

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

IMPLICIT, LLC,

Plaintiff,

v.

D&M HOLDINGS U.S. INC., AND DENON
ELECTRONICS (USA), LLC,

Defendants.

C.A. NO.:

JURY DEMANDED

ORIGINAL COMPLAINT

Plaintiff Implicit, LLC (“Plaintiff” or “Implicit”) files this Complaint against D&M Holdings U.S. Inc. (“D&M U.S.”) and Denon Electronics (USA), LLC (“Denon U.S.”) (collectively, “Defendants” or “D&M”) for infringement of U.S. Patent Nos. 7,391,791 (the “791 patent) and 8,942,252 (the “252 patent) (collectively, the Patents-in-Suit):

I. THE PARTIES

1. Implicit is a limited liability corporation organized and existing under the laws of the state of Texas, with its principal place of business at 600 Congress Avenue, 14th Floor, STE 14149, Austin, Texas 78701.

2. On information and belief, D&M U.S. is a Delaware corporation with its principal place of business at 100 Corporate Drive, Mahwah, New Jersey, 07430. On information and belief, Denon U.S. is Delaware corporation, a wholly-owned subsidiary of D&M U.S., and has its principal place of business at the same address as D&M U.S. Defendants can be served with process by serving their registered agent for service of process in the State of Delaware, The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801.

II. NATURE OF THE ACTION

3. This is a patent infringement action to end Defendants' unauthorized and infringing manufacture, distribution, use, sale, and/or offer to sell in the United States of products, methods, processes, services, and/or systems that infringe Implicit's patented inventions.

4. The '791 patent (attached hereto as Exhibit A), titled "Method and System for Synchronization of Content Rendering," was filed on December 17, 2002 and issued on June 24, 2008. Implicit is the assignee of all rights, title, and interest in the '791 patent, and it possesses all rights to sue and recover for any current or past infringement of the '791 patent.

5. The '252 patent (Attached hereto as Exhibit B), titled "Method and System Synchronization of Content Rendering," was filed on March 25, 2013 and issued on January 27, 2015. Implicit is the assignee of all rights, title, and interest in the '252 patent, and it possesses all rights to sue and recover for any current or past infringement of the '252 patent.

6. Defendants manufacture, provide, use, sell, offer for sale, and/or distribute infringing products and services and encourage others to use their products and services in an infringing manner, including their customers. Implicit seeks past and future damages and prejudgment and post-judgment interest for Defendants' past infringement of the Patents-in-Suit.

III. JURISDICTION AND VENUE

7. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patents laws of the United States, including 35 U.S.C. §§ 271, 281, 283, 284 and 285.

8. This Court has general personal jurisdiction over Defendants because, upon information and belief, Defendants are incorporated in Delaware and regularly conduct business within the State of Delaware.

9. Personal jurisdiction over Defendants is also proper because, among other things, Defendants have established minimum contacts within the forum such that the exercise of jurisdiction over Defendants will not offend traditional notions of fair play and substantial justice. For example, Defendants have committed, aided, abetted, induced, contributed to, and/or participated in the commission of patent infringement in violation of 35 U.S.C. § 271 in this judicial district and elsewhere that led to foreseeable harm and injury to Implicit. Defendants have placed products that practice and/or embody the claimed inventions of the Patents-in-Suit into the stream of commerce with the reasonable expectation and/or knowledge that purchasers and users of such products were located within this District. In addition, Defendants have sold, advertised, marketed, and distributed products in this District that practice the claimed inventions of the Patents-in-Suit. Defendants derive substantial revenue from the sale of infringing products distributed within the District, and/or expect or should reasonably expect their actions to have consequences within the District, and derive substantial revenue from interstate and international commerce.

10. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b), because Defendants are incorporated in Delaware, subject to personal jurisdiction in this District, and have committed acts of infringement in this District.

IV. FACTUAL ALLEGATIONS

11. While the precise limitations of the claimed inventions are set forth in the claims themselves, the Patents-in-Suit generally disclose a particular method for ensuring the playback of various types of media occurs synchronously across different rendering devices. The claimed methods provide the means to achieve consistent and accurate synchronization in situations where synchronization was traditionally difficult, *e.g.* when the various rendering devices have different or multiple time domains, which can cause the rendering devices to “drift” out of sync.

The claimed methods can be used to achieve synchronicity between a television and home theater speakers so that the audio output by the speakers is in sync with the video displayed on the television, *e.g.* ensuring there are no lip-sync issues with the dialog on screen. Additionally, the claimed methods can be used to ensure that when multiple speakers are playing the same audio source, the speakers are playing the audio back in sync with the others so the listener does not hear any “echo” or “lag” between the rendering of the audio signal at the synchronized speakers. The Patents-in-Suit achieve this improved result by designating one of the rendering devices (*e.g.* a speaker) as a master device that will share rendering information (*e.g.* rendering time at the master device) with one or more slave devices (*e.g.* another speaker paired with the master). Based on this information from the master, the rendering at the slave device is adjusted such that it remains in sync with the rendering at the master device.

12. By way of example, claim 1 of the '791 patent reads as follows:

1. A method for synchronizing a rendering of a content provided by a source at one or more devices which are nodes of a network, the content having a rendering time, the method comprising:

designating one of the one or more devices a master device, the master device having a master device time and a master rendering time;

designating remaining devices among one of the one or more devices as at least one slave device, the at least one slave device having a slave device time and a slave rendering time;

receiving the content for rendering by the master and at least one slave device;

sending from the master device to the at least one slave device an indication of when the master device renders content corresponding to the master rendering time;

determining a master device time domain, a slave device time domain, and a source time domain;

determining whether a time domain differential exists between the master rendering time, the slave rendering time; and

adjusting, based on the received indication, the rendering of the content at the at least one slave device within the slave device time domain and in proportion to the time domain differential when present to account for variation between when the master device and the at least one slave device to render content that should be rendered at the same time.

13. By way of further example, claim 1 of the '252 patent reads as follows:

1. A method, comprising:

a master rendering device rendering a first content stream; and

sending, from the master rendering device to a first one of a plurality of slave devices, a plurality of master rendering times indicative of statuses of the rendering the first content stream at the master rendering device at different times;

wherein the first slave device is configured to smooth a rendering time differential that exists between the master rendering device and the first slave device in order to render a second content stream at the first slave device synchronously with the rendering of the first content stream at the master rendering device, wherein smoothing the rendering time differential includes calculations using the plurality of master rendering times.

14. The original assignee of the Patents-in-Suit, Implicit Networks, Inc., was founded in 1996 in Bellevue, Washington by one of the co-inventors of the Patents-in-Suit—Mr. Edward Balassanian. Mr. Balassanian currently serves as the Manager of Implicit. Implicit provides software platforms and products that enable original equipment manufacturers (“OEMs”) and independent software vendors (“ISVs”) to build applications for networks. Its products include Strings OS, which enables OEMs and ISVs to build, deploy, and manage applications in the network and on the devices that access the network; and RADkit, a toolkit designed specifically to build applications for network infrastructure and for devices that access the network.

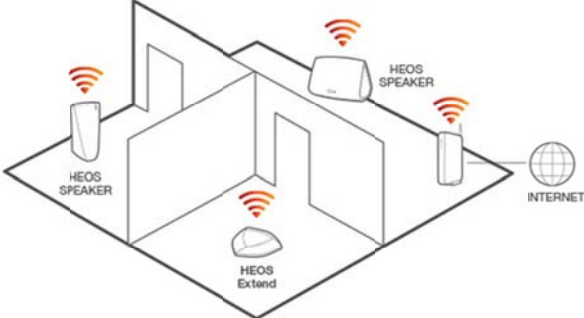
15. Implicit developed and included synchronization technology in its Strings OS product to playback audio and video at IP-based speakers and displays such that the audio and video information sent to the IP devices would be rendered in sync with the other devices. Implicit’s synchronization technology was used by Intel Corporation in its pioneering Intel Web

Tablet and Intel Audio Port (a device which allowed an analog speaker to be used as an IP-based speaker). Motorola similarly deployed Implicit's synchronization technology as part of its Stereo Relay product. Additionally, Implicit's synchronization technology was used in Thomson's Set-top Box, leading to a best-in-show award at the Consumer Electronics Show.

16. Defendants provide software, hardware, and services directed to synchronizing the rendering of content at various rendering devices on a network. For example, as described on Defendants' website, Defendants make, use, sell, and deploy a HEOS wireless multi-room sound system that "delivers unparalleled synchronization performance within microseconds" between multiple HEOS devices or speakers. <https://usa.denon.com/us/wireless-audio-quality-review>.

**MULTI-ROOM
MEANS
POSSIBILITIES.**

The free HEOS app instantly gives you multi-room audio control, and it can be installed on as many phones and tablets as you like! Command music in every room from any device. Use your multi-room audio system to group several rooms together and play the same song- perfectly synchronized in party mode! Or, play a different song in every room when everyone wants to dance to their own tune.



<https://usa.denon.com/us/heos-multi-room-sound>.

On information and belief, Defendants' HEOS products utilize a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously. For example, Defendants' literature provides that "[t]he HEOS wireless multi-room sound system is a true multiroom audio system that automatically synchronizes audio playback between multiple HEOS devices so that the audio coming from

different rooms is perfectly in sync and always sounds amazing! You can easily add up to 32 devices to your HEOS system.”

<http://manuals.denon.com/HEOSLINK/ALL/EN/BONDSYaaqkzyad.php>. Defendants’ literature additionally describes the designation of a “group leader HEOS device” (e.g. the claimed master device) which sends audio to “member devices” (e.g. the claimed slave devices).

Issue

When adding HEOS devices to a group, the HEOS App becomes unstable and audio may cutout on some or all HEOS devices.

Cause

Changing the Quality setting of the group leader HEOS device from the (default) **"Normal"** to **"High"** setting will change the way the audio is sent from the group leader to the member devices. The audio stream will change from compressed to uncompressed and may result in HEOS system instability and audio cutout issues.

http://denon.custhelp.com/app/answers/detail/a_id/4240/related/1.

17. On information and belief, Defendants also implement contractual protections in the form of license agreements with their customers to preclude the unauthorized reproduction, distribution, and modification of their software. Moreover, on information and belief, Defendants implement technical precautions to attempt to thwart customers who would circumvent the intended operation of Defendants’ products.

V. PATENT INFRINGEMENT

COUNT I—INFRINGEMENT OF U.S. PATENT NO. 7,391,791

18. Paragraphs 1 through 17 are incorporated by reference as if fully stated herein.
19. The ’791 patent is valid and enforceable.

DIRECT INFRINGEMENT (35 U.S.C. § 271(a))

20. Defendants have directly infringed, and continue to directly infringe, one or more claims of the '791 patent in this judicial district and elsewhere in Delaware and the United States.

21. Based on the information presently available to Implicit, Defendants have directly infringed, and continue to directly infringe one or more claims of the '791 patent, by, among other things, making, providing, using, offering for sale, selling, and/or distributing their wireless audio and video products in an infringing manner. Such devices include, but are not limited to, HEOS 7 speaker, HEOS 3 speaker, HEOS 1 speaker, HEOS LINK pre-amplifier, HEOS AMP amplifier, HEOS DRIVE multi-room amplifier, HEOS HomeCinema, associated software and applications, and all reasonably similar products of Defendants (the "'791 Accused Products"). These devices utilize a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously.

INDIRECT INFRINGEMENT (INDUCEMENT - 35 U.S.C. § 271(b))

22. Based on the information presently available to Implicit, Implicit contends that Defendants have indirectly infringed, and continue to indirectly infringe, one or more claims of the '791 patent by inducing direct infringement by third parties, including without limitation manufacturers, resellers, and/or end users of the '791 Accused Products, of infringing the '791 Patent in this District and elsewhere in the United States.

23. Defendants have had knowledge of the '791 patent and the infringing nature of their activities at least as early as the date when Implicit effected service of this Complaint.

24. On information and belief, despite having knowledge of the '791 patent, Defendants have specifically intended for persons who acquire and use the '791 Accused

Products, including without limitation end-users of the '791 Accused Products, to acquire and use such devices in such a way that infringes at least one or more claims of the '791 patent, and Defendants knew or should have known that their actions were inducing infringement.

25. Direct infringement is the result of activities performed by third parties in relation to the '791 Accused Products, including without limitation by end users enabled and encouraged by Defendants to use the '791 Accused Products in their normal, customary way to infringe the '791 patent.

26. With knowledge of the '791 patent, Defendants direct and aid third parties, including without limitation end-users of the '791 Accused Products, to infringe the '791 patent by, among other things, (i) enabling a user of the '791 Accused Products to use the products to support utilizing a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously as claimed in the '791 patent; (ii) providing instructions (including, by way of example, tutorials, user guides, product guides, a help library, and other documentation available at <https://usa.denon.com/us/downloads/manuals-and-downloads> and <http://denon.custhelp.com>. For instance, a "Web Manual" for the "Heos 7 HS2, Heos 5 HS2" wireless speakers describing setup and use is available at <http://manuals.denon.com/HEOS75HS2/ALL/EN/index.php>) to end-users of the '791 Accused Products for using the products in their customary way; (iii) advertising the '791 Accused Products' support of utilizing a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '791 patent, all with knowledge that the induced acts constitute patent infringement. Defendants possess specific

intent to encourage infringement by third parties, including without limitation end-users of the '791 Accused Products.

INDIRECT INFRINGEMENT (CONTRIBUTION - 35 U.S.C. §§ 271(c) and/or (f))

27. Based on the information presently available to Implicit, Implicit contends that Defendants have indirectly infringed, and continue to indirectly infringe one or more claims of the '791 patent by contributing to the infringement of the '791 patent under 35 U.S.C. §§ 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by making, providing, selling, offering for sale, and/or distributing in the United States the '791 Accused Products.

28. Defendants have had knowledge of the '791 patent and the infringing nature of their activities at least as early as the date when Implicit effected service of the Original Complaint.

29. The '791 Accused Products are capable of utilizing a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously. Defendants know that the '791 Accused Products (i) constitute a material part of the inventions claimed in the '791 patent; (ii) are especially made or adapted to infringe the '791 patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in systems that are capable of utilizing a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously as claimed in the '791 patent.

30. Implicit is informed and believes that Defendants intend to and will continue to directly and indirectly infringe the '791 patent. Implicit has been damaged as a result of Defendants' infringing conduct described in this Count. Thus Defendants are liable to Implicit in an amount that adequately compensates Implicit for Defendants' infringement, which, by law,

cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II—INFRINGEMENT OF U.S. PATENT NO. 8,942,252

31. Paragraphs 1 through 30 are incorporated by reference as if fully stated herein.
32. The '252 patent is valid and enforceable.

DIRECT INFRINGEMENT (35 U.S.C. § 271(a))

33. Defendants have directly infringed, and continues to directly infringe, one or more claims of the '252 patent in this judicial district and elsewhere in Delaware and the United States.

34. Defendants have directly infringed, and continue to directly infringe one or more claims of the '252 patent, by, among other things, making, using, providing, offering for sale, selling, and/or distributing their wireless audio and video products that utilize a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously. Such devices include, but are not limited to HEOS 7 speaker, HEOS 3 speaker, HEOS 1 speaker, HEOS LINK pre-amplifier, HEOS AMP amplifier, HEOS DRIVE multi-room amplifier, HEOS HomeCinema, associated software and applications, and all reasonably similar products of Defendants (the "'252 Accused Products").

INDIRECT INFRINGEMENT (INDUCEMENT - 35 U.S.C. § 271(b))

35. Based on the information presently available to Implicit, Implicit contends that Defendants have indirectly infringed, and continues to indirectly infringe, one or more claims of the '252 patent by inducing direct infringement by third parties, including without limitation manufacturers, resellers, and/or end users of the '252 Accused Products, of infringing the '252 Patent in this District and elsewhere in the United States.

36. Defendants have had knowledge of the '252 patent and the infringing nature of their activities at least as early as the date when Implicit effected service of this Complaint.

37. On information and belief, despite having knowledge of the '252 patent, Defendants have specifically intended for persons who acquire and use the '252 Accused Products, including without limitation end-users of the '252 Accused Products, to acquire and use such devices in such a way that infringes at least one or more claims of the '252 patent, and Defendants knew or should have known that their actions were inducing infringement.

38. Direct infringement is the result of activities performed by third parties in relation to the '252 Accused Products, including without limitation by end users enabled and encouraged by Defendants to use the '252 Accused Products in their normal, customary way to infringe the '252 patent.

39. With knowledge of the '252 patent, Defendants direct and aid third parties, including without limitation end-users of the '252 Accused Products, to infringe the '252 patent by, among other things, (i) enabling a user of the '252 Accused Products to use the products to support utilizing a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously as claimed in the '252 patent; (ii) providing instructions (including, by way of example, tutorials, user guides, product guides, a help library, and other documentation available at <https://usa.denon.com/us/downloads/manuals-and-downloads> and <http://denon.custhelp.com>. For instance, a "Web Manual" for the "Heos 7 HS2, Heos 5 HS2" wireless speakers describing setup and use is available at <http://manuals.denon.com/HEOS75HS2/ALL/EN/index.php>) to end-users of the '252 Accused Products for using the products in their customary way; (iii) advertising the '252 Accused Products' support of utilizing a master device with slave devices and various

device times and rendering times to render content at the master devices and slave devices synchronously; and (iv) providing to third parties the products and software and related equipment that may be required for or associated with infringement of the '252 patent, all with knowledge that the induced acts constitute patent infringement. Defendants possess specific intent to encourage infringement by third parties, including without limitation end-users of the '252 Accused Products.

INDIRECT INFRINGEMENT (CONTRIBUTION - 35 U.S.C. §§ 271(c) and/or (f))

40. Based on the information presently available to Implicit, Implicit contends that Defendants have indirectly infringed, and continues to indirectly infringe one or more claims of the '252 patent by contributing to the infringement of the '252 patent under 35 U.S.C. §§ 271(c) and/or 271(f), either literally and/or under the doctrine of equivalents, by making, providing, selling, offering for sale, and/or distributing in the United States the '252 Accused Products.

41. Defendants have had knowledge of the '252 patent and the infringing nature of their activities at least as early as the date when Implicit effected service of the Original Complaint.

42. The '252 Accused Products are capable of utilizing a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously. Defendants know that the '252 Accused Products (i) constitute a material part of the inventions claimed in the '252 patent; (ii) are especially made or adapted to infringe the '252 patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in systems that are capable of utilizing a master device with slave devices and various device times and rendering times to render content at the master devices and slave devices synchronously as claimed in the '252 patent.

43. Implicit is informed and believes that Defendants intend to and will continue to directly and indirectly infringe the '252 patent. Implicit has been damaged as a result of Defendants' infringing conduct described in this Count. Thus Defendants are liable to Implicit in an amount that adequately compensates Implicit for Defendants' infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

VI. PRAYER FOR RELIEF

WHEREFORE, Implicit prays for judgment and seeks relief against Defendants as follows:

A. Judgment that one or more claims of U.S. Patent Nos. 7,391,791 and 8,942,252 have been infringed, literally and/or under the doctrine of equivalents, by Defendants;

B. That Implicit be awarded past and future damages together with costs and prejudgment and post-judgment interest to compensate for Defendants' infringement of the Patents-in-Suit in accordance with 35 U.S.C. §284; and

C. That Implicit be awarded such other and further relief as this Court deems just and proper under the circumstances.

Dated: March 10, 2017

Respectfully submitted,

FARNAN LLP

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