

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

PRINCETON DIGITAL IMAGE CORPORATION,

Plaintiff,

v.

KONAMI DIGITAL ENTERTAINMENT INC.
HARMONIX MUSIC SYSTEMS, INC. and
ELECTRONIC ARTS, INC.,

Defendants.

Case No.: 12-1461 (LPS) (CJB)

JURY TRIAL DEMANDED

THIRD AMENDED COMPLAINT

Princeton Digital Image Corporation (hereinafter referred to as “plaintiff” or “PDIC”), through its attorneys, for its complaint against defendants Konami Digital Entertainment, Inc. (“Konami”), Harmonix Music Systems, Inc. (“Harmonix” or “HMSI”), and Electronic Arts Inc. (“Electronic Arts” or “EAI”) (“defendants”), demands a jury trial and complains against the defendants as follows:

THE PARTIES

1. PDIC is a corporation organized and existing under the laws of the State of Texas.
2. Konami is a corporation organized and existing under the laws of the State of Illinois having its principal place of business located at 2381 Rosecrans Ave., Suite 200, El Segundo, CA 90245, and is a wholly-owned subsidiary of Konami Corporation of America, a corporation organized and existing under the laws of the State of Delaware having its principal place of business at 2381 Rosecrans Ave., Suite 200, El Segundo, CA 90245.
3. Harmonix is a corporation organized and existing under the laws of the State of Delaware having its principal place of business at 40 Broad Street, 7th Floor, Boston, MA 02109.

4. Electronic Arts is a corporation organized and existing under the laws of the State of Delaware having its principal place of business at 209 Redwood Shores Parkway, Redwood City, CA 94065.

JURISDICTION AND VENUE

5. This action arises under the patent laws of the United States of America, Title 35 of the United States Code. This Court has jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338(a).

6. Defendants Konami, Harmonix, and Electronic Arts are each doing business and committing acts of infringement in this judicial district, and each is subject to personal jurisdiction in this judicial district.

7. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 and 1400(b).

THE '129 PATENT

8. Plaintiff PDIC repeats and incorporates herein the entirety of the allegations contained in paragraphs 1 through 7 above.

9. On April 30, 1996, U.S. Patent No. 5,513,129 (hereinafter referred to as “the ’129 patent”) was duly and legally issued to Mark Bolas, Michael Bolas, and Ian McDowall for a “METHOD AND SYSTEM FOR CONTROLLING COMPUTER-GENERATED VIRTUAL ENVIRONMENT IN RESPONSE TO AUDIO SIGNALS.” One of the inventors of the ’129 patent, Mr. Mark Bolas, has been awarded the 2005 IEEE Visualization and Graphics Technical Committee Virtual Reality Technical Achievement Award in recognition for his seminal technical achievements in virtual and augmented reality. Intel’s former chairman Gordon Moore

(of “Moore’s Law”) has described Mr. Bolas as a “VR trailblazer.”

10. By assignment, dated December 14, 2011, PDIC became the owner of all right, title and interest in the ’129 patent, including the right to recover damages for past infringement.

11. The ’129 patent generally describes and claims virtual reality computer systems in which a virtual environment is controlled in response to a music signal. A copy of the ’129 patent is attached hereto as Exhibit 1.

THE ’129 PATENT IPR PROCEEDINGS

The Harmonix IPR

12. Harmonix filed a petition for *inter partes* review of claims 1, 5–6, 8–13, 15–19, and 21–23 of the ’129 patent by the USPTO’s Patent Trial and Appeal Board (“PTAB”) on November 15, 2013. *See* IPR2014-00155 (the “Harmonix IPR”); *see also* Case No. 1:12-cv-01461-LPS-CJB (the “Konami/Harmonix/EA Litigation”), D.I. 67, Ex. 1 (petition in the Harmonix IPR).

13. In a May 9, 2014 institution decision, the PTAB, applying the same claim construction standard that will apply in this litigation, adopted PDIC’s constructions of the two “virtual reality” claim terms proposed to the court in the early claim construction proceedings in the Konami/Harmonix/EA Litigation. Specifically, the PTAB has construed the term “virtual environment” of claims 14, 19, and 20 as “a computer-simulated environment (intended to be immersive) which includes a graphic display (from a user’s first person perspective, in a form intended to be immersive to the user), and optionally also sounds which simulate environmental sounds.” The PTAB has construed the term “virtual reality computer system” of claims 14, 19,

and 20 as “a computer system programmed with software, and including peripheral devices, for producing a virtual environment” of claims 14, 19, and 20:

1. “*virtual environment*”

Petitioner points to the statement in the Specification that “[t]he terms ‘virtual environment,’ ‘virtual world,’ and ‘virtual reality’ are interchangeably used to describe a computer-simulated environment (intended to be immersive) which includes a graphic display (from a user’s first person perspective, in a form intended to be immersive to the user).” Pet. 13 (quoting Ex. 1001, 1:22-28). Petitioner, however, does not proffer any particular proposed construction for the terms.

Patent Owner also argues that the term should be construed as disclosed in the Specification, namely, “a computer-simulated environment (intended to be immersive) which includes a graphic display (from a user’s first person perspective, in a form intended to be immersive to the user), and optionally also sounds which simulate environmental sounds.” Prelim. Resp. 10-11 (emphasis omitted) (citing Ex. 1001, 1:22-33). Patent Owner’s proposed construction quotes the full sentence relied upon from the Specification. *Id.* We agree with Patent Owner that the ’129 patent sufficiently sets forth the meaning of the claim term “virtual environment,” and we adopt Patent Owner’s proposed construction for purposes of this decision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (holding that any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision).

2. “*virtual reality computer system*”

Although Petitioner points to the statement in the Specification that a “VR system” is a “computer system programmed with software, and including peripheral devices, for producing a virtual environment,” Petitioner does not proffer any particular proposed construction. *Id.* at 13 (quoting Ex. 1001, 1:30-33).

Patent Owner urges that the term be construed as “a computer system programmed with software, and including peripheral devices, for producing a virtual environment.” Prelim. Resp. 11 (citing Ex. 1001, 1:22-33) (“The abbreviation ‘VR’ will sometimes be used herein to denote ‘virtual reality,’ ‘virtual environment,’ or ‘virtual world.’ A computer system programmed with software, and including peripheral devices, for producing a virtual

environment will sometimes be referred to herein as a VR system or VR processor.”). We agree with Patent Owner that the ’129 patent sufficiently sets forth the meaning of the claim term “virtual reality computer system,” in light of the explanation of the term “virtual environment,” and we adopt Patent Owner’s proposed construction for purposes of this decision.

See Konami/Harmonix/EA Litigation, D.I. 71, Ex. A (institution decision in the Harmonix IPR) at 7–8 (citing ’129 patent, col. 1:22–33).

14. Applying these constructions, the PTAB declined to institute *inter partes* review of claim 19 over the prior art, as requested by HMSI. *See id.* at 13–16 (“Consequently, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that independent [claim 16 and dependent claim 19] are unpatentable as obvious over Fallacaro. Accordingly, we do not institute *inter partes* review of [claim 19] on the ground of obviousness over Fallacaro.”); *id.* at 19–22 (“For the foregoing reasons, based on the present record, we determine that Petitioner has [not] demonstrated that there is a reasonable likelihood that Petitioner would prevail in showing that [claim 19 is] unpatentable.”).

15. The PTAB issued a final written decision in the Harmonix IPR on May 6, 2015, confirming the Board’s earlier decision not to institute *inter partes* review of claim 19, as requested by Harmonix, because Harmonix failed to demonstrate a reasonable likelihood that claim 19 is unpatentable. *See* Konami/Harmonix/EA Litigation, D.I. 83, Ex. A (final written decision in the Harmonix IPR) at 2 (“Harmonix Music Systems, Inc. filed a corrected Petition requesting *inter partes* review of claims 1, 5, 6, 8–13, 15–19, and 21–23 of U.S. Patent No. 5,513,129. On May 9, 2014, pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of claims 10, 11, 22, and 23” (parentheticals omitted)).

The Ubisoft IPR

16. Ubisoft Entertainment SA (“Ubisoft SA”), a defendant in Case No. 1:13-cv-00335-LPS-CJB (the “Ubisoft Litigation”), filed a petition for *inter partes* review of claims 1–23 of the ’129 patent on April 15, 2014. *See* IPR2014-00635 (the “Ubisoft IPR”); *see also* Ubisoft Litigation, D.I. 54, Ex. B (petition in the Ubisoft IPR).

17. The PTAB issued an institution decision on October 17, 2014, again construing the term “virtual environment” of claims 14, 19, and 20 as “a computer-simulated environment (intended to be immersive) which includes a graphic display (from a user’s first person perspective, in a form intended to be immersive to the user), and optionally also sounds which simulate environmental sounds.” *See* Ubisoft Litigation, D.I. 56, Ex. B (institution decision in the Ubisoft IPR) at 4–5. The PTAB also again construed the term “virtual reality computer system” of claims 14, 19, and 20 as “a computer system programmed with software, and including peripheral devices, for producing a virtual environment.” *Id.* at 5. Again, applying these constructions, the Board denied institution of *inter partes review* of claims 14, 19, and 20 of the ’129 patent. *See id.* at 1–2 (“We do not, however, institute an *inter partes* review of claims 14, 19, and 20 of the ’129 patent.”); *id.* at 7–11 (“Consequently, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that [claim 14 is] unpatentable as anticipated by Tsumura.”); *id.* at 20 (“Consequently, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that [claim 20 is] unpatentable as obvious over Tsumura and Williams.”); *id.* at 23–24 (“Consequently, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that the subject matter of [claim 19] is rendered obvious over Thalmann and Williams.”).

18. The PTAB issued a final written decision on October 16, 2015, confirming its

previous construction of “virtual environment” and agreeing with Ubisoft SA’s argument that this claim term encompasses the examples of a virtual environment described in the ’129 patent specification:

1. “virtual environment” (claims 1, 5–9, and 12–21)

Petitioner asserts that the term “virtual environment” should be construed to mean “a computer-simulated environment which includes a graphic display, and optionally also sounds which simulate environmental sounds.” Pet. 4. Petitioner alleges that “parenthetical statements of ‘intent’” appearing in the description of the term “virtual environment,” such as “intended to be immersive” and “from a user’s first person perspective”, should not be accounted for in the claim construction analysis. *Id.* To the extent the parentheticals are incorporated in the construction, Petitioner argues that the construction should encompass the exemplary virtual environments described in the Specification, such as virtual hands clapping, dancing characters, and lyrics. *Id.* at 4–5.

In the Decision on Institution, we included these so-called “parenthetical statements of intent” into our construction, because the ’129 patent expressly defined “virtual environment” to include those statements. Dec. on Inst. 8. Petitioner fails to persuade us to modify that construction; thus, as in the Decision on Institution, we adopt the Specification’s express definition of “virtual environment,” which is “a computer-simulated environment (intended to be immersive) which includes a graphic display (from a user’s first person perspective, in a form intended to be immersive to the user), and optionally also sounds which simulate environmental sounds.” *Id.* (quoting Ex. 1001, 1:22–33).

However, we agree with Petitioner that the term should be construed to encompass the specific embodiments that the ’129 patent describes. As the Federal Circuit has noted, “the specification is always highly relevant to the claim construction analysis,” and, in fact, “is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (internal citation and quotation marks omitted). Here, given that the Specification does not elucidate what it means by “intended to be immersive to the user,” and given that the phrase is subjective, we find the specific embodiments discussed in the Specification to be particularly informative.

As part of “the preferred VR program,” Figure 11 depicts a group of simple cylindrical objects that appear to change height in response to the sound of drums. Ex. 1001, 18:16–33. Also in the “preferred VR program embodiment,” words representing the lyrics of a song are displayed as the words are vocalized. *Id.* at 18:49–53. Further, as Petitioner notes, the Specification teaches that the graphic display generated by a VR system can be either two-dimensional or three-dimensional, and can be displayed on a single flat screen display that need not be stereoscopic. Pet. 4 (citing Ex. 1001, 1:34–35, 8:7–13). [The Specification also discloses embodiments of the “VR system” that perform operations such as: using a rhythm signal extracted from music “to control the rhythm of a virtual dancer,” “displaying virtual hands clapping in time to the beat of the music,” or a virtual “stick figure dancing in time” to the music. *Id.* at 5:1–10, 11:36–41, 58–62, 12:18–24.] Given that a claim construction that excludes a preferred embodiment is “rarely, if ever, correct,” *Vitronics*, 90 F.3d at 1583, it is appropriate to construe “virtual environment” broadly enough to encompass these displays.

See Konami/Harmonix/EA Litigation, D.I. 88, Ex. A (final written decision in Ubisoft IPR) at 10–11 & n.7.

19. The Board also confirmed its earlier decision declining to institute *inter partes* review of claims 14, 19 and 20, as requested by Ubisoft, because Ubisoft failed to demonstrate a reasonable likelihood that those claims are unpatentable. *See id.* at 2 (“Ubisoft Entertainment SA filed a Petition requesting an *inter partes* review of claims 1–23 of U.S. Patent No. 5,513,129. . . . We instituted an *inter partes* review of claims 1–13, 15–18, and 21–23” (parentheticals omitted)).

The Harmonix/Konami IPR

20. Harmonix and Konami jointly filed a petition for *inter partes* review of claims 1–23 of the ’129 patent, along with a motion seeking to join that proceeding with the then-pending Ubisoft IPR, on November 17, 2014. *See* IPR2015-00271 (the “Harmonix/Konami IPR”); *see*

also Konami/Harmonix/EA Litigation, D.I. 76, Exs. C–D (the petition and motion for joinder in the Harmonix/Konami IPR).

21. On June 2, 2015, the PTO denied the motion to join the Ubisoft IPR, and issued a final written decision confirming the Board’s earlier decisions not to institute *inter partes* review of claims 14, 19 and 20, and applying the statutory estoppel barring subsequent challenges by the petitioners as to these claims. *See* Konami/Harmonix/EA Litigation, D.I. 84, Ex. C (final written decision in the Harmonix/Konami IPR) at 6–8 (“The information presented in the Petition sets forth Petitioner’s contentions of unpatentability of claims 1–23 of the ’129 patent based on the following specific grounds. . . . Petitioner introduces a new challenge to claims [14, 19 and 20]. Petitioner, among other things, has not presented persuasive argument or evidence to explain why the new challenges asserted in the Petition could not have been asserted in its previous Petition in Case IPR2014-00155. . . . [T]he Petition is denied as to all challenged claims of the ’129 patent.”); *id.*, Ex. B (decision on motion for joinder in the Harmonix/Konami IPR) at 7–8, 10 (“[T]he art relied upon in the current proceeding was available at the time that Petitioner filed the ’155 IPR. . . . Petitioner presents no persuasive argument or evidence to explain why the grounds of unpatentability asserted in the Petition could not have been asserted in the ’155 IPR.”); *see also* 35 U.S.C 315(e)(1) (“The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.”).

CLAIM FOR PATENT INFRINGEMENT

COUNT ONE

22. Plaintiff PDIC repeats and incorporates herein the entirety of the allegations contained in paragraphs 1 through 21 above.

Infringement Of The '129 Patent

23. A virtual reality system creates a computer-simulated virtual environment and gives a user the feeling that he or she is immersed within the environment. That is, the virtual reality system displays video and/or creates sounds to give a user the feeling that he or she is part of the virtual environment. In addition, the user can interact with the virtual reality system to alter the virtual environment.

24. A virtual reality system may include a two or three dimensional display for showing video of the virtual environment to a user and speakers to present sounds of the virtual environment to the user. A virtual reality system may also include a device to track the head movements of a user for generating images along the area of viewing interest of the user. A virtual reality system may also include an input device permitting a user to interact and alter the virtual environment.

25. The '129 patent describes and claims a virtual reality computer system controlled by music or control tracks created from music. In other words, the system displays musically driven objects by retrieving music in electronic, acoustic, or optical form and generating control signals from that music to influence activity in a virtual environment. A component of the system called the Acoustic Etch can extricate a rhythm signal indicative of the beat of some frequency band of the music (e.g., a band representing drums), or of some other parameter of the

frequency band of the music. The VR system receives the rhythm signal and generates control signals to control the rhythm of a virtual dancer (or some other moving virtual object). In addition, control tracks can be generated automatically (e.g., by electronic signal processing circuitry) in response to a music signal and then recorded, or can be generated in response to manually asserted commands from a person (while the person listens to some music signals) and then recorded. The placement and rhythm of dancers could, for example, be encoded in prerecorded control tracks. In the claimed virtual reality systems, music or prerecorded control tracks generated from music may be used by the virtual reality system to control a virtual environment.

26. Claims 14, 19, and 20 of the '129 patent describe virtual reality computer systems for controlling and manipulating a virtual environment, and specifically, “a computer-simulated environment (intended to be immersive) which includes a [two-dimensional or three-dimensional single flat screen or stereoscopic] graphic display (from a user’s first person perspective, in a form intended to be immersive to the user), and optionally also sounds which simulate environmental sounds,” for example, “a group of simple cylindrical objects that appear to change height in response to the sound of drums,” “words representing the lyrics of a song . . . displayed as the words are vocalized,” “virtual hands clapping in time to the beat of music,” or a “stick figure dancing in time” to music:

14. [A virtual reality computer system, including:

means for supplying a first signal selected from a group consisting of a control signal having music and/or control information generated in response to a music signal, a prerecorded control track having music and/or control information corresponding to the music signal, and a control signal having music and/or control information generated in response to the prerecorded control track;
and

means for receiving the first signal and influencing action within a virtual environment in response to said first signal],

wherein said music signal is delayed in time to compensate for delays in other parts of the virtual reality computer system.

19. [A virtual reality computer system for producing a virtual environment, including:

means for prerecording a control track having music and/or control information corresponding to a music signal; and

means for producing the virtual environment in response to said prerecorded control track],

wherein said control track contains additional information to that which can be extracted from the music signal.

20. [A virtual reality computer system for producing a virtual environment, including:

means for prerecording a control track having music and/or control information corresponding to a music signal; and

means for producing the virtual environment in response to said prerecorded control track],

wherein said control track is time shifted relative to the music signal to compensate for delays in said virtual reality computer system.

Infringement By Konami

27. Konami is a publisher and distributor of electronic video games, including at least the electronic video games known commercially as *Karaoke Revolution*, *Karaoke Revolution Volume 2*, *Karaoke Revolution Party*, *CMT Presents: Karaoke Revolution Country*, *Karaoke Revolution Volume 3*, *Karaoke Revolution Presents: American Idol*, *Karaoke Revolution Presents: American Idol Encore*, and *Karaoke Revolution Presents: American Idol Encore 2*

(collectively “*Karaoke Revolution*”) and the electronic video games known commercially as *Dance Dance Revolution SuperNova*, *Dance Dance Revolution SuperNova 2*, *Dance Dance Revolution Disney Channel Edition*, *Dance Dance Revolution Hottest Party*, *Dance Dance Revolution X*, *Dance Dance Revolution S*, *Dance Dance Revolution Hottest Party 2*, *Dance Dance Revolution Hottest Party 3*, *Dance Dance Revolution X2*, *Dance Dance Revolution Disney Grooves*, *Dance Dance Revolution II*, and *Dance Dance Revolution Dance Wars* (collectively “*Dance Dance Revolution*”). Both of these games control a virtual environment in response to a music signal.

28. Konami is also a distributor of peripheral devices such as microphone and floor mat game controllers for use with electronic video games, including at least *Karaoke Revolution* and *Dance Dance Revolution*, and is a publisher and distributor of downloadable content such as playable song tracks for use with electronic video games, including at least *Karaoke Revolution* and *Dance Dance Revolution*.

29. Konami has directly infringed claims 14, 19, and 20 of the ’129 patent by testing and otherwise using at least the *Karaoke Revolution* and *Dance Dance Revolution* electronic video games, and related virtual reality peripheral hardware devices and downloadable content for those games, with computer and gaming console systems.

30. Konami has also indirectly infringed claims 14, 19, and 20 of the ’129 patent by publishing and distributing at least the *Karaoke Revolution* and *Dance Dance Revolution* electronic video games, and related virtual reality peripheral hardware devices and downloadable content for those games, for use with computer and gaming console systems, and inducing purchasers and other users of the *Karaoke Revolution* and *Dance Dance Revolution* electronic video games, and related virtual reality peripheral hardware devices and downloadable content

for those games, to use the games, peripheral hardware devices, and downloadable content with computer and gaming console systems, for example, by marketing and promoting the use of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems and by providing instructions explaining how to use the games, peripheral hardware devices, and downloadable content with computer and gaming console systems.

31. Konami has also contributed to the infringement of claims 14, 19, and 20 of the '129 patent by offering for sale and selling at least the *Karaoke Revolution* and *Dance Dance Revolution* electronic video games, related virtual reality peripheral hardware devices for those games, and downloadable content for those games, for use with computer and gaming console systems, knowing the games, peripheral hardware devices, and downloadable content to be especially made or especially adapted for use in an infringement of claims 14, 19, and 20 of the '129 patent. The games, peripheral hardware devices, and downloadable content constitute a material part of the inventions described in claims 14, 19, and 20 of the '129 patent, and are not staple articles or commodities of commerce suitable for substantial non-infringing use.

Infringement By Harmonix

32. Harmonix is a developer of electronic video games, including at least the electronic video games known commercially as *Rock Band*, *Rock Band Track Pack Volume 1*, *Rock Band 2*, *Rock Band Track Pack Volume 2*, *Rock Band Track Pack: Classic Rock*, *AC/DC LIVE: Rock Band Track Pack*, *Rock Band Unplugged*, *Rock Band: Country Track Pack*, *The Beatles: Rock Band*, *Rock Band Metal Track Pack*, *Rock Band Mobile*, *Rock Band (iOS)*, *LEGO Rock Band*, *Green Day: Rock Band*, *Rock Band 3*, *Rock Band Reloaded*, *Rock Band: Country Track Pack 2*, and *Rock Band Blitz* (collectively, "Rock Band"). The *Rock Band* game

controls a virtual environment in response to a music signal.

33. Harmonix is also a developer of peripheral devices such as musical instrument game controllers for use with electronic video games, including at least *Rock Band*, and is a developer, publisher, and distributor of downloadable content such as playable song tracks for use with electronic video games, including at least *Rock Band*.

34. Harmonix has directly infringed claims 14, 19, and 20 of the '129 patent by developing at least the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and testing and otherwise using at least the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, with computer and gaming console systems.

35. Harmonix has also indirectly infringed claims 14, 19, and 20 of the '129 patent by developing at least the *Rock Band* electronic video game, related virtual reality peripheral hardware devices for that game, and downloadable content for that game, and publishing and distributing downloadable content for at least that game, for use with the game, related virtual reality peripheral devices, and computer and gaming console systems, and inducing purchasers and other users of the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, to use the game, peripheral hardware devices, and downloadable content with computer and gaming console systems, for example, by marketing and promoting the use of the game, peripheral hardware devices, and downloadable content with computer and gaming console systems and by providing instructions explaining how to use the game, peripheral hardware devices, and downloadable content with computer and gaming console systems.

36. Harmonix has also contributed to the infringement of claims 14, 19, and 20 of the

'129 patent by offering for sale and selling downloadable content for at least the *Rock Band* electronic video game, for use with the game, related virtual reality peripheral devices, and computer and gaming console systems, knowing the downloadable content to be especially made or especially adapted for use in an infringement of claims 14, 19, and 20 of the '129 patent. The downloadable content constitutes a material part of the inventions described in claims 14, 19, and 20 of the '129 patent, and is not a staple article or commodity of commerce suitable for substantial non-infringing use.

Infringement By Electronic Arts

37. Electronic Arts is a publisher and distributor of electronic video games, including at least *Rock Band*.

38. Electronic Arts has directly infringed claims 14, 19, and 20 of the '129 patent by testing and otherwise using at least the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, with computer and gaming console systems.

39. EAI has also indirectly infringed claims 14, 19, and 20 of the '129 patent by publishing and distributing at least the *Rock Band* electronic video game, for use with related virtual reality peripheral hardware devices, downloadable content for that game, and computer and gaming console systems, and inducing purchasers and other users of the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, to use the game, peripheral hardware devices, and downloadable content with computer and gaming console systems, for example, by marketing and promoting the use of the game, peripheral hardware devices, and downloadable content with computer and gaming

console systems and by providing instructions explaining how to use the game, peripheral hardware devices, and downloadable content with computer and gaming console systems.

40. EAI has also contributed to the infringement of claims 14, 19, and 20 of the '129 patent by offering for sale and/or selling at least the *Rock Band* electronic video game, for use with related virtual reality peripheral devices, downloadable content for that game, and computer and gaming console systems, knowing the game to be especially made or especially adapted for use in an infringement of claims 14, 19, and 20 of the '129 patent. The game constitutes a material part of the inventions described in claims 14, 19, and 20 of the '129 patent, and is not a staple article or commodity of commerce suitable for substantial non-infringing use.

Infringement By The *Karaoke Revolution, Dance Dance Revolution, And Rock Band Video Games*

41. As an example, claim 14 of the '129 patent describes a “virtual reality computer system.” Claims 19 and 20 of the '129 patent describe a “virtual reality computer system for producing a virtual environment.” In the Harmonix IPR and the Ubisoft IPR the Board construed “virtual reality computer system” as “a computer system programmed with software, and including peripheral devices, for producing a virtual environment,” i.e., “a computer-simulated environment (intended to be immersive) which includes a graphic display (from a user’s first person perspective, in a form intended to be immersive to the user), and optionally also sounds which simulate environmental sounds.” The Board specifically and expressly concluded in the Ubisoft IPR that the virtual environments described in the specification of the '129 patent are virtual environments that are “from a user’s first person perspective, in a form intended to be immersive to the user.”

42. Harmonix developed the *Rock Band* electronic video game, and related virtual

reality peripheral hardware devices and downloadable content for that game, using, and Konami, Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, with, computer and gaming console systems that also generate and display virtual environments from a user's first person perspective, in a form intended to be immersive to the user, that are the same as those described in the specification of the '129 patent, for example, "a group of simple cylindrical objects that appear to change height in response to the sound of drums," "words representing the lyrics of a song . . . displayed as the words are vocalized," "virtual hands clapping in time" to the beat of music," or a "stick figure dancing in time" to music, when the games are played on a computer or gaming console using peripheral devices such as a television or display, speakers, keyboards, a mouse, and/or game controllers.

43. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami, Harmonix, and EAI published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems that generate and display virtual environments that are the same as those described in the specification of the '129 patent, for example, "a group of simple cylindrical objects that appear to change height in response to the sound of drums," "words representing the lyrics of a song . . . displayed as the words are vocalized," "virtual hands clapping in time" to the

beat of music, or a “stick figure dancing in time” to music, when the games are played on a computer or gaming console using peripheral devices such as a television or display, speakers, keyboards, a mouse, and/or game controllers.

44. As an example, the specification of the '129 patent describes “a virtual dancer (or some other moving virtual object)” animated in the virtual environment in order to keep time with accompanying music and displayed lyrics. *See, e.g.*, Ex. 1 ('129 patent), col. 1:22–33, 1:34–35, 5:1–10, 8:7–13, 11:36–41, 11:58–62, 12:18–24, 18:38–19:11.

45. The *Karaoke Revolution* and *Dance Dance Revolution* electronic video games display an immersive virtual dancer/singer stage, microphone, and/or speakers environment including virtual musical notes and corresponding song lyrics, as illustrated below:



See, e.g., <http://www.amazon.com/Karaoke-Revolution-Pc/dp/B0000A289A>.



See, e.g., <http://www.amazon.com/DanceDanceRevolution-Bundle-Nintendo-Wii/dp/B003TJYOTW>.

46. The specification of the '129 patent also describes two-dimensional virtual environments displayed on a flat screen, including virtual cylinders 310A and 310B located within fixed lines 330A and 330B, which are animated to represent musical notes in a song, and text elements 320A and 320B which display corresponding song lyrics, as illustrated in Figure 11 of the '129 patent excerpted below:

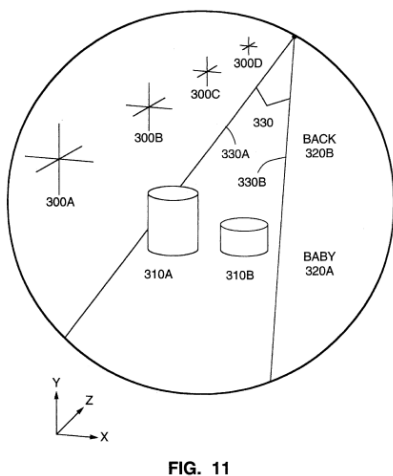


FIG. 11

See, e.g., Ex. 1 ('129 patent), col. 1:22–33, 1:34–35, 5:1–10, 8:7–13, 18:16–19:11 & Fig. 11.

47. The *Rock Band* electronic video game displays a virtual keyboard, drum set, and guitar fingerboard with strings and frets environment, including virtual keyboard, drum, and guitar players, virtual musical notes played on the instruments, and corresponding song lyrics, as illustrated below:



See, e.g., <http://www.amazon.com/Rock-Band-3-Playstation-Game/dp/B003RS8I92>.

48. As another example, claim 14 describes a “means for supplying a first signal selected from a group consisting of a control signal having music and/or control information generated in response to a music signal, a prerecorded control track having music and/or control information corresponding to the music signal, and a control signal having music and/or control information generated in response to the prerecorded control track.” During the Ubisoft IPR, the Board construed the structure described in the specification of the '129 patent performing the function of this term as “(1) a source of music and/or a control track, such as a four-track audio tape, video-game cartridge or compact disk (CD); and (2) a processor programmed to generate

control signals from the input music and/or control track and send the control signals to the VR processor.” Konami/Harmonix/EA Litigation, D.I. 88, Ex. A (final written decision in the Ubisoft IPR) at 12–17.

49. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, using, and Konami, Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, with, computer and gaming console systems including microprocessors programmed to generate signals containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting) obtained from electronic files (such as Musical Instrument Digital Interface (MIDI) files) corresponding to playable song tracks stored on a removable disc, in memory, or on a hard drive containing the game software.

50. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami, Harmonix, and EAI published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems including microprocessors programmed to generate signals containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting) obtained from electronic files (such as Musical Instrument Digital Interface

(MIDI) files) corresponding to playable song tracks stored on a removable disc, in memory, or on a hard drive containing the game software.

51. As another example, claim 14 describes a “means for receiving the first signal and influencing action within a virtual environment in response to said first signal.” During the Ubisoft IPR, the Board construed the structure described in the specification of the ’129 patent performing the function of this term as “a processor suitably programmed to carry out the function.” *See Konami/Harmonix/EA Litigation*, D.I. 88, Ex. A at 17–18.

52. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, using, and Konami, Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, with, computer and gaming console systems including microprocessors programmed to influence action in virtual environments by generating animations and sounds based on signals containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting).

53. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami, Harmonix, and EAI published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming

console systems including microprocessors programmed to influence action in virtual environments by generating animations and sounds based on signals containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting).

54. As another example, claim 14 states that the “music signal is delayed in time to compensate for delays in other parts of the virtual reality computer system.”

55. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, using, and Konami, Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, with, computer and gaming console systems including microprocessors programmed to delay a music signal based on, for example, latency and calibration settings to ensure that the music and animations are properly synchronized.

56. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami, Harmonix, and EAI published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems including microprocessors programmed to delay a music signal based on, for example, latency and calibration settings to ensure that the music and animations are properly

synchronized.

57. As another example, claims 19 and 20 of the '129 patent describe a “means for prerecording a control track having music and/or control information corresponding to a music signal.” During the Ubisoft IPR, the Board construed the structure described in the specification of the '129 patent performing the function of this term as “(i) a first media player unit (e.g., four-track tape player, CD or DAT playback device), a microprocessor for generating a control track from the received data from the media player unit, and a media recorder; *or* (ii) one or more input devices for inputting signals, a microprocessor for generating a control track from the received signals, and a media recorder.” *See* Konami/Harmonix/EA Litigation, D.I. 88, Ex. A at 18–20 (record citation omitted).

58. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, using, and Konami, Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, with, computer and gaming console systems including microprocessors programmed to receive data or signals from devices such as a signal input device, hard drive, disc drive, and/or network adapter, generate electronic files (such as Musical Instrument Digital Interface (MIDI) files) containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting) corresponding to playable song tracks, and store the electronic files corresponding to playable song tracks on a removable disc, in memory, or on a hard drive.

59. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami,

Harmonix, and EAI published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems including microprocessors programmed to receive data or signals from devices such as a signal input device, hard drive, disc drive, and/or network adapter, generate electronic files (such as Musical Instrument Digital Interface (MIDI) files) containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting) corresponding to playable song tracks, and store the electronic files corresponding to playable song tracks on a removable disc, in memory, or on a hard drive.

60. As another example, claims 19 and 20 describe a “means for producing the virtual environment in response to said prerecorded control track.” During the Ubisoft IPR, the Board construed the structure described in the specification of the ’129 patent performing the function of this term as “a processor suitably programmed to carry out the function.” See *Konami/Harmonix/EA Litigation*, D.I. 88, Ex. A at 17–18.

61. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, using, and Konami, Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, with, computer and gaming console systems including microprocessors programmed to produce virtual environments by generating animations and sounds based on

music and control information (such as information defining song tempo, animations, and settings for camera and lighting) obtained from electronic files (such as Musical Instrument Digital Interface (MIDI) files) corresponding to playable song tracks stored on a removable disc, in memory, or on a hard drive containing the game software.

62. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami, Harmonix, and Electronic Arts published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems including microprocessors programmed to produce virtual environments by generating animations and sounds based on music and control information (such as information defining song tempo, animations, and settings for camera and lighting) obtained from electronic files (such as Musical Instrument Digital Interface (MIDI) files) corresponding to playable song tracks stored on a removable disc, in memory, or on a hard drive containing the game software.

63. As another example, claims 19 and 20 state that the “control track contains additional information to that which can be extracted from the music signal.”

64. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, using, and Konami, Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable

content for those games, with, computer and gaming console systems including microprocessors programmed to generate electronic files (such as Musical Instrument Digital Interface (MIDI) files) containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting) corresponding to playable song tracks that include additional information not extracted from a music signal, including animations and settings for camera and lighting.

65. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami, Harmonix, and EAI published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems including microprocessors programmed to generate electronic files (such as Musical Instrument Digital Interface (MIDI) files) containing music and control information (such as information defining song tempo, animations, and settings for camera and lighting) corresponding to playable song tracks that include additional information not extracted from a music signal, including animations and settings for camera and lighting.

66. As another example, claim 20 states that the “control track is time shifted relative to the music signal to compensate for delays in said virtual reality computer system.”

67. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, using, and Konami,

Harmonix, and EAI tested and otherwise used the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, with, computer and gaming console systems including microprocessors programmed to delay the music signal based on, for example, latency and calibration settings to ensure that the music and animations are properly synchronized.

68. Harmonix developed the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and Konami, Harmonix, and EAI published, distributed, offered for sale, and sold the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* games, and related virtual reality peripheral hardware devices and downloadable content for those games, intending that the games, peripheral hardware devices, and downloadable content would be used, and knowing that the games, peripheral hardware devices, and downloadable content would be used, by purchasers of the games, peripheral hardware devices, and downloadable content with computer and gaming console systems including microprocessors programmed to delay the music signal based on, for example, latency and calibration settings to ensure that the music and animations are properly synchronized.

Konami's Knowledge Of Infringement Of The '129 Patent

69. Konami has been aware of the '129 patent, and of its infringement of the patent, since at least 2001, for example, as a result of the citation of the '129 patent as relevant prior art to Konami patents, including U.S. Patent Nos. 6,347,998; 6,843,726; 6,758,756; 6,645,067; 6,582,309; 6,410,835; and 6,379,244, during the prosecution of those patents in the USPTO. Konami and its employees, including the inventors of the '998, '726, '756, '067, '309, '835 and

'244 patents, and patent attorneys representing Konami in the U.S. Patent Office, knew the '129 patent was infringed by Konami's *Karaoke Revolution* and *Dance Dance Revolution* games.

70. As an example, Konami was aware of the '129 patent and the virtual reality computer systems it describes and claims in March of 2003, during the prosecution of Konami's U.S. Patent No. 6,843,726 ("GAME SYSTEM"). At that time, Mr. Lawrence Wechsler, the patent attorney representing Konami during prosecution of the '726 patent, discussed the '129 patent, and the virtual reality computer systems it describes and claims, during a personal interview with the USPTO examiner. Mr. Wechsler, and another patent attorney representing Konami during prosecution of the '726 patent application, Mr. Frank Jordan, reviewed the '129 patent again in April of 2004 in connection with patentability arguments they submitted to the USPTO examiner discussing the specific features described and claimed in the '129 patent.

71. The inventors named in the '726 patent, Mitsuhiro Nomi, Satoshi Ueno, and Yasuhiro Noguchi, who were employees of Konami at the time, were also aware of the '129 patent during prosecution of the '726 patent as a result of communications between themselves and Mr. Wechsler and Mr. Jordan concerning the prosecution of the '726 patent. The inventors, and Mr. Wechsler and Mr. Jordan, analyzed the '129 patent in connection with the preparation of amendments to the claims of the '726 patent application intended to distinguish their patent application claims from the '129 patent, and specifically discussed the virtual reality computer systems the '129 patent describes and claims when preparing those amendments.

72. At the time the '129 patent was cited as prior art to the Konami patent applications relating to its *Karaoke Revolution* and *Dance Dance Revolution* electronic video games, and since then, Konami knew that its testing and otherwise using at least the *Karaoke Revolution* and *Dance Dance Revolution* electronic video games, and related virtual reality

peripheral hardware devices and downloadable content for those games, with computer and gaming console systems directly infringed claims 14, 19, and 20 of the '129 patent.

73. At that time, and since then, Konami also knew that customers purchasing at least the *Karaoke Revolution* and *Dance Dance Revolution* games, and related virtual reality peripheral hardware devices and downloadable content for those games, would infringe, and were infringing, claims 14, 19, and 20 of the '129 patent when playing those games, and, with full knowledge of the '129 patent, nevertheless induced its infringement by instructing users, for example on its marketing and technical support web sites, in its advertising, marketing and promotional materials, in its technical support documents, on its product packaging, and in its instruction guides distributed with the games, and related virtual reality peripheral hardware devices and downloadable content for those games, including, for example, the *Karaoke Revolution* and *Dance Dance Revolution* instruction guides attached as Exhibits 2 and 3, how to play at least the *Karaoke Revolution* and *Dance Dance Revolution* games on computers and gaming consoles, using related virtual reality peripheral hardware devices and downloadable content for those games, and infringe claims 14, 19, and 20 of the '129 patent.

74. At that time, and since then, Konami also knew that customers purchasing at least the *Karaoke Revolution* and *Dance Dance Revolution* games, and related virtual reality peripheral hardware devices and downloadable content for those games, would infringe, and were infringing, claims 14, 19, and 20 of the '129 patent when playing those games, and, with full knowledge of the '129 patent, nevertheless contributed to the infringement of claims 14, 19, and 20 of the '129 patent by offering for sale and selling at least the *Karaoke Revolution* and *Dance Dance Revolution* electronic video games, related virtual reality peripheral hardware devices for those games, and downloadable content for those games, for use with computer and gaming

console systems, knowing the games, peripheral hardware devices, and downloadable content to be especially made or especially adapted for use in an infringement of claims 14, 19, and 20 of the '129 patent, and that the games, peripheral hardware devices, and downloadable content constitute a material part of the virtual reality computer systems claimed in claims 14, 19, and 20 of the '129 patent, and which are not a staple article or commodity of commerce suitable for substantial non-infringing use, but instead, published and distributed the *Karaoke Revolution* and *Dance Dance Revolution* games, and related virtual reality peripheral hardware devices and downloadable content for those games, knowing that those games, peripheral devices and downloadable content are suitable only for practicing claims 14, 19, and 20 of the '129 patent when used with and played on computers and gaming consoles, as described above in paragraphs 27–31 and 41–68, as demonstrated, for example, by the *Karaoke Revolution* and *Dance Dance Revolution* instruction guides attached as Exhibits 2 and 3.

**Harmonix's And Electronic Arts' Knowledge Of Infringement
Of The '129 Patent**

75. Harmonix and Electronic Arts have been aware of the '129 patent, and of their infringement of the patent, since at least April of 2008, as a result of the filing of an Amended Complaint in *Gibson Guitar Corp. v. Wal-Mart Stores Inc., Target Corporation, Kmart Corporation, Sears, Roebuck & Co., Amazon.com, Inc., GameStop Corp., Toys-R-Us, Inc., Harmonix Music Systems, Inc., MTV (a division of Viacom International, Inc.), and Electronic Arts, Inc.*, Case No. 3:08-cv-00279 (M.D. Tenn.) (the “*Gibson v. HMSI/EAI* case”) alleging patent infringement by the manufacture, use, and sale by HMSI, EAI, and other defendants of the *Rock Band* electronic game. The Amended Complaint was filed with the court on April 4, 2008, EAI was served with a copy of the Amended Complaint on April 10, 2008, and HMSI was

served with a copy of the Amended Complaint on April 11, 2008.

76. U.S. Patent No. 5,990,405 (the “405 patent”), asserted against Harmonix and Electronic Arts in the *Gibson* case, describes prior art virtual reality systems as “a combination of computer hardware, software, and peripherals which recreate a virtual world or virtual environment using a video display, often in combination with an audio sound system,” and as “quite complex, combining the hardware, software, and peripheral devices in a specific manner to immerse or subject the user of the system to visual and sound stimuli which simulate a real world experience.”

77. The Gibson patent refers to PDIC’s ’129 patent, describes the specific components and functions of the virtual reality systems claimed in the ’129 patent, and specifically notes that music or prerecorded control tracks generated from music are used by the claimed virtual reality system to control a virtual environment::

U.S. Pat. No. 5,513,129 . . . describes a virtual reality in which a music source is connected to an electronic interface and to a virtual reality processor. The system is further controlled by one or more input devices, such as a head tracker and manipulator glove. The pre-recorded music, along with an optional pre-recorded control track, controls and manipulates objects within the virtual environment such that the music effectively drives the display of an animated graphical scene.

78. In addition, Harmonix and Electronic Arts requested *ex parte* reexamination by the U.S. Patent and Trademark Office of the ’405 patent asserted against them in the *Gibson v. HMSI/EAI* case, and the patent owner, Gibson Guitar Corp. (“Gibson”), submitted an Information Disclosure Statement in October of 2008, discussing an order issued in another litigation, *Activision Publishing, Inc. v. Gibson Guitar Corp.*, Case No. CV 08-1653-MRP (SHx) (C.D. Cal.), construing the claims of Gibson’s patent, as well as a copy of that order, in that

reexamination proceeding. *See* Reexamination Control No. 90/009,128 (October 13, 2008 Information Disclosure Statement). The Information Disclosure Statement, and the claim construction order it refers to, also included a discussion of the virtual reality computer systems described and claimed in the '129 patent. *See id.* at 3–4; *see also, e.g.*, '129 Patent at col. 8:18–8:32.”); *Activision Publishing, Inc. v. Gibson Guitar Corp.*, Case No. CV 08-1653-MRP (SHx) (C.D. Cal.), D.I. 146 (Sept. 16, 2008 Order). At the same time Gibson submitted the Information Disclosure Statement and claim construction order to the USPTO, it simultaneously sent a copy of both to Brian Berliner, the patent attorney representing Harmonix and Electronic Arts in the *ex parte* reexamination proceedings. *See* Reexamination Control No. 90/009,128 (October 13, 2008 Certificate of Service).

79. Harmonix and Electronic Arts knew, as a result of employing Mr. Berliner as their patent attorney in the *ex parte* reexamination proceedings, that the '129 patent described and claimed a virtual reality system in which a music source is connected to an electronic interface and to a virtual reality processor, that is controlled by one or more input devices, and in which pre-recorded music, along with an optional pre-recorded control track, controls and manipulates objects within the virtual environment such that the music effectively drives the display of an animated graphical scene, and that computer and gaming console systems on which the *Rock Band* game would be played would infringe the '129 patent.

80. Harmonix has also been aware of the '129 patent, and of its infringement of the patent, since at least March of 2009, as a result of the U.S. Patent and Trademark Office's citations of the '129 patent as prior art to HMSI's patent applications relating to the *Rock Band* electronic video game, including the application for U.S. Patent No. 8,003,872 (“FACILITATING INTERACTION WITH A MUSIC-BASED VIDEO GAME”), granted

August 23, 2011. As an example, Harmonix knew of the '129 patent and that the '129 patent describes and claims a virtual reality computer system controlled by music or control tracks created from music at least in March of 2009, and subsequently in January of 2010, when the '129 patent was specifically cited by the USPTO in Office Actions as a basis for rejecting the claims of the '872 patent application over the prior art. See Application No. 11/609,654 (March 30, 2009 Office Action) at 5; *id.* (January 5, 2010 Office Action) at 5–6 (“Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable . . . further in view of Bolas et al. (U.S. Patent No. 5,513,129, hereafter '129). . .”).

81. Harmonix knew, as a result of its prosecution of the '872 patent application, that the '129 patent described and claimed a virtual reality system in which a music source is connected to an electronic interface and to a virtual reality processor, that is controlled by one or more input devices, and in which pre-recorded music, along with an optional pre-recorded control track, controls and manipulates objects within the virtual environment such that the music effectively drives the display of an animated graphical scene, and that computer and gaming console systems on which the *Rock Band* game would be played would infringe the '129 patent. Harmonix, and its patent attorneys, reviewed the USPTO Office Actions, the examiner's descriptions of the features described and claimed in the '129 patent, and the specification and claims of the '129 patent itself. In addition, Eran Egozy, a Founder of Harmonix and its Chief Technical Officer at the time, also reviewed at least the January 2010 USPTO Office Action citing the '129 patent, the examiner's descriptions of the features described and claimed in the '129 patent in that Office Action, and the specification and claims of the '129 patent, and submitted an affidavit in support of HSMI's response to the January 2010 USPTO Office Action by its patent attorneys to distinguish over the prior art relied on by the USPTO examiner in that

Office Action. *See* Application No. 11/609,654 (July 1, 2010 Affidavit Of Eran Egozy Under 37 C.F.R. § 1.131) at 1 (“I am the Chief Technology Officer of Harmonix Music Systems, Inc. (‘Harmonix’), the Assignee of record of U.S. Patent Application Serial Number (U.S.S.N.) 11/609,654. I am also one of the inventors of U.S.S.N. 11/609,654 I am familiar with the specification of the above-identified patent application, the pending claims, Office Action mailed January 5, 2010”).

82. At the time of the filing of the Amended Complaint against Harmonix in the *Gibson v. HMSI/EAI* case, and since then, Harmonix knew that its development of the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, and testing and otherwise using at least the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, with computer and gaming console systems directly infringed claims 14, 19, and 20 of the ’129 patent.

83. At that time, and since then, Harmonix also knew that customers purchasing at least the *Rock Band* game, and related virtual reality peripheral hardware devices and downloadable content for that game, would infringe, and were infringing, claims 14, 19, and 20 of the ’129 patent when playing that game, and, with full knowledge of the ’129 patent, nevertheless induced its infringement by instructing users, for example, on its marketing and technical support web sites, in its advertising, marketing and promotional materials, in its technical support documents, on its product packaging, and in its instruction guides distributed with the game, and related virtual reality peripheral hardware devices and downloadable content for that game, including, for example, the *Rock Band* technical support document attached as Exhibit 4, how to play at least the *Rock Band* game on computers and gaming consoles, using

related virtual reality peripheral hardware devices and downloadable content for that game, and infringe claims 14, 19, and 20 of the '129 patent.

84. At that time, and since then, Harmonix also knew that customers purchasing at least the *Rock Band* game, and related virtual reality peripheral hardware devices and downloadable content for that game, would infringe, and were infringing, claims 14, 19, and 20 of the '129 patent when playing that game, and, with full knowledge of the '129 patent, nevertheless contributed to the infringement of claims 14, 19, and 20 of the '129 patent by offering for sale and selling downloadable content for at least the *Rock Band* electronic video game, for use with the game, related virtual reality peripheral devices, and computer and gaming console systems, knowing the downloadable content to be especially made or especially adapted for use in an infringement of claims 14, 19, and 20 of the '129 patent, and that the downloadable content constitutes a material part of the virtual reality computer systems claimed in claims 14, 19, and 20 of the '129 patent, and which is not a staple article or commodity of commerce suitable for substantial non-infringing use, but instead, developed the *Rock Band* game, and related virtual reality peripheral hardware devices and downloadable content for that game, knowing that the game, peripheral devices and downloadable content are suitable only for practicing claims 14, 19, and 20 of the '129 patent when used with and played on computers and gaming consoles, as described above in paragraphs 32–36 and 41–68, as demonstrated, for example, by the *Rock Band* instruction brochure attached as Exhibit 4.

85. At the time of the filing of the Amended Complaint against Electronic Arts in the *Gibson v. HMSI/EAI* case, and since then, EAI knew that its testing and otherwise using of at least the *Rock Band* electronic video game, and related virtual reality peripheral hardware devices and downloadable content for that game, with computer and gaming console systems directly

infringed claims 14, 19, and 20 of the '129 patent.

86. At that time, and since then, Electronic Arts also knew that customers purchasing at least the *Rock Band* game, and related virtual reality peripheral hardware devices and downloadable content for that game, would infringe, and were infringing, claims 14, 19, and 20 of the '129 patent when playing that game, and, with full knowledge of the '129 patent, nevertheless induced its infringement by instructing users, for example, on marketing and technical support web sites, in advertising, marketing and promotional materials, in its technical support documents, on product packaging, and in its instruction guides distributed with the game, including, for example, the *Rock Band* instruction brochure attached as Exhibit 4, and related virtual reality peripheral hardware devices and downloadable content for that game, how to play at least the *Rock Band* game on computers and gaming consoles, using related virtual reality peripheral hardware devices and downloadable content for that game, and infringe claims 14, 19, and 20 of the '129 patent.

87. At that time, and since then, Electronic Arts also knew that customers purchasing at least the *Rock Band* game, and related virtual reality peripheral hardware devices and downloadable content for that game, would infringe, and were infringing, claims 14, 19, and 20 of the '129 patent when playing that game, and, with full knowledge of the '129 patent, nevertheless contributed to the infringement of claims 14, 19, and 20 of the '129 patent by offering for sale and/or selling at least the *Rock Band* electronic video game for use with related virtual reality peripheral devices, downloadable content for that game, and computer and gaming console systems, knowing that game to be especially made or especially adapted for use in an infringement of claims 14, 19, and 20 of the '129 patent, and that the game constitutes a material part of the virtual reality computer systems claimed in claims 14, 19, and 20 of the '129 patent,

and which is not a staple article or commodity of commerce suitable for substantial non-infringing use, but instead, published and distributed the *Rock Band* game, and related virtual reality peripheral hardware devices and downloadable content for that game, knowing that the game, peripheral devices and downloadable content are suitable only for practicing claims 14, 19, and 20 of the '129 patent when used with and played on computers and gaming consoles, as described above in paragraphs 37–40 and 41–68, as demonstrated, for example, by the *Rock Band* instruction brochure attached as Exhibit 4.

**Konami's, Harmonix's, And Electronic Arts' Willful
Infringement Of The '129 Patent**

88. Konami, Harmonix, and Electronic Arts have willfully infringed the '129 patent, and each continued to willfully infringe the '129 patent after commencement of this litigation, as described above in paragraphs 22–87, with full knowledge that there was an objectively high likelihood that their conduct, and that of their customers, and users, constituted infringement of claims 14, 19, and 20 of the '129 patent. At the time, Konami, Harmonix, and Electronic Arts also knew that claims 14, 19, and 20 of the '129 patent were valid and enforceable, as confirmed by the subsequent refusal of the PTAB to institute *inter partes* review based on the prior art presented by Konami, Harmonix, and Ubisoft SA, described above in paragraphs 12–21.

89. More specifically, as described above in paragraphs 22–87, Konami, Harmonix and Electronic Arts deliberately infringed the '129 patent, and acted recklessly and in disregard of PDIC's rights in the '129 patent, by developing, testing, otherwise using, publishing, distributing, selling, and offering to sell at least the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* electronic video games, and related virtual reality peripheral hardware devices and downloadable content for those games. Konami, Harmonix, and Electronic Arts were aware of

the '129 patent, and the virtual reality computer systems described and claimed in the '129 patent, from several different sources on a number of different occasions, and knew that at least the *Karaoke Revolution*, *Dance Dance Revolution*, and *Rock Band* electronic video games, and related virtual reality peripheral hardware devices and downloadable content for those games, practiced the subject matter claimed in the '129 patent, specifically the subject matter of claims 14, 19, and 20 of the '129 patent, when used with computer and gaming console systems, and that those claims were valid and enforceable.

PRAYER FOR RELIEF

WHEREFORE, plaintiff PDIC prays for judgment against each one of the defendants on all the counts and for the following relief:

- A. A declaration that the plaintiff is the owner of the '129 patent, and that the plaintiff has the right to sue and to recover for infringement thereof;
- B. A declaration that the '129 patent is valid and enforceable;
- C. A declaration that each of the defendants has infringed the '129 patent, and that such infringement was willful;
- D. An accounting for damages under 35 U.S.C. § 284 from each of the defendants for its respective infringement of the '129 patent, and an award of damages ascertained against each of the defendants in favor of plaintiff PDIC, together with interest as provided by law;
- E. An award of the plaintiff's attorneys' fees and costs; and
- F. Such other and further relief as this Court may deem proper, just and equitable.

JURY DEMAND

Plaintiff PDIC demands a trial by jury of all issues properly triable by jury in this action.

Dated: February 3, 2016

Respectfully submitted,

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