

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

**EARIN AB,**

Plaintiff,

v.

**SENNHEISER ELECTRONIC  
CORPORATION,**

Defendant.

Civil Action No.:

**TRIAL BY JURY DEMANDED**

**COMPLAINT**

Plaintiff Earin AB (“Earin”) files this Complaint against Defendant Sennheiser Electronic Corporation (“Sennheiser”).

**NATURE OF THE CASE**

1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 101, *et seq.*, including U.S.C. § 271 for the infringement of United States Patent No. 9,402,120 (“the ’120 Patent”).

2. Defendant Sennheiser has been making, using, selling, offering for sale, and/or importing a line of wireless earbud products which enter an operational mode when disconnected from a charging case, automatically form a wireless connection between the earbuds, have true stereo capabilities with monoaural fallback modes, and automatically pair with audio streaming host devices, including without limitation the Sennheiser CX True Wireless Earbud products (collectively “the Accused Products”), which infringe the ’120 Patent in violation of 35 U.S.C. § 271.

3. Earin seeks appropriate damages and prejudgment and post-judgment interest for Sennheiser’s infringement of the ’120 Patent.

**PARTIES**

4. Backed by the Kickstarter community in 2014, Earin launched the original true wireless stereo (“TWS”) M-1 earbuds on October 6, 2015. Earin has for the past nine years been known as a leading innovator of Bluetooth-enabled wireless earphone technologies.

5. Earin is a Swedish corporation with a principal place of business at Dockgatan 27, 211 12 Malmö, Sweden.

6. On information and belief, Defendant Sennheiser Electronic Corporation is a Delaware corporation with a principal place of business at 1 Enterprise Drive, Old Lyme, CT 06371.

**JURISDICTION & VENUE**

7. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

8. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§1331 and 1338(a).

9. This Court has personal jurisdiction over Defendant Sennheiser because Sennheiser is a Delaware corporation and therefore has continuous presence in, and systematic contact with, this District.

10. On information and belief, Skullcandy has committed and continues to commit acts of infringement in this Judicial District, and the claims addressed in this Complaint arise out of and relate to such acts, including at least by making, using, offering for sale, and selling the Accused Products within this District.

11. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391 and 1400(b) because

Sennheiser is incorporated in this Judicial District and Sennheiser's infringing activities have occurred and are occurring in this Judicial District.

**EARIN'S U.S. PATENT NO. 9,402,120**

12. On July 26, 2016, the United States Patent and Trademark Office duly and legally issued United States Patent No. 9,402,120, entitled "Wireless Earbuds." A true and correct copy of the '120 Patent is attached as Exhibit A. The priority date of the '120 Patent is no later than September 5, 2014.

13. The '120 Patent is, inter alia, directed to a wireless earbud system where the earbud housing includes a loudspeaker element, a rechargeable battery, and a printed circuit board, such that when an earbud is disconnected from a battery charger, it exits from an idle mode, enters into an operational mode, and attempts to pair with another earbud to operate in true wireless stereo (TWS) mode. According to the wireless earbud system of the '120 Patent, if the connection to the other earbud fails, the earbud will operate in a mono audio receiver mode, and if the earbud's connection to a streaming host device fails, the earbud will initiate a pairing procedure to reconnect with a host device.

14. Earin AB is the owner, by assignment, of all right, title, and interest in and to the '120 Patent, including the right to bring suit for past, present, and future patent infringement, and to collect past, present, and future damages.

15. The '120 Patent is valid and enforceable under the United States Patent Laws.

**MARKING**

16. Plaintiff has never made, sold, used, offered to sell, or imported into the United States any article that practices any claim of the '120 Patent.

17. None of Plaintiff's licensees have ever made, sold, used, offered to sell, or imported into the United States any article that practices any claim of the '120 Patent.

18. Thus, 35 U.S.C. § 287(a) cannot prevent or otherwise limit Plaintiff's entitlement to damages for acts of infringement.

**COUNT I**  
**INFRINGEMENT OF THE '120 PATENT**

19. Earin incorporates by reference the allegations in the preceding paragraphs.

20. Sennheiser has made, used, offered for sale, and/or sold the Accused Products that incorporate one or more of the inventions claimed in the '120 Patent within the United States.

21. Sennheiser has infringed and continues to infringe, either literally or under the doctrine of equivalents, one or more claims, including at least claim 20, of the '120 Patent in violation of 35 U.S.C. § 271, *et seq.*, by making, using, selling, and offering for sale, in this District and in the United States the Accused Products including, but not limited to, the CX True Wireless Earbud products.

22. Claim 20 of the '120 Patent provides:

[Preamble] A wireless earbud having an idle mode and an operational mode, the wireless earbud comprising:

[A] an earbud housing;

[B] a loudspeaker element;

[C] a rechargeable battery; and

[D] at least one main printed circuit board having disposed thereon circuitry for wireless radio communication, audio codec and earbud operation control;

[E] wherein the circuitry is configured for automatic power preservation by: detecting connection of said battery to a charger and in response entering the idle mode, wherein existing connections to a second wireless earbud and to a wireless audio streaming host device will be disconnected; and

[F] detecting disconnection of said battery from said charger and in response entering the operational mode by: attempting a true wireless stereo, TWS, reconnection with the second wireless earbud;

[G] if the attempt is successful, operating the wireless earbud as a TWS audio receiver and otherwise operating the wireless earbud as a mono wireless audio receiver;

[H] if operated as a TWS audio receiver, determining whether the wireless earbud is a master device or a slave device with respect to the second wireless earbud;

[I] if the wireless earbud is determined to be a master device, attempting to reconnect with the wireless audio streaming host device and other known wireless audio streaming host devices if applicable; and

[J] if reconnection with the wireless audio streaming host device fails, initiate a pairing procedure with the wireless audio streaming host device and other known wireless audio streaming host devices if applicable.

23. Based on publicly available information, Sennheiser's Accused Products meet all elements of at least claim 20 of the '120 Patent.

24. Regarding the preamble of claim 20, to the extent the preamble is determined to be limiting, the Accused Products provide the features described in the preamble, which recites a "wireless earbud having an idle mode and an operational mode." The Accused Products, including at least the Sennheiser CX True Wireless earbuds, turn off (i.e., enter "idle mode") when placed in the charging case for charging,<sup>1</sup> and will turn on (i.e. enter "operational mode") when removed from the case and inserted into the ears.<sup>2</sup>

25. Limitations A through D respectively require the wireless earbud to have [A] an earbud housing; [B] a loudspeaker element; [C] a rechargeable battery; and [D] at least one main

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<sup>1</sup> See [https://cdn.sennheiser-cloud.com/help/products/cxtw/en/manual/index.html#t=CX200BTTW\\_IM\\_EN%2FCX200BTTW\\_IM\\_EN%2Ftopic\\_CX200BTTW\\_IM\\_EN21-.htm](https://cdn.sennheiser-cloud.com/help/products/cxtw/en/manual/index.html#t=CX200BTTW_IM_EN%2FCX200BTTW_IM_EN%2Ftopic_CX200BTTW_IM_EN21-.htm) (last visited February 12, 2024).

<sup>2</sup> See [https://cdn.sennheiser-cloud.com/help/products/cxtw/en/manual/index.html#t=CX200BTTW\\_IM\\_EN%2FCX200BTTW\\_IM\\_EN%2Ftopic\\_CX200BTTW\\_IM\\_EN20-.htm](https://cdn.sennheiser-cloud.com/help/products/cxtw/en/manual/index.html#t=CX200BTTW_IM_EN%2FCX200BTTW_IM_EN%2Ftopic_CX200BTTW_IM_EN20-.htm) (last visited February 12, 2024).

printed circuit board having disposed thereon circuitry for wireless radio communication, audio codec, and earbud operation control. The Accused Products, including at least the Sennheiser CX True Wireless earbuds, include an earbud housing, a loudspeaker, a rechargeable battery, and a printed circuit board which supports Bluetooth (i.e. “wireless radio communication”), multiple audio codecs, and earbud operations, such as play/pause and volume control.

26. The CX True Wireless earbuds have a housing and a loudspeaker element as seen in the images below:<sup>3</sup>



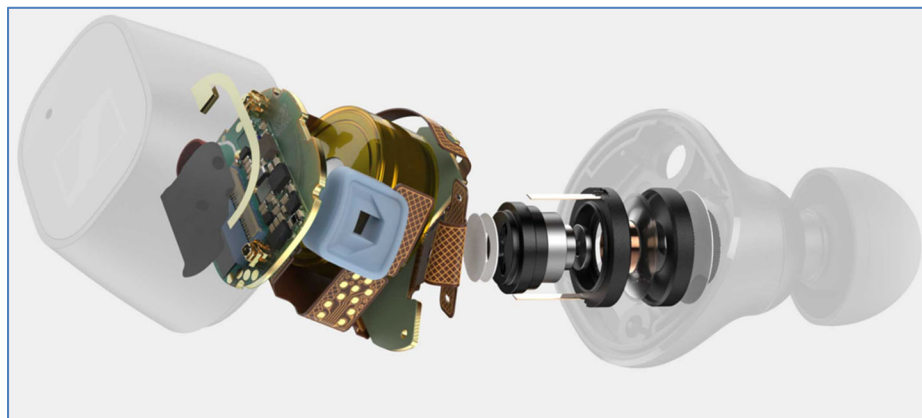
27. The Accused Products, including the CX True Wireless earbuds, have a rechargeable battery. The batteries in these earbuds are advertised as holding “9 [hours]” of play time.<sup>4</sup> Similarly, the charging case is advertised as holding “up to 27 hours [of] play time”<sup>5</sup> while

<sup>3</sup> See <https://www.sennheiser-hearing.com/en-US/p/cx-true-wireless/> (last visited February 12, 2024); also see <https://www.sennheiser-hearing.com/en-UK/p/cx-plus-true-wireless/> (last visited February 12, 2024)

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

“the quick charge function gives you approx. 1 hour of playback time after 10 minutes of charging.”<sup>6</sup>



28. The CX True Wireless earbuds have at least one main printed circuit board, as indicated in the above screenshot, having circuitry for wireless radio communication, audio codec and earbud operation control.<sup>7</sup> On information and belief, the CX True Wireless earbuds are “Bluetooth 5.2 compatible,” “support[] best-in-class reliable and stable Bluetooth connection,” and “support[] current Bluetooth codecs such as SBC, AAC and aptX.”<sup>8</sup> The CX True Wireless earbuds also feature customizable touch controls.<sup>9</sup>

29. Limitation [E] requires “wherein the circuitry is configured for automatic power preservation by: detecting connection of said battery to a charger and in response entering the idle mode, wherein existing connections to a second wireless earbud and to a wireless audio streaming host device will be disconnected.”

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<sup>6</sup> See <https://media.graphassets.com/ODuGe9DQ8y33810drHUQ> at 13 (last visited February 12, 2024).

<sup>7</sup> See <https://www.sennheiser-hearing.com/en-UK/p/cx-plus-true-wireless/> (last visited February 12, 2024).

<sup>8</sup> See [https://cdn.sennheiser-cloud.com/help/products/cxtw/en/faq/index.html#t=topic\\_CX\\_TrueWireless\\_CX200TW1\\_FAQ\\_A02\\_EN1-.htm](https://cdn.sennheiser-cloud.com/help/products/cxtw/en/faq/index.html#t=topic_CX_TrueWireless_CX200TW1_FAQ_A02_EN1-.htm) (last visited February 12, 2024).

<sup>9</sup> *Id.*

30. As noted above with respect to the preamble, the Accused Products, including the Sennheiser CX True Wireless earbuds, automatically turn off (i.e. enter “idle mode”) and disconnect any Bluetooth connections to the second wireless earbud and host device when a connection to the charging case is detected. Sennheiser’s support documentation clarifies: “The earbuds do not have to be switched off explicitly” because “[a]s soon as the earbuds are inserted into the charging case, they switch off and are being charged (>14).”<sup>10</sup> On information and belief, when the earbuds are powered off, any existing connections to a second wireless earbud and/or to a wireless audio streaming host device will be disconnected.

31. Limitations [F] and [G] respectively require: “detecting disconnection of said battery from said charger and in response entering the operational mode by: attempting a true wireless stereo, TWS, reconnection with the second wireless earbud”; and “if the attempt is successful, operating the wireless earbud as a TWS audio receiver and otherwise operating the wireless earbud as a mono wireless audio receiver.”

32. The Accused Products, including the Sennheiser CX True Wireless earbuds, meet these limitations by automatically attempting a Bluetooth connection when removal from the charging case is detected. Following which, the Sennheiser CX True Wireless earbud syncs with the second earbud (forming a “TWS reconnection”). According to Sennheiser support documentation for the Accused Products, when you “[t]ake both earbuds out of the charging case and insert them into your ears [. . .] you hear the voice prompts ‘Power On’ and ‘Connected.’”<sup>11</sup> The support documentation also clarifies that the earbuds “automatically try to connect to the last connected Bluetooth device”<sup>12</sup> and “[b]y default, the left and right earbud are peer paired to each

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<sup>10</sup> See <https://cdn.competec.ch/documents2/5/5/3/301928355/301928355.pdf> at 22 (last visited February 12, 2024).

<sup>11</sup> *Id.* at 21.

<sup>12</sup> *Id.* at 15.



other and connect automatically after power-on.”<sup>13</sup>

33. On information and belief, if only one earbud is used, or if the sync to the second earbud fails, then the earbud will operate as a mono wireless audio receiver. According to Sennheiser support documentation: “[t]o make [the earbuds] even more convenient to use, we introduced a ‘Role Switching’ feature. In a nutshell, role switching is about possibility [sic] to use earbuds individually.”<sup>14</sup> On information and belief, if the earbuds fail to re-sync, this will result in audio only being played in one ear (i.e. operating as a mono wireless audio receiving).

34. Limitations [H] and [I] respectively require: “if operated as a TWS audio receiver, determining whether the wireless earbud is a master device or a slave device with respect to the second wireless earbud”; and “if the wireless earbud is determined to be a master device, attempting to reconnect with the wireless audio streaming host device and other known wireless audio streaming host devices if applicable.”

35. On information and belief, with the Accused Products, including the Sennheiser CX True Wireless earbuds, the earbud issuing the sync request to the other earbud and connecting to the wireless audio streaming device will be designated as the primary receiver (i.e., the “master device”) and such other earbud will be the secondary receiver (i.e., the “slave device”). As noted in support documentation for the CX True Wireless earbuds, when going from using both earbuds to using one individually “you might experience a small interruption in music reproduction due to the fact that earbuds will change their ‘roles’ - from the primary to the secondary or back.”<sup>15</sup>

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<sup>13</sup> See [https://cdn.sennheiser-cloud.com/help/products/cxtw/en/faq/index.html#t=topic\\_CX\\_TrueWireless\\_CX200TW1\\_FAQ\\_A02\\_EN3-.htm](https://cdn.sennheiser-cloud.com/help/products/cxtw/en/faq/index.html#t=topic_CX_TrueWireless_CX200TW1_FAQ_A02_EN3-.htm) (last visited February 12, 2024).

<sup>14</sup> See [https://cdn.sennheiser-cloud.com/help/products/cxtw/en/faq/index.html#t=topic\\_CX\\_TrueWireless\\_CX200TW1\\_FAQ\\_A02\\_EN1-.htm](https://cdn.sennheiser-cloud.com/help/products/cxtw/en/faq/index.html#t=topic_CX_TrueWireless_CX200TW1_FAQ_A02_EN1-.htm) (last visited February 12, 2024).

<sup>15</sup> *Id.*

36. Limitation [J] requires “if reconnection with the wireless audio streaming host device fails, initiate a pairing procedure with the wireless audio streaming host device and other known wireless audio streaming host devices if applicable.”

37. On information and belief, in the operation of Accused Products, including the Sennheiser CX True Wireless earbuds, after the earbuds are powered off (i.e., causing reconnection with the audio streaming host device to fail), upon being turned back on they will “automatically try to connect to the last connected Bluetooth device”<sup>16</sup>

38. Accordingly, Sennheiser has directly infringed and continues to directly infringe one or more claims of the '120 Patent, including at least representative claim 20, in violation of 35 U.S.C. §§ 271(a) by, without authority, making, using, offering for sale, and/or selling the infringing products, systems, methods, and/or computer programs within the United States and importing the infringing products, systems, methods, and/or computer programs into the United States.

39. Sennheiser’s infringing activities have and continue to be without authority or license under the '120 Patent.

40. Earin has and continues to suffer damages as a direct and proximate result of Sennheiser’s direct infringement of the '120 Patent.

41. Earin is entitled to recover: (i) damages adequate to compensate Earin for Sennheiser’s direct infringement of the '120 Patent, which at a minimum, amounts to a reasonable royalty; (ii) attorney’s fees; and (iii) costs.

### **JURY DEMAND**

42. Pursuant to Federal Rule of Civil Procedure 38(b), Earin demands a trial by jury of

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<sup>16</sup> *Id.* at 15.

all issues so triable.

**PRAYER FOR RELIEF**

WHEREFORE, Earin respectfully requests judgment against Sennheiser as follows:

- A. that this Court adjudge that Sennheiser infringes the '120 Patent;
- B. that this Court ascertain and award Earin damages under 35 U.S.C. § 284 sufficient to compensate for Sennheiser's infringement, including but not limited to infringement occurring before the filing of this lawsuit;
- C. that this Court ascertain and award Earin any post-judgment ongoing royalties under 35 U.S.C. § 284 as may be appropriate;
- D. that this Court award Earin any applicable prejudgment and post-judgment interest; and
- E. that this Court award Earin such other relief at law or in equity as the Court deems just and proper.

Dated: March 1, 2024

*Of Counsel:*

Cristofer I. Leffler, WA Bar No. 35020  
**FOLIO LAW GROUP PLLC**  
1200 Westlake Ave. N., Suite 809  
Seattle, WA 98109  
Tel: (206) 880-1802  
cris.leffler@foliolaw.com

Respectfully submitted,

FARNAN LLP

/s/ Michael J. Farnan  
Brian E. Farnan (Bar No. 4089)  
Michael J. Farnan (Bar No. 5165)  
919 N. Market St., 12th Floor  
Wilmington, DE 19801  
(302) 777-0300  
bfarnan@farnanlaw.com  
mfarnan@farnanlaw.com

*Attorneys for Plaintiff*