

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioner,

v.

EIGHT KHZ, LLC,
Patent Owner.

IPR2023-01084 (Patent 8,321,213 B2)
IPR2023-01128 (Patent 8,326,611 B2)

Record of Oral Hearing
Held: October 9, 2024

Before GEORGIANNA W. BRADEN, NORMAN H. BEAMER,
SHEILA F. McSHANE, and SCOTT RAEVSKY, *Administrative Patent*
Judges.

IPR2023-01084 (Patent 8,321,213 B2)

IPR2023-01128 (Patent 8,326,611 B2)

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P R O C E E D I N G S

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JUDGE RAEVSKY: Good afternoon, this is Judge Raevsky and welcome to the Patent Trial and Appeal Board. We're here today for oral argument in two proceedings, IPR number 2023-1084 and IPR number 2023-1128. In both proceedings, Meta Platforms, Inc. is the Petitioner and Jawbone Innovations, LLC, is the Patent Owner. At issue in the 1084 case is U.S. Patent Number 8,321,213 and at issue in the 1128 case is U.S. Patent Number 8,326,611. Because these cases are so closely related, we've consolidated the hearings today. And the panel for the 1084 case includes myself, Judge Braden, and Judge Beamer. The panel for the 1128 case includes Judges McShane, Braden, and Beamer. So, even though we have four judges here today, I just wanted to clarify that this is not an expanded panel.

Let's go ahead and enter appearances. Who do we have representing Petitioner today?

MS. WANG: Good afternoon, Your Honor. Grace Wang of Paul Hastings representing Petitioner Meta.

JUDGE RAEVSKY: Thank you, Ms. Wang. And who do we have for Patent Owner?

MR. LAMBRIANAKOS: Good afternoon, Your Honor. Peter Lambrianakos on behalf of the Patent Owner.

JUDGE RAEVSKY: Thank you, Mr. Lambrianakos. Before we begin, just some housekeeping items that you're all familiar with, but I'll repeat them anyway. When you're referring to a slide today, please kindly

1 tell us slide numbers so that we can follow along. You are free to share your
2 slides if you would like, but if not, we also have copies of the slides, and we
3 can follow along on our own.

4 Please also remember to mute yourself when not speaking, but
5 when you begin your argument, identify yourself for the court reporter.

6 Also, please be aware that members of the public may be listening to this
7 hearing today.

8 Each party will have 75 minutes of argument time and you may
9 allocate your time among the two cases however you would like. We will
10 enter a consolidated transcript in both cases. We'll first hear from Petitioner
11 and then Patent Owner. Petitioner may then present rebuttal arguments
12 followed by any sur-rebuttal from Patent Owner. Petitioner, would you like
13 to reserve time for rebuttal today?

14 MS. WANG: Yes please, Your Honor. I'd like to save 20 minutes
15 for rebuttal.

16 JUDGE RAEVSKY: And Patent Owner?

17 MR. LAMBRIANAKOS: Yes, Your Honor, I'll reserve 20
18 minutes for sur-rebuttal.

19 JUDGE RAEVSKY: Very good. So, Ms. Wang you have 55
20 minutes. You may begin when ready.

21 MS. WANG: Thank you, Your Honor, and I'll just go ahead and
22 share my slides. Good afternoon, Your Honors. Grace Wang again of Paul
23 Hastings for Petitioner Meta. Also present with me today is Silvia Medina,
24 in-house counsel at Meta, and Lisa Nguyen of Paul Hastings. David
25 Tennant of Paul Hastings is also joining on the public line.

26 So, I'm starting with slide 2 of Petitioner's demonstratives. This is

1 Exhibit 1021 in both proceedings. This slide is showing a map of the
2 grounds in both IPRs. The independent claims are bolded and underlined.
3 So, for our purposes today, each of the independent claims is very similar
4 across the three independent claims, and any differences among them or
5 their corresponding dependent claims are not in dispute.

6 We're going to focus on the '213 patent and specifically
7 Independent Claim 14 of the '213 patent and its dependent claims, but the
8 same arguments for that independent claim apply to all the independent
9 claims. And then when we get to the dependent claims, I'll focus on the '213
10 dependent claims, but identical language appears in corresponding
11 dependent claims of the '611 patent. So, where applicable, I'll try my best to
12 remember to refer to the dependent claim numbers in both patents.

13 So, we're going to first focus on Ground 1 in both petitions. This
14 is relying on the prior art combination Avendano with Visser. In Ground 1,
15 the petitions present two alternative positions. One is based on the
16 combination Avendano with Visser. The other is based on Avendano by
17 itself. For today, we're going to cover both and we're going to start with the
18 combination. For the combination, there's really only one small issue in
19 dispute. There's no claim construction in dispute. There's also no dispute
20 that for the combination, the combination meets every limitation of the
21 independent claim. The only thing that Patent Owner does dispute is
22 whether there is motivation to combine Avendano with Visser. The
23 evidence shows that there is. Patent Owner misreads the petition and
24 misunderstands the combination. So, if Your Honors find that there is
25 motivation to combine, then we could be done with the independent claims.

26 For the Avendano alone position in Ground 1, there also really

1 shouldn't be any issue in dispute. This is where the claim construction
2 dispute comes up. It's specific to the position based on Avendano alone, but
3 technically Your Honors don't even have to resolve claim construction
4 because Avendano alone still meets the independent claims regardless, even
5 if you were to accept Patent Owner's interpretation.

6 The claim construction dispute between parties boils down to
7 Patent Owner's incorrect position that the claimed filter has to be the patent's
8 beta filter. It cannot -- they argue that it cannot be the patent's delay filter.

9 JUDGE RAEVSKY: Ms. Wang?

10 MS. WANG: We'll get into -- yes.

11 JUDGE RAEVSKY: Ms. Wang, before we get too far into that, I
12 did want to clarify something. I think your slide clarifies as well, but just to
13 be sure, Patent Owner noted, I believe in the response, that META did not
14 challenge Claims 37 and 38, but the other previously joined parties did. And
15 it looked like in their footnote on page 24 of their response, they understood
16 that those claims are no longer in this proceeding because LG and Sony are
17 no longer in the proceeding. And I don't see them on your slide. Do you
18 agree with that position?

19 MS. WANG: That is correct, Your Honor. Those claims have
20 been found indefinite in the corresponding District Court proceedings, so we
21 are not challenging those claims.

22 So, going back to the claim construction dispute, we'll get into all
23 the different reasons for why Patent Owner's construction is wrong. But if
24 Your Honors decide that the claimed filter can be the patent's delay filter,
25 there is no dispute that Avendano alone, which has its own delay filter,
26 meets the independent claims. Even if Your Honors decide that Patent

1 Owner is correct on the claim construction issue, that the claim filter has to
2 be limited to the beta filter, there still is no dispute that Avendano alone
3 meets the independent claims because of Avendano's gain block.

4 So, for the independent claims, those are really the only disputes.
5 If you decide in Petitioner's favor on any one of these three issues, then the
6 independent claims are unpatentable. One is the motivation to combine
7 Avendano with Visser, two, if Your Honors reject Patent Owner's
8 construction, Avendano alone is enough, and three, even if you agree with
9 Patent Owner's construction, Avendano alone is still enough. Other than the
10 independent claims, there are certain dependent claims that we will discuss.
11 The evidence shows that Patent Owner's interpretation of those dependent
12 claims is overly narrow, excludes every embodiment in the patents.

13 So, let's take a look at the patents, I'm on slide 8. The subject
14 matter of both of these patents is to detect voice activity, or a voice activity
15 detector, also known as a VAD, V-A-D. So, what we're showing on slide 8
16 are annotated Figures 3 and 4 from both patents. And in both figures, we see
17 two physical microphones, 01 and 02, and Figure 1 of both patents, it's not
18 shown on the slide, but Figure 1 of both patents shows that 01 is closer to
19 the mouth and 02 is further from the mouth. So, both microphones are going
20 to be picking up some combination of speech and noise, but it's the closer
21 microphone 01, it's going to have a higher response to speech, it's going to
22 have an earlier response to speech than 02, which is the further microphone.

23 The patents talk about taking advantage of the spacing to process
24 the signals to try to isolate the speech. And the way they do that is through
25 filters. The output of these filters are subtracted to produce two virtual
26 microphones, V1 on the left, V2 on the right. The point is, we want to try to

1 isolate speech to V1 so that it is responsive to speech, and V2 should not be
2 responsive to speech. Now, the way they do that is through these three
3 different types of filters. There's an alpha filter, this is a calibration that
4 basically equalizes the levels of the two signals, because 01 is closer, it's
5 generally going to have a higher amplitude, so alpha balances them out. The
6 beta filter is an adaptive filter that tries to cancel out the speech when
7 calculating the second virtual microphone V2. And then the third is a delay
8 filter. This is just a simple delay that aligns the two signals in time. The
9 closer microphone 01, it's receiving speech earlier than the other one. So,
10 the delay filter just compensates for this temporal difference.

11 JUDGE RAEVSKY: Counsel, I'll just note that we appreciate the
12 overview of the invention. We're also very familiar with the record, so you
13 may proceed directly to the issues if you would like to.

14 MS. WANG: Okay. Thank you, Your Honor. I'll try to cut to the
15 chase more. I just wanted to point out something on slide 9. There's
16 independent -- we're showing independent Claim 14. Just to finish out how
17 the two virtual microphones are processed to be used as a VAD, we take the
18 energies of the virtual microphones, divide them, and then what you have is
19 essentially a signal-to-noise ratio that you can compare to a threshold, and
20 that tells you whether voice activity is detected or not.

21 Okay. So, with that I'm going to jump ahead to slide 26. This is
22 Avendano. Again, two microphones, 106, 108. One is closer to the mouth
23 than the other. Jumping to slide 28, Avendano's processing is also similar to
24 the patents. Avendano applies a gain filter that equalizes the signals and a
25 delay filter that aligns the signals in time before subtracting the filter outputs
26 to produce these two virtual microphones, which are labeled CF and CB.

1 The rest of Avendano is also similar. At block 306, there is calculation of
2 energy of both virtual microphones, and then at block 308, we're taking their
3 ratio of energies, which is calculated as an inter-microphone level
4 difference. And that inter-level microphone difference is compared to a
5 threshold. This is on slide 29. Outputs a zero, if there's no voice activity.
6 Outputs are one, if there is yes -- if there is voice activity.

7 So, jumping ahead to Visser. Visser is also similar. There's two
8 microphones, 102, 104. One is closer to the mouth and one is further from
9 the mouth. Its goal is also ultimately the same. Process both signals to
10 perform a VAD. The processing in Visser is called ICA, or independent
11 component analysis, which is basically doing the same thing. It's
12 performing signal separation to separate speech from noise.

13 On slide 31, the way that Visser achieves this is through cross
14 filters W12 and W21. These are adapted based on feedback from the VAD.
15 Now, in the combination, this is slide 32, we're taking Avendano's system
16 that has the gain filter, the delay filter, and we're adding Visser's cross filters,
17 which really are added here to enhance the speech separation process in
18 Avendano. We have Visser's cross filters and with their addition to
19 Avendano, the final result is improved separation between speech and noise.
20 And when you have improved separation, that results in better performance
21 for the VAD. This is discussed in our motivation to combine sections in the
22 1084 petition at 15 to 21, and in the 1128 petition at 16 to 23.

23 So, going to slide 39, what does Patent Owner have to say about
24 this combination? Again, no dispute that the combination meets every
25 limitation of the independent claims. There's not even a claim construction
26 dispute. Their only dispute comes down to motivation to combine. They

1 argue that there are, quote, numerous errors, end quote, that arise from this
2 combination. This is in the PORs of both proceedings at 26 to 30. Patent
3 Owner argues that there is no VAD in the combination. They argue that
4 without a VAD to inform when and whether to adapt Visser's cross filters,
5 these cross filters are going to behave erratically, they will adapt
6 continuously, and they won't operate properly to separate speech from noise.
7 But that is entirely based on their own false premise that there is no VAD in
8 the combination. The petition is explicit that the combination has a VAD,
9 and this is made clear in two ways. One is we point to Visser's VAD. Two
10 is we point to Avendano's VAD. And if Your Honors find that the
11 combination includes either VAD, then the independent claims are met.

12 JUDGE RAEVSKY: Before we get to that point, Ms. Wang, I do
13 want to clarify that it seems to me reading your reply that you don't dispute
14 the necessity of a VAD in order to make the ICA process of Visser work.
15 Do I understand that to be your position?

16 MS. WANG: That's right, Your Honor. There -- Visser does
17 describe that the VAD is used as input to the cross filters, W12 and W21, to
18 inform them how to adapt, when to adapt. So, that is correct, Your Honor.
19 We don't dispute that the VAD is needed.

20 JUDGE RAEVSKY: Okay.

21 MS. WANG: So, let's look at slide 40. We're going to start with
22 Visser's VAD. What we're showing on slide 40 are excerpts from the
23 petition, specifically the motivation to combine section, where we're talking
24 about why you would combine Avendano with Visser. We explicitly refer
25 to Visser's VAD 106. This includes the ICA, independent component
26 analysis process, that separates speech from noise as all part of the VAD.

1 This is in the 1084 petition at 17, the 1128 petition at 18 to 19. It's also in
2 our replies at 16 to 19. Patent Owner is going to point Your Honors to
3 portions of the deposition transcript of Meta's expert, Dr. Kenny, as support
4 for its position that the combination excludes a VAD. This is in Patent
5 Owner's demonstratives at slide 14. But if you actually read his testimony,
6 this is at Exhibit 2004, 59, 13 to 61, 4. What he actually states is that the
7 combination incorporates, quote, the components around, end quote, the
8 cross filters, which includes Visser's VAD.

9 JUDGE RAEVSKY: But counsel, how does that generic
10 testimony about the components around help you when Mr. Kenny more
11 explicitly said, I don't believe I explicitly rely on the VAD in Visser?

12 MS. WANG: Explicit -- him -- his statement, that statement
13 during his deposition does not change the ultimate reliance on Visser's VAD
14 that is stated in the petition and in his declaration that he submitted.

15 JUDGE RAEVSKY: But he said, I don't rely on it. So, I think
16 that tells us a lot about what he felt his declaration said. Would you agree?

17 MS. WANG: He said he doesn't explicitly rely on it because
18 during the deposition he was -- he couldn't identify where in his declaration
19 he was referring to the Visser VAD, but it's in the petition. And really that
20 statement is taken out of context because if you continue reading, this is at
21 page 61, line 25, if you continue reading the rest of his testimony, he
22 stated -- this goes on to page 62, line 12, he states, quote, just to be clear,
23 though, one of ordinary skill would read the entirety of Visser, and think
24 about what's taught in Visser when thinking about the ways that one might
25 combine the features in order to obtain the combined benefits of the two
26 systems, end quote. This is cited in our replies at 17 to 18.

1 So, what he's really saying there is, even if you're just taking those
2 cross filters, you wouldn't just be taking those cross filters in isolation.
3 You're looking at the components around those cross filters, and those cross
4 filters include the VAD because you can't really have one without the other.
5 The cross filters need to be informed of when to adapt, how to adapt, and
6 you can only do that through Visser's VAD. So, if Your Honors determine
7 that the combination uses Visser's VAD for adapting the cross filters, then
8 we could be done with the independent claims, and you don't even need to
9 resolve the issue of Avendano's VAD.

10 JUDGE RAEVSKY: Could you better explain how your petition
11 includes the VAD and the combination? I know that you pointed to page 16
12 of the petition that says what Visser's VAD does, but then your slide points
13 to page 17 of the petition that says that a POSITA would have incorporated
14 Visser's ICA process. It doesn't say Visser's VAD there. So, what's your
15 explanation for how we should read Visser's VAD into the actual
16 combination?

17 MS. WANG: Yes, thank you, Your Honor. So, our reading is that
18 the ICA process must necessarily include the VAD. Right? Because in
19 order for the ICA process to work properly, in order to be able to separate
20 speech from noise, you need some input from the VAD that tells you
21 whether there is voice activity, whether there is speech occurring or not.
22 And that is what helps you perform the ICA process. So, we consider when
23 we say in the petition that we are incorporating Visser's ICA process into
24 Avendano's system, we are including Visser's VAD as part of that ICA
25 process.

26 JUDGE RAEVSKY: So, at this point, it sounds like you're reading

1 between the lines. What I would like to see is some citation to, if you could
2 provide a citation to Visser, for instance, that helps us concretely understand
3 how the magic words ICA process must include Visser's VAD in your
4 petition. That would be better.

5 MS. WANG: Okay. Understood, Your Honor. I will, if it's okay,
6 I'll try to get that in during my rebuttal.

7 JUDGE RAEVSKY: That's fine.

8 JUDGE MCSHANE: And counsel, this is Judge McShane, and I
9 think my colleague also was kind of referring to your slide 41, where you
10 talk about using Avendano's VAD, okay? And this refers to this snippet that
11 you have on your slide 41. It refers to a discussion of Avendano kind of
12 generally. But I'm not seeing that there's any specific discussion about the
13 combination of Avendano's VAD with Visser's cross filters. And Patent
14 Owner -- so let me get to my question. So, Patent Owner here is asserting
15 that adapting the Visser cross filters using Avendano's VAD is a new
16 argument, a new theory, if you will. And what's your response to that?

17 MS. WANG: My response to that, Your Honor, is that it can't be a
18 new theory because the independent claims explicitly require a VAD to be
19 there. And in the petitions, we map explicitly to Avendano's VAD as
20 meeting those limitations. This is in the 1084 petition at 33 to 34, also the
21 1128 petition at 34 to 35. Patent Owner actually does not dispute that
22 mapping to Avendano's VAD as meeting the claimed VAD. This is also
23 discussed in our replies at page 18. So, for Patent Owner now to be arguing
24 that the combination can't include a VAD or that this is a new argument that
25 we're now relying on Avendano's VAD, that's just not correct because it's
26 right there in our petition.

1 JUDGE MCSHANE: Thank you.

2 JUDGE RAEVSKY: Judge Raevsky here with a follow-up
3 question. So, on page 18 of the reply, it says even in the absence of Visser's
4 VAD, the adaptation of Visser's cross filters would have been controlled
5 based on Avendano's VAD, which operates similarly to Visser's VAD. In
6 my review of the references, I see where Visser's VAD feeds back
7 information to the ICA process, but I do not see a similar feedback from
8 Avendano's VAD to its DMA process, which seems like it would be
9 required in order to have that control that you claim would be there. Do you
10 have a response to that?

11 MS. WANG: So, if I can find the right slide for this, I guess we
12 can look at slide 39 together. My interpretation of Avendano is that there
13 has to be a VAD that's input into the G calculation, and also into the delays
14 because those are -- so, for example, the G is performing equalization,
15 signal, speech compensation between the two microphones, and we know
16 from Avendano that the microphones are positioned differently at different
17 distances from the mouth. So, without knowing that speech is taking place
18 or without that input, we wouldn't know, or Avendano wouldn't know how
19 to calculate the value for that G block.

20 Similarly, for the delay blocks 402 and 404 in Avendano, those are
21 there to compensate for temporal differences in times of arrival between the
22 two microphones for speech. And so, the VAD input into those two delayed
23 blocks would also be informative as to how and whether to compensate for
24 that temporal shift.

25 JUDGE RAEVSKY: So, that's an interesting theory. I think the
26 problem we might have is that the VAD in this figure, as I understand it,

1 happens in the noise reduction system 310 on the right. You're welcome to
2 disagree, but I don't see any feedback from that to the DMA module. Do
3 you see what the problem is?

4 MS. WANG: I think I can understand where Your Honor is
5 coming from, that the feedback is not explicitly shown in Figure 4a, but that
6 doesn't mean that the, you know, it comes down to what's obvious, right?
7 And in view of the teachings of Avendano and Visser, even if Your Honors
8 were to find that Visser's VAD is not explicitly part of the combination,
9 there can't really be a dispute that Avendano's VAD is part of the
10 combination. And with the teachings, with those teachings, combined with
11 the Visser's teachings of that feedback, then I would say that in the
12 combination the feedback has to be there, even if it's not explicitly shown in
13 Figure 4a of Avendano.

14 JUDGE RAEVSKY: Except the petition doesn't say that. It's only
15 on page 18 of the reply that we perceive that theory, and I don't see any
16 citation to your expert declaration supporting that. So, how can we find in
17 your favor on that point?

18 MS. WANG: So, this was a reply argument that was made in
19 response to Patent Owner's -- to a new argument that Patent Owner raised in
20 their response. And in that case, my understanding is that the Board should
21 be allowed -- and really should consider Petitioner's counter-arguments,
22 even if they don't appear explicitly in the petition.

23 JUDGE RAEVSKY: I might disagree with how you stated that,
24 but I understand your position. You can move on.

25 MS. WANG: Thank you, Your Honor. So, I think where we left
26 off was slide 41, actually. And so, our position is -- Meta's position is that

1 we rely on either Visser's VAD or Avendano's VAD. And so, with that,
2 we're actually done with the combination of Avendano and Visser for the
3 independent claims in Ground 1.

4 And again, if Your Honors find that the combination uses either
5 VAD from Visser or Avendano, then Your Honors should find that there is
6 motivation to combine, the independent claims are met, and we don't even
7 have to get to the Avendano alone position. Unless there's other questions
8 about this position, I will turn to the other position in Ground 1, Avendano
9 alone.

10 And with that, I'll go to slide 12. So, we need to start here with the
11 claim construction dispute. The term in dispute, as Your Honors probably
12 know, is the term is a filter that describes a relationship for speech between
13 the first physical microphone and the second physical microphone. Meta is
14 proposing this term should have its plain and ordinary meaning. Patent
15 Owner's current construction is that this has to be a filter that, quote, alters a
16 signal based on the non-temporal components of relative responses to speech
17 of the first and second physical microphones, end quote. It might not be
18 obvious from the current wording of their construction, but the dispute boils
19 down to whether the filter can be a delay.

20 We'll get into it, but the term should have its plain and ordinary
21 meaning. It is broad enough to encompass the patent's own delay filter.
22 Patent owner now wants to rewrite this claim. They want to rewrite the term
23 to be a negative limitation, not delay, to avoid Avendano's delay filter. But
24 there's no support for that. There's no lexicography and there's no
25 disavowal. This is not Patent Owner's first attempt at construing the term.
26 Pre-institution, they provided a different construction, this is shown in the

1 middle of the slide, and they're now trying to change -- to move away from it
2 to change it because of our pre-institution arguments explaining why that
3 construction couldn't be correct. And the fact that they have now tried
4 multiple times and still can't find the right wording, that only confirms that
5 there is no support, intrinsic or extrinsic, for their position.

6 Going to slide 13, there's four separate reasons for why their
7 construction is wrong. We're going to go through all of them, but if Your
8 Honors have any specific issues to highlight, I can start there. Otherwise,
9 I'm happy to go through each, and I'll be jumping around in the slides. So,
10 we're actually going to start with slide 18. This is the first reason. There's
11 no disavowal. Patent Owner argues that there is disavowal. The only
12 evidence they point to as support is a single paragraph in the patent. This
13 paragraph is reproduced in the PORs, and the excerpt from the POR with
14 emphasis added by the Patent Owner is shown on slide 18. Patent Owner
15 alleges this is clear and unmistakable disavowal of the delay filter of Figures
16 3 to 4 from the claimed filter. But that's just wrong. One, this is not
17 lexicography because filter is not even mentioned anywhere in this
18 paragraph. Two, there's also no mention of delay filters of Figures 3 and 4.
19 This paragraph refers to using time and phase differences of each individual
20 microphone, not a delay filter that compensates for differences in time of
21 arrival for speech.

22 The facts here are similar to cases that we cited in our replies at
23 pages 7 to 9, where no disavowal was found. This is Continental Circuits,
24 this is CUPP Computing, and this is Intellectual Ventures I. Patent Owner
25 did not rebut any of these cases in its sur-replies. They also tried to argue
26 that there is implicit disavowal and they rely on the Techtronic case. This is

1 in the POR at pages 18 to 19. That case is not applicable here because as
2 Patent Owner admits, every single embodiment in the patents necessarily
3 includes all three filters, including the delay filter. This is discussed in our
4 replies at 10 to 11. Patent Owner does not rebut this point in its sur-replies.

5 JUDGE RAEVSKY: I have a question, a question here about the
6 language of this passage. It says that it uses a difference in frequency
7 content between two microphones to calculate that relationship. If we
8 assume just for sake of argument that perhaps that somehow refers to the
9 beta filter, is it possible that that can refer to both embodiments of the beta
10 filter? In other words, there's an adaptive embodiment, perhaps that
11 arguably refers to differences in frequency content. But there's also a fixed
12 beta. Is it possible that this also refers to the fixed beta, or is that not
13 possible?

14 MS. WANG: Usually when you talk about difference in frequency
15 content you discuss -- it has to do with the way the signal or the filter is
16 going to change the signal differently for different frequencies. And that is
17 applicable to beta's adaptive filter. By the way, it is also applicable to the
18 adaptive filter which is the calibration filter which can also be adaptive. But
19 that wasn't your question.

20 So, going back to your question you asked about the fixed beta
21 filter. Usually people -- that fixed beta filter applies a fixed gain to all
22 frequencies. So, I guess it really comes down to how you interpret this --
23 what they meant when they said difference in frequency content between the
24 two microphones. If the difference has to differ across different frequencies,
25 then it would only be the adaptive filter. If it can be a difference in
26 frequency content, but a fixed difference across all frequencies, then it could

1 refer to the fixed gain beta filter.

2 JUDGE RAEVSKY: Okay. So, it's unclear from this paragraph in
3 your view whether this could cover the fixed filter?

4 MS. WANG: I think Your Honor that it could, but then all that
5 means is that the filter would need to be an adaptive filter, and there is a
6 dependent claim, which I can show in the slides somewhere, that requires
7 the filter to be limited to an adaptive filter. So --

8 JUDGE RAEVSKY: I'm sorry, I'm confused. I think you just said
9 that this passage could be covering the fixed filter, but then you said it would
10 have to be an adaptive filter. I'm trying to figure out if this passage is
11 strictly limited to explaining at best to the adaptive filter, or if it also could
12 be considered to cover the fixed filter as well.

13 MS. WANG: I think the answer to that, Your Honor, is that it's
14 ambiguous, that it's not clear from this paragraph, whether it's referring to an
15 adaptive filter, a fixed filter, the beta filter, which could be either fixed or
16 adaptive, or the alpha filter, which can also be fixed or adaptive.

17 JUDGE RAEVSKY: Okay.

18 MS. WANG: So, our understanding of this paragraph is that it's
19 much, much too ambiguous to serve as lexicography, let alone disclaim or
20 disavowal.

21 JUDGE RAEVSKY: So, another point that I didn't see addressed
22 squarely in the briefing, maybe because it's tangential, but I'd like to explore
23 it, is whether this paragraph applies to all embodiments in the sense that it
24 refers to the NAVSAD and PSAD systems at the beginning of this
25 paragraph. And I believe in the column previous, column 10, there's a new
26 section about detecting voice-to-unvoiced speech using both acoustic and

1 non-acoustic sensors where these systems are addressed.

2 However, if you look at column 4, where I believe the PSAD
3 methods are first mentioned, it strikes me as it's possibly the specification is
4 using PSAD in a different way, and I wanted to explore that. So, more
5 specifically, column 4, line 26 says that the PSAD VAD methods can then
6 be used to determine when speech is taking place. That then comes after the
7 creation of the virtual microphones. So, would you agree with me that this
8 is talking about a different embodiment from the quoted passage on the
9 slide, because the quoted passage on the slide isn't saying calculate the
10 virtual microphones and then apply PSAD. It seems to include it all in one
11 system.

12 MS. WANG: That's an interesting question, Your Honor. I was
13 not reading the PSAD to be referring to two different embodiments when
14 comparing column 4 to column 11. The way I interpret column 4 PSAD
15 VAD is just that it's part of the VAD. I mean, it's just saying that the PSAD
16 VAD is used to determine when speech is taking place. That's all that a
17 VAD does. And I don't necessarily see that as being inconsistent with the
18 PSAD VAD that is being discussed in column 11.

19 JUDGE RAEVSKY: If you look a few lines further, on line 31 of
20 column 4, it says the PSAD algorithm as described here and calculates the
21 ratio of the energies of two different microphones. And then it gives an
22 equation for that ratio. And so, it strikes me as PSAD is something separate
23 from the creation of the virtual microphones. So, I wonder if it's then the
24 case that this paragraph referring to NAVSAD and PSAD doesn't really refer
25 to the virtual microphones at all.

26 MS. WANG: I just want to look at column 11 in context. I guess

1 it is possible because, Your Honor, what you pointed out in column 4, line
2 36, or line 31 to 36 --

3 JUDGE RAEVSKY: I'm sorry, counsel, could you start your
4 response over? I momentarily lost connection.

5 MS. WANG: Sorry about that. What I was saying was I can see
6 your point that the column 4 PSAD is not even really using virtual
7 microphones at all. It's only taking the energies of the physical
8 microphones. It's honestly quite unclear to me what -- which PSAD is being
9 referred to then in column 11 because I agree with you that the column 4
10 PSAD is different from calculating -- from the claims, right, which require
11 the calculation of the virtual microphones and taking the ratio of their
12 energies. But it's not clear upon reading column 11 which PSAD the patent
13 is trying to refer to. So, under that interpretation then that the PSAD could
14 be referring to the column 4 PSAD, then this paragraph really would not be
15 relevant to understanding or trying to limit the scope of the claims.

16 JUDGE RAEVSKY: Okay. I understand your position. Thank
17 you.

18 MS. WANG: Thank you. Okay. So, we finished the first reason.
19 I'd like to turn to slide 23, this is the second reason. There's no support for
20 their construction. They require -- Patent Owner wants the filter to be based
21 on, quote, non-temporal components of relative responses, end quote. But
22 Patent Owner points to nothing in the patent because there's nothing they can
23 point to that describes any components of relative responses, let alone
24 temporal versus non-temporal components. So, what they're doing is really
25 the same thing that the Fed. Circuit rejected in the Source Vagabond case.
26 This is in our replies at 13 to 14. They are adding language without support

1 and altering otherwise unambiguous claim language and Patent Owner does
2 not dispute Vagabond in its sur-reply.

3 Third reason --

4 JUDGE RAEVSKY: I have a question about this. So, if you go
5 back to the construction where it says non-temporal components. There's
6 no -- as we were talking about this yesterday, we were looking at equation
7 three in the specification, which is at the top of column 6. And it writes the
8 beta filter, which I believe Patent Owner relies on largely for its
9 construction, and it writes a beta filter in equation form as including a Z
10 component which, correct me if I'm wrong, but that's a -- that represents a
11 delay, so that would be a temporal component. So, would you agree it's not
12 correct to say that there are no temporal components in that filter?

13 MS. WANG: Yes, I agree with you, Your Honor.

14 JUDGE RAEVSKY: Okay.

15 MS. WANG: I was going to go to slide 9. So, this is -- there's a
16 third reason. The claims, independent claims and dependent claims confirm
17 that Patent Owner's position is wrong. So, on slide 9 we'll focus on the
18 second yellow highlight. Patent Owner tries to limit the filter to beta,
19 excluding alpha, excluding beta delay, but at the same time they agree that
20 Figures 3 and 4 are embodiments of the claims. This is in your PORs at 3
21 and 16. The problem with their position is that Figure 3 does not support
22 their construction. The claim requires the filter needs to operate on the first
23 signal, that's O_1 , and it has to produce an intermediate signal and that
24 intermediate signal must be summed.

25 When we look at Figure 3 there's only one signal that comes out of
26 the bottom branch and is summed and that is the output of the combined beta

1 and delay filter. This means that the claimed intermediate signal must refer
2 to the output of that combined beta and delay filter because that is the signal
3 that is summed. This is in our replies at 19 to 20. So, in order to cover the
4 patent's own embodiments, the filter must include at least the delay, so
5 Patent Owner is wrong to exclude the delay, and Your Honor is correct that
6 in equation 3 at the top of column 6 of the patents that calculation of beta
7 does involve a temporal component.

8 Turning to slide 14, the dependent claims also confirm that Patent
9 Owner is wrong. They rely on certain dependent claims as supporting their
10 position, but if we actually look at what the dependent claims say claim
11 differentiation just confirms the proper construction that the claim filter can
12 include any of these three filters in the specification including the delay
13 filter. So, if we look at Dependent Claim 15 this is also Dependent Claim 5
14 of the '611. This is Dependent Claim 15 of the '213. This claim requires
15 applying a calibration. Dependent Claim 17 of the '213 which is the same as
16 Dependent Claim 7 of the '611, requires applying a delay. These claims do
17 not recite that these functions are performed outside or only after the filter.
18 They leave open the case that these functions can be performed as part of the
19 filter.

20 JUDGE MCSHANE: Ms. Wang, you raised Dependent Claim 17.
21 In your direct here, you're kind of running a little close to time, but would
22 you be so nice as to address Claim 17 when you get a chance?

23 MS. WANG: Yes, thank you, Your Honor. Actually, this is -- in
24 the interest of time, I'm just trying to figure out what I can do. So, I'm going
25 to really quickly jump to how Avendano -- under either claim construction,
26 how Avendano meets the claim filter, and then I'll do Claim 17.

1 JUDGE MCSHANE: Thank you.

2 MS. WANG: So, is that --

3 JUDGE MCSHANE: Yes, I just said thank you.

4 MS. WANG: Okay, thank you. So, on slide 36, we rely on
5 Avendano's delay nodes. No dispute if Your Honors agree that the filter
6 should have plain and ordinary meaning, then Avendano's delay node meets
7 the filter.

8 Slide 37, even if Your Honors decide that Patent Owner is correct
9 on the claim construction dispute to limit the filter to beta, we have an
10 alternative position that's based on Avendano's gain block, 406, because this
11 is the same as the fixed beta filter that's highlighted in green on slide 37.

12 Okay. So, with that, I'll turn straight to the dependent claims.
13 We'll start with 17 of '213. This is Claim 7 of '611. So, Patent Owner's
14 arguing that this -- sorry, what slide am I on? I went to the wrong slide.
15 Forty-seven. Okay. So, Patent Owner argues this term -- this limitation is
16 not met because they focus on the yellow language, but ignore the red. So,
17 the red language confirms that it is the intermediate signal that has to be
18 summed that can only be the output of the delay filter. So, in order for
19 Claim 17 to have support in the patent, the claim needs to be interpreted to
20 cover that scenario where the intermediate signal refers to the signal after the
21 delay is applied, and where the same aggregate block can apply both the
22 filter and the delay. And when that's the case, the intermediate signal is the
23 output of the delay. For this claim, Petitioner, again, has two positions. One
24 is based on Avendano with Visser, and the other is based on Avendano
25 alone. We're going to start with slide 49. This is the Avendano with Visser.

26 JUDGE MCSHANE: Yeah, counsel, I'm sorry. Could you just --

1 returning to your interpretation of the claim. There's sort of two ways, or
2 two sides of this coin here. I think in your papers, I think you presented the
3 argument a little differently here than in your papers, but we'll get to your
4 representation in a minute. But in the papers, what I read is that basically
5 you said, okay, well, there's all the embodiments, okay? They don't include
6 the scenario where the delay -- how does this work? I always forget the
7 language of this claim. It's where the, you're going to apply the delay to the
8 first intermediate signal, okay, that basically when you look at figure, the
9 figures, you say, well, the delay is going to occur afterwards basically. And
10 you're saying basically in your papers there's no written description support,
11 okay, for the interpretation of the claim being, you know, you're applying
12 the delay to the first intermediate signal. So, in any event, what are we
13 supposed to do with the written description issue? We have no jurisdiction
14 over a dispute related to written description, right? So, what would you
15 suggest we do with that?

16 MS. WANG: Yes, thank you, Your Honor. So, you're obviously
17 correct. There's -- written description is not at issue in this proceeding. The
18 only way that I can see -- that we have to resolve the issue though is to look
19 at how the patent describes where is this delay that is applied in the
20 Dependent Claim 17. And the only support for that, the only description in
21 any of the embodiments is that the intermediate signal, because it's the signal
22 that is summed, it's the signal after the delay. And that is how we would
23 interpret Dependent Claim 17 is that it requires not that the first intermediate
24 signal is generated necessarily before you apply the delay, but that a delay
25 has been applied to the first intermediate signal. Because that's the only
26 thing that has written description is support or that's the only thing that's

1 discussed -- that's described in the patent.

2 JUDGE MCSHANE: Okay. So, that's your position. That's your
3 position on this on this issue. Period. Full stop. Yes?

4 MS. WANG: Yes, Your Honor. But I would like to show you
5 how the prior art meets these limitations because there's different ways.

6 JUDGE MCSHANE: Yeah. No, no, that's fine. I'm just trying to
7 get your -- what you're saying on them on the issue of what this dependent
8 claim says. And we'll leave it at that. Okay. Thank you.

9 MS. WANG: Yes. Thank you. Thank you. So, let's look at what
10 the combination Avendano and Visser looks like so for this mapping to
11 Dependent Claim 17. So, in the combination, this is slide 49, Avendano is
12 applying the gain block. It's also applying these delay filters, and it's also
13 applying -- the combination is also applying Visser's cross filters. The delay
14 in Claim 17 can refer to Avendano's delays when the filter is Avendano's
15 gain block. It can -- the delay can also refer to Visser's cross filters when the
16 filter in the claim refers to either Avendano's gain block or Avendano's own
17 delays. This is if you decide in our favor on the claim construction issue.
18 So, there's different ways that the petition and our replies and map for
19 Dependent Claim 17 for applying a delay even if it requires the intermediate
20 signal to be generated before because it is -- yes.

21 JUDGE RAEVSKY: I'm going to jump in for just a second. First
22 of all, I know you have about three minutes in your initial time and of course
23 you're free to go into your planned rebuttal. I don't recall reading in your
24 briefing the argument you just articulated that if you rely on the gain block
25 as the claimed filter then the delay comes thereafter. If you could point out
26 where that is maybe I could unpack that a bit.

1 MS. WANG: Thank you, Your Honor. So, the gain block, well,
2 actually I don't want to -- let me get back to you on that on rebuttal if that's
3 okay, and then -- so, that's Dependent Claim 17.

4 I'd like to turn to Dependent Claim 19 of '213. This is Dependent
5 Claim 9 of '611. This is slide 53. So, this requires that the same filter is
6 applied to both signals. There is no component filter in the embodiments of
7 Figures 3 and 4 that are applied to both signals to calculate the two virtual
8 microphones. And so, the only -- our interpretation, the only interpretation
9 that's reasonable in view of this teaching is that the filter that's recited in
10 Claim 19 and Claim 14 must refer to a system filter that includes any of
11 these three components. And this is consistent, this is slide 54, this is
12 consistent with the petition's mapping to both cross filters in Visser and
13 optionally together with the Avendano's delay filters to meet this limitation,
14 that it's the combination of these filters that are applied to the two signals.

15 JUDGE RAEVSKY: And just to clarify that, I believe you're
16 saying that it's only the combination that teaches Claim 19 and not
17 Avendano alone. Is that correct?

18 MS. WANG: That is correct. Yes, for claim, Depending Claim
19 19, we are only relying on the combination.

20 JUDGE RAEVSKY: Thank you.

21 MS. WANG: There's an alternative read for the combination.
22 This is slide 55, where we can rely on Visser's cross filter W12 alone as
23 meeting the claimed filter because in the combination the signals from the
24 microphones are combined before being input to W12. Okay.

25 So, I'd like to turn to Dependent Claim 27. This is on slide 57.
26 This claim requires forming the filter comprises applying a calibration,

1 applying the delay, and then forming the filter as a ratio of two quantities.
2 So, in the petition, this is slide 58, we rely on Hou for this limitation. The
3 specific limitation is mapped in the 1084 petition at 62, the 1128 petition at
4 65. Hou provides specific information on how to calculate the Avendano
5 gain G. So, if we go to slide 59, we're showing side-by-side Claim 27 with
6 the Hou system. So, what I wanted to point out is that Claim 27 refers to
7 applying a calibration. This claim depends from Dependent Claim 15 of the
8 '213. It's also Dependent Claim 5 of the '611, which requires also applying a
9 calibration.

10 For that dependent claim, the petition maps to Avendano's gain and
11 multiplication block, and we are relying in this claim, Dependent Claim 27,
12 we are relying on Hou as a blow up of that gain block and how it's
13 calculated. So, our interpretation, and this is in the petition, of the
14 calibration that is applied in 27 is that it is the same calibration that is
15 applied in Claim 15. And under that interpretation, all we need to find is
16 that there is a first quantity that is generated as part of Avendano's gain
17 block. And that is exactly what we mapped to here in Hou for Claim 27.

18 I think I'm very close to running out of time, so I'll wrap it up here.
19 Overall takeaways for today, Your Honors, are that if you decide that there
20 is motivation to combine Avendano and Visser, then you actually don't need
21 to resolve the claim constriction dispute. Alternatively, two, if you decide to
22 resolve the claim construction dispute by rejecting Patent Owner's
23 construction, then there's no dispute that Avendano alone meets the
24 independent claims. And three, even if you decide to resolve the claim
25 construction dispute by agreeing with Patent Owner's construction, there's
26 still no dispute that Avendano alone meets the independent claims with its

1 gain block. And fourth, for the dependent claims, Patent Owner is taking an
2 overly narrow interpretation. They ignore the express requirements in the
3 claims, they ignore the embodiment in the patents. And for these reasons
4 and the reasons discussed in our papers, we ask Your Honors to find these
5 claims unpatentable. Thank you.

6 JUDGE RAEVSKY: Thank you, counsel. Does the panel have
7 any more questions for Ms. Wang?

8 JUDGE MCSHANE: You know what, could you just go back to
9 the slide that we were talking about with regard to the delay claim that
10 shows the actual claim language?

11 MS. WANG: Yes, that was Claim 17.

12 JUDGE MCSHANE: Right.

13 MS. WANG: This is slide 47.

14 JUDGE MCSHANE: Right. Okay. So, this claim says,
15 comprising -- applying a delay to the first intermediate signal. Okay. And
16 this language, do you discern any ambiguity in this language?

17 MS. WANG: Only in view of the teachings of the patent, Your
18 Honor, just because there's no -- the embodiment that Patent Owner agrees is
19 an embodiment of the claims, Figure 3, that there's, that it really -- the
20 intermediate signal can only be the output of the delay filter.

21 JUDGE MCSHANE: Okay. Thank you, counsel.

22 MS. WANG: Thank you.

23 JUDGE RAEVSKY: Thank you, Ms. Wang. You have 16
24 minutes remaining for your rebuttal.

25 MS. WANG: Thank you.

26 JUDGE RAEVSKY: Mr. Lambrianakos, you may proceed when

1 ready.

2 MR. LAMBRIANAKOS: Thank you, Your Honor. Peter
3 Lambrianakos on behalf of the Patent Owner. I guess I'll begin with the
4 Avendano-Visser combination. I think that the Board has seen that
5 Petitioner is unable to point to any evidence in its petition that the VAD of
6 Visser is part of the combination. There was discussion of a VAD in the
7 background portions, the portions which discuss whether Visser is analogous
8 art to Avendano, but Petitioner's expert confirmed that he did not rely on and
9 did not include the VAD as part of the combination. It's not part of the
10 combination. Petitioner admitted at the beginning of its presentation that the
11 cross filters from Visser which are incorporated into the Avendano-Visser
12 combination would not work properly. And as we said in our papers, if the
13 combination results in errors and is not properly functional, then there's no
14 motivation to combine.

15 I believe looking at slide 14 of our presentation where we
16 discussed not just the language that was discussed earlier here, but also
17 testimony where the expert was asked other than the cross filters and the
18 description of what would be within the cross filters and how the cross filters
19 may be connected, do you rely on any other components of Visser for your
20 opinion? And he said, I don't think there's any explicit references to other
21 elements of the entire system of Visser in support of my opinions. And so,
22 the Avendano-Visser combination is not properly discussed in the petition.
23 It does not include all the components that are necessary to make a
24 combination which provides a benefit, and therefore would not be obvious to
25 make the combination and therefore the patents, the patent claims are valid
26 over that particular combination.

1 JUDGE RAEVSKY: Counsel, you went to some of the more
2 favorable testimony. How do you deal with the less favorable testimony, for
3 example, on page 62 of the deposition where Mr. Kenny said that he read the
4 entirety of Visser and think about everything that's taught there in order to
5 combine features and obtain the benefits of both systems?

6 MR. LAMBRIANAKOS: I'm not sure that the fact that the expert
7 read a reference and thought about the reference and its disclosures is
8 relevant. What's relevant is the combination in the petition, right. The
9 burden is on the Petitioner to set forth all the details of the combination that
10 it states renders the claims obvious. The fact that he thought about it and
11 should have recognized that the VAD was a necessary component and didn't
12 include it only makes it more dumbfounding and less excusable. He should
13 have known. We have the language which, you know, is from Visser, which
14 on slide 15, which is essentially admitted now by the Petitioner, that the
15 VAD is needed to do training because training can only happen during
16 periods when there is voicing, when there is speaking. And so, if he
17 recognized and reviewed the reference, and he saw that the VAD was
18 necessary, then the combination should have incorporated the VAD.

19 Now, there was some new argument made that Avendano has a
20 VAD, and so it's disclosed. Well, Avendano makes a VAD, right? That's
21 the result of the Avendano device, but there's no evidence that the output of
22 the Avendano device is used to train the cross filters of Visser. There's no
23 disclosure of it anywhere.

24 JUDGE RAEVSKY: There's no, in your view, there's no feedback
25 from Avendano's VAD to its DMA process?

26 MR. LAMBRIANAKOS: Absolutely not. No, Your Honor.

1 JUDGE RAEVSKY: What about the Petitioner's point that the
2 ICA process itself mentioned on page, at least page 17 of the petition, must
3 be read to include Visser's VAD?

4 MR. LAMBRIANAKOS: Well, it sounds like Petitioner believes
5 that's the case because the VAD is necessary. And so, if it's necessary then
6 we ought to just make sure that even without explicitly disclosing it or
7 mapping it to the claims as is required in a petition, that we should just
8 assume that it's there because it's so important. I don't know of any law that
9 allows a Petitioner after the fact to attempt to supplement its petition with all
10 of the unstated details in the name of a system that's mentioned, not as part
11 of the combination itself, but is part of the discussion of the background of
12 the art and why the art is analogous. I don't see how you bridge the gap
13 there, Your Honor.

14 JUDGE RAEVSKY: What about the fact that they cite to column
15 9, quite a few lines of column 9 on page 17, and I believe in that column
16 that's where they're referring to on reply and perhaps you as well that the
17 VAD is necessary to make the ICA process work? And I'm referring to the
18 second full paragraph, third line of page 17 of the petition where they cite 9,
19 20 through 62.

20 MR. LAMBRIANAKOS: So, is the Court asking whether because
21 a VAD is mentioned within a site for a different proposition that that imports
22 the VAD into the petition?

23 JUDGE RAEVSKY: Yes.

24 MR. LAMBRIANAKOS: No, it doesn't. There's no basis for that.
25 We're not here to read all the citations and then supplement and fix all the
26 issues with the combination simply because something has been cited. That

1 certainly doesn't put us on notice of an argument. I mean, the petition is
2 supposed to have enough information so that the Patent Owner, whose
3 property the Petitioner is trying to have canceled, has the opportunity to
4 respond to an argument and obtain a little bit of due process along the way.
5 The idea that because they cite to this ICA process, column 9, lines 20
6 through 62, and since it mentions a VAD in there that we're to assume that
7 the deficiency in their combination is actually no longer deficient because,
8 you know, someone who's, you know, reviewing all this information would
9 recognize a deficiency, I don't think that there's any authority to import a
10 VAD based on a citation of law.

11 Now, as far as the Avendano alone arguments, the claim
12 construction issue is obviously at the forefront. There seems to be some
13 misunderstanding with respect to our proposed construction and what it is
14 attempting to do. The proposed construction is attempting to exclude from
15 the scope of the claims using a filter alone as the filter of the claims --
16 scopes, using a delay alone as the filter of the claims. We're not attempting
17 to, A, have the filter be the beta filter of the specification, or B, say that
18 delay cannot at all be considered in such a filter. What we are saying is that
19 it may not be a mere delay filter.

20 JUDGE RAEVSKY: Is there any way to modify or let me restate
21 that. Are you modifying your proposed construction then because your
22 proposed construction says a filter that alters the signal based on the non-
23 temporal components of relative responses, et cetera.

24 MR. LAMBRIANAKOS: Right. Because I would say --

25 JUDGE RAEVSKY: As I asked Petitioner, that equation 3 at the
26 top of column 6 includes a delay. So, do we need to modify this to be more

1 accurate to what you're trying to address?

2 MR. LAMBRIANAKOS: No. We believe that where we say
3 based on non-temporal components we are not saying it is based only on
4 non-temporal components. It must consider at least non-temporal
5 components. Temporal components can also be considered. And I believe
6 that if you follow our arguments in our papers, we always say that the filter
7 cannot be a mere delay, solely a delay filter. The filter must include other
8 functionality and must consider other information other than just timing
9 information, which is what a delay is.

10 JUDGE MCSHANE: I'm sorry, go ahead.

11 JUDGE RAEVSKY: Oh, I'll be really quick. So, you're saying
12 that the construction can include a delay, but it must include more? I cannot
13 be (CROSSTALK) --

14 MR. LAMBRIANAKOS: Yes, correct.

15 JUDGE RAEVSKY: Okay, thank you.

16 JUDGE MCSHANE: Counsel, I'm honestly having a little trouble
17 getting that, okay? I'm looking at your slide 2, okay?

18 MR. LAMBRIANAKOS: Yes.

19 JUDGE MCSHANE: And it says a filter that alters a signal based
20 on the non-temporal components of relative responses. But now you're
21 saying, okay, that could include a filter that includes temporal components.
22 Is that what you're saying?

23 MR. LAMBRIANAKOS: Yes, it's not excluding using temporal
24 components.

25 JUDGE MCSHANE: Yeah, but I'm reading it. Yeah, I'm reading
26 literally what it says and what you're saying, I think, conflicts with that.

1 MR. LAMBRIANAKOS: Well, there are two issues, right? Issue
2 one is do the words of the construction as we proposed it artfully get across
3 the point that we've made throughout our papers? And the second is, you
4 know, does it matter? Because ultimately the Board doesn't have to adopt
5 the construction. The Board just needs to apply the claims with the
6 appropriate construction in mind, which we have indicated from the
7 language in the claims, the language in the specification, is that this filter
8 cannot be simply a delay filter. It cannot be just a delay. If it does delay,
9 but it does other things too, then it is okay. And this requires that the filter
10 does non-temporal, you know, alters a signal based on non-temporal
11 components. It doesn't say that it may not alter a signal based on temporal
12 components. So, we are trying to include the functionality which is required
13 of the filter. That is something more than delay.

14 JUDGE MCSHANE: Yeah. Well, I mean, let me say this,
15 counsel. I mean, what it sounds like to me, and I don't mean to be
16 argumentative, and I apologize if I sound that way, but it sounds to me that
17 like you're sort of trying to jettison your claim construction and just rely on
18 your argument in your papers, essentially. And if you can answer you --

19 MR. LAMBRIANAKOS: Well, I'm not changing our position.
20 Our position is 100 percent. One hundred percent that a mere delay is not
21 within the claims because of the statement which was made that we do
22 something with frequency components and that is better than the prior art
23 which just does delay. So, what we're saying is that that statement confirms
24 that prior art that just does delay is outside the scope of the claims and that's
25 what this construction was intended to convey. Because using just a delay is
26 the prior art. That's what everyone had been doing before. You know, the

1 difference between this invention and the prior art is instead of just lining up
2 the signals for time and assuming that whatever has been accentuated by the
3 comp -- by summing those together is speech, this filters better because this
4 filter looks at the frequencies in this -- in the signal to find the components
5 which are speech, and that's better. Of course, delay has to be included
6 because you always have to sync up the signals, right? You always have to
7 make sure that the signals are at the same time. But if you do only that
8 which is what the prior art does, then you're outside the scope because our
9 inventor said we're better than that, that's not what we do. And so, we
10 wanted to make sure that the filter alters the signal based on non-temporal
11 components. As long as it does that, we're not saying that it can't do
12 temporal also.

13 JUDGE MCSHANE: Okay. I understand what you're saying.
14 Thank you.

15 MR. LAMBRIANAKOS: Okay. Thank you, Your Honor. Now,
16 there's discussion before and also in the papers that what we're trying to do is
17 say that the claims are limited to the embodiment, and that is that the
18 particular beta filter must be the filter which is claimed. That is not our
19 position. We're not taking the position that our claims are going to be
20 precisely the embodiment that's in the specification. Our argument is that
21 that beta filter is not a mere delay filter.

22 Now, looking back at the Petitioner's slides, I would like to point
23 to slide 9 here as -- and discuss what appears to be the argument that is being
24 made. Now, I do not discern this argument from their papers, but it seems to
25 say that in order for Figure 3 to be the support for or be claimed by Claim
26 14, then all three of the filters in the embodiment have to be the filter of the

1 claim. Now, I'm not sure I understand that or that it makes any sense, but I
2 want to make clear that Claim 14, when it's referring to a filter, the filter that
3 describes the relationship for speech is based on the specification, the
4 adaptive filter beta z in this embodiment. The delay filter and the calibration
5 filter are not claimed in Claim 14. They are claimed in dependent claims
6 explicitly.

7 JUDGE RAEVSKY: And so, since you mentioned in this
8 embodiment, I want to clarify your position. I believe I understood sort of in
9 the POR that you would agree that the claimed filter also includes the fixed
10 filter beta in the specification. Did I understand your position correctly?

11 MR. LAMBRIANAKOS: That is correct. It is preferable to use
12 an adaptive filter, and there are dependent claims to an adaptive filter for the
13 filter, but the filter of Claim 14 is not limited to the adaptive filter.

14 JUDGE RAEVSKY: Okay. Thank you.

15 MR. LAMBRIANAKOS: And turning to slide 14 of the
16 Petitioner's presentation, there's a discussion of some of the dependent
17 claims including applying a calibration and applying a delay from Claims 15
18 and 17 respectively. We view those as having claimed additional elements
19 and not additional components of the filter of Claim 14. The importance of
20 this comes in the next slide, slide 15, where Claim 23 says that the filter is
21 an adaptive filter. So that, of course, is referring back to the adaptive filter
22 in their own notation of Figure 3, which is the beta z filter.

23 And then in Figure 27 we understand that the device of Claim 23
24 where informing of the filter comprises, and then we see a description of
25 how the adaptive filter works. And the adaptive filter is basically created
26 using that feedback loop which is coming from after the summation portion

1 and before it says V2. That feedback comes back. And so, the first quantity
2 that's being generated in this claim is the calibration to the second signal O₂,
3 and then you have the next step which is generating a second quantity by
4 applying a delay to the first signal. And then the filter is formed as a ratio of
5 the first quantity to the second. And so, that feedback loop ups back to the
6 adaptive filter to provide that information. So, that information does include
7 the result of calibration and delay.

8 And so, the claim the adaptive filter assumes that it will consider
9 information that result -- that has resulted from the application of a delay
10 filter, but it's not a mere delay. Essentially, this -- if one were to just ignore
11 the adaptive filter beta z, because all that's necessary under the Petitioner's
12 read is a delay filter. Then what you have here is simply a calibration filter
13 and a delay filter, in which case you have the prior art. You have exactly
14 what existed before, in which does not include the advance that was
15 discussed in the specification.

16 Now, it's important to make sure that the claims don't include in
17 their scope the prior art which the inventor insists that he has improved
18 upon. And slide 3 has the now well-worn quote that we've been relying on
19 here to just -- to note the fact that the NAVSAD and the PSAD systems,
20 when discussing speech detection, use the difference in frequency content
21 between two microphones to calculate a relationship between the signals of
22 the two microphones. So, that is a description of the use of this beta z filter.
23 And this is in contrast to conventional arrays that attempt to use the timed
24 phase difference of each microphone to remove the noise outside of an area
25 of sensitivity.

26 JUDGE RAEVSKY: I think it'd be helpful to understand better

1 why you believe that this passage refers to the beta filter.

2 MR. LAMBRIANAKOS: Well, if we take a look at the
3 specification at column 5, line 30, it says that $\beta(z)$ is a filter that describes
4 the relationship between O_1 and calibrated O_2 for speech. So, it uses the
5 same language to describe that filter as it does later in the portion that we
6 quoted from column 11.

7 JUDGE RAEVSKY: Does column 11 also, the quoted passage, is
8 it also referring to the fixed filter or merely to the adaptive filter?

9 MR. LAMBRIANAKOS: It's unclear to me whether it refers to
10 both, but I don't think it's relevant because I think that whether it refers to
11 one or the other, the key thing is what it is distinguishing itself from. The
12 fact that it's distinguishing the filter that's being used from the timed phase
13 difference filters, which are delay filters, that's the key point for
14 construction.

15 JUDGE RAEVSKY: I'm going to push back on that a little bit.
16 So, if this passage refers only to the adaptive filter, but not the fixed filter,
17 then arguably at most this passage only limits the adaptive filter
18 embodiment. And isn't that critical because the claim, as you admit, also
19 covers the fixed filter embodiment? Therefore, the claim would not be
20 limited by this passage.

21 MR. LAMBRIANAKOS: Well, I think in context when we look
22 at the description of the PSAD algorithms beginning in column 4, and the
23 fact that the $\beta(z)$ of the PSAD includes both the fixed and the adaptive filter,
24 that the best reading of this, considering it is talking about the PSAD system,
25 would be that the filter refers to either the fixed or the adaptive filter.

26 JUDGE RAEVSKY: But why does it refer to either one here?

1 What's the key language that we could find for you on, that we could find a
2 hook on to find for you?

3 MR. LAMBRIANAKOS: It's referring to the NAVSAD and
4 PSAD systems. That's what's being described earlier in the specification
5 when it discusses these filters. It's referring to --

6 JUDGE RAEVSKY: Doesn't that bring up another problem that I
7 brought up with Petitioner, though, which is in column 4, when it first
8 discusses the PSAD VAD methods? It's something that is described as
9 taking place after the formation of the virtual microphones. And if that is
10 true, then how can we say that column 11 applies to what's being used to
11 create the virtual microphones, i.e., the fixed or adaptive filter?

12 MR. LAMBRIANAKOS: The fixed or adaptive filter --

13 JUDGE RAEVSKY: I'm referring to lines -- just to give you
14 reference, I'm referring to lines 26 through 31 or so of column 4.

15 MR. LAMBRIANAKOS: I'm not sure that I understand your
16 premise regarding the order in which these components or these values are
17 calculated. The virtual microphones are the first things which are calculated
18 using the adaptive filter and other filters. And then once those two virtual
19 microphones are created, then the VAD is done. The voice activity
20 detection is done by comparing the magnitude of those signals against one
21 another. And if they meet a certain threshold, then it is determined that there
22 is voicing present.

23 JUDGE RAEVSKY: That's the crux of my question, is you noted
24 that the VAD is done after the forming of the microphones. But column 4
25 refers to the VAD as PSAD. So, PSAD is done after the forming of the
26 virtual microphones in column 4. So, how can we then read PSAD in

1 column 11 as applying to the virtual microphones?

2 MR. LAMBRIANAKOS: The PSAD in column 11 is referring
3 to -- it says it uses array algorithm for speech detection that uses the
4 difference in frequency content to calculate the relationship between the
5 signals of the two microphones. So, in the speech detection that it performs
6 it uses that difference in order to determine whether or not there is speech,
7 because I don't see how there is an inconsistency here.

8 JUDGE RAEVSKY: Well, is it possible that this is simply
9 referring to a separate embodiment than what's discussed in column 4,
10 because it's talking about PSAD as including a whole system, whereas
11 column 4 is referring to PSAD as occurring after formation of those virtual
12 microphones?

13 MR. LAMBRIANAKOS: I don't see anything in column 4 which
14 indicates that PSAD refers only to something which occurs after the
15 formation of the virtual microphones because the virtual microphones are
16 themselves part of the VAD method.

17 JUDGE RAEVSKY: So, in your view I'm reading it too
18 restrictively, column 4 that is, where it says that PSAD VAD methods can
19 "then" be used to determine when speech is taking place. In other words,
20 "then" being after V1 and V2 are created.

21 MR. LAMBRIANAKOS: All right. V1 and V2 -- the PSAD
22 VAD methods -- well, I would not read VAD methods as some separate
23 functionality. Obviously, once the virtual microphones are formed, then
24 methods are executed on the two virtual microphones to determine whether
25 or not there's speech. And there are columns of the specification that I've
26 discussed the testing of all that and how all that works. But the PSAD

1 system includes within it not just the VAD method, let's say, the method
2 that's applied to the virtual microphones after they're formed, but also the
3 formation of the virtual microphones.

4 JUDGE RAEVSKY: Okay. I think I understand.

5 MR. LAMBRIANAKOS: Petitioner has a new theory about how,
6 under Avendano, the gain of Avendano could be used as a filter, even under
7 our construction. The issue, of course, is that the plain term requires that the
8 filter describe a relationship for speech, and a gain does not describe a
9 relationship for speech. A gain just increases the amplitude of a signal to
10 match another signal. That's how it's used in Avendano and that cannot be a
11 filter that describes a relationship for speech.

12 So, putting aside the fact that it's a new argument and there are no
13 mappings anywhere in the petition that point to the gain as a filter, and
14 certainly not any other mappings thereafter which carry through that
15 mapping through the rest of the claim elements, it just doesn't -- a gain
16 cannot simply be a filter that describes a relationship for speech under its
17 own definition.

18 JUDGE RAEVSKY: So, two questions. One, would you address
19 whether Petitioner properly responded to the claim construction with this
20 argument under Axonics, the Axonics decision? And two, it would be
21 interesting to hear your take on Petitioner's point that the fixed beta filter is
22 also a mere gain, and therefore the gain in Avendano is the same kind of
23 filter.

24 MR. LAMBRIANAKOS: Okay. Well, the argument that the beta
25 filter is a mere gain, sorry, is a mere delay, really misrepresents the
26 equations that are being used in the discussion from our expert in the case.

1 I'm just looking for the slide that deals with that particular issue. So, looking
2 at their slide 17, this is where they raised the argument that beta is just a
3 delay, right? So, the first thing they look at is paragraph 35 of Dr. Sayeed's
4 declaration in which she discusses --

5 JUDGE RAEVSKY: Counsel, I apologize. I'm going to jump in
6 because I think I led you off course. I might have misspoken. I was talking
7 about the fixed filter. So, page 15 of the reply, footnote 5, says that
8 Avendano's gain is the same as the fixed beta, because that's just D1 over
9 D2, and therefore it's a fixed gain as well. So, I'm trying to figure out, are
10 they really different?

11 MR. LAMBRIANAKOS: I'm going to have to return to that
12 question, Your Honor. I don't have the answer at my fingertips.

13 JUDGE RAEVSKY: No problem. What about the first part of my
14 question? Does the Axonics decision allow Petitioner to make this
15 argument? And I guess to give you a little context, in case you're not as
16 familiar with Axonics, I believe in that case we were instructed by our
17 reviewing court that when there's a construction set forth from the Patent
18 Owner response that we must then give the Petitioner an opportunity to
19 respond to the new construction. And what I'm really interested in finding
20 out is, is it okay for a Petitioner to change its mapping from the claimed
21 filter is equal to a delay to now it's equal to a gain.

22 MR. LAMBRIANAKOS: Well, I can only answer to what is in
23 the reply itself. The reply only includes in a footnote a statement that the
24 gain could be the filter. There's no expert testimony to support it, even
25 though there was the opportunity to do that. And there is no revision of the
26 remainder of the grounds on each of the claim elements that would include

1 the gain. And in fact, none of the discussions here today regarding
2 Avendano by itself or Avendano with Visser take into account the gain as
3 being the filter. And so, you know, even if it were appropriate to completely
4 change one's mappings to account for a different claim construction, that
5 really hasn't been done here.

6 JUDGE RAEVSKY: So, even if it were appropriate, your point is
7 it's simply attorney argument?

8 MR. LAMBRIANAKOS: In a footnote that's incomplete with
9 respect to all the grounds that were set forth in the petition.

10 JUDGE RAEVSKY: Understood.

11 MR. LAMBRIANAKOS: Which is, by the way, the same thing
12 we have in the footnote that Your Honor referred to initially, right? They
13 say that it's a gain because it's just like a fixed b, a fixed beta. But that's just
14 their attorney speaking and there isn't any expert testimony on either side of
15 this issue in order to resolve it. Which, in our view, makes it impossible for
16 them to meet their burden of proof on that particular ground anyway.

17 With respect to the claim construction, there are arguments made
18 by Petitioner that the disavowal that we refer to is not clear and
19 unambiguous because the specific words such as filter was not used, you
20 know, in the language that we pointed to, which described the inventive
21 concept behind the beta filter. But the petition does not --

22 JUDGE MCSHANE: I'm very sorry, counsel, for interrupting.
23 Ah, there he is. Our lead Judge is back here on this panel.

24 JUDGE RAEVSKY: I was able to hear everything, but I
25 momentarily lost video. No need to repeat your argument.

26 MR. LAMBRIANAKOS: Okay. So, the argument that was made

1 was that this discussion on page -- on slide 3 that we've been pointing to is
2 ambiguous. It doesn't mention a filter. It doesn't use the word delay. And
3 so, without those sort of magic words, that it's not clear enough what it is
4 that this passage means. But if this passage is so ambiguous, if it's
5 ambiguous, it means that it has multiple meanings, that it's subject to
6 meeting different things. And the Petitioner has not proposed what it is that
7 it believes that this language means, which is different than what it is that we
8 have proposed. When we point to the timed phase difference and say that
9 refers to a delay, they say it doesn't say delay, but they don't say that it
10 means something else in the art, which we don't understand and which
11 makes that particular sentence, you know, ambiguous.

12 And so, without there being any evidence other than just pointing
13 out that certain words aren't in the particular language, they haven't shown
14 that this isn't a clear enough statement under the law to exclude from that
15 adaptive filter, the beta filter, a mere delay.

16 Now, turning to our slide 16 to deal with the Dependent Claim 17,
17 Avendano does not apply a delay to the first intermediate signal because the
18 delay is being applied to the first microphone signal. Their own annotation
19 shows that the delay that they're referring to has already been applied to the
20 first signal to create the first intermediate signal. There is no additional
21 delay being applied to the first intermediate signal. The mapping just
22 doesn't work.

23 The same is true in slide 17 for the Avendano-Visser combination.
24 They point to the first intermediate signal as coming after Visser's cross
25 filter W21, but there's no delay that is applied to the first intermediate signal.
26 And with respect to Claim 19, as shown in our slide 18, they pointed to filter

1 W21 as the filter in the independent claim. And now, for Claim 19, they're
2 relying on the filter W12 as the filter in Claim 19, even though it's the same
3 filter. Under any reasonable reading of the claims, the filter is simply the
4 filter that was defined in the independent claim.

5 JUDGE RAEVSKY: Counsel, we also heard argument from
6 Petitioner today on Dependent Claim 27 in the '213 patent. And I didn't
7 recall seeing an argument from you in the briefing on this claim. Am I right
8 in that or am I misremembering?

9 MR. LAMBRIANAKOS: So, with respect to Claim 27, I believe
10 that we simply relied on the claims from which is that claim depends, and
11 did not have additional argument.

12 JUDGE RAEVSKY: Okay, thank you.

13 MR. LAMBRIANAKOS: May I ask how much time I have
14 remaining?

15 JUDGE RAEVSKY: Yes, you have just under 12 minutes of your
16 original time remaining.

17 MR. LAMBRIANAKOS: Unless there are any other questions, I
18 will end here for my initial presentation.

19 JUDGE RAEVSKY: Thank you, counsel. Looks like you have
20 about 31 minutes remaining for your sur-rebuttal. And, Petitioner, you have
21 16 minutes. You may begin when you're ready.

22 MS. WANG: Thank you, Your Honor. So, where is Visser's VAD
23 discussed? So, it is in Exhibit 1003 to both Petitions. Paragraph 109, this is
24 where Dr. Kenny discussed the VAD in Visser. In that same paragraph, he
25 incorporated the entirety of his overview of Visser, which also discusses the
26 VAD in Visser.

1 We also discussed Visser's VAD explicitly in the motivation to
2 combine section of the 1084 petition at 16 to 17, where, as Your Honor
3 pointed out a few minutes ago, that we refer to the ICA process. The ICA
4 process in Visser is what is incorporated into Avendano's system. And on
5 that same page of the petition, we point to Visser, column 9, lines 20 to 43,
6 and that portion of Visser discusses using the ICA. It states the ICA, quote,
7 is not able to perform its main separation function, end quote, basically
8 without Visser. You can turn on the ICA on and off according to the
9 Visser -- according to the VAD. This is starting at line 26. The ICA is,
10 quote, controlled by the voice activity detection module 185, end quote. So,
11 really it all goes together. The ICA in Visser does not work without the
12 VAD. So, when the petition incorporates the ICA, we're incorporating the
13 VAD as well. Avendano's VAD was also --

14 JUDGE RAEVSKY: Counsel, I'll be honest, it sounds like a lot to
15 read into the acronym ICA. Patent Owner I think made the point that just
16 citing to a column does not articulate a rationale to combine. It needs to be
17 something more than a conclusory statement. What's your response?

18 MS. WANG: We would respectfully disagree. I think just based
19 on this cite, we do cite to this specific portion in Visser where that discusses
20 the ICA as using the VAD in Visser. So, the incorporation of the ICA
21 necessarily has to include the VAD. I mean Visser already states itself that
22 the ICA doesn't work without the VAD. So, our reading of it is that they
23 have to go hand in hand. It doesn't make sense to incorporate the ICA
24 without the VAD.

25 Avendano's VAD was also raised in the petition. This is
26 specifically in the motivation to combine section in Ground 1 of the 1084

1 petition at 15. Avendano's VAD is necessarily part of the combination, and
2 as we discussed earlier with the teaching of Visser's ICA process of needing
3 a VAD which is discussed in the combination, we could rely on either of
4 that.

5 Your Honor raised the Axonics case. We agree that Axonics
6 allows Petitioner to respond to a new claim construction that's raised by
7 Patent Owner, and this is --

8 JUDGE RAEVSKY: Sorry, sorry Ms. Wang, it seems like you're
9 moving beyond the VAD issue. I just want to button up one issue. Patent
10 owner is arguing today that there is no feedback in Avendano's -- from
11 Avendano's VAD to its DMA. Do you agree?

12 MS. WANG: No, I don't agree with that. But even if that were the
13 case there is feedback in the combination explicitly because the ICA process
14 needs a VAD. So, even --

15 JUDGE RAEVSKY: That sounds like you -- we have to rely on
16 the VAD in Visser. You can't rely on the VAD in Avendano alone.

17 MS. WANG: Respectfully, I disagree Your Honor. A VAD is a
18 VAD. It's just it -- the VAD is the same in both Visser and Avendano.
19 You're outputting a zero if there's no voice activity detected, outputting a
20 one if there is voice activity detected. It's -- they're both VADs. We can
21 rely on either of that.

22 JUDGE RAEVSKY: So, let me let me see if I follow. The
23 feedback, as you stated, is only in Visser's VAD. But if Visser's VAD is not
24 in the combination, and you say that we can rely solely on Avendano's
25 VAD. But it doesn't have feedback. Therefore, we must rely on Visser's
26 VAD. Why is that not logical?

1 MS. WANG: Let me just clarify. Because the combination is
2 using Visser's cross filters that need a VAD, so in that combination where
3 we rely on Visser's cross filters, we can rely on either Visser's VAD or
4 Avendano's VAD as providing that feedback based on the explicit teachings
5 in Visser, and sort of the implicit teachings in Avendano that we discussed
6 during my opening when we talked about how Avendano's gain and delay
7 blocks could be adjusted based on when speech is occurring.

8 So, if there's no other questions on that, I'll move onto Patent
9 Owner's argument that there was no expert testimony that we provided for
10 the Avendano's gain. This was in the footnote on page 15 of our replies.
11 Our position is that this is really straightforward. We're just pointing to
12 Avendano's gain as the filter under Patent Owner's new interpretation that it
13 could be the fixed beta. They acknowledge that the fixed beta can be the
14 claimed filter. So, under that interpretation, there's nothing we need an
15 expert to say, beta is a fixed gain, Avendano gain is a fixed gain. It doesn't
16 vary cross frequencies. It's the same as Avendano's gain. There's no need
17 for expert testimony to respond to that new position.

18 Regarding where in the record do we rely on Avendano's delay
19 versus the gain versus the cross filters. So, the gain, as I mentioned is in the
20 replies at page 15 in that footnote. The Avendano delay is relied on in the
21 1084 petition at 25 to 26, and in the same site for the 1128 petition. When
22 we get to Dependent Claims 17 of the '213 and Claim 7 of the '611, we refer
23 to that same Avendano delay block as performing the delay. This is in the
24 1084 petition at 36, the 1128 petition at 37. And then we refer to round out
25 the rest of Dependent Claim 17, we refer to Visser's cross filters as also
26 performing the delay. This is in the 1084 petition at 37 and the 1128 petition

1 at 38 to 29.

2 Regarding what Patent Owner just said about whether the filter can
3 be beta, I think I --

4 JUDGE RAEVSKY: Ms. Wang?

5 MS. WANG: Yes.

6 JUDGE RAEVSKY: One thing there. What I didn't hear you
7 respond to is my question during your main argument, which is where is the
8 support in your reply for the argument which sounded new today that if you
9 rely on Avendano's gain for the filter, claim filter, that it is outputting an
10 intermediate signal to the delay filter in Avendano.

11 MS. WANG: It's just in that footnote in the replies in combination
12 with the cites to the petition that I just referred to for the delay filter, for
13 Avendano's delay. It's the combination of petitions and the replies, but in
14 the replies it's just that footnote.

15 JUDGE RAEVSKY: So, we need to combine the footnote
16 argument that says a gain with the filter -- delay filter argument from the
17 petition to come up for support with this new argument that you raised?

18 MS. WANG: Specifically, for if we are talking about Dependent
19 Claim 17, then that's an argument that has been presented in the papers, yes.
20 It's -- we would --- it's not a new argument, but it's an argument that is based
21 on a combination of the petition and the replies.

22 JUDGE RAEVSKY: I think you would find most panels are going
23 to say that if you're combining a footnote from a reply with an argument in
24 the petition, that's a new argument. But I understand your position.

25 MS. WANG: Thank you. I think I heard Patent Owner say earlier
26 that the filter doesn't have to be beta, but that really flies in the face of a lot

1 of what they said in their briefing, in their PORs and in their sur-replies.
2 They state repeatedly, for example, in the sur-replies at 2 to 3 and 5, they
3 state repeatedly that the filter is the beta filter. So, for them to now say that
4 it doesn't have to be the beta filter, that's just directly contradictory to what
5 they said before.

6 Regarding the quote, the column 11 paragraph talking about
7 NAVSAD and PSAD doesn't refer to beta. Our point is that that paragraph
8 is ambiguous. Is it referring to beta? Is it referring to alpha? Adaptive
9 filters only, or can it be fixed filters? Patent Owner is trying to rely on that
10 ambiguity and trying to actually flip the burden to Petitioner, but they're the
11 ones who want to show lexicography. They're the ones who are relying on
12 that paragraph as clear and unmistakable disclaimer. And there's nothing in
13 that paragraph that meets that standard. And I also didn't hear Patent Owner
14 address the cases that are cited in our replies at 7 to 9 that I mentioned
15 during my opening.

16 Regarding what the patents say about beta, this is the '213 patent at
17 column 5, line 29 to 33, where it says beta describes a relationship between
18 01 and the calibrated 02 for speech. That is for speech. This is different
19 from the column 11 quote, which describes a relationship between the two
20 microphone signals. So, if beta is supposed to be for speech, the column 11
21 paragraph is describing a relationship between microphones, it's not at all
22 clear that this is referring to beta. If it can be a fixed or adaptive filter that is
23 even discussed in that paragraph, then that could refer to alpha filter, the beta
24 filter, either of which can be fixed or adaptive.

25 Patent Owner alluded to Petitioner's slide 17. This is where we did
26 very simple math in our replies at pages 4 to 6 that shows what happens

1 when you consider those two equations together. And we demonstrated in
2 our replies that even if you were to accept Patent Owner's position that the
3 filter has to be beta, that beta simplifies to a mere delay. So, that's exactly
4 contradictory to what they've been saying.

5 JUDGE RAEVSKY: Ms. Wang, I realized I forgot to ask a
6 question, and I apologize for hammering on the gain, but to be fair to the
7 Patent Owner, I asked the same question to them. Under Axonics how is it
8 that a Petitioner is permitted to map a new block, like the gain block, to a
9 claimed element like the filter when the mapping in the petition was for the
10 delay?

11 MS. WANG: We're not adding new prior art. We're not
12 introducing new evidence. My understanding of the Axonics case is that
13 Patent Owner is allowed to respond to a new claim construction offered by
14 Patent Owner in the POR by changing its mapping, and that's what we are
15 doing with that footnote on page 15 of our replies.

16 JUDGE RAEVSKY: Yeah, that's the big question for me. Is
17 Axonics saying that you can change your mapping or that you can clarify
18 your mapping?

19 MS. WANG: We can do both in response to a new construction.

20 JUDGE RAEVSKY: Okay. I understand.

21 MS. WANG: Okay. While we're on Avendano's gain, Patent
22 Owner mentioned, argued that Avendano's gain is not used for speech. That
23 is false. The gain in Avendano does the same thing that the calibration filter
24 does in the patent. And what we talked about was that, you know, you have
25 a closer microphone and you have a further microphone. So, the closer
26 microphone has a higher amplitude when speech is occurring compared to

1 the further microphone. And by compensating for that difference in
2 amplitude, the gaining block in Avendano does describe a relationship for
3 speech between the two microphone signals because it's equalizing the two
4 for speech. So, in other words, the gain block in Avendano, it's describing
5 the amplitude relationship for speech, just like how Avendano's delay block
6 is describing the temporal relationship for speech. And that is why either of
7 these blocks can refer to the filter that describes the relationship for speech
8 in the claims.

9 What Patent Owner seems to be getting at is that they want the
10 relationship to be a relationship that varies over frequency to avoid the fixed
11 gain. But that is contradictory to the other thing that Patent Owner just
12 stated, which is that the filter can include the fixed gain filter. And even if
13 they were saying that the relationship needs to be one that varies over
14 frequency, that is nowhere required in the claim. That is a very narrow, very
15 specific view of what the relationship for speech needs to be in the claim.

16 Last point. Patent Owner talked about how we were relying on
17 W21 in the independent claims and then W12 in the Dependent Claim 9.
18 Again, we're referring to both filters as, this is the filters in Visser, as the
19 system composite filter. And that system composite filter is applied to both
20 microphone channels.

21 JUDGE RAEVSKY: We're at time, counsel. So, if you want to
22 make a concluding sentence.

23 MS. WANG: No, I thank you all for your time. And that's it for
24 me. Thank you.

25 JUDGE RAEVSKY: Thank you. Mr. Lambrianakos, you have 31
26 minutes.

1 MR. LAMBRIANAKOS: Thank you, Your Honor. The idea that
2 Visser has a composite filter, and that despite the explicit mapping in the
3 petition that we can just sort of put both of the filters, W12 and W21
4 together, rename them composite, and that way avoid the issue of identifying
5 a different filter into independent claims from the dependent claim is just
6 unsupportable in the law.

7 With respect to the Avendano gain, the Avendano gain is not for
8 speech response. The Avendano gain is simply a calibration. It calibrates
9 the amplitude of all of the sound, including noise, and so, it does not provide
10 a response to speech and characterize the relative responses to speech that
11 the beta filter does in the specification of the of the patents. And so, and
12 specifically, you know, the beta filter, the fixed filter at the bottom of
13 column 5 particularly takes into account the distance from the user's mouth
14 in determining what that filter needs to be. Whereas, the Avendano gain
15 simply equalizes amplitudes of speech and noise associated with the two
16 microphones. And so, --

17 JUDGE RAEVSKY: That it is more like the calibration filter.

18 MR. LAMBRIANAKOS: Exactly. The gain is the calibration
19 filter. That's exactly right, Your Honor.

20 I don't have any further argument, unless there are any questions
21 then I'll conclude.

22 JUDGE RAEVSKY: Any other questions? Okay. Thank you,
23 counsel. Seeing no questions, this hearing is now adjourned.

24 We thank you for your participation. The Judges will now leave
25 the call, but we ask counsel to stay on the line in case the court reporter has
26 any questions. So, with that, I wish you all a good day.

IPR2023-01084 (Patent 8,321,213 B2)

IPR2023-01128 (Patent 8,326,611 B2)

1 (Whereupon the above-entitled matter went off the record at 4:07
2 p.m.)

IPR2023-01084 (Patent 8,321,213 B2)

IPR2023-01128 (Patent 8,326,611 B2)

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IPR2023-01084 (Patent 8,321,213 B2)

IPR2023-01128 (Patent 8,326,611 B2)

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