

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

STATON TECHIYA, LLC,

Plaintiff,

v.

HARMAN INTERNATIONAL
INDUSTRIES, INCORPORATED and
HARMAN-KARDON, INC.,

Defendant.

Civil Action No. 1:23-cv-00802-JCG

JURY TRIAL DEMANDED

AMENDED COMPLAINT FOR PATENT INFRINGEMENT

1. Staton Techiya, LLC brings this action for patent infringement under 35 U.S.C. § 271 against Defendant Harman International Industries, Incorporated, and Harman-Kardon, Inc. (collectively, “Harman” or “Defendants”) and alleges as follows:

THE PARTIES

2. Plaintiff Staton Techiya, LLC (“Techiya” or “Plaintiff”) is a Delaware limited liability company having a place of business at 9501 Jagged Creek Ct., Delray Beach, FL, 33446. It was founded in June 2017.

3. Defendant Harman International Industries, Incorporated (“Harman”) is a Delaware corporation having a principal place of business at 400 Atlantic Street, Stamford, CT 06901.

4. Defendant Harman-Kardon, Inc. (“Harman-Kardon”) is a Delaware corporation having a principal place of business at 250 Crossways Park Drive, Woodbury, NY 11797.

5. On information and belief, Harman-Kardon is a wholly owned subsidiary of HARMAN.

6. On information and belief, JBL, JBL Professional, and AKG are brand names of product lines offered for sale by Harman.

THE ASSERTED PATENTS

7. United States Patent No. 8,805,692 (“the ’692 Patent”), entitled “Personal Audio Assistant Device and Method,” issued on August 12, 2014, to inventor Steven Wayne Goldstein. The ’692 Patent issued from U.S. Patent App. Ser. No. 14/148,752, filed on January 7, 2014, and was previously published as U.S. Patent Pub. No. 2014/0129229 on May 8, 2014. A true and correct copy of the ’692 Patent is attached as Exhibit A.

8. United States Patent No. 8,150,044 (“the ’044 Patent”), entitled “Method and Device Configured for Sound Signature Detection,” issued on April 3, 2012, to inventors Steven W. Goldstein, Mark A. Clements, and Marc A. Boillot. The ’044 Patent issued from U.S. Patent App. Ser. No. 11/966,457, filed on December 28, 2007, and was previously published as U.S. Patent Pub. No. 2008/0240458 on October 2, 2008. A true and correct copy of the ’044 Patent is attached as Exhibit B.

9. United States Patent No. 11,659,315 (“the ’315 Patent”), entitled “Methods and Mechanisms for Inflation,” issued on May 23, 2023, to inventors Moises Perez and Steven W. Goldstein. The ’315 Patent issued from U.S. Patent App. Ser. No. 17/211,814, filed on March 24, 2021, and was previously published as U.S. Patent Pub. No. 2021/0211801 on July 8, 2021. A true and correct copy of the ’315 Patent is attached as Exhibit C.

10. United States Patent No. 11,683,643 (“the ’643 Patent”), entitled “Method and Device for In Ear Canal Echo Suppression,” issued on June 20, 2023, to inventors Steven Wayne Goldstein, Marc Andre Boillot, John Usher, Jason McIntosh. The ’643 Patent issued from U.S. Patent App. Ser. No. 17/215,804, filed on March 29, 2021, and was previously published as U.S. Patent Pub. No. 2021/0219051 on July 15, 2021. A true and correct copy of the ’643 Patent is attached as Exhibit D.

11. United States Patent No. 11,665,493 (“the ’493 Patent”), entitled “Acoustic Sealing Analysis System,” issued on May 30, 2023, to inventors John Usher and John P. Keady. The ’493

Patent issued from U.S. Patent App. Ser. No. 17/182,570, filed on February 23, 2021, and was previously published as U.S. Patent Pub. No. 2021/0176576 on June 10, 2021. A true and correct copy of the '493 Patent is attached as Exhibit E.

12. United States Patent No. 11,610,587 (“the '587 Patent”), entitled “Personalized Sound Management and Method,” issued on March 21, 2023, to inventors Steven Goldstein and John P. Keady. The '587 Patent issued from U.S. Patent App. Ser. No. 17/736,180, filed on May 4, 2022, and was previously published as U.S. Patent Pub. No. 2022/0262361 on August 18, 2022. A true and correct copy of the '587 Patent is attached as Exhibit F.

13. United States Patent No. 11,521,632 (“the '632 Patent”), entitled “Personal Audio Assistant Device and Method,” issued on December 6, 2022, to inventor Steven Wayne Goldstein. The '632 Patent issued from U.S. Patent App. Ser. No. 16/785,822, filed on February 10, 2020, and was previously published as U.S. Patent Pub. No. 2020/0227062 on July 16, 2020. A true and correct copy of the '632 Patent is attached as Exhibit G.

14. The '692, '044, '315, '643, '493, '587, and '632 Patents are collectively referred to herein as the “Asserted Patents.”

JURISDICTION AND VENUE

15. This action arises under the Patent Act, 35 U.S.C. § 1 *et seq.*

16. Subject matter jurisdiction is proper in this Court under 28 U.S.C. §§ 1331 and 1338(a) because this is a civil action for patent infringement arising under the federal patent laws of the United States.

17. Defendants are subject to personal jurisdiction in this District by virtue of the fact that it is incorporated under the laws of the State of Delaware.

18. Furthermore, on information and belief, Defendants have substantial and continuous contacts within the State of Delaware because they have placed the AKG N400NC TWS

Headphones (“AKG Accused Product”), Harman-Kardon FLY TWS Headphones, the JBL Live 300TWS, Tour Pro+ TWS, Tour Pro 2, Tune Buds, Live Free 2 TWS, Live Pro + TWS, and Quantum TWS Air Headphones (“JBL Accused Products”) (collectively, the “Accused Products”) into the stream of commerce by shipping the Accused Products into this District.

19. Venue is proper in this Judicial District pursuant to 28 U.S.C. § 1400(b) because Defendant resides within this District as it is incorporated within this District.

JOINDER

20. Joinder of Defendants is proper under 35 U.S.C. § 299. The allegations of patent infringement contained herein arise out of the same series of transactions or occurrences relating to the making (or having made), using (or inducing the use of), selling, or offering for sale within the United States, the same Accused Products. Nonlimiting examples of these products include, but are not limited to the AKG Accused Product, the Harman-Kardon Accused Product, and the JBL Accused Product imported, sold, offered for sale, and/or used in this District.

ALLEGATIONS OF PATENT INFRINGEMENT

21. Plaintiff incorporates the allegations of the foregoing paragraphs as if fully restated herein.

22. This case involves patented technologies that helped to revolutionize and have become widely adopted in the field of ear-worn technology. The field of ear-worn technology is a rapidly developing field that encompasses: sound processing, for personal assistance technologies or hearing aids; intelligent systems packaging, including microelectronics and micro-mechanical systems that enable comfort, fit, and performance; and data processing, including artificial intelligence and big data processing.

23. The result of comprehensive research and development, Plaintiff’s patented technologies combine many disciplines of ear-worn technology to create solutions that provide exceptional functionality to users.

24. For example, Plaintiff's patented technologies allow level-dependent ambient awareness, user-controlled passthrough, dosimetry, personal voice activation in high-ambient-noise conditions, and acoustic event detection.

25. Plaintiff's patented technology represents such a vast improvement on the traditional ear-worn technology systems that it has become widely adopted by other market participants.

26. Harman provide ear-worn technology systems that, without authorization, implement Plaintiff's patented technologies.

27. No later than September 14, 2018, Harman and Plaintiff met to discuss Plaintiff's patented technology and ongoing research and development efforts in the ear-worn technology field. Plaintiff initially met with Chief Audio Fellow of Harman, Dr. Sean Olive.

28. Plaintiff and Harman executed a mutual non-disclosure agreement shortly thereafter. The mutual non-disclosure agreement protected disclosure of information even to parent entities of Harman.

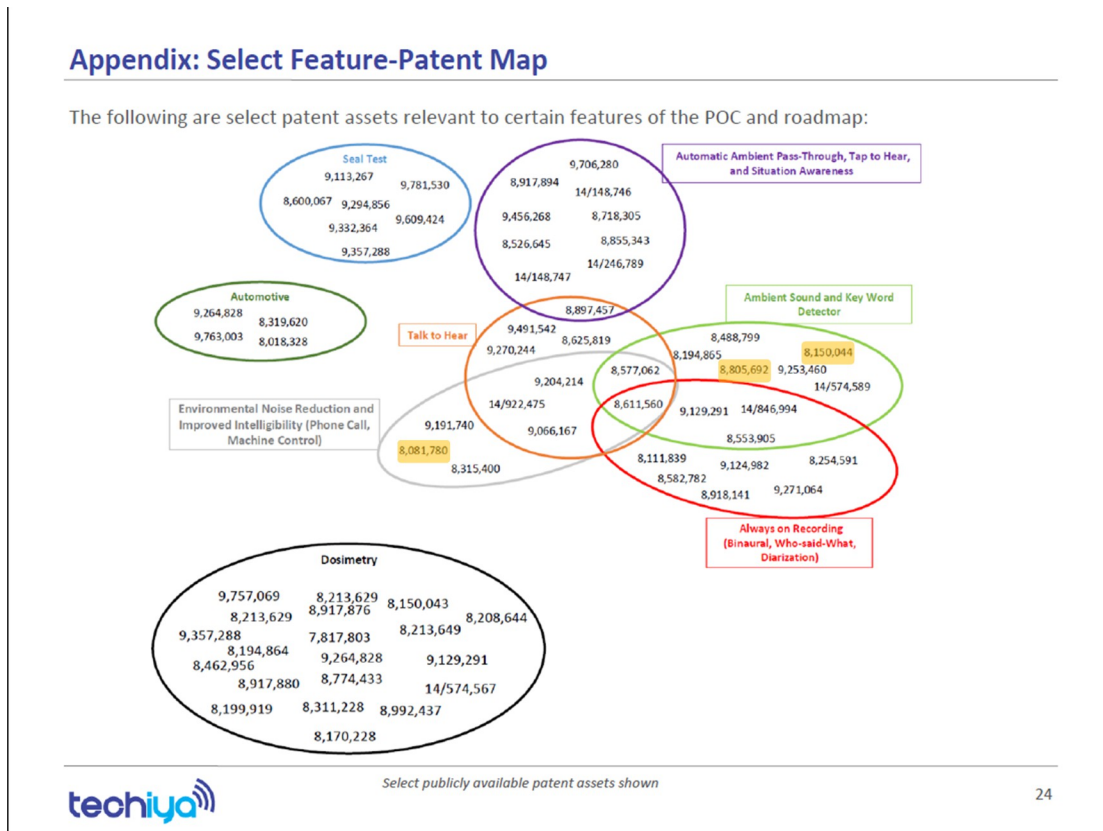
29. Beginning in October of 2018 Plaintiff sent studies, marketing materials, and prototypes to Harman. Some of the information sent to Harman was directly related to the Asserted Patents. For example, Plaintiff provided information to Harman regarding Plaintiff's "talk-to-hear" technology and ambient awareness technology, embodied in at least the '632 Patent, '692 Patent, '315 Patent, and '643 Patent.

30. Harman reviewed the information received from Plaintiff. Todd Welti (Senior Principal Engineer of Acoustics at Harman) conducted various tests on the prototypes that Plaintiff sent to Harman. Harman subsequently requested additional information and more prototypes. In response, Plaintiff provided additional prototypes and shared proprietary whitepapers.

31. In early 2019, Plaintiff met with other representatives from Harman. Plaintiff presented additional demonstrations of the prototypes and showed a promotional video advertising

patented ear-worn technologies and how consumers would benefit by using them. Plaintiff subsequently sent Harman the promotional video.

32. In February 2019, in a follow-up message to a meeting, Plaintiff sent an “Opportunity Overview” slide deck to Harman. The deck contained an enumeration of several different advantages offered by Plaintiff’s ear-worn technology and a description of patents relevant to some of the related fields. Several of the Asserted Patents were identified in the deck.



Excerpted slide from deck sent to Harman in February 2019. Several Asserted Patents were included in this deck (emphasized in yellow).

33. In March of 2019, Plaintiff met with Harman Chief Financial Officer Evelyn Heinbach. The agenda, proposed by Ms. Heinbach, included questions about Plaintiff’s intellectual property and whether Plaintiff could provide demonstrations and technical background on its patented technology.

34. Later that year, on May 15, 2019, Plaintiff presented to Harman a comprehensive valuation model of Plaintiff’s intellectual property arranged in a spreadsheet. The spreadsheet

contained hundreds of patents and patent applications, categorized by feature and technology. This spreadsheet contained references to the '692 Patent.

35. On information and belief, Harman released the AKG N400NC TWS Headphones (the AKG Accused Product) no earlier than March of 2020 and the Harman-Kardon FLY TWS no earlier than April of 2020. On information and belief, the other Accused Products were released no earlier than March of 2021.

36. On May 4, 2020, Ms. Heinbach confirmed that “Samsung has done a detailed review of [Plaintiff’s] patent portfolio.” On information and belief, based on this “detailed review,” Harman and its parent, Samsung, had knowledge and notice of Plaintiff’s patents that had issued on or before May 4, 2020, including an understanding of the scope of the claims of those patents. Despite this knowledge Harman has infringed, and continues to infringe, patents asserted in this Complaint that were issued prior to May 4, 2020.

37. On May 23, 2020 Ms. Heinbach informed Plaintiff that Harman would not be “looking to pursue further steps at this point.”

38. On information and belief, despite Harman’s robust knowledge of the Asserted Patents and Plaintiff’s patented technology, Harman made the deliberate decision to sell products and services that they knew infringe these patents. Harman’s continued infringement of the Asserted Patents with extensive knowledge about them constitutes willful infringement.

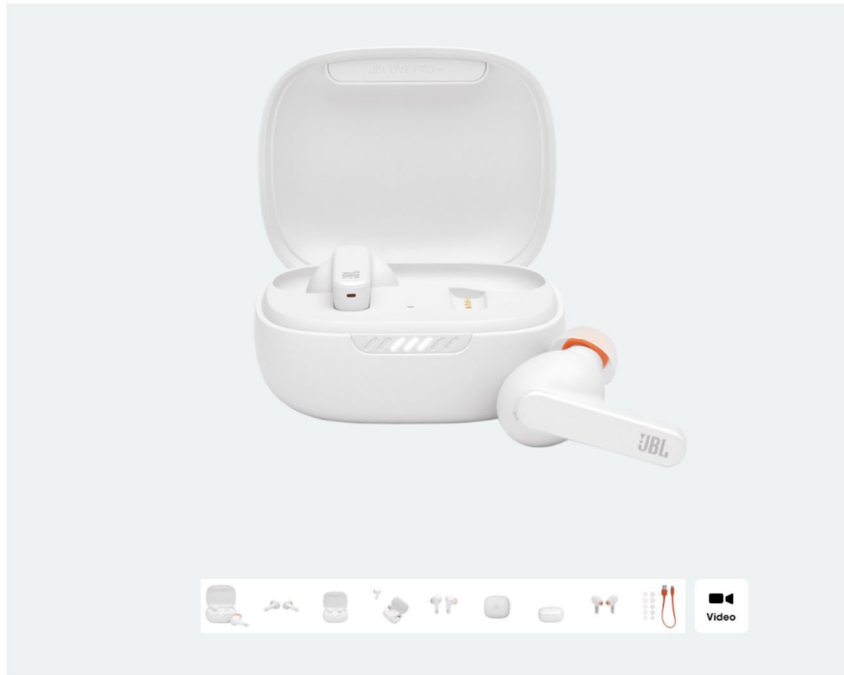
39. As set forth below, the Accused Products incorporate, without any license or permission from Plaintiff, technology protected by the Asserted Patents. Plaintiff respectfully seeks relief from this Court for Harman’s infringement.

REPRESENTATIVE ACCUSED PRODUCTS

40. Representative Accused Products include, but are not limited to, the AKG N400NC TWS Headphones, Harman-Kardon FLY TWS Headphones, the JBL Live 300TWS, Tour Pro+ TWS, Tour Pro 2, Tune Buds, Live Free 2 TWS, Live Pro+ TWS, and Quantum TWS Air

Headphones and other similar devices. Some of these products are designed and configured to be used with Samsung’s Bixby voice-driven user interface.

41. The JBL Live Pro+ TWS Headphones is an exemplary infringing product.



Source: <https://www.jbl.com/wireless-headphones/LIVE-PRO-PLUS-TWS-.html>

42. On information and belief, the JBL Live Pro+ TWS Headphones utilize multiple microphones to perform noise and wind isolation. For example, the JBL Live Pro+ TWS Headphones utilize a dedicated microphone for “environmental noise reduction.

Features



6 mics for perfect calls – zero noise

Missing face-to-face meetings? Thanks to the noise and wind isolation technology and beamforming mics, your voice is flawlessly conveyed to the other end giving you the feeling of a live conversation.



Dual Connect + Sync and Fast Pair

As soon as you open the case, the headphones instantly pair with your device and you're ready to listen to music, make mono/stereo calls, or engage your Voice Assistant in one or both ears. Plus, with the JBL app, it's easier than ever to assign functions to each earbud. With Fast Pair enabled by Google, the JBL Live Pro+ TWS are immediately connected to your Android device. You can also pair other devices just by tapping on the devices' screen.

Source: <https://www.jbl.com/wireless-headphones/LIVE-PRO-PLUS-TWS-.html>

43. On information and belief, the JBL Live Pro+ TWS Headphones perform Adaptive Noise Cancelling, Ambient Aware, Talk Thru, and Voice Aware. These features require detecting and analyzing environmental sound captured by the various microphones on the product.

44. On information and belief, the AKG N400NC TWS, Harman-Kardon FLY TWS Headphones, the JBL Live 300TWS, Tour Pro+ TWS, Tour Pro 2, Tune Buds, Live Free 2 TWS, Live Pro + TWS, and Quantum TWS Air Headphones also have same or similar features, components, and functionalities.

COUNT I **Harman's Infringement of the '692 Patent**

45. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

46. Plaintiff is the assignee and lawful owner of the '692 Patent, and Plaintiff holds all right, title and interest in and to the '692 Patent. The '692 Patent is valid and enforceable.

47. Harman has directly infringed, and continues to directly and willfully infringe, the '692 Patent by making, using, selling, offering for sale, or importing into the United States products that

infringe the '692 Patent, such as the Accused Products. Further discovery may reveal additional infringing products and/or models.

48. For example, and without limitation, the Accused Products, including the JBL Tour Pro 2 and similar earphone products, infringe at least claim 1 of the '692 Patent.

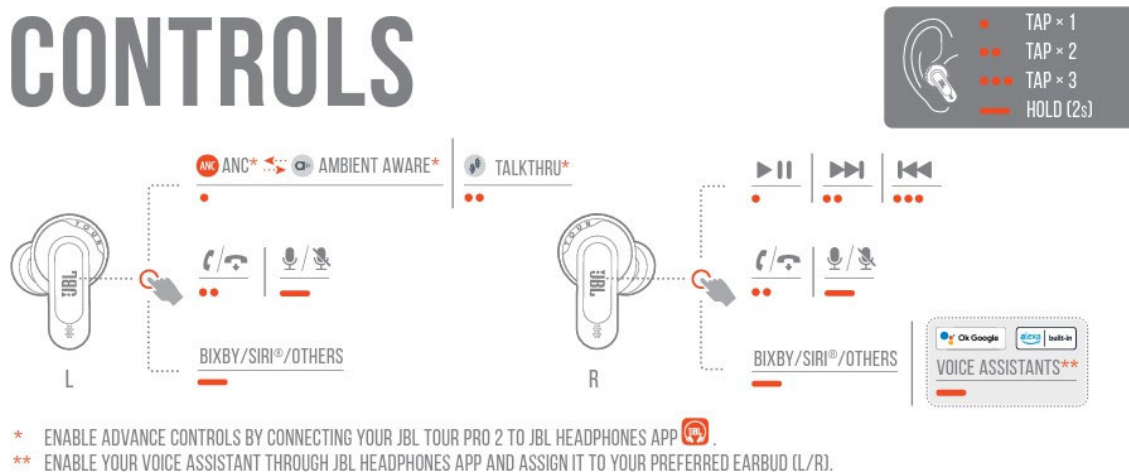
49. Harman has had notice of its infringement of the '692 Patent since receiving the aforementioned slide deck from Plaintiff in February of 2019. In the alternative, upon information and belief, Harman has had notice of its infringement of the '692 Patent since July 26, 2023, which is the date of filing of the complaint in this action. Dkt. 1. At the very latest, Harman has had notice of its infringement of the '692 Patent since September 1, 2023, which is the date of service of the complaint in this action. Dkt. 9, 10.

50. The Accused Products are exemplary products that practice at least claim 1 of the '692 Patent. On information and belief, many other products provided by Harman also infringe claim 1 of the '692 Patent.

51. The '692 Patent claims: 1. A wearable device, comprising: a housing for the wearable device; an ambient microphone within or on the housing; a communication module within or on the housing; a logic circuit communicatively coupled to the ambient microphone; a memory storage unit communicatively coupled to the logic circuit; and an interaction element, the interaction element and logic circuit cooperatively initiate control of media content from the wearable device or initiate operations of the wearable device; wherein the logic circuit is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server.

52. As an example, the JBL Tour Pro 2 is an earpiece that has an ambient microphone on the housing. On information and belief, the earpiece also has a chipset that contains a communication module, a logic circuit coupled to the microphone on the housing, and a memory unit coupled to the

logic circuit. A user can activate an interaction element of the earpiece to initiate operations of the earpiece, for example by tapping on the outside to activate voice assistant controls, toggle Adaptive Noise Cancelling, activate TalkThru, or answer and hang up calls. When the interactive element is activated, a user can control functionalities like Ambient Aware or Adaptive Noise Cancelling through a remote server in the JBL smartphone app. Moreover, these functionalities allow the user to control media content on the device or the level of ambient noise passed through to the device.



Source: https://www.jbl.com/on/demandware.static/-/Sites-masterCatalog_Harman/default/dw511411ed/pdfs/JBL_TOUR%20Pro2_QSG%20Multilingual.pdf

53. Harman has indirectly infringed and continue to indirectly infringe the '692 Patent by actively inducing infringement of the '692 Patent by others, such as users of the Accused Products within this District.

54. Harman's direct and indirect infringement of the '692 Patent has damaged and will continue to damage Plaintiff.

55. Plaintiff is entitled to recover damages adequate to compensate it for Harman's direct and indirect infringement.

56. After receiving actual notice of the '692 Patent, Harman proceeded to make, use, test, sell, and/or offer to sell in this District and elsewhere in the United States, and import into this District and elsewhere in the United States, the Accused Products.

57. On information and belief, Harman engaged in such activities despite an objectively high likelihood that its actions constituted infringement and inducement of infringement of the '692 Patent. Harman knew and should have known that its actions would cause direct and induced infringement of the '692 Patent, and on information and belief, Harman has monitored the substantial prior art submissions made prior to issuance of the '692 patent.

58. Harman has willfully infringed and continue to willfully infringe the '692 Patent.

COUNT II
Harman's Infringement of the '044 Patent

59. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

60. Plaintiff is the assignee and lawful owner of the '044 Patent, and Plaintiff holds all right, title and interest in and to the '044 Patent. The '044 Patent is valid and enforceable.

61. Harman has directly infringed, and continue to directly and willfully infringe, the '044 Patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '044 Patent, such as the Accused Products. Further discovery may reveal additional infringing products and/or models.

62. For example, and without limitation, the Accused Products, including the JBL Tour Pro 2 and similar earphone products, infringe at least claim 1 of the '044 Patent.

63. Harman has had notice of its infringement of the '044 Patent since receiving the aforementioned slide deck from Plaintiff in February of 2019. In the alternative, upon information and belief, Harman has had notice of its infringement of the '044 Patent since July 26, 2023, which is the date of filing of the complaint in this action. Dkt. 1. At the very latest, Harman has had notice of its infringement of the '044 Patent since September 1, 2023, which is the date of service of the complaint in this action. Dkt. 9, 10.

64. The Accused Products are exemplary products that practice at least claim 1 of the '044

Patent. On information and belief, many other products provided by Harman also infringe claim 1 of the '044 Patent.

65. The '044 Patent claims: 1. An acoustic device, comprising: an Ambient Sound Microphone (ASM) configured to capture ambient sound; at least one Ear Canal Receiver (ECR) configured to deliver audio to an ear canal; and a processor operatively coupled to the ASM and the ECR, where the processor monitors the ambient sound for a target sound and adjusts the audio delivered to the ear canal based on the target sound, the processor generating a sound signature from the ambient sound and comparing the sound signature to a plurality of learned signature models to detect the target sound.

66. As an example, the JBL Live Pro+ is an earpiece that includes VoiceAware and Ambient Aware features. The earpiece includes at least three microphones. Upon information and belief, at least one of the microphones operates to capture ambient sound. Said microphone may choose to pick up the ambient sound based on its sound signature. The earpiece also includes an ear canal receiver designed to broadcast audio to the user's ear. Inside the earpiece a processor generates a sound signature from the captured ambient sound. Upon information and belief, the earpiece also includes a VoiceAware feature to capture the target sound of the user's own voice and adjusts the playback to the user based on the user's voice.

VOICEAWARE



67. Harman has indirectly infringed and continue to indirectly infringe the '044 Patent by actively inducing infringement of the '044 Patent by others, such as users of the Accused Products within this District.

68. Harman's direct and indirect infringement of the '044 Patent has damaged and will continue to damage Plaintiff.

69. Plaintiff is entitled to recover damages adequate to compensate it for Harman's direct and indirect infringement.

70. After receiving actual notice of the '044 Patent, Harman proceeded to make, use, test, sell, and/or offer to sell in this District and elsewhere in the United States, and import into this District and elsewhere in the United States, the Accused Products.

71. On information and belief, Harman engaged in such activities despite an objectively high likelihood that its actions constituted infringement and inducement of infringement of the '044 Patent. Harman knew and should have known that its actions would cause direct and induced infringement of the '044 Patent, and on information and belief, Harman has monitored the substantial prior art submissions made prior to issuance of the '044 patent.

72. Harman has willfully infringed and continue to willfully infringe the '044 Patent.

COUNT III
Harman's Infringement of the '315 Patent

73. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

74. Plaintiff is the assignee and lawful owner of the '315 Patent, and Plaintiff holds all right, title and interest in and to the '315 Patent. The '315 Patent is valid and enforceable.

75. Harman has directly infringed, and continue to directly and willfully infringe, the '315 Patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '315 Patent, such as the JBL Accused Products. Further discovery may reveal additional

infringing products and/or models.

76. For example, and without limitation, the JBL Accused Products, including the JBL Tour Pro 2 and similar earphone products, infringe at least claim 1 of the '315 Patent.

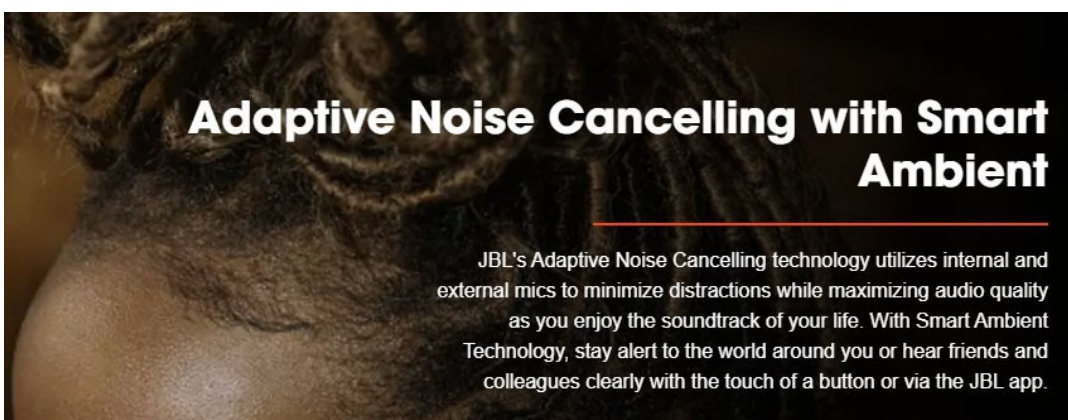
77. Upon information and belief, Harman has had notice of its infringement of the '315 Patent since July 26, 2023, which is the date of filing of the complaint in this action. Dkt. 1. At the very latest, Harman has had notice of its infringement of the '315 Patent since September 1, 2023, which is the date of service of the complaint in this action. Dkt. 9, 10.

78. The JBL Accused Products are exemplary products that practice at least claim 1 of the '315 Patent. On information and belief, many other products provided by Harman also infringe claim 1 of the '315 Patent.

79. The '315 Patent claims: 1. An earpiece comprising: a first ambient microphone configured to generate a first microphone signal; a second ambient microphone configured to generate a second microphone signal; an ear canal microphone configured to generate a third microphone signal; a speaker; a memory that stores instructions; a logic circuit, where the logic circuit is configured to execute the instructions to perform operations comprising: generating a noise reduction signal using at least one of the first microphone signal or the second microphone signal or the third microphone signal or a combination of microphone signals; receiving an audio signal; generating a mixed audio signal by mixing the noise reduction signal with the audio signal; and sending a modified audio signal to the speaker, where the modified audio signal includes the mixed audio signal.

80. As an example, the JBL Live Pro+ is an earpiece that includes Adaptive Noise Cancelling and Personal Sound Amplification features. The earpiece includes at least three microphones. Upon information and belief, at least two of the microphones operate to produce a first microphone signal and a second microphone signal. Upon information and belief, the third microphone is an ear canal microphone configured to generate a third microphone signal. The earpiece also contains

a speaker, a memory to store instructions, and a logic circuit configured to execute instructions. Upon information and belief, when the Adaptive Noise Cancelling technology is activated, the logic circuit will generate a noise reduction signal using at least one of the microphone signals or a combination of said signals. Then the circuit will receive an audio signal (from, for example, the user's media), which it mixes with the noise reduction signal and sends to the speaker for the user to experience reduced distraction and maximized audio quality during the use of Adaptive Noise Cancelling.



Source: https://www.jbl.com/headphones/TOUR-PRO-TWS-.html?dwvar_TOUR-PRO-TWS-_color=Black-AM-Current&cgid=headphones

81. Harman has indirectly infringed and continue to indirectly infringe the '315 Patent by actively inducing infringement of the '315 Patent by others, such as users of the JBL Accused Products within this District.

82. Harman's direct and indirect infringement of the '315 Patent has damaged and will continue to damage Plaintiff.

83. Plaintiff is entitled to recover damages adequate to compensate it for Harman's direct and indirect infringement.

84. After receiving actual notice of the '315 Patent, Harman proceeded to make, use, test, sell, and/or offer to sell in this District and elsewhere in the United States, and import into this District and elsewhere in the United States, the JBL Accused Products.

85. On information and belief, Harman engaged in such activities despite an objectively

high likelihood that its actions constituted infringement and inducement of infringement of the '315 Patent. Harman knew and should have known that its actions would cause direct and induced infringement of the '315 Patent, and on information and belief, Harman has monitored the substantial prior art submissions made prior to issuance of the '315 patent.

86. Harman has willfully infringed and continue to willfully infringe the '315 Patent.

COUNT IV
Harman's Infringement of the '643 Patent

87. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

88. Plaintiff is the assignee and lawful owner of the '643 Patent, and Plaintiff holds all right, title and interest in and to the '643 Patent. The '643 Patent is valid and enforceable.

89. Harman has directly infringed, and continue to directly and willfully infringe, the '643 Patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '643 Patent, such as the JBL Accused Products. Further discovery may reveal additional infringing products and/or models.

90. For example, and without limitation, the JBL Accused Products, including the JBL Tour Pro 2 and similar earphone products, infringe at least claim 1 of the '643 Patent.

91. Upon information and belief, Harman has had notice of its infringement of the '643 Patent since July 26, 2023, which is the date of filing of the complaint in this action. Dkt. 1. At the very latest, Harman has had notice of its infringement of the '643 Patent since September 1, 2023, which is the date of service of the complaint in this action. Dkt. 9, 10.

92. The JBL Accused Products are exemplary products that practice at least claim 1 of the '643 Patent. On information and belief, many other products provided by Harman also infringe claim 1 of the '643 Patent.

93. The '643 Patent claims: 1. A device, comprising: a first ambient microphone

configured to generate a first ambient signal, wherein the first ambient microphone is part of an earpiece; a second ambient microphone configured to generate a second ambient signal, wherein the second ambient microphone is part of the earpiece; an ear canal microphone configured to generate an ear canal signal, wherein the ear canal microphone is part of the earpiece; a speaker, wherein the speaker is part of the earpiece; an eartip, configured to seal the earpiece between a first side and a second side of the earpiece; a memory that stores instructions; and a processor, wherein the processor is part of the earpiece, wherein the processor is operatively connected to the first ambient microphone, wherein the processor is operatively connected to the second ambient microphone, wherein the processor is operatively connected to the ear canal microphone, wherein the processor is operatively connected to the speaker, wherein the processor is operatively connected to the memory, wherein the processor is configured to execute the instructions to perform operations, the operations comprising: receiving a first microphone signal, wherein the first microphone signal is at least one of the first ambient signal or a modified first ambient signal; receiving a second microphone signal, wherein the second microphone signal is at least one of the ear canal signal or a modified ear canal signal; receiving a third microphone signal, wherein the third microphone signal is at least one of the second ambient signal or a modified second ambient signal; generating a background noise reduction signal using either the first and second microphone signals or the second and third microphone signals; mixing an audio content signal and the background noise reduction signal generating a mixed signal; and sending a modified mixed signal to the speaker.

94. As an example, the JBL Live Pro+ is an earpiece that includes Adaptive Noise Cancelling and Personal Sound Amplification features. The earpiece includes at least three microphones. Upon information and belief, at least two of the microphones operate to produce a first ambient signal and a second ambient signal. Upon information and belief, the third microphone is an ear canal microphone configured to generate an ear canal signal. The earpiece also contains a speaker,

an eartip, a memory to store instructions, and a processor configured to execute instructions. Upon information and belief, when the Adaptive Noise Cancelling technology is activated, the processor will generate a background noise reduction signal using at least one of the microphone signals or a combination of said signals. Then the circuit will receive an audio signal (from, for example, the user's media), which it mixes with the background noise reduction signal and sends to the speaker for the user to experience reduced distraction and maximized audio quality during the use of Adaptive Noise Cancelling.

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Source: https://www.jbl.com/headphones/TOUR-PRO-TWS-.html?dwvar_TOUR-PRO-TWS-_color=Black-AM-Current&cgid=headphones

95. Harman has indirectly infringed and continue to indirectly infringe the '643 Patent by actively inducing infringement of the '643 Patent by others, such as users of the JBL Accused Products within this District.

96. Harman's direct and indirect infringement of the '643 Patent has damaged and will continue to damage Plaintiff.

97. Plaintiff is entitled to recover damages adequate to compensate it for Harman's direct and indirect infringement.

98. After receiving actual notice of the '643 Patent, Harman proceeded to make, use, test, sell, and/or offer to sell in this District and elsewhere in the United States, and import into this District and elsewhere in the United States, the JBL Accused Products.

99. On information and belief, Harman engaged in such activities despite an objectively high likelihood that its actions constituted infringement and inducement of infringement of the '643 Patent. Harman knew and should have known that its actions would cause direct and induced infringement of the '643 Patent, and on information and belief, Harman has monitored the substantial prior art submissions made prior to issuance of the '643 patent.

100. Harman has willfully infringed and continue to willfully infringe the '643 Patent.

COUNT V
Harman's Infringement of the '493 Patent

101. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

102. Plaintiff is the assignee and lawful owner of the '493 Patent, and Plaintiff holds all right, title and interest in and to the '493 Patent. The '493 Patent is valid and enforceable.

103. Harman has directly infringed, and continue to directly and willfully infringe, the '493 Patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '493 Patent, such as the JBL Accused Products. Further discovery may reveal additional infringing products and/or models.

104. For example, and without limitation, the JBL Accused Products, including the JBL Tour Pro 2 and similar earphone products, infringe at least claim 1 of the '493 Patent.

105. Upon information and belief, Harman has had notice of its infringement of the '493 Patent since July 26, 2023, which is the date of filing of the complaint in this action. Dkt. 1. At the very latest, Harman has had notice of its infringement of the '493 Patent since September 1, 2023, which is the date of service of the complaint in this action. Dkt. 9, 10.

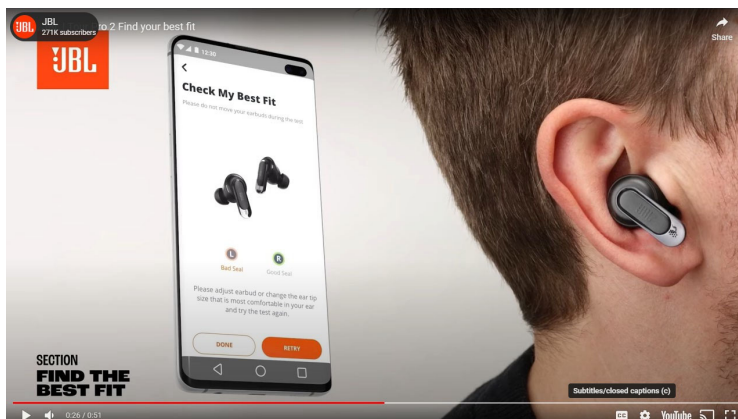
106. The JBL Accused Products are exemplary products that practice at least claim 1 of the '493 Patent. On information and belief, many other products provided by Harman also infringe claim 1 of the '493 Patent.

107. The '493 Patent claims: An audio device configured to test a seal of an earphone comprising: a memory that stores instructions; and a processor, wherein the processor is configured to execute the instructions to perform operations, the operations comprising: generating a test signal, wherein the test signal includes multiple frequency components, wherein at least one component lies between a range of 30 Hz and 200 Hz; sending the test signal to a speaker of an earphone, wherein the earphone includes a first microphone, the speaker, and a sealing section, and wherein the sealing section is configured to form an acoustic barrier between a first side of the earphone and a second side of the earphone when the earphone is worn by a user, receiving a first microphone signal from the first microphone; calculating a value, using a first signal and a second signal, wherein the value is the result of a non phase calculation of at least one of a coherence, a correlation, a cross-correlation, a difference, or a combination; comparing the value to a threshold to determine a seal quality between the first side and the second side; generating a message to convey the seal quality; and sending the message to the user.

108. As an example, the JBL Live Pro+ is an earpiece that includes a feature to “Check My Best Fit.” This function finds the ear tip that best suits the user for maximum comfort, minimum sound leakage, and optimal support to noise cancelling. Upon information and belief the earpiece contains a memory unit that stores instructions and processor configured to execute instructions. Upon information and belief, the earpiece generates a test signal with a frequency component between a range of 30 Hz and 200Hz, which is sent to a speaker in the earpiece to output audio.

109. The JBL Live Pro+ includes three microphones per earpiece. (*See* <https://mm.jbl.com/true-wireless/LIVE-PRO-PLUS-TWS-.html>). At least one of the three microphones on an earpiece receives the audio output from the speaker in the earpiece and generates a microphone signal from that received audio. Using the test signal (*i.e.*, a first signal) and the microphone signal (*i.e.*, a second signal), the JBL smartphone app calculates a value (using, upon information and belief, non phase calculation of at least one of a coherence, a correlation, a cross-

correlation, a difference, or a combination thereof) to determine seal quality, which aids the JBL smartphone app in determining the seal quality. The quality metric is then conveyed and sent to the user.



Source: <https://www.youtube.com/watch?v=9mvzzAa0T7s&t=26s>



Source: https://www.jbl.com/on/demandware.static/-/Sites-masterCatalog_Harman/default/dw511411ed/pdfs/JBL_TOUR%20Pro2_QSG%20Multilingual.pdf

110. Harman has indirectly infringed and continue to indirectly infringe the '493 Patent by actively inducing infringement of the '493 Patent by others, such as users of the JBL Accused Products within this District.

111. Harman's direct and indirect infringement of the '493 Patent has damaged and will continue to damage Plaintiff.

112. Plaintiff is entitled to recover damages adequate to compensate it for Harman's direct and indirect infringement.

113. After receiving actual notice of the '493 Patent, Harman proceeded to make, use,

test, sell, and/or offer to sell in this District and elsewhere in the United States, and import into this District and elsewhere in the United States, the JBL Accused Products.

114. On information and belief, Harman engaged in such activities despite an objectively high likelihood that its actions constituted infringement and inducement of infringement of the '493 Patent. Harman knew and should have known that its actions would cause direct and induced infringement of the '493 Patent, and on information and belief, Harman has monitored the substantial prior art submissions made prior to issuance of the '493 patent.

115. Harman has willfully infringed and continue to willfully infringe the '493 Patent.

COUNT VIII
Harman's Infringement of the '587 Patent

116. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

117. Plaintiff is the assignee and lawful owner of the '587 Patent, and Plaintiff holds all right, title and interest in and to the '587 Patent. The '587 Patent is valid and enforceable.

118. Harman has directly infringed, and continue to directly and willfully infringe, the '587 Patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '587 Patent, such as the Accused Products. Further discovery may reveal additional infringing products and/or models.

119. For example, and without limitation, the Accused Products, including the JBL Tour Pro 2 and similar earphone products, infringe at least claim 1 of the '587 Patent.

120. Upon information and belief, Harman has had notice of its infringement of the '587 Patent since July 26, 2023, which is the date of filing of the complaint in this action. Dkt. 1. At the very latest, Harman has had notice of its infringement of the '587 Patent since September 1, 2023, which is the date of service of the complaint in this action. Dkt. 9, 10.

121. The Accused Products are exemplary products that practice at least claim 1 of the '587

Patent. On information and belief, many other products provided by Harman also infringe claim 1 of the '587 Patent.

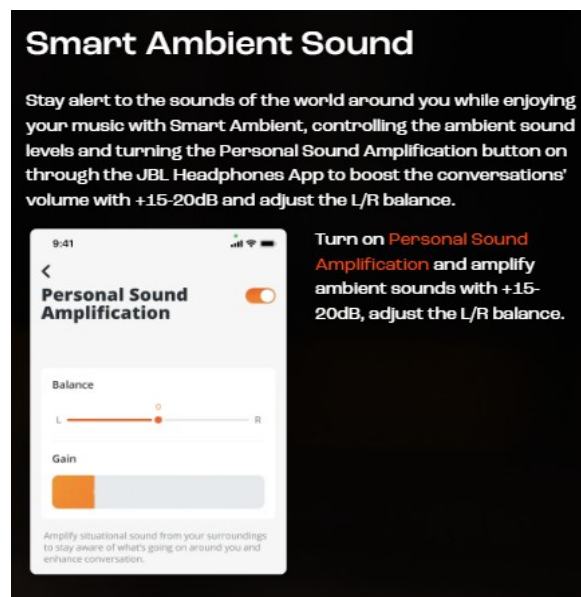
122. The '587 Patent claims: 1. A system comprising: a user interface; and an audio device comprising: a microphone configured to measure ambient sound and generate a microphone signal; a speaker configured to emit an audio signal; a memory configured to store instructions; an audio buffer configured to store at least a portion of the microphone signal; a data buffer; a processor operatively coupled to the memory, the processor operatively coupled to the audio buffer, the processor operatively coupled to the data buffer, wherein the processor is configured to execute the instructions to perform operations comprising: receiving the microphone signal; sending a portion of the microphone signal to the audio buffer; analyzing the audio buffer for detecting a sonic signature; notifying a user when the sonic signature is detected; sending a modified microphone signal to the data buffer replacing or adding to previous data stored in the data buffer; and sending a portion of the data stored in the data buffer, spanning a time period, to the speaker in response to a user request, wherein the user request is one of the sonic signature that is a voice command or a manual input from the user interface.

123. As an example, the JBL Live Pro+ is an earpiece that connects to the JBL Headphones APP, which is a user interface for controlling functionalities on the earpiece. The earpiece includes the functionality of VoiceAware and Ambient Aware features. The earpiece includes at least three microphones. Upon information and belief, at least one of the microphones operates to capture ambient sound and generate a microphone signal. The earpiece also includes a speaker configured to emit sound, a memory unit to store instructions, and a processor to execute instructions. Upon information and belief when the VoiceAware or Ambient Aware features are activated, the processor receives the microphone signal and detects a sonic signature, such as the user's voice. When the user makes a request (such as activating the VoiceAware feature from the Headphones APP), some portion of the data is sent to the speaker.

VOICEAWARE



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Source: <https://www.jbl.com/wireless-earbuds/TOUR-PRO-2.html>

124. Harman has indirectly infringed and continue to indirectly infringe the '587 Patent by actively inducing infringement of the '587 Patent by others, such as users of the Accused Products within this District.

125. Harman's direct and indirect infringement of the '587 Patent has damaged and will continue to damage Plaintiff.

126. Plaintiff is entitled to recover damages adequate to compensate it for Harman's direct and indirect infringement.

127. After receiving actual notice of the '587 Patent, Harman proceeded to make, use,

test, sell, and/or offer to sell in this District and elsewhere in the United States, and import into this District and elsewhere in the United States, the Accused Products.

128. On information and belief, Harman engaged in such activities despite an objectively high likelihood that its actions constituted infringement and inducement of infringement of the '587 Patent. Harman knew and should have known that its actions would cause direct and induced infringement of the '587 Patent, and on information and belief, Harman has monitored the substantial prior art submissions made prior to issuance of the '587 patent.

129. Harman has willfully infringed and continue to willfully infringe the '587 Patent.

COUNT IX
Harman's Infringement of the '632 Patent

130. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

131. Plaintiff is the assignee and lawful owner of the '632 Patent, and Plaintiff holds all right, title and interest in and to the '632 Patent. The '632 Patent is valid and enforceable.

132. Harman has directly infringed, and continue to directly and willfully infringe, the '632 Patent by making, using, selling, offering for sale, or importing into the United States products that infringe the '632 Patent, such as the Accused Products. Further discovery may reveal additional infringing products and/or models.

133. For example, and without limitation, the Accused Products, including the JBL Tour Pro 2 and similar earphone products, infringe at least claim 1 of the '632 Patent.

134. Upon information and belief, Harman has had notice of its infringement of the '632 Patent since July 26, 2023, which is the date of filing of the complaint in this action. Dkt. 1. At the very latest, Harman has had notice of its infringement of the '632 Patent since September 1, 2023, which is the date of service of the complaint in this action. Dkt. 9, 10.

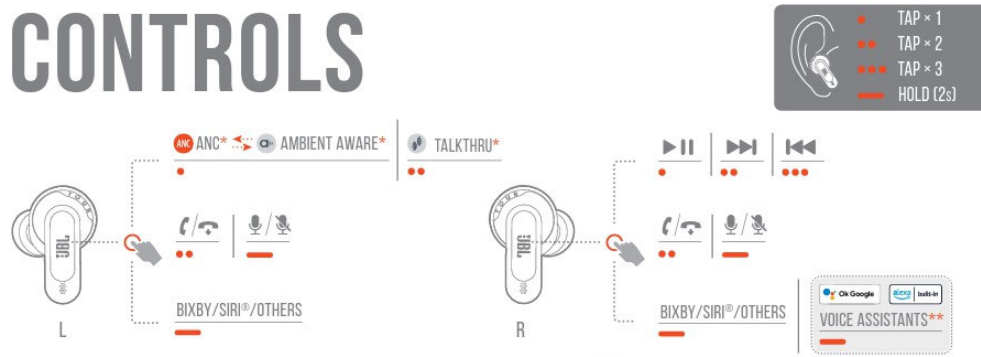
135. The Accused Products are exemplary products that practice at least claim 1 of the '632

Patent. On information and belief, many other products provided by Harman also infringe claim 1 of the '632 Patent.

136. The '632 Patent claims: An earpiece, comprising: a sealing section configured to be inserted into and seal an ear canal of a user; an ambient microphone configured to measure ambient audio content in the ambient environment near the user's ear; an ear canal microphone configured to measure internal audio in the ear canal of the user; a speaker; an interaction element, wherein the interaction element is a tactile interface; a location unit configured to determine the location of the earpiece; a memory that stores instructions; and a logic circuit configured to execute the instructions to perform operations, the operations comprising: generating active noise reduction using at least one of the measured ambient audio, the internal audio or a combination of both; activating a voice controlled interface when a manual activation of the interaction element is detected; detecting a user's voice from measured ambient audio content; extracting an audio signal of the user's voice; and analyzing the audio signal to determine a voice command.

137. As an example, the JBL Live Pro+ is an earpiece that supports touch and voice control to activate Bixby virtual assistant or other functionalities like Adaptive Noise Cancelling or TalkThru mode. The earpiece contains at least one ambient microphone configured to measure ambient audio content and at least one ear canal microphone configured to measure internal audio. Additionally, the earpiece contains a speaker and a tactile interface that can be pressed to activate functionality and a BlueTooth unit configured to determine the location of the earpiece. Upon information and belief, the earpiece also contains memory that stores instructions and logic circuit configured to execute instructions. When certain functionalities like Adaptive Noise Cancelling are activated, the earpiece uses at least one of the ambient audio, internal audio, or a combination of both to provide the user with reduced distraction and maximized audio quality. Additionally, when the user interacts with the touch surface on the side of the earpiece, the earpiece can detect the user's voice from the measured ambient audio and determine if a voice command was spoken.

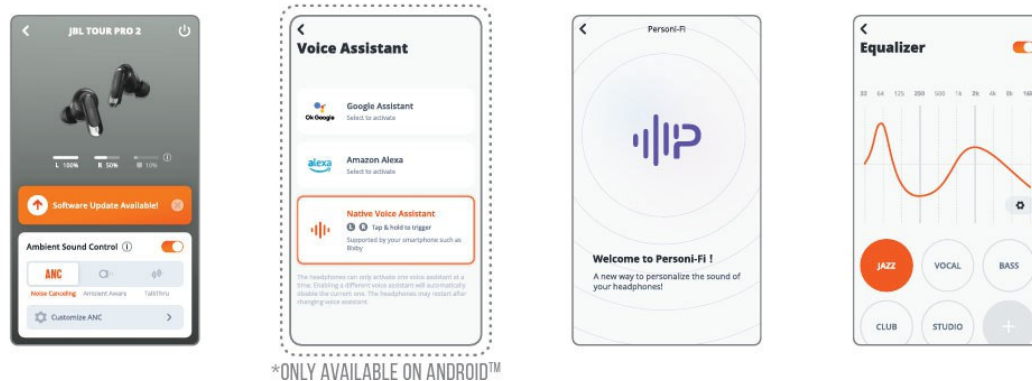
CONTROLS



* ENABLE ADVANCE CONTROLS BY CONNECTING YOUR JBL TOUR PRO 2 TO JBL HEADPHONES APP
 ** ENABLE YOUR VOICE ASSISTANT THROUGH JBL HEADPHONES APP AND ASSIGN IT TO YOUR PREFERRED EARBUD (L/R).

Source: https://www.jbl.com/on/demandware.static/-/Sites-masterCatalog_Harman/default/dw511411ed/pdfs/JBL_TOUR%20Pro2_QSG%20Multilingual.pdf

DO MORE WITH THE APP



*ONLY AVAILABLE ON ANDROID™

Source: https://www.jbl.com/on/demandware.static/-/Sites-masterCatalog_Harman/default/dw511411ed/pdfs/JBL_TOUR Pro2_QSG Multilingual.pdf

138. Harman has indirectly infringed and continue to indirectly infringe the '632 Patent by actively inducing infringement of the '632 Patent by others, such as users of the Accused Products within this District.

139. Harman's direct and indirect infringement of the '632 Patent has damaged and will continue to damage Plaintiff.

140. Plaintiff is entitled to recover damages adequate to compensate it for Harman's direct and indirect infringement.

141. After receiving actual notice of the '632 Patent, Harman proceeded to make, use, test, sell, and/or offer to sell in this District and elsewhere in the United States, and import into this

District and elsewhere in the United States, the Accused Products.

142. On information and belief, Harman engaged in such activities despite an objectively high likelihood that its actions constituted infringement and inducement of infringement of the '632 Patent. Harman knew and should have known that its actions would cause direct and induced infringement of the '632 Patent, and on information and belief, Harman has monitored the substantial prior art submissions made prior to issuance of the '632 patent.

143. Harman has willfully infringed and continue to willfully infringe the '632 Patent.

DEMAND FOR JURY TRIAL

144. Pursuant to Fed. R. Civ. P. 38, Plaintiff hereby respectfully requests trial by jury on all claims and issues so triable.

REQUEST FOR RELIEF

145. WHEREFORE, Plaintiff respectfully requests the following relief:

- a) The entry of judgment, in favor Plaintiff and against Defendant, that the Asserted Patents are valid and enforceable;
- b) The entry of judgment, in favor Plaintiff and against Defendant, that Defendant has infringed, directly and indirectly, either literally or under the Doctrine of Equivalents, one or more claims of the '692 Patent;
- c) The entry of judgment, in favor Plaintiff and against Defendant, that the Defendant's infringement of the '692 Patent has been willful, and that the Defendant's continued infringement of the '692 Patent is willful;
- d) The entry of judgment, in favor Plaintiff and against Defendant, that Defendant has infringed, directly and indirectly, either literally or under the Doctrine of Equivalents, one or more claims of the '044 Patent;
- e) The entry of judgment, in favor Plaintiff and against Defendant, that the Defendant's infringement of the '044 Patent has been willful, and that the

Defendant's continued infringement of the '044 Patent is willful;

- f) The entry of judgment, in favor Plaintiff and against Defendant, that Defendant has infringed, directly and indirectly, either literally or under the Doctrine of Equivalents, one or more claims of the '315 Patent;
- g) The entry of judgment, in favor Plaintiff and against Defendant, that the Defendant's infringement of the '315 Patent has been willful, and that the Defendant's continued infringement of the '315 Patent is willful;
- h) The entry of judgment, in favor Plaintiff and against Defendant, that Defendant has infringed, directly and indirectly, either literally or under the Doctrine of Equivalents, one or more claims of the '643 Patent;
- i) The entry of judgment, in favor Plaintiff and against Defendant, that the Defendant's infringement of the '643 Patent has been willful, and that the Defendant's continued infringement of the '643 Patent is willful;
- j) The entry of judgment, in favor Plaintiff and against Defendant, that Defendant has infringed, directly and indirectly, either literally or under the Doctrine of Equivalents, one or more claims of the '493 Patent;
- k) The entry of judgment, in favor Plaintiff and against Defendant, that the Defendant's infringement of the '493 Patent has been willful, and that the Defendant's continued infringement of the '493 Patent is willful;
- l) The entry of judgment, in favor Plaintiff and against Defendant, that Defendant has infringed, directly and indirectly, either literally or under the Doctrine of Equivalents, one or more claims of the '587 Patent;
- m) The entry of judgment, in favor Plaintiff and against Defendant, that the Defendant's infringement of the '587 Patent has been willful, and that the Defendant's continued infringement of the '587 Patent is willful;

- n) The entry of judgment, in favor Plaintiff and against Defendant, that Defendant has infringed, directly and indirectly, either literally or under the Doctrine of Equivalents, one or more claims of the '632 Patent;
- o) The entry of judgment, in favor Plaintiff and against Defendant, that the Defendant's infringement of the '632 Patent has been willful, and that the Defendant's continued infringement of the '632 Patent is willful;
- p) The entry of judgment, in favor Plaintiff and against Defendant, awarding Plaintiff all appropriate damages under 35 U.S.C. § 284 for Defendant's past infringement, and any continuing or future infringement of the Asserted Patents, including pre- and post-judgment interest, costs, and disbursements as justified under 35 U.S.C. § 284 and, if necessary, an accounting:
 - i. That Plaintiff be awarded enhanced damages by reason of the Defendant's willful infringement of the '692 Patent;
 - ii. That Plaintiff be awarded enhanced damages by reason of the Defendant's willful infringement of the '044 Patent;
 - iii. That Plaintiff be awarded enhanced damages by reason of the Defendant's willful infringement of the '315 Patent;
 - iv. That Plaintiff be awarded enhanced damages by reason of the Defendant's willful infringement of the '643 Patent;
 - v. That Plaintiff be awarded enhanced damages by reason of the Defendant's willful infringement of the '493 Patent;
 - vi. That Plaintiff be awarded enhanced damages by reason of the Defendant's willful infringement of the '587 Patent;
 - vii. That this case be declared exceptional within the meaning of 35 U.S.C. § 285 and that Plaintiff be awarded its reasonable attorneys' fees against

the Defendant incurred in prosecuting this action; and

viii. That Plaintiff be awarded its costs and expenses incurred in prosecuting this action.

- q) The entry of a permanent injunction, enjoining Defendant, its subsidiaries, and any person or entity acting in concert with Defendant, from making, using, selling, offering to sell, or importing any products that infringe the Asserted Patents, and any other injunctive relief the Court deems just and equitable; and
- r) The entry of judgment, in favor of Plaintiff and against Defendant, awarding Plaintiff such further relief at law or in equity as the Court deems just and proper.

Dated: June 18, 2024

ASHBY & GEDDES

/s/ Steven J. Balick

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