

Filed: January 29, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**META PLATFORMS, INC.,**  
Petitioner,

v.

**JAWBONE INNOVATIONS, LLC,**  
Patent Owner.

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IPR2023-01130  
U.S. Patent No. 11,122,357

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**PETITIONERS' REQUEST FOR REHEARING  
UNDER 37 C.F.R. § 42.71(d)**

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Petitioner Meta Platforms, Inc. (“Meta”) respectfully requests rehearing pursuant to 37 C.F.R. § 42.71(d) for claims 1-20 of U.S. Patent No. 11,122,357 (Ex. 1001, “the ’357 patent”)<sup>1</sup>. The Board previously instituted on the same grounds for petitioner Amazon.com, Inc. (“Amazon”) in IPR2023-00251 (“Amazon IPR”). Upon institution in IPR2023-00251, Meta filed this copycat petition (“Pet.”) and moved for joinder, but the Amazon IPR terminated before Patent Owner (“PO”) filed its Preliminary Response (Paper 9, hereinafter “POPR”) here and the motion for joinder was withdrawn. In its Decision on Institution (Paper 10, hereinafter “Decision”), the Board reversed itself and denied institution. In doing so, the Board misapprehended the scope of the claims, narrowing the term *noise response* in a way that directly conflicts with the ’357 patent and the Board’s prior institution decision, and misapprehended Brandstein’s (Ex. 1003) teachings. Meta respectfully submits that the clear legal errors and erroneous factual findings in the Decision require rehearing. Upon rehearing, the Board should institute trial.

## **I. INTRODUCTION**

The Board’s Decision denying institution is based on an overly narrow interpretation of the term *noise response* and misapprehension of key prior art

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<sup>1</sup> Unless otherwise noted, citations to Papers and Exhibits are to those filed in this IPR proceeding (IPR2023-1130).

disclosures. Specifically, the Decision improperly narrows the claims to require *noise responses* that are *substantially similar* in nearly all directions and for all frequencies, despite the fact that the '357 patent describes examples placing noise sources at specific directions, and the plain and ordinary understanding that a response to noise is in the direction of that noise. Moreover, the Decision misreads how the prior art operates to cancel noise, including: (1) misunderstanding Brandstein to sum virtual microphone signals, when it actually subtracts them, and (2) misunderstanding Brandstein's first virtual microphone to eliminate noise, when it actually must pass noise substantially similar to the second virtual microphone for noise cancellation to occur.

## **II. LEGAL STANDARD**

"A party dissatisfied with a decision may file" a request for rehearing, "identify[ing] all matters the party believes the Board misapprehended or overlooked." 37 C.F.R. § 42.71(d). The Board reviews its decision for abuse of discretion. 37 C.F.R. § 42.71(c). "The Board abuses its discretion if the decision: (1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact findings; or (4) involves a record that contains no evidence on which the Board could rationally base its decision." *Ultratec, Inc. v. CaptionCall, LLC*, 872 F.3d 1267, 1272 (Fed. Cir. 2017).

### **III. BACKGROUND**

The Board previously granted institution of a substantively identical petition on the same patent, on the same grounds, and on the same arguments. On November 21, 2022, Amazon filed IPR2023-00251 challenging all claims of the '357 patent. PO submitted a Preliminary Response on March 8, 2023 in the Amazon IPR. Two weeks later, on March 22, 2023, PO served a complaint against Meta in the Western District of Texas asserting the '357 patent, among seven other patents. The Board granted institution of the Amazon IPR on June 1, 2023, finding it had “demonstrate[d] a reasonable likelihood that Petitioner will prevail in establishing that claims 2, 3, 7–12, 16, 17, and 20 are unpatentable under 35 U.S.C. § 103(a) over the combination of Brandstein and Gannot” and “that claims 4, 5, 6, 13, 14, 18, and 19 are unpatentable under 35 U.S.C. § 103(a) over the combination of Brandstein, Gannot, and McCowan.”

Less than one month later, on June 27, 2023, Meta filed a “copycat” petition that contained identical grounds and arguments as the Amazon IPR petition (Paper 1) and moved to join and consolidate this IPR proceeding with the Amazon IPR (Paper 2). In its motion to join, Meta explained that by filing a copycat, it was attempting to “streamline discovery and briefing” and “promote judicial efficiency in determining patentability without prejudicing Patent Owner.” (*Id.* at 1-2.) Meta agreed to undertake an “understudy” to Amazon if joined, and would only “actively

participat[e] substantively... if Amazon terminates its involvement after joinder.”  
(*Id.* at 1, 6-7.)

On August 8, 2023, before ruling on Meta’s petition and the accompanying joinder motion, the Board terminated the Amazon IPR proceeding based on settlement, and a few weeks later, Meta moved to withdraw its motion for joinder as moot (Paper 8). PO then filed a Preliminary Response (hereinafter “POPR”) to Meta’s IPR petition on October 12, 2023, in which it raised for the first time several new arguments that it did not raise in the Amazon IPR. Relying on these new arguments, the Board denied institution of Meta’s petition on December 28, 2023.

Meta timely submits this Request for Rehearing.

#### **IV. ARGUMENT**

##### **A. The Decision’s Interpretation of “Substantially Similar Responses to Noise” Is Improperly Narrow**

Despite stating the Board “do[es] not construe the claims” at p. 14, the Decision limited the claims to require the *noise responses* to be *substantially similar* in directions away from the *noise* direction, and for all frequencies. In other words, the Board requires the *noise response* to encompass all responses to non-target signals, not just the *noise*. The Board previously understood the claims only required that the *noise response* be *substantially similar* in the *noise* direction, and granted institution based on a substantively identical Petition in the Amazon IPR. However, the

Board reversed itself, denying institution in the instant proceeding.<sup>2</sup> The Board's denial of institution is based on an erroneous conclusion of law, and should be reversed.

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<sup>2</sup> Meta filed a copycat petition of the Amazon IPR to streamline the proceedings and conserve the Board's finite resources. *See, e.g., Kingston Tech. Co., Inc. v. Securewave Storage Sols., Inc.*, IPR2020-00139, Paper 12 at 10-11 (PTAB Mar. 23, 2020) (recognizing copycats conserve resources). In doing so, Meta could not substantively change the Amazon IPR without risking discretionary denial. *See, e.g., Microsoft Corp. v. Uniloc 2017 LLC*, IPR2019-00744, Paper 11 (PTAB Sept. 4, 2019) (denying institution of a later petition that was similar to, but not identical, to an earlier instituted petition). Jawbone had received the benefit of the Board's institution decision granting the Amazon IPR, and reformulated its POPR arguments for the instant proceeding, essentially arguing two POPRs for the same petition. Had Jawbone waited to settle with Amazon until after Meta's identical IPR was instituted and joined, Meta would be party to an active proceeding. The Decision's denial of Meta's IPR incentivizes patent owners to engage in litigation tactics like Jawbone's, *e.g.*, timing its lawsuits in waves and settling with early defendants before the institution dates of later copycat defendants. This practice is counter to the Board's efforts to streamline proceedings and conserve its resources.

**1. The Decision Improperly Limited the Claims to Instances Where Noise Responses Must Be “Substantially Similar” in Directions Away from the Noise Direction**

The Petition establishes that Brandstein’s interference is *noise* that occurs at a single direction (at ~45 degrees). (Pet. at 29-30 (annotating Brandstein’s Fig. 5.2, reproduced below with Petitioner’s annotations).)

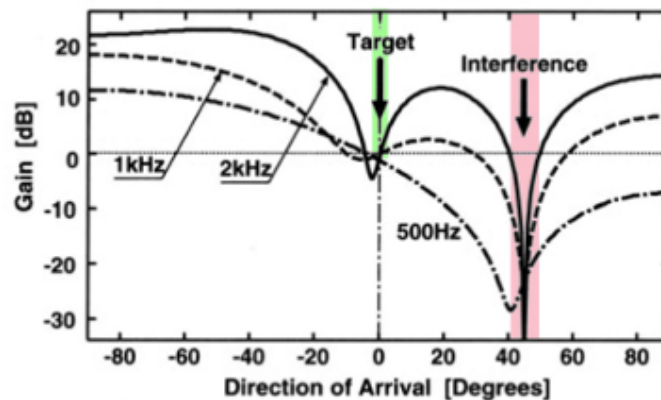


**Fig. 5.2.** Example directivity pattern of the Griffiths-Jim beamformer.

This means the virtual microphones’ *noise* responses refer to their responses in the *noise* direction. (*Id.*) Brandstein’s *noise responses* must be *substantially similar* in the *noise* direction, which meets the *substantially similar* claimed requirement. (*Id.*)

PO, for the first time in its POPR, alleged that the claims now have a different meaning. PO presented green shadings of Brandstein’s Fig. 5.3 (reproduced below with PO’s green annotations) ranging in different directions including away from

Brandstein’s *noise* at 45 degrees. (POPR at 13.) PO labeled its green shadings as “noise responses,” even though the green shadings include other responses away from the *noise* direction. (*Id.*)

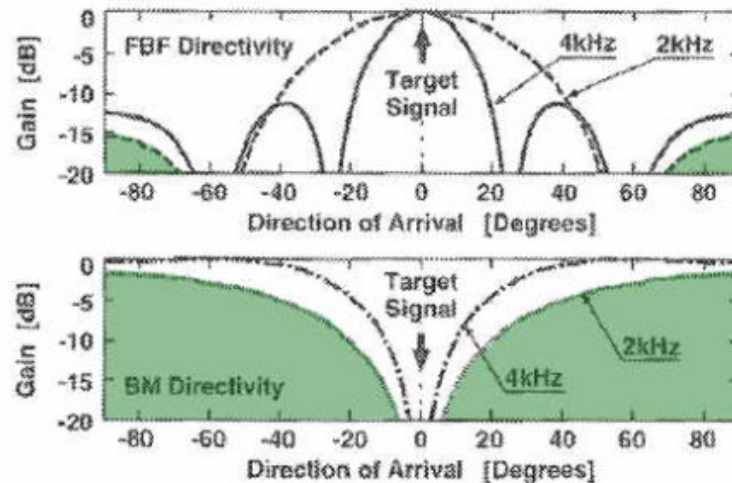


Fig. 5.3. Directivity pattern of a fixed beamformer (FBF) and a blocking matrix (BM).

PO pointed to purported differences between the green responses, to argue they are not *substantially similar* and therefore cannot meet the claims. (*Id.*) PO implicitly construes the claims to require *noise responses* to be *substantially similar* for all non-target directions, even for directions away from the *noise* itself. The Board was incorrect to credit PO’s argument. (*See* Decision at 24.)

A response to *noise* must come from the direction of that *noise*, not from directions away from that noise. (*See* Pet. at 29-30.) There is no dispute that *noise* has no special meaning. (Pet. at 24 (“no claim terms require construction”); POPR

at 6 (“claim construction is not required to resolve any issues”); Decision at 14 (“we do not construe the claims”).)

Petitioner’s understanding is consistent with the patent. Nowhere do the claims or the patent suggest that a *noise response* can come from a direction away from a *noise* direction. Nor does the patent specify the *noise* must occur from more than one direction. To the contrary, Fig. 1 of the ’357 patent depicts a “single noise source 101” located at one direction from the physical microphones, and having a “direct path to the microphones.” (Ex. 1001, 6:11-22.) Moreover, the ’357 patent defines “noise” without any reference to direction. (*Id.*, 5:55-56 (defining *noise* as “unwanted environmental acoustic noise”); Ex. 1002 at ¶¶93.) Thus, a *noise response* is just that—a response to noise. A *noise response* does not encompass a response to all non-target directions including directions away from noise.

Consistent with the patent’s broad use of *noise* and Fig. 1 embodiment, and as explained in the Petition, Brandstein’s interference is *noise* that occurs at a single direction at ~45 degrees. (Pet. at 29-30; Ex. 1003 at Fig. 5.2 (reproduced *supra*); *see also* Pet. at 8-10, 62-63, 65-66; Ex. 1002 at ¶¶49-53, 95-97, 160-161, 169.) An examination of Fig. 5.3 in the *noise* direction of 45 degrees shows that both responses have gain between -5 and -10 dB. The Decision is therefore incorrect to credit PO’s implicit requirement for the *noise responses* to be *substantially similar*

in directions away from the *noise* direction of 45 degrees.<sup>3</sup> (See Decision at 23-24.)

As explained in the Petition and above, Brandstein’s *noise* originates from a single direction (just like Fig. 1 of the ’357 patent), and the responses of each virtual microphone to the *noise* in that direction are *substantially similar*. (See Pet. at 28-30.)

## **2. The Decision Improperly Limited the Claims to Instances Where Noise Responses Must Be “Substantially Similar” for All Frequencies**

The Petition establishes that Brandstein’s deep nulls in the interference (*noise*) direction for different frequencies means the *noise* responses are *substantially similar*. (Pet. at 29-30 (reproducing and annotating Brandstein’s Fig. 5.2, showing the deep nulls for 500 Hz, 1 kHz, and 2 kHz).) As explained below in Section IV.B, the deep nulls reflect the noise cancellation that occurs when subtracting the two virtual

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<sup>3</sup> To the extent the Board relies on the embodiment shown in Figs. 9-12 of the ’357 patent to require *noise* must occur in different directions, this is counter to the patent’s express definition of “noise.” “Embodiments in the specification—even if there is only one embodiment—cannot limit the scope of the claims absent the patentee’s words or expressions of manifest exclusion or restriction.” *Pulse Elecs., Inc. v. U.D. Elec. Corp.*, 860 F. App’x 735, 737 (Fed. Cir. 2021) (internal quotation marks omitted); *see also Polaris Innovations Ltd. v. Brent*, 48 F.4th 1365, 1377 (Fed. Cir. 2022) (finding it improper to import a limitation from an embodiment).

microphone signals. This means the *noise* responses are *substantially similar* for different frequencies, which meets the claims.

In its POPR (with the prior institution decision as a roadmap), PO argued for the first time that Brandstein does not meet the claims because PO’s green shadings for one frequency are not *substantially similar* for both virtual microphones. (POPR at 13.) In effect, by relying on a single frequency with some alleged differences, PO implicitly construed the claims to require *noise* responses to be *substantially similar* for all frequencies. It was error for the Decision to credit PO’s argument. (See Decision at 23-24.)

Nowhere do the claims or the patent require the *responses to noise* to be *substantially similar* for all frequencies. Instead, as explained above, the ’357 patent defines “noise” broadly as any “unwanted environmental acoustic noise,” which imposes no frequency requirements on the *noise*. (Ex. 1001, 5:55-56; Ex. 1002 at ¶93.) Nor does the patent suggest that a difference at a single frequency would mean that the *responses to noise* cannot be *substantially similar*.

The Decision is therefore incorrect to credit PO’s implicit interpretation of the claims, as it wrongly requires the *noise responses* to be *substantially similar* for all frequencies.

**B. The Decision Misapprehends the Operation of the Prior Art**

The Board’s Decision also rests on clearly erroneous factual findings and misapprehends Brandstein’s beamformer operation. The Decision’s errors involve two aspects: 1) mischaracterizing the overall beamformer output in Fig. 5.2 as being obtained by **summing** the virtual microphones, when it is actually **subtracting** them<sup>4</sup>; and 2) misunderstanding the first virtual microphone to attenuate noise, when it only attenuates other “**signals**,” not **noise**, as noise must be included for subsequent cancellation. The Board’s denial of institution should therefore be reversed.

**1. The Decision Misunderstands Brandstein as Summing Signals, When It Actually Subtracts Signals**

It was error for the Board to conclude that Brandstein Fig. 5.2 “does not lead to an inference that the individual microphone responses have similar responses to noise.” (See Decision at 24.) The Board applies an incorrect understanding that Brandstein **sums** the virtual microphone signals, stating:

“[i]n effect, Petitioner is arguing that knowing that the **sum** of two numbers is equal to ‘2’ necessarily means that each number is ‘1’, as opposed, for example, to one number being ‘2’ and the other ‘0’.”

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<sup>4</sup> The limitation at issue (*substantially similar responses to noise*) is different from another limitation recited in the claims, requiring *summing* of the first and second microphone signals in the time domain.

(*Id.* (emphasis added).) But this is contrary to the undisputed teachings in Brandstein, which clearly show the two virtual microphone signals are **subtracted, not summed**. (Pet. at 27-28, reproducing Brandstein Fig. 5.1 showing that the second virtual microphone signal is **subtracted** from the first virtual microphone signal.) Not even PO disputes this point, and the subtraction is acknowledged elsewhere in the Decision. (*Id.* at 5, 9-10, 29-30, 36-37; Ex. 1002 at ¶¶40, 50-53, 95-97, 108-109; POPR at 12-13; Decision at 16, 19.)

As explained in the Petition, Brandstein Fig. 5.1’s teaching of subtracting virtual microphone signals, combined with the corresponding overall *response* in Fig. 5.2, make clear that Brandstein meets the limitation “*substantially similar responses to noise*.” (Pet. at 28-30 (with annotations to Fig. 5.2 reproduced below).) Specifically, Fig. 5.2 depicts a deep null in the interference (*noise*), direction. (*Id.* at 30.)

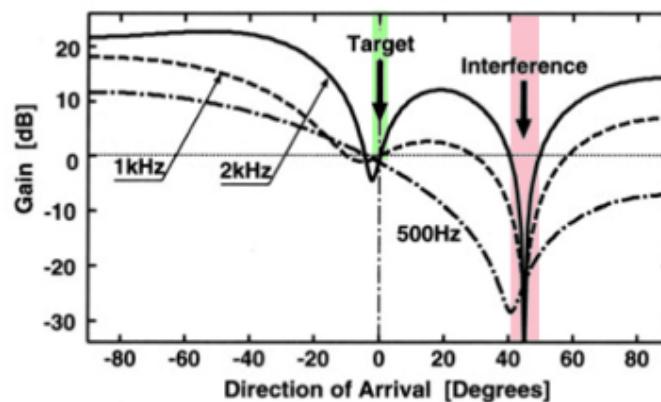


**Fig. 5.2.** Example directivity pattern of the Griffiths-Jim beamformer.

Critically, because the two *virtual microphone signals* are **subtracted** to obtain the *responses* in Fig. 5.2, the deep null in the *noise* direction establishes that the *noise* is

“cancel[ed] out.” (*Id.* at 29.) As the Petition explains, in order to “cancel[]” the response to *noise* from the *first virtual microphone signal*, the *second virtual microphone signal* must have “essentially the same” response to *noise*. (*Id.* at 30.)

Despite summarizing Petitioner’s position in the Decision at p. 19, and previously granting institution based on an identical argument in the Amazon IPR, the Decision denied institution of the instant proceeding. The basis of the Board’s denial is rooted in on a misapprehension of the Petition. The Decision mischaracterized Petitioner’s argument as boiling down to: “the sum of two numbers is equal to ‘2’ necessarily means that each number is ‘1’.” (Decision at 24.)

This was not stated or suggested anywhere in the Petition, nor was it even a characterization advanced by PO. Instead, Petitioner’s argument comes down to a different statement: When the difference between two numbers (*i.e., the first and second virtual microphones*) is zero (*i.e., reflected by the deep null at the noise*), the two numbers are essentially the same (*i.e., the responses to noise are substantially similar*). (See Pet. at 10, 30; Ex. 1002 at ¶53.) In other words, the deep null (Fig. 5.2) in the interference (*noise*) direction means the *noise* is canceled out at the output of Fig. 5.1’s subtraction. For that cancellation to occur, the two *virtual microphone* responses must be nearly identical. Thus, in the direction of the interference (*noise*), the *responses of the first and second virtual microphones are substantially similar*.

For this reason, the Decision clearly erred in determining that Brandstein does not meet this limitation.

**2. The Decision Misunderstands Brandstein as Eliminating Noise from the First Virtual Microphone, When It Actually Passes Noise Substantially Similar to The Second Virtual Microphone, for Cancellation**

The Decision also erred in concluding Brandstein’s two virtual microphones cannot have *substantially similar responses to noise*, based on PO’s argument that the first virtual microphone “attenuates noise.” (See Decision at 23 (stating Brandstein “only passes the target signal (*i.e.*, voice) and attenuates all other signals (*i.e.*, noise),” crediting the POPR’s argument at pp. 10-11 that Brandstein’s first virtual microphone “passes speech through... and attenuates noise”).) Brandstein’s first virtual microphone does not pass “only” speech. Nowhere does Brandstein state that “only” speech is passed, nor does it state that *noise* is eliminated or even attenuated.

Brandstein’s first virtual microphone cannot eliminate *noise*, as the Decision concludes at p. 23. If it did, the first virtual microphone signal would already be free of *noise*, and that would defeat the purpose of Brandstein’s structure having a second virtual microphone for canceling the *noise* passed by the first virtual microphone.

Moreover, the amounts of *noise* passed by Brandstein’s virtual microphones are *substantially similar*. That is, even if it were attenuated, the *noise* passed through the first virtual microphone is still *substantially similar* to the *noise* passed by the

second virtual microphone. As explained in different parts of the Petition at pp. 8-10, 28-30, Brandstein’s virtual microphones have *substantially similar responses to noise*, so that the *noise* is canceled when the virtual microphone signals are subtracted. (See also Pet. at 2-5, 36; Ex. 1002 at ¶¶34-35, 40, 48, 53, 97, 108-109.) In other words, without *substantially similar responses to noise*, there would be no point to having Brandstein’s **subtraction**, which undisputedly cancels the *noise* by subtracting the second virtual microphone’s *noise*-only signal from the first virtual microphone’s target-plus-*noise* signal. (See Pet. at 8-10, 28-30; POPR at 11 (acknowledging that Brandstein’s first virtual microphone (top path) requires subtraction of noise components for cancellation).)

If the Decision were correct that the virtual microphones’ responses to *noise* are not *substantially similar*, that would mean Brandstein’s **subtraction** does not actually cancel *noise*, which would defeat the purpose of Brandstein’s second virtual microphone. (See Pet. at 5, 9-10, 29-30, 36; Ex. 1002 at ¶¶40, 95-97, 108-109.) The Board’s conclusion is therefore contrary to Brandstein’s teachings that the first virtual microphone must pass noise *substantially similar* to the second virtual microphone, for noise cancellation.

## **V. CONCLUSION**

For the reasons above, Petitioner respectfully requests that the Board grant this request for rehearing and institute trial.

*Meta Platforms, Inc. v. Jawbone Innovations, LLC*  
IPR2023-01130 – U.S. Patent 11,122,357

Respectfully submitted,

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January 29, 2024

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**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing Request for Re-hearing is being served on January 29, 2024, on counsel of record for Patent Owner as addressed below:

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