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UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

SPEAKWARE, INC.,
a California corporation,

Plaintiff,

v.

MICROSOFT CORPORATION,
a Washington corporation,

Defendant.

Case No. 8:18-CV-01293

Patent Infringement Complaint

Demand for Jury Trial

Complaint for Patent Infringement

Plaintiff SpeakWare, Inc. ("SpeakWare") files this complaint against Defendant Microsoft Corporation ("Microsoft"), alleging direct and indirect infringement of U.S. Patent 6,397,186. The accused products are Microsoft's voice-activated systems for controlling appliances.

Plaintiff SpeakWare and the asserted patent.

1. Plaintiff SpeakWare, Inc. is a corporation organized and existing under the laws of the State of California. SpeakWare is managed by lead inventor of U.S. Patent 6,397,186, William Stuart Bush.

2. SpeakWare is the owner of U.S. Patent 6,397,186, entitled "Hands-Free, Voice-Operated Remote Control Transmitter," which issued on May 28, 2002. The '186 patent is well-known in the industry and has been cited in 163 issued patents. Defendant Microsoft Corporation has known of or been willfully blind to the existence of the '186 patent since at least May 27, 2011. A copy of the '186 patent is attached as Exhibit 1.

Defendant Microsoft and the accused products.

3. Defendant Microsoft Corporation is a Washington corporation with business offices in California, including in this district.

4. Microsoft has developed, manufactured, imported, offered for sale, sold, and used voice-activated systems for controlling appliances that infringe the '186 patent. These systems include computing devices operating Microsoft Windows 10 and Harman Kardon Invoke smart speakers, all of which use Microsoft's voice-activated virtual assistant, Cortana, to control appliances. These systems can also include associated servers owned or controlled by Microsoft that enable and work in connection with the accused devices to control appliances.

Nature of the action, jurisdiction and venue.

5. Plaintiff SpeakWare, Inc. asserts claims for patent infringement against Defendant Microsoft Corporation under the patent laws of the United States, including

35 U.S.C. §§ 271 and 281, *et seq*. The Court has original jurisdiction over SpeakWare's patent infringement claims under 28 U.S.C. §§ 1331 and 1338(a).

6. The Court has personal jurisdiction over Microsoft. Microsoft has committed acts of infringement in this district, including selling infringing systems in this district and using infringing systems in this district.

7. Venue is proper in this district under 28 U.S.C. §1400(b). Microsoft has committed acts of infringement in this district and has several established places of business in this district. These include numerous Microsoft Store retail locations, including at Brea Mall, 1065 Brea Mall, Brea, California 92821-5718; Westfield Topanga, 6600 Topanga Canyon Blvd., Canoga Park, California 91303; Los Cerritos Center, 331 Los Cerritos Center, Cerritos, California 90703-5424; South Coast Plaza, 3333 Bristol Street, Suite 1249, Costa Mesa, California 92626-1803; Glendale Galleria, 2140 Glendale Galleria, JCPenney Court, Glendale, California 91210-2101; Westfield Century City, 10250 Santa Monica Blvd., Los Angeles, California 90067-6609; and The Shops at Mission Viejo, 578 The Shops at Mission Viejo, Mission Viejo, California 92691-6512.

https://www.microsoft.com/en-us/store/locations/all-locations.

8. In addition, they include Microsoft offices, for example Microsoft's offices at 13031 W. Jefferson Blvd., Ste. 200, Playa Vista, California 90094.

9. These locations are regular and established places of business of Microsoft for purposes of §1400(b) because each (i) is a physical place in the Central District of California (each consisting of a building or a part of a building from which

business is conducted); (ii) operates the business of Microsoft in a regular, steady, uniform, orderly, settled, fixed, and permanent manner; and (iii) is owned or leased by Microsoft, and has been ratified by Microsoft as a place of business. Moreover, these locations are represented by Microsoft as its places of business in the district and are listed and advertised by Microsoft on its website.

Claim for patent infringement.

10. SpeakWare incorporates by reference each of the allegations in paragraphs 1-9 above and further alleges as follows:

11. On May 28, 2002, the United States Patent and Trademark Office issued U.S. Patent 6,397,186, entitled "Hands-Free, Voice-Operated Remote Control Transmitter." Ex. 1.

12. SpeakWare is the owner of the '186 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

Validity of the '186 patent.

13. Each claim of the '186 patent is valid and enforceable.

Patent eligibility of the '186 patent.

14. Each claim of the '186 patent is patent eligible.

15. Each claim is directed to a specific improvement in technology, and not an abstract idea.

16. The claims improve technology for remotely controlling electronic appliances. Indeed, the specification explains that the patent involves technology "for remotely controlling electronic equipment" and, more specifically, a "voice-activated and voice-operated remote control system for controlling appliances." '186 patent, 1:6-9.

17. The claims of the '186 patent are directed to a specific improvement in voice-activated remote control technology.

18. Indeed, the claims are directed to improving existing technological solutions for remotely controlling electronic appliances.

19. The patent is entitled "hands-free, voice-operated remote control transmitter" and generally "relates to devices for remotely controlling electronic equipment, and more particularly, to a wireless, user-programmable, voice activated and voice operated remote control system for controlling appliances." '186 patent, 1:6-9.

20. The specification describes the conventional way of remotely controlling electronic appliances:

> "Historically, appliances, for example, electronic appliances, such as, televisions, VCRs, digital satellite systems, audio systems, and related accessories, have been remotely controlled by hand-held transmitters used to generate signals to receivers incorporated into the electronics of the remotely controlled appliances. Signals for such appliances correspond to control commands, such as channel selection/tuning, power on/off, audio volume adjustment, and muting controls, typically generated by the user by depressing buttons on a remote control transmitter keypad. The basic composition and operation of such remote control systems are well known in the art."

'186 patent, 1:11-22.

21. The specification also explains that these conventional systems had numerous drawbacks. For example:

> "[T]he small size and mobility [of such systems] often contribute to misplacement or loss of the transmitter. Also, for device operators with restricted physical mobility or sight limitations, hand-held remote controls may not provide sufficient access to the command controls of the remotely controlled appliances. Also, if an operator's hands are engaged in an activity, an interruption in the activity may be required to operate the hand-held remote

> control, causing inconvenience to the operator and potentially having an adverse effect on productivity."

'186 patent, 1:26-35.

> "As the number of separate remote control transmitters increases, locating, distinguishing, and locating the appropriate transmitters becomes increasingly difficult."

'186 patent, 1:37-41.

> Such systems "require the user to establish physical contact, typically in the form of manually depressing keypad buttons, to transmit a control command to the remotely controlled appliance," but "are often misplaced causing frustration to the user."

'186 patent, 2:1-6.

22. Although a handful of "voice-operated remote control systems have recently been developed," '186 patent, 2:7-8, those newly developed systems also had serious drawbacks.

23. One such drawback was that "such systems are not truly hands-free, requiring manual intervention by the user during use. In particular, such remote control systems as disclosed in the above-mentioned patents, are all based upon the use of a 'talk switch'; which must be manually depressed to enter a voice command when the transmission of a remote control signal is desired." '186 patent, 2:15-21. In particular, with respect to one such system, the specification explains that "[t]he transmitter operates depending on whether the talk switch has been depressed. If the talk switch has been depressed, the transmitter is enabled to remote control signals. Once the talk switch is released, the transmitter is kept in a low power consumption mode, waiting for voice commands to be applied. As indicated above, the means for generating and transmitting a remote control signal based on the recognized spoken voice command is not hands-free, requiring the manual intervention of pressing a talk switch to accomplish these functions." *Id.* at 2:32-42.

24. Another such drawback was that certain systems required "physical interconnections between the control system and the appliance which makes it difficult for a user to add additional appliances or change controlled appliances." '186 patent, 2:42-49.

25. The claims are directed to improving these existing technological solutions for remotely controlling electronic appliances. For example, claim 1 recites an "audio signal activated control system for controlling appliances" that includes "a microphone for receiving audio signals and converting said audio signals to electrical signals," "a speech recognition system for receiving said electrical signals," and an "appliance control circuit" that is configured to "transmit one or more application control signals" to control appliances. '186 patent, claim 1. The system has "a low power sound activation mode" and a "speech recognition mode" and is "configured to automatically switch from said sound activation mode to said speech recognition mode as a function of the amplitude of said electrical signals." *Id*.

26. This system of claim 1 provides numerous improvements over existing technological solutions for remotely controlling electronic appliances based on control signals generated by the user by depressing buttons on a remote control transmitter keypad. For example, it avoids the need for users to hold the remote control transmitter, and thus avoids the need for locating such a transmitter (and the risk of losing such transmitter in the first place). As a second example, it provides a device operator with restricted physical mobility with greater access to (and better ability to control) electronic appliances. As a third example, it allows the operator of an electronic appliance to control that appliance without interrupting an activity in which his or her hands are engaged. As a fourth example, it allows the operator to control multiple appliances and therefore eliminates the need to locate and distinguish the appropriate transmitter for a particular appliance.

27. The system of claim 1 also provides numerous benefits over the newly developed voice-operated remote control systems that existed at the time (which were

themselves unconventional). For example, it had two modes, one low power and one for speech recognition. As a second example, it avoided the need to have a "talk switch" by taking advantage of signal characteristics to switch from a low power sound activation mode to a speech recognition mode. This made it truly "hands free" and thus achieved all of the benefits identified above. *See, e.g.*, '186 patent, 7:12-16 ("An important aspect of the invention relates to the ability of the system to switch from a sleep mode to an active mode solely by voice commands, to provide true hands-free remote operation."). In addition, it allowed the system to limit power consumption and preserve battery life by staying in a low power mode until the system determined that it should switch modes. Furthermore, it made the system more reliable by ensuring that it would not issue commands to appliances based on background noise.

28. In addition, the claims do not merely recite a desired outcome, but instead recite a specific technical improvement to achieve a desired outcome. For example, the system of claim 1 is one particular way of designing a system for controlling appliances and claim 1 recites the specific arrangement of specific components that achieves the benefits identified above. There are many other ways of designing a system for controlling appliances, including many other ways of designing a system for controlling appliances based on audio signals, including the ones described in the prior art patents described in the specification.

29. In addition, the claims recite unconventional technical steps that improve technology.

30. Indeed, the claims recite a technical solution to a technical problem: an audio signal activated control system for controlling appliances that solved technical problems with existing systems for controlling appliances. For example, as explained above, claim 1 did this using an "audio signal activated control system for controlling appliances" that includes "a microphone for receiving audio signals and converting said audio signals to electrical signals," "a speech recognition system for receiving said electrical signals," and an "appliance control circuit" that is configured to "transmit

one or more application control signals" to control appliances. '186 patent, claim 1. The system has "a low power sound activation mode" and "a speech recognition mode" and is "configured to automatically switch from said sound activation mode to said speech recognition mode as a function of the amplitude of said electrical signals." *Id*.

31. The particular combination of components and requirements was unconventional, went against conventional wisdom, and, in fact, had never been done before. Indeed, as explained above, at the time of the invention, it was conventional to control appliances by using hand-held transmitters to generate signals to receivers incorporated into the electronics of the remotely controlled appliances. Furthermore, it was conventional for such signals to be generated by the user by depressing buttons on a remote control transmitter keypad. And it was conventional to have multiple such controllers for each appliance. Moreover, even the systems that used speech recognition—which were themselves unconventional—made use of a "talk switch" and did not rely on properties of electrical signals such as amplitude to switch to speech recognition mode, much less from a low power mode.

32. Each claim recites numerous additional unconventional technical steps, each of which is independently sufficient to confer patent-eligibility.

Microsoft's infringement of the '186 patent.

33. Microsoft has directly infringed and continues to directly infringe the claims of the '186 patent by making, using, offering to sell, selling, and importing the accused products. Microsoft infringes numerous claims of the '186 patent, including independent claim 1. An example way that Microsoft's accused products infringe claim 1 is provided below for reference.

"An audio signal activated control system for controlling appliances comprising:"

- Computing devices operating Microsoft Windows 10, Harman Kardon Invoke smart speakers, and other Cortana-enabled devices—alone and, alternatively, in combination with Microsoft servers and/or additional electronic equipment—are

an "*audio signal activated control system for controlling appliances*": they consist of a system activated by audio signals (for example, signals representing audio such as spoken words) for controlling appliances (for example, appliances identified as compatible with Cortana on Microsoft's website: https://www.microsoft.com/en-us/cortana/skills/featured).

"a microphone for receiving audio signals and converting said audio signals to electrical signals;"

- The "audio signal activated control system for controlling appliances" identified above includes "*a microphone for receiving audio signals and converting said*

audio signals to electrical signals." For example, a Harman Kardon Invoke smart speaker includes seven far-field microphones: https://www.microsoft.com/en-us/cortana/devices/invoke.

"a speech recognition system for receiving said electrical signals,"

- The "audio signal activated control system for controlling appliances" identified above includes "*a speech recognition system for receiving said electrical signals*" (for example, components within the computing devices operating Microsoft Windows 10, Harman Kardon Invoke smart speakers, other Cortana-enabled devices, and/or Microsoft servers) meeting each of the requirements of the claim as shown below.

"said speech recognition system including a processor"

- The "speech recognition system" identified above includes one or more processors. For example, the Harman Kardon Invoke smart speaker includes one or more processors. As a second example, Microsoft servers include numerous processors.

"and having a low power sound activation mode for detecting the presence of said electrical signals and a speech recognition mode for converting said electrical signals to electrical representative signals, decoding said electrical representative signals and generating control signals for controlling one or more appliances, wherein in said speech recognition mode said processor decodes said electrical representative signals and wherein in said sound activation mode said processor is in a low power state,"

- The "speech recognition system" identified above has "*a low power sound activation mode for detecting the presence of said electrical signals*" (for example, when the system detects the presence of electrical signals from the microphone, such as signals corresponding to the wake words "Hey Cortana") in which "*said processor is in a low power state*" (for example, a state in which the processor consumes less power, such as a "sleep" state).

- The "speech recognition system" identified above also has "*a speech recognition mode*" (for example, a mode in which the system recognizes spoken commands, for example the spoken commands given by a user to Microsoft's virtual assistant, Cortana) "*for converting said electrical signals to electrical representative signals, decoding said electrical representative signals and generating control signals for controlling one or more appliances,*" (for example, for converting the electrical signals from the microphone into electrical representative signals, for example signals representing sound waves; decoding those signals, for example to process them, to determine whether they represent audio signals or contain spoken commands, or to determine the content or meaning of those spoken commands; and generating control signals for controlling one or more appliances, for example instructions for an appliance identified above to perform one or more functions such as powering on) in which "*said processor decodes said electrical representative signal*" (performs the "decoding" identified above).

"said speech recognition system configured to automatically switch from said sound activation mode to said speech recognition mode as a function of the amplitude of said electrical signals"

- The "speech recognition system" identified above is "*configured to automatically switch from said sound activation mode to said speech recognition mode as a function of the amplitude of said electrical signals*": it is configured to automatically switch from the "sound activation mode" identified above to the "speech recognition mode" identified above as a function of the amplitude of the "electrical signals" from the microphone, for example as a function of the amplitude of the electrical signals corresponding to the wake words "Hey Cortana."

"an appliance control circuit which includes a transmitter, said appliance control circuit configured to receive said control signals from said speech recognition system

and generate and automatically transmit one or more appliance control signals to said one or more appliances"

- The "audio signal activated control system for controlling appliances" includes "*an appliance control circuit*" that includes a transmitter (for example a radio transceiver) that is "*configured to receive said control signals*" (to receive the control signals identified above) and "*generate and automatically transmit one or more appliance control signals to said one or more appliances*" (for example, to generate and transmit application control signals such as Wi-Fi signals that contain instructions to control one of the appliances identified above).

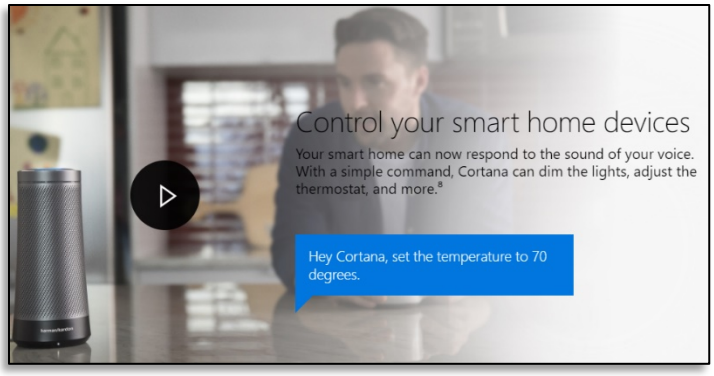
Indirect infringement.

34. Microsoft has also indirectly infringed and continues to indirectly infringe the '186 patent.

35. Microsoft has actively induced and continues to actively induce users of its accused products to infringe the '186 patent.

36. Microsoft has offered and continues to offer its accused products for sale both at Microsoft Store retail locations and on its website. By doing so, Microsoft encourages its customers to make and use systems that infringe the '186 patent as shown above, and to perform methods that infringe the '186 patent.

37. In addition, Microsoft has instructed and continues to instruct its customers, developers, and resellers to make and use systems that infringe the '186 patent as shown above, and to perform methods that infringe the '186 patent. For example, on its website, Microsoft provides instructions encouraging its customers to make and use systems that include accused products that infringe the system claims of the '186 patent as shown above, and to use those systems to carry out methods that infringe the method claims of the '186 patent. For example:



https://www.microsoft.com/en-us/cortana/devices/invoke.

38. As a second example, Microsoft's employees encourage and instruct Microsoft's customers (resellers and end users) to make and use systems that include its accused products that infringe the system claims of the '186 patent as shown above, and encourage and instruct Microsoft's customers to use those systems to carry out methods that infringe the method claims of the '186 patent.

39. Furthermore, Microsoft knew or was willfully blind to the fact that its customers' actions in response to such encouragement and instruction would infringe the '186 patent.

40. Microsoft was aware of or willfully blind to the '186 patent since at least May 27, 2011. Moreover, Microsoft has been familiar with the teachings and claims of the '186 patent, has understood those teachings, has understood what the '186 patent claims, and has understood the relevance of those teachings and those claims to its accused products.

41. Indeed, the '186 patent is well-known in the art and has been cited 163 times in subsequent issued patents. In addition, the '186 patent has been cited in numerous patents and patent applications in the field of voice-activated systems, including in patents and patent applications assigned to each of Microsoft's main competitors in the field. In addition, on May 27, 2011, a continuation of the '186 patent was cited and discussed during the prosecution of U.S. Patent Application 11/831,862 (U.S. Patent 8,396,331), assigned to Microsoft. That continuation claims priority to the '186 patent, and lists the '186 patent on its face. In addition, that

continuation of the ’186 patent has been cited and discussed during the prosecution of additional patents assigned to Microsoft. For example, during the prosecution of U.S. Patent Application 13/297,116 (U.S. Patent 9,031,847), the examiner cited disclosures in the continuation of the ’186 patent (also found, identically, in the ’186 patent) in rejecting certain pending claims. The examiner described those disclosures in detail. And Microsoft also described those disclosures in detail in making responsive arguments.

42. Furthermore, Microsoft has known and has understood how its own accused products work, has known or has been willfully blind to the fact that the ’186 patent was relevant to its accused products, and has known or has been willfully blind to the fact that making and using systems involving its accused products, including according to its instructions, would infringe the ’186 patent.

43. Based on the foregoing, Microsoft knew that its customers’ use of the accused products would infringe the ’186 patent, or alternatively was aware that there was a high probability that its customers’ use of the accused products would infringe and took deliberate actions to avoid confirming this.

44. As a result, Microsoft has indirectly infringed and continues to indirectly infringe the ’186 patent by inducing its customers to use its accused products in an infringing manner, and knowing or being willfully blind to the fact that such use would infringe the ’186 patent.

Willful infringement.

45. Microsoft’s infringement of the ’186 patent has been knowing, willful, and egregious.

46. For the reasons stated in paragraphs 39-43 above, Microsoft knew that its accused products infringed and continue to infringe the ’186 patent, or alternatively took deliberate steps to avoid confirming this and was therefore willfully blind to these facts. SpeakWare incorporates by reference each of the allegations in these paragraphs.

47. SpeakWare has been damaged by Microsoft's infringement of the '186 patent and is entitled to reasonable royalty damages and enhanced damages due to Microsoft's willful infringement.

Jury demand.

48. SpeakWare demands trial by jury of all issues.

Relief requested.

SpeakWare prays for the following relief:

A. A judgment in favor of SpeakWare that Microsoft has infringed the asserted '186 patent and that the patent is valid, enforceable, and patent-eligible;

B. A judgment and order requiring Microsoft to pay SpeakWare compensatory damages, costs, expenses, and pre- and post-judgment interest for its infringement of the asserted patent, as provided under 35 U.S.C. §284;

C. A judgment that Microsoft has willfully infringed the '186 patent and that SpeakWare is entitled to enhanced damages as a result of such willful infringement;

D. A finding that this case is exceptional under 35 U.S.C. §285, at minimum due to Microsoft's willful infringement, and an award of SpeakWare's reasonable attorney's fees and costs; and

E. Any and all other relief to which SpeakWare may be entitled.

Dated: July 26, 2018

Respectfully submitted,

By: */s/ Simon Franzini*

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