniquely numbered sequentially in a range the Board specifies.”). These unused RESERVED Exhibits and the associated evidence were not timely filed and served with the Reply and have no bearing on any issue in this proceeding; the evidence is therefore irrelevant, misleading, and confusing under Fed. R. Evid. 401-403. This evidentiary failure cannot be cured.

Date: July 3, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned hereby certifies that the above-captioned Patent Owner's Objections to Petitioner's Reply Evidence were served via electronic mail, as authorized by Petitioner's Mandatory Notices, on July 3, 2024 at the following email correspondence addresses of record:

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