UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

SONOS, INC.,
Patent Owner.

Case No. IPR2026-00131
U.S. Patent No. 10,966,025

PATENT OWNER SONOS, INC.'S PRELIMINARY RESPONSE

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I. INTRODUCTION

To deliver an enhanced home audio experience, Sonos developed multi-channel pairing technology that enables a smart speaker to determine what audio channel(s) to output when operating alone or paired with one or more additional smart speakers. The '025 Patent describes this technology, and the claimed invention is directed to a smart speaker, referred to in the claims as a "*playback device*," that is configured to process and output single-channel or multi-channel audio depending on whether it is not paired or is paired with another "*playback device*."

Google's Petition disregards several limitations recited in the challenged claims, reducing the claimed invention to an oversimplified abstraction. Having stripped away those claim limitations, Google then turns to Litbak—a reference about "interactive puppet" technology—and attempts to analogize and map it to the multi-channel smart speaker environment described and claimed in the '025 Patent. *See, e.g.,* Pet., 14, 17, 54-55, 57-58. But Litbak's "interactive puppet" technology is not even in the same ballpark as the claimed multi-channel pairing technology. Unsurprisingly, Litbak lacks the core components and functionality required by the claimed "*playback device*" in every challenged claim.

Although Google's reliance on Litbak is flawed in many respects, for purposes of this Preliminary Response, Sonos focuses on two dispositive defects that

each warrant denial of institution on the merits.

First, Litbak does not disclose or suggest a "*playback device*" comprising "*one or more speaker drivers*," as required by every challenged claim. Litbak's purported "*playback device*" includes ***no*** "*speaker drivers*," and Google incorrectly presumes otherwise.

Second, Litbak does not disclose or suggest a "*playback device*" that is configured to "*perform a **first processing of the audio data** so as to output two-channel audio based on the audio data from the one or more speaker drivers*," as required by every challenged claim. As explained below, Google maps this requirement to Litbak's "straight-through state," but Litbak repeatedly makes clear that ***no*** audio data processing occurs in the "straight-through state."

Because these defects are fatal to Google's theories for each independent claim—and thus every dependent claim—the Petition fails to demonstrate a reasonable likelihood of success and should therefore be denied.

II. OVERVIEW OF THE '025 PATENT

Audio content often includes multiple channels, such as left and right channels in a stereo recording. To deliver a reliably immersive home audio experience, Sonos addressed a fundamental problem with multi-channel audio content: what audio channel(s) a smart speaker should output when operating alone or when paired with one or more other smart speakers. The '025 Patent provides one such solution.

The ’025 Patent is generally directed to “multi-channel pairing in a media system” and is “particularly useful in pairing two or more playback devices together to create or enhance multi-channel audio reproduction, like stereo, surround sound, or some other multi-channel environment.” Ex.1001, 3:30-35. For instance, the ’025 Patent discloses a smart speaker (referred to as a “*playback device*” in the claims) that can determine its pairing configuration and process audio data accordingly. *See, e.g., id.*, 3:39-54, 4:4-14, 14:58-64. When a first playback device is not paired with a second playback device, it may be configured to perform a first processing of audio data received at its network interface so as to output “*two-channel*” audio (e.g., play both right and left channel audio). *Id.*, 3:45-49. When the first playback device is paired with a second playback device, the first playback device may be configured to perform a second processing of the audio data so as to output one-channel audio (e.g., right channel audio and not left channel audio), while the second playback device may be configured to perform processing of audio data so as to output a different channel (e.g., left channel audio and not right channel audio). *Id.*

In turn, independent claims 1, 16, and 18 reflect these paired and not-paired configurations for a “*playback device*.” Specifically, representative independent claim 1 recites the following core components and functionality of the claimed “*playback device*”:

[1ai] *a network interface configured to receive audio data over a network;*

[1aii] *one or more speaker drivers configured to output audio based on the audio data;*

[1aiii] *one or more processors; and*

[1aiv] *tangible, non-transitory, computer readable memory comprising instructions encoded therein, wherein the instructions, when executed by the one or more processors, cause the playback device to:*

[1b] *receive a signal from a controller over the network, wherein the signal comprises an instruction for the playback device to become paired with one or more other playback devices such that, after pairing, the playback device and the one or more other playback devices have different playback roles; and*

[1c] *(i) determine that either (a) the playback device is not paired with the one or more other playback devices or (b) that the playback device is paired with the one or more other playback devices such that the playback device and the one or more other playback devices have the different playback roles,*

[1d] *(ii) configure the playback device to perform a first processing of the audio data so as to output two-channel audio based on the audio data from the one or more speaker drivers after the playback device has determined it is not paired with the one or more other playback devices, and*

[1e] *(iii) change the configuration of the playback device by configuring the playback device to perform a second processing of the audio data so as to output one-channel audio based on the audio*

data from the one or more speaker drivers after the playback device has determined it is paired with the one or more other playback devices.

III. OVERVIEW OF THE PETITION

Google challenges claims 1-4, 7-10, and 12-23 of the '025 Patent. Pet., 1. Of these claims, claims 1, 16, and 18 are independent and the remainder are dependent.

For the independent claims, Google advances a single ground of obviousness based on the combination of Litbak and Seydoux, with Litbak serving as the primary reference. *Id*., 1. Although Google relies on both Litbak and Seydoux for certain components of the claimed "*playback device*," including "*one or more speaker drivers*" recited in limitation [1aiii], Google relies exclusively on Litbak for limitation [1d]. *See* Pet., 53-56.

Google states that independent claims 16 and 18 are "substantively identical" to independent claim 1. Pet., 59. Thus, Sonos's Preliminary Response focuses on Google's deficient analysis of limitations [1aiii] and [1d] in independent claim 1, and the same defects dispose Google's challenges to all remaining claims.

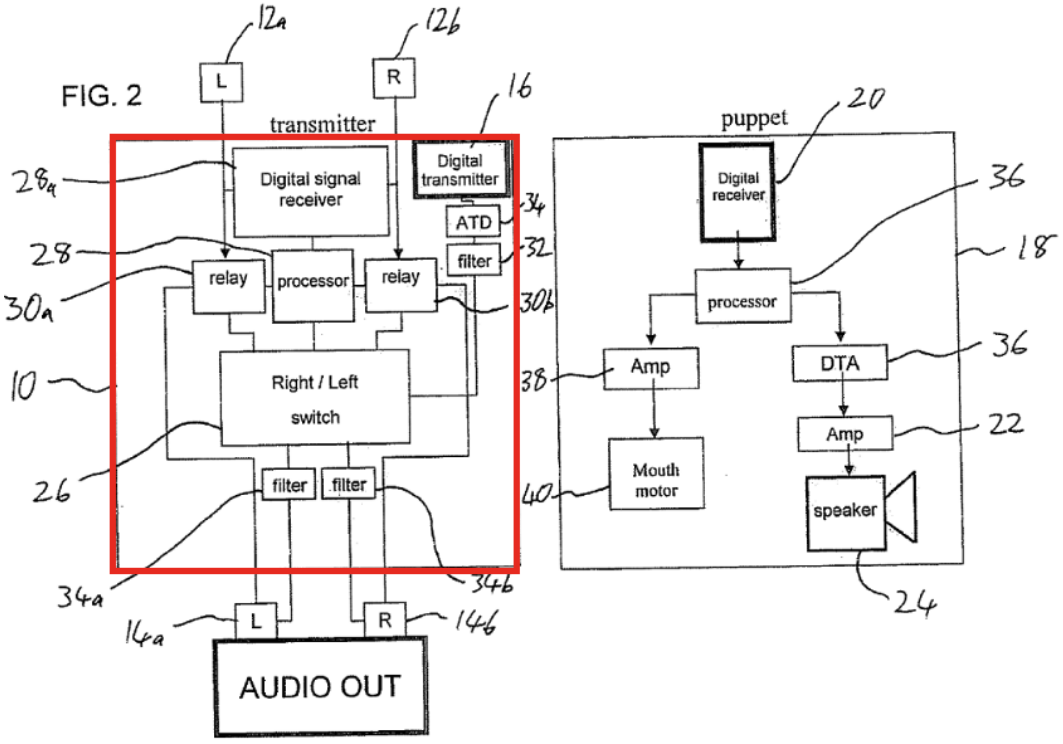
IV. GOOGLE'S LITBAK-BASED THEORY FAILS TO DISCLOSE OR SUGGEST THE CHALLENGED CLAIMS

As explained below, Litbak's "interactive puppet" technology bears no resemblance to the multi-channel smart speaker environment described and claimed in the '025 Patent. Litbak therefore plainly fails to disclose or suggest at least

limitations [1aiii] and [1d].

A. Overview of Litbak

Litbak is directed to "interactive puppet" technology. Ex.1005, ¶35. Litbak's core component is an "audio switching arrangement" positioned "between [an] audio source (e.g., decoder, receiver, player) and [a] playback/output device (e.g., television, amplifier, etc.)." *Id.*, ¶39. Litbak illustrates the "audio switching arrangement" in FIG. 2, reproduced below with the "audio switching arrangement" annotated in red for clarity:



Id., FIG. 2 (annotation added).

According to Litbak, the "audio switching arrangement" operates in two different states: (1) a "straight-through state," and (2) a "diverted state." *See, e.g.,*

id., Abstract, ¶13, 26, 33, 38, 39, 47, 55, 56, 61. Only the "straight-through state" is relevant to this Preliminary Response.

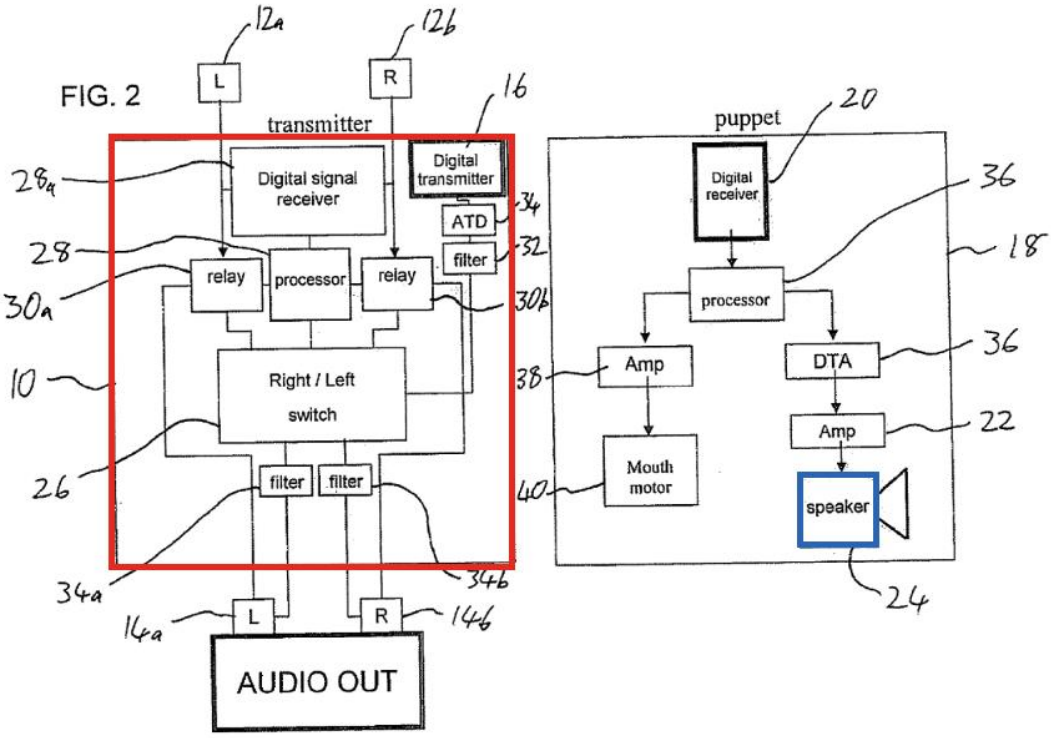
In the "straight-through state," the "audio switching arrangement" bypasses its "processor" and directly connects audio inputs to audio outputs. *See, e.g., id*., ¶61 ("When no actuation signal is detected, processor 28 leaves relays 30 a and 30 b de-energized so that inputs 12 a, 12 b are directly connected to audio outputs 14 a, 14 b as if the switching arrangement was not present."), ¶20 (describing "bypassing the electronic switch to connect the audio input directly to the audio output"), ¶21 (same), ¶55 (same), ¶56 (same); *see also, e.g., id.*, Abstract, ¶13, 23, 26, 33, 38, 39, 47. Litbak explains that "bypass[ing] all electronic components and giv[ing] a wired connection between inputs and outputs ensures that even any slight degradation introduced by the electronic components is avoided." *Id.*, ¶55 .

B. Google Fails to Demonstrate a Reasonable Likelihood of Prevailing on Limitation [1aiii]

Limitation [1aiii] requires a "*playback device*" comprising "*one or more speaker drivers configured to output audio based on the audio data*." Litbak's purported "*playback device*" includes no such component.

Litbak's core component is an "audio switching arrangement," which Google attempts to map to the claimed "*playback device*." *See, e.g.,* Pet., 14. But Litbak's "audio switching arrangement" is not a "*playback device*" that includes "*one or more speaker drivers*" as required by limitation [1aiii]. Instead, Litbak's "audio switching

arrangement" is placed "***between*** [an] audio source (e.g., decoder, receiver, player) and [a] ***playback/output device*** (e.g., television, amplifier, etc.)." Ex.1005, ¶39. Consistent with that placement, Litbak's "audio switching arrangement" itself contains no "*speaker drivers*" at all. *See id*. In fact, FIG. 2 of Litbak depicts the "audio switching arrangement" (annotated in red below) without any speaker drivers, while separately depicting a remote "puppet" that includes "speaker 24" (annotated in blue below):



Id., FIG. 2 (annotations added).

To force the square peg into the round hole, Google claims that an "Audio Out" jack on Litbak's "audio switching arrangement" constitutes "*one or more speaker drivers*" because it "'outputs' an 'audio signal' 'through a speaker' 'to

generate desired audio content.'" Pet., 27-29. But Litbak teaches that the "Audio Out" jack must be connected to an external "speaker" of a separate "playback/output device" in order to "generate desired audio content." Ex.1005, ¶39–40. An "Audio Out" jack that feeds an external device is not a "*speaker driver*" under any reasonable construction of that term, much less under Google's own construction defining a "*driver*" as "a ***transducer*** … also called a ***speaker***." Pet., 30-31.

Starting from its incorrect premise that Litbak's "audio switching arrangement" includes a "speaker" merely because it has an "Audio Out" jack, Google then leans on Seydoux to argue that a "loudspeaker" would have included "*speaker drivers*." *Id.*, 27-29. But Google's reasoning collapses at the outset. Because Litbak's "audio switching arrangement" contains no speaker at all, Google's reliance on Seydoux's discussion of a "loudspeaker" for "implementation details" is entirely misplaced and irrelevant. In other words, Google's analysis of Seydoux is relevant (if at all) only to Litbak's remote "puppet" that includes "speaker 24," not to Litbak's separate "audio switching arrangement" (element 10 in FIG. 2), such that the proposed combination would still not include the required "*one or more speaker drivers*" in the alleged "*playback device*" as required.

Even if Google had actually proposed adding a speaker to Litbak's "audio switching arrangement" (which Google did not), such a hindsight-driven modification would fundamentally rewrite Litbak and directly contradict its stated

design goals. Litbak touts that its "audio switching arrangement" provides "significant advantages" over "existing interactive puppet technologies" because its "implementation is simple and robust" where "[e]ssentially all that is required is circuitry for sensing the actual signal to activate switching, a suitable switch, and standard short-range wireless transmission technology" to communicate with a remote puppet. Ex.1005, ¶35-36. Thus, a POSITA would have no reason to complicate Litbak's minimalist "audio switching arrangement" by adding a speaker with "*one or more speaker drivers*." Nor would doing so make sense, given that Litbak deliberately places its "audio switching arrangement" upstream of a separate "playback/output device (e.g., television, amplifier, etc.)," which either already includes speaker drivers or is configured to drive external ones.

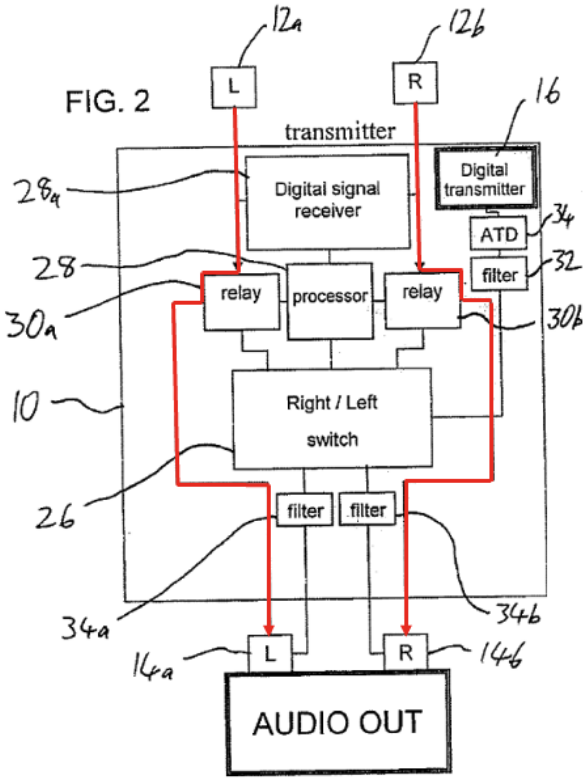
Accordingly, Google fails to demonstrate a reasonable likelihood of prevailing on limitation [1aiii] and thus, fails to demonstrate a reasonable likelihood of prevailing on any of the independent claims of the '025 Patent.

C. Google Fails to Demonstrate a Reasonable Likelihood of Prevailing on Limitation [1d]

As set forth above, limitation [1d] requires "*configur[ing] the playback device to* ***perform a first processing of the audio data*** *so as to output two-channel audio from one or more speaker drivers*" after "*the playback device has determined it is not paired with*" another "*playback device*." Google maps this claimed configuration exclusively to Litbak's "straight-through state" (*see* Pet., 54), but in

that state, Litbak ***bypasses processing*** the purported "*audio data*" entirely and instead "provid[es] a direct electrical conductor connection between audio inputs 12a, 12b and audio outputs 14a, 14b." Ex.1005, ¶55. Litbak does this because "bypass[ing] ***all*** electronic components and giv[ing] a wired connection between inputs and outputs ensures that even any slight degradation introduced by the electronic components is avoided." *Id*. For that reason, Litbak repeatedly confirms that its "audio switching arrangement" ***bypasses*** processing and directly connects audio inputs to audio outputs. *Id*., ¶¶ 61, 20 (disclosing "***bypassing*** the electronic switch to connect the audio input ***directly*** to the audio output"), 21 (same), 55 (same), 56 (same); *see also, e.g., id.*, Abstract, ¶13, 23, 26, 33, 38, 39, 47.

To illustrate, the signal paths in Litbak's "straight-through state" are shown in red below, where "processor 28 leaves relays 30 a and 30 b de-energized so that inputs 12 a, 12 b are directly connected to audio outputs 14 a, 14 b as if the switching arrangement was not present" (*id.*, ¶61):



Id., FIG. 2 (annotations added). As shown above, the signal paths specifically sidestep the "processor" (element 28) in the "audio switching arrangement." Thus, in Litbak's "straight-through state," the "audio switching arrangement" (*i.e.*, the alleged "*playback device*") is ***not*** configured "*to perform a first processing of the audio data*" as required by limitation [1d]. Google's theory improperly reads out limitation [1d]'s "*first processing*" requirement entirely.

Accordingly, Google fails to demonstrate a reasonable likelihood of prevailing on limitation [1d] and thus fails to demonstrate a reasonable likelihood of prevailing on any of the independent claims of the '025 Patent.

V. CONCLUSION

Google's invalidity theories for all the independent claims are flawed, which in turn infects each challenged dependent claim. Accordingly, the Petition fails to demonstrate a reasonable likelihood that Google would prevail with respect to any of the challenged claims of the '025 Patent and should therefore be denied.

Respectfully submitted,

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Dated: March 3, 2026

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CERTIFICATE OF WORD COUNT

The undersigned certifies that the foregoing PATENT OWNER'S PRELIMINARY RESPONSE complies with the type-volume limits in 37 C.F.R. § 42.24(b)(1). According to the utilized word-processing system's word count, this paper—excluding the caption, table of contents, table of authorities, table of exhibits, certificate of word count, and certificate of service—contains 2343 words.

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