

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

AMAZON.COM, INC., AMAZON.COM)
SERVICES, LLC, and AMAZON)
WEB SERVICES, INC.,)
Petitioners,)
)
v.) Case No. IPR2025-00565
) U.S. Patent
SOUNDCLEAR TECHNOLOGIES, LLC,) No. 11,069,337
Patent Owner.)

REMOTE ORAL DEPOSITION OF

JOSEPH MCALEXANDER

MARCH 3, 2026

ORAL DEPOSITION OF JOSEPH MCALEXANDER, produced as a witness at the instance of the Petitioners, and duly sworn, was taken in the above-styled and numbered cause on March 3, 2026, from 11:05 a.m. to 12:42 p.m., before Donna Wright, CSR in and for the State of Texas, reported by machine shorthand and remotely via Zoom, pursuant to the Federal Rules of Civil Procedure and any stipulations or agreements stated on the record or attached hereto.

Amazon v. SoundClear
US Patent 11,244,675
Amazon EX-1201

A P P E A R A N C E S

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PREVIOUSLY MARKED EXHIBITS

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Exhibit 1004	 Shimomura Reference	21

1 THE REPORTER: Okay. We're going on
2 the record now. If you all would like to introduce
3 yourselves and who you represent, then I can place
4 the witness under oath.

5 MR. REEVES: Sure. My name is Nathan
6 Reeves from Morgan Lewis & Bockius on behalf of
7 petitioners.

8 MR. JACKSON: This is Don Jackson on
9 behalf of patent owner Soundclear.

10 THE REPORTER: Okay. Mr. McAlexander,
11 can you raise your right hand, please? Did I say
12 that right?

13 THE WITNESS: You did.

14 JOSEPH MCALEXANDER,
15 having been first duly sworn, testified as follows:

16 EXAMINATION

17 BY MR. REEVES:

18 Q. Good morning, Mr. McAlexander. How are
19 you today?

20 A. I'm doing all right. How about
21 yourself?

22 Q. I'm well, thank you.

23 I know you have been deposed many times
24 before, including in a related IPR to this one; is
25 that correct?

1 THE REPORTER: I don't know if he heard
2 you. He looks frozen. Don, is he frozen? There we
3 go.

4 THE WITNESS: Hang on one second. Let
5 me check something here.

6 MR. REEVES: Let's go off the record
7 for a second.

8 (Discussion off the record.)

9 Q. (BY MR. REEVES) You can hear me all
10 right?

11 A. I can.

12 Q. Great.

13 So you have been deposed many times
14 before; is that right?

15 A. Yes, sir, that's correct.

16 Q. And you were -- in particular, you were
17 deposed a few weeks ago in a related case to this
18 one; is that right?

19 A. A separate IPR, but related to the
20 case, yes.

21 Q. Okay. So if I refer to your prior
22 deposition, you will understand I'm referring to
23 that deposition. Is that fair?

24 A. I have that understanding.

25 Q. Okay. Do you understand that today you

1 are testifying under oath just the same as if we
2 were in court?

3 A. Yes, I have that understanding.

4 Q. Is there any reason you would not be
5 able to give your full and accurate testimony today?

6 A. No.

7 Q. You know that we can take a break
8 whenever you need it, other than when a question is
9 pending, correct?

10 A. Yes.

11 Q. Great.

12 And you understand that you're not
13 permitted to speak to your attorneys about the
14 substance of your testimony during those breaks. Is
15 that fair?

16 A. Yes, that's fair. I have that
17 understanding.

18 Q. As you may have noticed, we're taking
19 today's deposition via video. And do you agree not
20 to consult any other documents, notes, messages
21 during the deposition?

22 A. I agree, except to the extent that I
23 have printed out the appropriate exhibits as a part
24 of this case. And I can go through and identify
25 what those are for you. I would request that I be

1 allowed to look at those documents.

2 Q. Sure. Let's talk about that right now.

3 What documents do you have printed out
4 there in front of you?

5 A. Okay. I have Amazon Exhibit 1001,
6 which is U.S. Patent No. 11,244,675.

7 By the way, none of these have any
8 notes or annotations on them.

9 Q. Great.

10 A. I also have a copy of my declaration in
11 this matter regarding the '675 patent dated
12 December 24th, 2025.

13 I also have a copy of the decision from
14 the PTAB in this matter.

15 I have the patent owner's response to
16 the petition, also dated December 24th, 2025.

17 I have a copy of the patent owner's
18 contingent motion to amend.

19 I also have a copy of the petition for
20 the -- the petition for the inter partes review.

21 I have a copy of the patent owner's
22 preliminary response.

23 And then I have a copy of the patents
24 that are specifically identified in the analysis of
25 this, the Shin reference, which is U.S. Publication

1 2017/0083281.

2 Q. Does that have an exhibit number on it?

3 A. Yes, sir. It's Exhibit 1003.

4 Q. Thanks.

5 A. Okay. I also have Exhibit 1004, which
6 is the Japanese unexamined patent application to
7 Shimomura. It's JP 2005-202076.

8 Exhibit 1010, which is an Aoyama
9 reference, U.S. Publication 2017/0337921.

10 I have 1013, which is the Kristjansson
11 patent, U.S. 10,147,439.

12 Exhibit 1016, the Schuster reference,
13 which is U.S. Patent 9,680,983.

14 And, lastly, the Oassi patent, which is
15 Exhibit 1017. The patent number is 11,183,167.

16 That's -- and I also -- I did print out
17 a copy of my previous deposition in the other
18 matter.

19 Q. Okay. I believe you said this already,
20 but those are all unmarked, clean, no notes, no
21 markings on them?

22 A. That is correct.

23 Q. A couple more housekeeping matters.

24 You understand that you're not
25 permitted to message or correspond with anyone via

1 e-mail, messenger, text, anything like that during
2 the deposition?

3 A. Yes, I have that understanding.

4 MR. JACKSON: I'm not sure that's a
5 rule, Nathan. But that's his understanding. He's
6 not going to do it.

7 MR. REEVES: Understood. Thank you.

8 Q. (BY MR. REEVES) And you agree to keep
9 your video camera on while we're on the record. Is
10 that fair?

11 A. Yes, while we're on the record.

12 Q. Okay. How much time did you spend
13 preparing for today's deposition, roughly?

14 A. For today's deposition, probably --
15 maybe nine hours total.

16 Q. Okay. Did you meet with anyone other
17 than Soundclear's attorneys during that preparation?

18 A. No, I did not.

19 Q. Did you speak to anyone about the
20 deposition preparation other than Soundclear's
21 attorneys?

22 A. No, I did not.

23 Q. Did you review any documents other than
24 what you have there in front of you in preparation
25 for the deposition?

1 A. No.

2 Q. Okay. You submitted a declaration
3 containing your opinions about the validity of
4 the '675 patent in this proceeding, correct?

5 A. That's correct.

6 Q. In preparing that declaration, did you
7 talk to anyone other than Soundclear's attorneys?

8 A. No, I did not.

9 Q. Did you do any kind of independent
10 investigation into the validity of the claims of
11 the '675 patent?

12 A. No, I did not.

13 Q. Did you do any independent
14 investigation into the state of the art surrounding
15 the technology?

16 A. No, no independent investigation, no.

17 Q. In preparing the declaration, did you
18 review the petition in this case?

19 A. Yes, I did.

20 Q. Did you review patent owner's
21 contingent motion to amend while preparing your
22 declaration?

23 A. I did.

24 Q. Did you review Dr. Stern's deposition
25 transcript in this proceeding while preparing your

1 declaration?

2 A. Actually, no, I did not. Let me make
3 sure. Did you say "deposition" or "declaration"?

4 Q. I said "deposition."

5 A. No, I did not.

6 Q. Okay. I'm going to go ahead and
7 introduce what's already been marked as
8 Exhibit 1001, which is the '675 patent. I'm going
9 to go ahead and drop it in the chat, although I know
10 that you already have a copy of it in front of you.

11 You can feel free to refer to this copy
12 that I have put in the chat if you would rather.

13 A. I'm going to go ahead and -- just for
14 deposition purposes, I'll go ahead and download it.

15 Q. Great. Go ahead and let me know when
16 you have it downloaded.

17 MR. JACKSON: While we're waiting, my
18 Zoom is crashing. So you can keep going. I'm going
19 to restart.

20 MR. REEVES: Okay.

21 A. I've downloaded it. Let me check to
22 make sure it's here.

23 Yes, I do have a copy of it.

24 Q. (BY MR. REEVES) Excellent.

25 I just want to go over a few things

1 that I think we covered in your prior deposition as
2 well. So if you could look at claim 1 of the
3 patent, and let me know when you are there.

4 A. All right. I have claim 1 in front of
5 me.

6 Q. Okay. The second limitation of
7 claim 1, which I'll call limitation 1[b], recites,
8 "A voice classifying unit configured to calculate a
9 distance between the user and the output-content
10 control device by a proximity sensor to classify the
11 voice into either a first voice or a second voice
12 based on the calculated distance."

13 Do you see that?

14 A. Yes, sir, I do.

15 Q. So that limitation -- my understanding
16 of that limitation is that it's -- it's acquiring a
17 voice from the voice acquiring unit in the previous
18 limitation, and then it's classifying the voice into
19 one of at least two categories; is that correct?

20 MR. JACKSON: Object to form.

21 THE REPORTER: I didn't hear the
22 answer.

23 MR. JACKSON: I objected to the form.
24 Sorry.

25 A. All right. This characterizes 1[b], a

1 voice classifying to calculate the distance between
2 the user and output-content control device by a
3 proximity sensor to classify the voice.

4 So this element requires a
5 classification or classifying of the voice. The
6 voice is the one that has been acquired. And, of
7 course, the one that's acquired is the one that was
8 actually spoken by the user.

9 Q. And that -- and that classification is
10 into one of at least two categories, correct?

11 A. It's into either what's called a first
12 voice or a second voice.

13 Q. Okay. So the first voice would be a
14 first category and the second voice would be a
15 second category. Is that fair?

16 A. No. The first voice would be a first
17 classification and the second voice would be a
18 second classification.

19 Q. You agree that the claim only requires
20 one user to use the device, correct?

21 A. Generally speaking, yes, it does
22 require at least one user. The fact that it's
23 spoken by a user, that could be one or more users.

24 But if you have more users, each one of
25 those users have to comply with everything else the

1 claim requires, too, for that user. So -- but it --
2 but on a minimum basis, one user is sufficient.

3 Q. Let's talk about the
4 classifications.

5 So the patent describes that one
6 classification that could be used is whisper versus
7 non-whisper; is that right?

8 A. That is one of the ones that it
9 describes, yes.

10 Q. Claim 1 doesn't require classifying the
11 voice as either a whisper or a non-whisper, correct?

12 A. It doesn't require it to be limited to
13 a whisper versus a non-whisper.

14 Q. You mentioned that -- that whisper
15 versus non-whisper was one of the classifications
16 that the patent describes.

17 What are other classifications that the
18 patent describes?

19 A. Well, it describes the fact that the
20 classic understanding of a whisper is a voice,
21 sometimes referred to as an un-voice or a non-voice,
22 but it's a voice that does not exercise the vocal
23 cords. That's one.

24 But it also says that a whisper could
25 also be -- it could be utilizing, in some respect,

1 some low frequency part of the vocal cords as well.

2 So it doesn't limit the whisper to not
3 use vocal cords, but it says it can use it, it may
4 not use it. So those are two different embodiments
5 of a whisper.

6 Q. Okay. Do you know if the specification
7 of the patent discloses any other classifications?

8 A. Yes.

9 Q. And what classifications does it
10 disclose besides the two embodiments of a whisper
11 that you described?

12 A. Well, what it does is when it goes
13 through a recitation of the specification, it
14 describes analyzing the voice to determine what the
15 characteristics are.

16 It indicates that one can use a Fourier
17 transform and take the time domain representation of
18 this incoming voice set of frequencies and -- and
19 transform them into a representation of intensity,
20 if you will, versus frequency.

21 And then you can set thresholds for how
22 you determine which class, which range it's going to
23 fall into or which type it's going to fall into,
24 rather.

25 And so you can set that threshold and,

1 therefore, you can set it very, very low to
2 literally distinguish between a whisper and a
3 non-whisper or you can choose to set that threshold
4 slightly above that threshold to a different form.

5 And so that gives you a sliding scale
6 of different ways in which you can implement it.
7 It's up to the person that's -- that's actually
8 implementing, instantiating the invention in their
9 own product as to where that threshold is set.

10 So you've got -- it's -- it's not
11 relegated just to the whisper because the way in
12 which they describe it in adequate detail says that
13 you could set that threshold at different points.

14 Q. So if you set that threshold higher, as
15 you were describing, would you consider that to
16 still be distinguishing between whisper and
17 non-whisper?

18 A. Well, if you state that setting the
19 threshold in one location -- one level, one
20 position, to distinguish between a whisper and a
21 non-whisper or a whisper and other, then what I said
22 is that the way in which the patent describes it,
23 you can set that threshold at a different level.

24 Now, if you set it at a different
25 level, then it's not distinguishing between a

1 whisper and a non-whisper. It would be something
2 else. You can set the thresholds for different
3 types. You can set the threshold to distinguish
4 between a whisper, a hum and a whistle. You can do
5 that.

6 As I mentioned in my previous
7 deposition, a person that's in the acoustic world or
8 in the vocal world would understand that there is
9 also a classification as to the range. In other
10 words, soprano versus bass or mezzo-soprano or alto
11 or tenor.

12 So those are different classifications
13 of the voice based upon range and based upon type.

14 Q. The specification of the '675 patent
15 doesn't talk about those different vocal ranges,
16 correct?

17 A. It talks about a Fourier transform that
18 allows you to look at the clustering of frequencies,
19 the intensity of frequencies to make a decision and
20 the range fits within that umbrella.

21 It doesn't use the words like "soprano"
22 or "bass," but one of skill in the art looking at
23 the patent would understand, from a voice context,
24 that that is a classification that fits within what
25 is described.

1 Q. In your view, would a classification
2 like that between, say, soprano and bass be covered
3 by claim 1?

4 MR. JACKSON: Object to the form.

5 A. Well, there is a potential that it
6 would be covered. I would have to look at the
7 specifics to make that -- that decision in terms of
8 the way it's been implemented.

9 But I do represent that this soprano
10 versus bass are different classifications of the
11 voice. And so that would fit within the
12 understanding of a first and a second voice.

13 Q. Claim 1 isn't limited to any particular
14 type of classification as long as it meets the
15 limitations of the claim, correct?

16 A. It is not limited to a type of
17 classification as long as the -- as you said, if it
18 meets the limitations of the claim, which means it's
19 a classification of the voice. Not a -- not a
20 classification or categorization of something else.
21 It's a classification of the voice.

22 Q. And it's also required to be based on a
23 calculated distance between the user and the device,
24 correct?

25 A. That's correct. It's based upon a

1 calculated distance through the use of a proximity
2 sensor. That is one of the inputs that is used to
3 enable a class -- one to come to that
4 classification.

5 Q. So it could be -- it could be any
6 classification as long as it's a classification of
7 the voice and based on the distance between the user
8 and the device. Is that fair?

9 MR. JACKSON: Object to the form.

10 A. Well, the claim limitations directed --
11 this is a structure and apparatus claim. So the
12 claim limitation is directed to a voice classifying
13 unit. So that particular structure is configured to
14 calculate a distance between the user and the
15 output-content control device using or by a
16 proximity sensor.

17 So you have the voice classifying unit.
18 There is a specific claimed limitation to the
19 configuration and a specific claim limitation to
20 that distance calculation -- that distance
21 information being provided via a proximity sensor.

22 All of those are limitations in the
23 particular limitation -- excuse me, in the element
24 for a voice classifying unit.

25 Q. There is no further -- there is no

1 further limit -- sorry, let me -- let me start that
2 over.

3 There is nothing further in the claim
4 that specifies what the classification has to be
5 beyond what you just stated. Is that fair?

6 A. Let me look at the rest of the claim.

7 MR. JACKSON: Object to the form.

8 A. There are further uses of it because
9 when you classify -- the voice classifying unit
10 classifies the voice into a first or a second voice,
11 there are other limitations in which later, for
12 instance, in the output-content generating unit,
13 that generates its output and it in part includes
14 the limitation. The generation is determined based
15 on being a first or a second voice.

16 So there are other places in the claim
17 where the classification is into a first or second
18 voice is used as further limitations on the rest of
19 the claim.

20 But there is nothing else in the claim
21 that adds any differentiation, I would say, to what
22 is required here. And that is classify the voice
23 into either a first or second voice.

24 We do get a more precise classification
25 when you introduce the dependent claim 5, but not

1 here in claim 1.

2 Q. I will go ahead and introduce what's
3 already been marked as Exhibit 1004, which is the
4 Shin reference, which I've got in the chat as well.

5 Let me know when you have that
6 downloaded and pulled up.

7 A. Okay. I have Exhibit 1004, the Shin
8 reference, downloaded.

9 Q. Great.
10 I want to look specifically at
11 Figure 7, which is towards the end. I think we
12 discussed Figure 7 in your prior deposition.

13 Does this look familiar to you?

14 A. Yes, it does.

15 Q. So the top row of Figure 7 is showing
16 two different categories of distances between the
17 user and the device. Is that fair?

18 A. Yes, sir, that's fair.

19 Q. And the bottom row is showing whether
20 the device makes a change in its output character
21 string. Is that fair?

22 A. Yes, by adding additional space.

23 Q. And so a device is using this table to
24 decide whether or not to make a change in the
25 character string based on which of these two

1 categories of distance the measured distance falls
2 into.

3 Is that your understanding?

4 A. That's correct. It's -- from what I
5 can recall, it's strictly based upon a distance
6 determination.

7 Q. Okay. Let's move back to
8 the '675 patent for a moment. You mentioned
9 claim 5, so let's take a look at claim 5. Let me
10 know when you have that in front of you.

11 A. All right. I have it in front of me.

12 Q. Claim 5 says, "The voice classifying
13 unit is further configured to determine the voice to
14 be the predetermined voice when the voice spoken by
15 the user is a whisper."

16 Do you see that?

17 A. I see that.

18 Q. What is the predetermined voice?

19 A. Well, if you will look at the
20 amended -- submission for the amended amendment, the
21 predetermined voice is -- is a predetermined voice.
22 It's -- there is no antecedent for the word "the,"
23 but it's clear -- clear on its face that it would be
24 a predetermined voice.

25 Q. And what does a predetermined voice

1 mean?

2 A. It says it's configured to determine
3 the voice to be a predetermined voice. Now, the
4 voice that is -- this basically is what is being
5 originated and transmitted from the user. This goes
6 back to acquiring a voice spoken by a user.

7 So this is a predetermined voice, which
8 goes back to the voice or would go back to the voice
9 that is coming from that user.

10 And then it goes further to clarify
11 that. It says, "When the voice spoken by the user
12 is a whisper." So that predetermined voice here is
13 one of which the user has chosen to whisper and,
14 therefore, the voice classification is a whisper.

15 Q. So would you consider a predetermined
16 voice as it's used in the claim to be a voice
17 classification?

18 MR. JACKSON: Object to the form.

19 A. Well, it's interesting that you ask the
20 question that way because the limitation is a
21 further limitation on the structure of the voice
22 classifying unit. What's the function -- what does
23 the voice classifying unit do? It classifies the
24 voice into a first or second voice.

25 And so the fact that you are talking

1 about here that it -- this says that the voice that
2 is spoken by the user is a whisper, so that would be
3 what it's classified as, is a whisper. And that
4 would go back to supporting one of the embodiments
5 in the patent.

6 Q. So I'm just trying to understand where
7 this language about a predetermined voice fits in.
8 So is a predetermined voice the same thing as the
9 first voice or the second voice?

10 A. Well, in your voice classifying unit
11 you are classifying the voice into either a first or
12 a second voice. That's in claim element 1[b].

13 So there is already a classification
14 that is occurring here in the independent claim to a
15 first or second voice. So it's making that
16 determination. It's a voice 1 or a voice 2.

17 So now claim 5 depends on claim 1.
18 And, therefore, when it goes back and says, all
19 right, I'm going to add a further limitation onto
20 the voice classifying unit. And that's handled by
21 the words further.

22 And not only was it configured to --
23 not only was it configured to classify, it's now
24 also configured to make that determination of the
25 voice that's consistent with the predetermined

1 voice, and the predetermined voice is classified as
2 a whisper.

3 So all this is doing is saying that the
4 voice that was determined is a whisper, whereas in
5 the independent claim there is not a limitation that
6 it has to be a whisper.

7 Q. So in your view, this determination
8 that the voice is a predetermined voice when it's a
9 whisper is separate from the classification between
10 the first and second voice; is that correct?

11 A. I'm not sure what you mean by
12 "separate." It is an additional limitation in the
13 dependent claim 5. And since it uses the further
14 configured that says that the voice classifying unit
15 has already made a determination -- has made a
16 determination that it's classifying it as a voice, a
17 particular type of voice in claim 5. It says it's
18 the type that has been predetermined, the one that's
19 already classified is a whisper.

20 So it's doing nothing more than saying
21 that the classification that's performed by the
22 voice classifying unit is a whisper.

23 Q. So in your view, claim 5 is basically
24 adding on that one of the first voice and the second
25 voice is a whisper?

1 A. One of, yes.

2 Q. The other is not a whisper. Is that
3 fair?

4 A. It could be, but not necessarily. What
5 you've done is you've added on another limitation,
6 which is not claimed. It's only making the
7 section -- section here that the predetermined
8 voice, whether it was the first or the second,
9 whatever it is, it's already predetermined, that
10 happens to be a whisper.

11 Now, that doesn't say it cannot be a
12 whisper that uses the vocal cords and a whisper that
13 doesn't use the vocal cords. I mean, that -- that
14 latitude is available, based upon the specification
15 support. But -- so I disagree with your proffer
16 that it has to be a non-whisper.

17 Q. You mentioned that you had a copy of
18 the motion to amend in front of you, correct?

19 A. I do have a copy, yes.

20 Q. I don't have one handy to put in the
21 chat, so I'll have you rely on your paper copy.

22 A. Okay, I have it.

23 Q. Got it. One moment, please.

24 I'll just state for the record the
25 motion to amend is paper 21 in this case.

1 So you refer to amended claim 8. The
2 language of that claim is towards the end of the
3 motion to amend. Would you take a look at that and
4 let me know when you're there?

5 A. Okay. Just one second.

6 Okay. What page? You said claim 8?

7 Q. Yes. I believe the claim language is
8 on the very last page of the motion to amend -- or
9 the last two pages, excuse me.

10 A. I have a proposed claim 8 started on
11 page -- actually started on page 8.

12 Q. Okay. Take a look at page 21.

13 A. Okay. Page 21 is the Appendix A?

14 Q. Yes.

15 A. Okay, got it.

16 Q. So that amended language is actually on
17 page 22. And it adds, among other things, that the
18 whisper -- the voice is determined to be a whisper
19 based upon whether the peak frequency is equal to or
20 lower than a threshold.

21 Do you see that?

22 A. Yes, sir, I do.

23 Q. So, in your view, the classification
24 that's made by the voice classifying unit needs to
25 be based both on the distance calculated by the

1 proximity sensor and whether each frequency is equal
2 to or lower than the threshold; is that correct?

3 MR. JACKSON: Object to the form.

4 A. Yes. The claim 8 includes the
5 limitation to calculate a distance using that
6 information from the proximity sensor and that the
7 classification is based on the calculated distance.

8 So, yes, based on the calculated
9 distance, there is still a limitation in this new
10 claim, amended claim 8.

11 And the additional limitation, which is
12 applied here on page 22, is that a predetermined
13 voice, when the voice is spoken by the user is
14 determined to be a whisper. And the limitation
15 that's added here is based upon whether a peak
16 frequency is equal to or lower than a threshold.
17 Okay?

18 Yes, both of those are -- are
19 limitations required by the proposed claim 8.

20 Q. Okay. We're at a bit of a stopping
21 point if you would like to take a break and come
22 back in five or ten minutes.

23 A. Okay, that's fine.

24 THE REPORTER: Off the record at 11:49.

25 (Recess from 11:49 a.m. to 12:00 p.m.)

1 Q. (BY MR. REEVES) Mr. McAlexander,
2 welcome back.

3 A. Thank you.

4 Q. Did you happen to discuss the substance
5 of your testimony with counsel on the break at all?

6 A. Not at all.

7 Q. Great.

8 I want to go ahead and introduce your
9 declaration, which has been marked as Exhibit 2016.
10 I'll drop that in the chat.

11 (Exhibit 2016 marked.)

12 Q. (BY MR. REEVES) Let me know when you
13 have it pulled up and ready.

14 A. Okay, I have it up.

15 Q. Great.

16 I want to take a look at paragraph 171,
17 which starts on page 70. Let me know when you are
18 there.

19 A. All right. I'm on paragraph 171.
20 We're putting it up here on the computer.

21 Okay, I'm there.

22 Q. Great.

23 So here in paragraph 171, you say in
24 the third sentence, "The specification describes how
25 the voice classifying unit of the output-content

1 control device determines a voice to be a whisper or
2 not a whisper."

3 Do you see that?

4 A. Yes.

5 Q. And then you -- in the rest of
6 paragraph 171, you walk through this example in the
7 specification, is that right, more or less?

8 A. Yes. I believe it's column 9 and 10 in
9 the -- yes, that's exactly what I'm doing.

10 Q. And is this process that you lay out in
11 the specification the same process that's recited in
12 claim 8?

13 MR. JACKSON: Object to the form.

14 A. Yes. This -- this characterization
15 that I did in paragraph 171 is basically referencing
16 columns 9 through 10 in the specification. It
17 identifies the way in which one can use a Fourier
18 transform to establish a -- something above or below
19 a threshold.

20 From that, you can make a determination
21 or classification as a whisper. And it adds the
22 additional aspect, too, that you can determine in
23 one -- in one of the embodiments that you can make
24 that distinction specifically, whether it's a
25 whisper or not a whisper.

1 So, yes, it's at least one of the --
2 that is characterized in at least one way in which
3 you can use the Fourier transform.

4 THE REPORTER: You can use the --

5 THE WITNESS: Fourier is -- I'm trying
6 to look at it here just to make sure I've got you
7 right. It's F-O-U-R-I-E-R.

8 THE REPORTER: Oh, that's right. Thank
9 you.

10 Q. (BY MR. REEVES) Does claim 8 require
11 performing a Fourier transform?

12 A. No. It's an apparatus claim. It
13 doesn't -- it doesn't require that.

14 Let me look back in here at the motion
15 to amend. Let's see. I think I've got that here
16 anyway. Just hang on one second.

17 No, it's looking at an aspect that you
18 can get to it by Fourier transform, but it doesn't
19 require it to be by Fourier.

20 Q. Okay. I want to talk a bit more about
21 that -- that Fourier transform and just make sure
22 I'm understanding it correctly.

23 So the device receives some voice --
24 requires some voice input and it performs the
25 Fourier transform, and that produces a spectrum that

1 shows intensity at each frequency of the input. Is
2 that fair?

3 MR. JACKSON: Object to the form.

4 A. If it is -- if the Fourier transform --
5 if the evaluation is on a frequency peak by
6 frequency peak, the answer is yes.

7 Some -- some Fourier transforms do it
8 on a sample basis. So it's not every peak. And
9 some Fourier transforms will basically classify the
10 primary peaks. And maybe --

11 (Audio interruption.)

12 THE REPORTER: Wait, it's cutting out.

13 (Discussion off the record.)

14 A. A Fourier transform is an algorithmic
15 mechanism in which you can take an input that has
16 variations in frequency, but those variations in
17 frequency obviously occur over time.

18 For instance, even when I'm speaking
19 this sentence, I'm speaking in a tone, but it's
20 various frequencies depending upon the level of
21 intonation I'm giving. And that's done over a time
22 period.

23 So it's taking that sample of that
24 frequency that's occurring over time, doing a
25 transform on that to develop a chart, if you will,

1 that compares intensity versus frequency.

2 And, therefore, you can now go in and
3 look at where are the peak frequencies and determine
4 where to draw that -- that line of demarcation
5 between a peak frequency that occurs below a certain
6 amount. And so you can set a threshold based upon
7 that. That's the way it works.

8 But Fourier transformer is one. You
9 can do a discrete cosine transform. There are other
10 ways you can do it.

11 Q. So when we're talking about frequency,
12 that's generally measured in hertz, right?

13 A. Generally, that is correct.

14 Q. And what units would be used to measure
15 intensity?

16 A. It could be dB, decibel.

17 Q. So you mentioned -- we've mentioned
18 finding peaks or a peak frequency. What -- could
19 you just define "peak frequency" for me?

20 MR. JACKSON: Object to the form.

21 A. The -- what this is looking at is
22 you've got, obviously, a bunch of different
23 frequencies.

24 But what occurs is that when you draw a
25 chart that, on the vertical axis, is intensity,

1 decibels, as an example, and then on the horizontal
2 axis you have frequency that goes from zero to
3 something. And what you do is you plot the
4 intensity level that occurs at each one of those
5 frequencies along that chart line. And that's what
6 it means by looking at a peak frequency.

7 So you're plotting the peaks. That's
8 what a Fourier transform does. It plots the peaks
9 of -- at each frequency.

10 And now what you've defined is I'm
11 going to define a threshold that if it's above a
12 particular peak or below a certain intensity level,
13 then that's what I'm using as my arbitration.

14 Q. So your threshold, is it threshold
15 frequency or a threshold intensity?

16 MR. JACKSON: Objection, form.

17 A. Yes. The plot is based on intensity
18 versus frequency. You are looking for a threshold
19 in terms of -- in this case, would be you're looking
20 for an intensity level that is -- you set
21 your thresh -- you set that as a threshold so that
22 the whisper occurs lower than that.

23 But it's a combination of the peak
24 frequency -- the peak at a frequency. For instance,
25 if you've got -- if you do a whisper, it's going to

1 be a much, much lower frequency than the general
2 cluster of frequencies you're going to get when
3 you're actually talking, like I'm doing right now.

4 A whisper is not going to be vibrating
5 the vocal cords, if it's a classic whisper, and so
6 you are going to be at the very, very low end.

7 So what you're doing is you're setting
8 a marker that says if you have a sliding scale up
9 the frequency spectrum, that I'm going to make sure
10 that I'm looking at the peak frequency of -- in
11 other words, and that has to be lower than a certain
12 amount.

13 And so that -- that then becomes your
14 mark -- your mark, if you will, as to whether you're
15 going to say it is or is not a whisper.

16 Q. So just so I can make sure I'm
17 understanding this correctly, what you're saying is
18 that the device finds the peak frequency and then it
19 determines whether the intensity at that frequency
20 is above or below a threshold; is that correct?

21 MR. JACKSON: Object to the form.

22 A. I'm just looking back at the
23 specification. Just give me a second here.
24 (Reviewing document.)

25 All right. The way the claim is

1 written, what you are looking for is your sliding --
2 you basically have an entire scale of frequencies
3 and you're looking for where the frequency in that
4 sliding scale is that has your -- has your highest
5 frequency.

6 And so if you slide the scale from zero
7 origin to the right on a Fourier scale to where you
8 identify, all right, at this particular position on
9 this -- on that horizontal axis, I can show where
10 the peak, the highest intensity is for that given
11 frequency. And so now you define a frequency that
12 has a peak. That's the highest point.

13 So in this particular embodiment, what
14 you do is now look at, all right, is the -- is it
15 above or below a frequency that I've established.
16 So it is kind of a combination of both. You're
17 looking at both the frequency and the intensity.

18 Q. (BY MR. REEVES) Okay. So the
19 thresh -- the threshold that you're setting is a
20 frequency threshold. Is that fair?

21 (Audio interruption.)

22 THE REPORTER: Wait, it's cutting out.

23 MR. REEVES: I think we're having some
24 issues again.

25 THE REPORTER: I didn't get anything.

1 MR. REEVES: I didn't hear anything
2 either.

3 THE WITNESS: Let me cut out -- I'm
4 going to go off the record for a moment and come
5 back.

6 MR. REEVES: Let's go off the record
7 and fix this issue.

8 (Discussion off the record.)

9 MR. REEVES: I'll restate the question
10 since we had some technical issues there.

11 Q. (BY MR. REEVES) So this process you
12 mentioned, setting a threshold, is that threshold a
13 frequency?

14 MR. JACKSON: Object to the form.

15 A. It depends upon the algorithm that
16 you're using. For instance, if you use a Fourier,
17 then you're looking at intensity versus frequency
18 and you're defining where the frequency is that has
19 the peak intensity. That's your peak frequency.

20 And then you're saying, all right, on
21 that scale, what is that frequency value and is that
22 frequency value above or below a threshold that I've
23 established. And so that's one way.

24 If you're using something like the
25 cepstrum, mel-frequency cepstrum, which is also

1 found in column 10, slightly different because here
2 you're looking at a -- in this particular type of
3 algorithm, you're taking a snapshot, kind of a
4 short-term, short time span look at the power
5 cepstrum. And you're looking at that sound that's
6 coming in, looking at the power cepstrum over a
7 particular slice of that sound combination of
8 frequencies.

9 And then it does a -- instead of the
10 Fourier, it does a linear cosine transform. And
11 when you do that, you're looking at a power cepstrum
12 and it's a nonlinear mel-scale. So you're looking
13 at a mel value. It really depends on the algorithm
14 you're using as to what you're looking at as your
15 threshold. It could be a mel value in the
16 mel-cepstrum approach.

17 THE REPORTER: Mel?

18 THE WITNESS: Mel is M-E-L. It's a
19 shortened form of the use of the word "melody."

20 Q. (BY MR. REEVES) So you mentioned using
21 either a Fourier transform or one of the
22 mel-cepstrums and a linear cosine transform.

23 Is it your view that both of those
24 methods are covered by claim 8?

25 MR. JACKSON: Object to the form.

1 A. There is nothing in the claim 8 that
2 forces it into a Fourier versus a mel-frequency.

3 As an example, those would be ways in
4 which one could instantiate the invention in a
5 particular product.

6 Q. (BY MR. REEVES) How is peak frequency
7 related to whisper?

8 MR. JACKSON: Object to the form.

9 A. Well, anything -- a whisper clearly is
10 something that comes out through the mouth, so it's
11 a voice. It's a voice. But, as I said, in the
12 classic sense, there is little to no vibration,
13 vibrato in the vocal cords.

14 And so -- but anything that you push
15 out through your mouth, vocalize through the mouth
16 is going to create a pressure on the air around it
17 and it's going to create a pressure wave.

18 And so that pressure wave, as you make
19 a statement and change the wording of the statement,
20 there are going to be some variations in frequency.
21 There is going to be a much lower level rather than
22 the frequency spectrum that you normally get from a
23 voice. It's over, you know, a fairly large range.

24 I would say typically it's in the 500
25 to 2,500, typically, in the voice. But if you get

1 some higher frequencies, such as someone yelling, it
2 could go higher. If you're -- so it depends upon
3 that.

4 But there is some frequency still
5 associated with the whisper. So you're looking at
6 what intensity level is occurring at the set of
7 frequencies that you're evaluating to determine
8 whether it's below or above a threshold. I think
9 the claim language is "equal to or lower than."

10 Q. So here you're just saying you're
11 looking at what intensity level is occurring and
12 evaluating to determine whether that intensity level
13 is below or above a threshold.

14 Did I get that correct?

15 MR. JACKSON: Object to the form.

16 A. Not exactly, because you have intensity
17 levels for each one of the frequencies. So what
18 you're looking at is where in the frequency spectrum
19 does the peak intensity occur, using that, then, as
20 your barometer as to whether it's above or below a
21 particular threshold.

22 Q. Let me ask this.

23 If we're using -- let's say we're using
24 a Fourier transform. In that case, when you set
25 your threshold, what units would that number have?

1 MR. JACKSON: Object to the form, by
2 the way.

3 A. Well, if you -- there's several ways it
4 can be arranged, sir.

5 One is if you're using just a classic
6 Fourier, which I thought was your question. In that
7 case, you're looking at intensity versus frequency
8 and you're finding where is the frequency that has
9 the peak intensity, the largest scaled intensities.

10 And then from that, you would say on
11 that sliding frequency scale is it above or -- is
12 that peak frequency above or below a particular
13 frequency. That would be one way you can do it.

14 If -- but if you'll notice -- the
15 reason I was hesitating, if you look at column 10 of
16 the '675 patent, and let me know when you have it.

17 Q. I'm with you.

18 A. If you look, for instance, around the
19 entire section on column 10 from about line 9
20 through 46, it's really addressing this question
21 that you had.

22 And if you look at specifically around
23 line 36, 37, 38, the sentence that begins
24 "moreover."

25 "Moreover, the voice classifying unit

1 42 can derive a mel-frequency cepstrum coefficient
2 as a feature value, and can perform the
3 classification to the first voice V1A and the second
4 voice V1B based on the mel-frequency instrument
5 coefficient. In these cases, the voice classifying
6 unit 42 sets a threshold of the feature value."

7 So in the nonlinear curve of the mel,
8 it's looking at frequency and intensity, but it's a
9 nonlinear basis.

10 And so the cepstrum value that's
11 associated with a particular set of frequencies is
12 what they are calling out here that you can use as
13 the feature value for it.

14 So it depends upon your algorithm as to
15 what you're focusing on as your threshold. But a
16 person of skill in the art knows that if I'm going
17 to utilize a particular type of algorithm, then this
18 is how I will do it.

19 Q. And so my question was about using a
20 Fourier transformer.

21 So in that case, would you agree, then,
22 that the threshold value would be delineated in
23 hertz?

24 A. No, this would be delineated in a
25 mel -- mel value.

1 Q. So if I -- if I simply take a Fourier
2 transform, and say I'm looking at frequency versus
3 intensity, and I'm setting a threshold in that -- in
4 that relationship, what units would my threshold
5 have?

6 MR. JACKSON: Object to the form.

7 A. You could set the threshold as above or
8 below a particular frequency. You could use that.
9 That's one way.

10 Q. (BY MR. REEVES) What are -- what are
11 other things I could use?

12 A. You could use the intensity. Look at
13 the max intensity that occurs on a particular
14 frequency and that's your max frequency intensity.
15 And then is that intensity above or below a value.

16 You could also create the algorithm
17 that's a combination of both.

18 Q. And is any particular one of those ways
19 claimed in claim 8 or does claim 8 cover all those?

20 A. Claim 8 is not limited to a way, other
21 than what is required here. And that's the language
22 that's added in the claim itself, but it's not
23 limited to a mel type or a Fourier type like that.

24 Those are different ways in which you
25 can implement it, but the claim is not limited to

1 one or the other of those ways.

2 Q. So your view is, in claim 8, when we
3 say -- when we say that the peak frequency is equal
4 to or lower than a threshold, that threshold could
5 be a threshold frequency or a threshold intensity or
6 a threshold mel value, is that fair, or something
7 else?

8 MR. JACKSON: Object to the form.

9 A. Those are just values -- those are just
10 values that you can claim as your feature value, and
11 certainly whether or not it's above or below. It's
12 not limited to those. It depends on the particular
13 type of algorithm you're using.

14 Basically, what you do is you employ an
15 algorithm, you analyze the spectrum, and you make a
16 determination as to whether, in that analytical
17 approach, it's above or below a particular set
18 point.

19 That set point could be above or below
20 a particular frequency that has that max intensity.
21 It could be a combination of them both. So I don't
22 think it's a limitation of one versus the other.

23 Q. Let's take a short break, if you don't
24 mind. Maybe five minutes.

25 (Recess from 12:33 p.m. to 12:41 p.m.)

1 THE REPORTER: Back on the record.

2 Q. (BY MR. REEVES) Mr. McAlexander,
3 during the break did you discuss your testimony at
4 all with counsel?

5 A. No, I did not.

6 MR. REEVES: I have no further
7 questions at this point.

8 MR. JACKSON: Could we take a
9 two-minute break for me to look through the notes of
10 what's been said to decide if I have any further
11 questions?

12 MR. REEVES: Sure.

13 MR. JACKSON: Let's go off the record.
14 (Discussion off the record.)

15 MR. JACKSON: No questions from me.

16 MR. REEVES: I think that concludes our
17 session today.

18 Thank you, Mr. McAlexander.

19 THE WITNESS: Thank you. Pleasure
20 meeting you, sir.

21 (Proceedings concluded at 12:42 p.m.)

22

23

24

25

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

3

4 AMAZON.COM, INC., AMAZON.COM)
5 SERVICES, LLC, and AMAZON)
6 WEB SERVICES, INC.,)
7 Petitioners,)
8 v.) Case No. IPR2025-00565
9 SOUNDCLEAR TECHNOLOGIES, LLC,) U.S. Patent
Patent Owner.) No. 11,069,337

10

11

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13 MARCH 3, 2026

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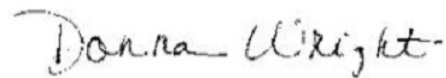
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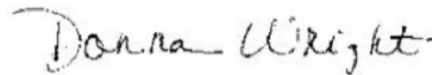
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1 Errata Sheet

2 NAME OF CASE: Amazon.com, Inc. vs SoundClear Technologies, LLC

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4 NAME OF WITNESS: Joseph McAlexander

5 Reason Codes: 1. To clarify the record.

6 2. To conform to the facts.

7 3. To correct transcription errors.

8 Page _____ Line _____ Reason _____

9 From _____ to _____

10 Page _____ Line _____ Reason _____

11 From _____ to _____

12 Page _____ Line _____ Reason _____

13 From _____ to _____

14 Page _____ Line _____ Reason _____

15 From _____ to _____

16 Page _____ Line _____ Reason _____

17 From _____ to _____

18 Page _____ Line _____ Reason _____

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