IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

LIGHTNING FITNESS SYSTEMS LLC, *Plaintiff*, v. PRECOR INCORPORATED and PELOTON INTERACTIVE INCORPORATED, *Defendants*.	:	Case No. _____ **JURY TRIAL DEMANDED**

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff, Lightning Fitness Systems LLC (hereinafter, "LFS" or "Plaintiff"), by and through its undersigned counsel, hereby respectfully files this *Original Complaint for Patent Infringement* against Defendants, Precor Incorporated (hereinafter, "Precor") and Peloton Interactive Incorporated (hereinafter, "Peloton"), for infringement of U.S. Patent No. 9,818,285 (the "'285 Patent" or the "Patent-in-Suit") as follows:

PARTIES

1. Plaintiff Lightning Fitness Systems LLC is a private limited liability company incorporated and existing under the laws of the State of Delaware.

2. Upon information and belief, Defendant Precor Incorporated is a corporation organized and existing under the laws of the State of Delaware, with a place of business at 20031 142nd Avenue NorthEast, Post Office Box 7202, Woodinville, King County, Washington 98072, and can be served through its registered agent, Corporation Service Company, 251 Little Falls Drive, Wilmington, New Castle County, Delaware 19801, or wherever its registered agent and its authorized employees, officers, directors, and/or managers, may be found.

3. Upon information and belief, Defendant Peloton Interactive Incorporated is a corporation

organized and existing under the laws of the State of Delaware, with a place of business at 441 Ninth Avenue, 6th Floor, New York, New York County, New York 10001, and can be served through its registered agent, Corporation Service Company, 251 Little Falls Drive, Wilmington, New Castle County, Delaware 19801, or wherever its registered agent and its authorized employees, officers, directors, and/or managers, may be found.

4. Upon information and belief, Defendant Precor is a subsidiary of Defendant Peloton, and, thus, both Defendant Precor and Defendant Peloton are collectively referred to herein as "Defendants".

NATURE OF THE ACTION

5. This is a civil action for patent infringement to stop Defendants' infringement of the '285 Patent (attached hereto as **Exhibit 1**).

6. LFS alleges that Defendants have each directly and indirectly infringed and/or continue to infringe the Patent-in-Suit by, *inter alia*, making, using, offering for sale, selling, importing, using (including in connection with internal uses and/or demonstrations), and/or inducing such actions, including in connection with providing the infringing products and instructions/specifications for their use, including as detailed herein.

7. Defendants have each had actual and/or constructive notice of the infringements alleged herein, including as detailed herein.

8. LFS seeks damages and other relief for Defendants' infringement of the Patent-in-Suit, including as detailed herein.

JURISDICTION AND VENUE

9. This action arises under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. §§ 271, 281, 283, 284, and 285. This Court has subject matter jurisdiction over this case for patent infringement, including under 28 U.S.C. §§ 1331 and 1338(a).

10. This Court has personal jurisdiction over Defendants, including because Defendants are each Delaware corporations; Defendants each have minimum contacts within the State of Delaware; Defendants each have purposefully availed themselves of the privileges of conducting business in the State of Delaware; Defendants each regularly conduct business within the State of Delaware; and Plaintiff's cause of action arises directly from Defendants' business contacts and other activities in the State of Delaware, including at least by virtue of Defendants' infringing methods, apparatuses, products, and/or services, which have been, and are currently, at least practiced, made, used, offered for sale, sold, and/or imported in the State of Delaware. More specifically, Defendants each directly and/or through intermediaries, at least make, use, offer for sale, sell, advertise, import, and/or distribute the infringing products and/or services identified herein, comprising the claimed methods and/or apparatuses that practice the claimed methods of the Patent-in-Suit in the State of Delaware. Defendants are each subject to this Court's specific and general personal jurisdiction, including pursuant to Constitutional Due Process and the Delaware Long Arm Statute, including 10 DELAWARE CODE § 3104. Defendants are each subject to this Court's general personal jurisdiction due at least to each Defendant's continuous and systematic business contacts in Delaware, including related to operations conducted in Delaware and the infringements alleged herein. Further, on information and belief, Defendants are subject to this Court's specific personal jurisdiction, including because each Defendant has committed patent infringement, and/or induced and/or contributed to the commission of patent infringement by others, in the State of Delaware, including as detailed herein. Further, on information and belief, each Defendant regularly conducts and/or solicits business, engages in other persistent courses of conduct, and/or derives substantial revenue from goods and/or services provided to persons and/or entities in Delaware, including because each Defendant solicits customers in the State of Delaware, each Defendant has paying customers who are residents of the State of Delaware and who purchase

and/or use Defendants' infringing products and/or services in the State of Delaware and throughout the U.S., each Defendant has an interactive website and/or applications that are accessible from the State of Delaware and throughout the U.S., and/or each Defendant has placed, and continues to place, its infringing products and/or services into the stream of commerce via an established distribution channel with the knowledge and/or understanding that such products are being, and will continue to be, used, offered for sale, sold, distributed, and/or purchased in this Judicial District and the State of Delaware.

11. Venue is proper in this District, including pursuant to 28 U.S.C. §§ 1391 and 1400(b), including because each Defendant resides in the State of Delaware at least by virtue of the fact that it is incorporated in the State of Delaware and at least some of the direct infringement of the Patent-in-Suit occurs in this District.

LIGHTNING FITNESS SYSTEMS AND THE PATENT-IN-SUIT

A. Lightning Fitness Systems LLC

12. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

13. The Patent-in-Suit was invented by Mr. James Clarke and Mr. Chiedo Ohanyerenwa (collectively, the "Inventors"), and the provisional application serving as the basis for the Patent-in-Suit was filed in March of 2013. Additional inventors, including Mr. John Clarke, contributed to, and are identified on, additional Patents in the family of the Patent-in-Suit.

14. Mr. Clarke is a mechanical and systems engineer who, for years, has been developing and patenting inventions relating to, *inter alia*, cognitive and physical improvement technologies. As a minority inventor and engineer, Mr. Clarke's lifelong passion is to help students, particularly minority students in marginalized communities to learn better. In Mr. Clarke's words, "[i]f technology advances to meet the needs of its' current generation, shouldn't education advance the

same way?" Mr. Clarke has envisioned a world where everyone has access to quality education.[1] Mr. Clarke developed embodiments of the Patent-In-Suit in part through collaboration with others on a STEM classroom for educating summer students, including by considering various ways to improve upon the current system; Mr. Clarke's brother, John Clarke, a multilingual global insight and risk advisor and former diplomat, who shared his passion for education and for improving human mobility given mobility issues of family members, due in-part to the sedentary lifestyle demands of modern society; and Mr. Ohanyerenwa.

15. Mr. Ohanyerenwa is a mechanical and systems engineer and long-time friend of Mr. Clarke who, with Mr. Clarke, has worked to develop and patent inventions related to, *inter alia*, cognitive and physical improvement technologies. Mr. Ohanyerenwa is also a minority inventor and engineer who went to high school and college with Mr. Clarke, observing many of the same challenges growing up in DC's Public School system, like the effects of the lack of access to technology and equal education on minority students in marginalized communities. He believes deeply in their shared mission of bringing everyone, especially students, to better access to better technology, and has contributed to the research behind several embodiments of the technologies developed.

16. To help materialize their mission, Mr. Clarke founded Forward Entertainment & Technology, LLC ("FEAT") as a means of achieving these goals, including via the development of innovative technologies related to cognitive improvement[2]. For over a decade, FEAT and its members have been working tirelessly to invent, patent, and bring to market many of their innovative ideas, including the subject matter at issue. Indeed, under Mr. Clarke's leadership,

[1] Vimeo video entitled "Bringing Everyone to A Better Table", at https://vimeo.com/623000114.
[2] FEAT initially operated under the name "Future Entertainment and Technology" in 2009, until its name was changed to "Forward Entertainment & Technology" in 2017.

FEAT has, *inter alia*, developed, patented, and tried to commercialize cognitive improvement technologies, including a method and apparatus to facilitate learning while moving, including as reflected the '285 Patent. Lightning Fitness Systems LLC was formed as a holder of FEAT's intellectual property to focus on commercialization and enforcement, while allowing FEAT to remain committed to research and development, including being the face of the inventors' attempts to get governmental bids and contracts.

17. From participating in competitions, to applying for various grants, FEAT, including the Inventors, have undertaken everything they can to bring their innovations to market. FEAT continues to serve as an outlet to channel its member's creative concepts from ideas to assets while they continue to invent, prototype, and license, including via LFS. During the period between 2009 and 2021, FEAT had entered various competitions, applied for several grants, and had reached out to multiple companies, but had found very little support for, its inventions.

18. As early as 2013, FEAT competed in the Howard Rudge Creative Writing competition at George Washington University Law School, a legal competition Mr. Clarke discovered during his studies in law school. More recently, in 2021, FEAT completed a submission to the Department of Energy ("DoE"), citing the '285 Patent and stating FEAT is a team that created patented technology they believe could have great use in the world that FEAT would love to see built in any variety of embodiments and/or prototypes that could benefit from fabrication, and that FEAT has performed testing on the inventive methods but would like to build more to do more with their equipment, software, and systems. Mr. Clarke further noted FEAT could definitely benefit from funding to invest in building prototypes, developing software, and testing and promoting viability.

19. Unfortunately, not all programs were so open, and various innovation programs also politely declined FEAT's requests. However, FEAT self-funded its way to obtaining patent protection for these inventions, including the Patent-in-Suit, and for ongoing improvements to, and

variations of, these inventions and technologies.

20. Broadly, the inventions disclosed and claimed in the Patent-in-Suit comprise, *inter alia*, "[a] method and apparatus to facilitate learning while moving[and] efficient multitasking involving movement while the user processes or responds to different stimuli." *See* '285/Abstract. "The stimuli may include but are not limited to information related to education or entertainment or feedback concerning the user's movement." *Id*. "More specifically, this movement may be related to coordination, exercise, or physiotherapy." *Id*. "The methods and apparatus disclosed involve the user conducting movement, while simultaneously processing information (via: learning; creating through typing, moving, or talking; or being entertained) and receiving feedback or assistance related to that movement, processing, or any combination thereof." *Id*.

21. Including as disclosed in the '285 Patent, "[s]tudies show that increasing numbers of people are living sedentary lifestyles", including one which "found evidence that most Americans, both male and female over the ages of 6-11, now spend over 50% of their time in sedentary behaviors." *Id*. at 1:60-67 (*citing* Matthews, Charles E. et al., "Amount of Time Spent in Sedentary Behaviors in the United States, 2003-2004", American Journal of Epidemiology, 2008). As further disclosed in the '285 Patent, "[t]his is at least partially related to the drawbacks of the information age, in which many people learn, create[,] or conduct business, or are entertained[,] all from a stationary position while observing monitors on their televisions or computers" or other display systems. '285/1:67-2:5.

22. Such a sedentary lifestyle can create problems beyond physical health deterioration, including mental and emotional health issues. As early as 2010, primary inventor, Mr. James Clarke started thinking of ways to invent a device used to record movement and speed to be used while learning via watching visuals. Inspiration for this desire came from his personal life, having a close family member suffering from many health problems, due in large part to living a sedentary

lifestyle after retirement.

23. Usually, media related multi-tasking is not efficient. As disclosed in the ’285 Patent, “[s]tudies related to multitasking have shown that people typically process one task less efficiently when coupled with other tasks”, as one study “found that media related multitasking was distinct from normal multitasking and caused users switching between activities to perform worse than during normal multitasking.” *See id*. at 1:31-39 (*citing* Ohir and Wagner, “Cognitive Control in Media Multi-taskers”, Proceedings of the National Academy of Sciences of the United States of America, 2009).

24. But, if coupled with exercise, then media related multi-tasking may improve cognitive performance. As also disclosed in the ‘285 Patent, “[s]tudies have shown that movement can stimulate the functionality of the brain.” ’285/1:45-48 (*citing* Praag, Van, “Exercise and the brain: something to chew on”, National Institute of Health, Trends in Neuroscience, 2009). Another study has concluded that performance improvements in cognition may be caused by an exercise-induced activation of resources; while other studies suggest that the human brain works best while moving at a walk around two (2) mph due to the fact that we migrated for thousands of years as hunter gatherers. *See* Schaefer, Sabine, “Cognitive performance is improved while walking: Differences in cognitive–sensorimotor couplings between children and young adults”, European Journal of Developmental Psychology, Vol. 7, Iss. 3, 2010.

25. Thusly, the core essence of the ‘285 Patent, “moving while learning,” was materialized.

26. More recently, FEAT had witnessed, firsthand, the unconventionality and importance of its inventions, and seen an ever-increasing amount of major tech companies citing to FEAT’s unconventional, innovative inventions, including the Patent-in-Suit, in their own patent filings.[3] Once the Patent-in-Suit was issued, FEAT continued its attempts to share its innovations with the

[3] *See, e.g.*, U.S. Patent Nos. 10,188,890 and 10,391,461 to Icon Health & Fitness, Inc.

world. Starting in 2019, FEAT looked towards opportunities to license or otherwise get its inventions made. These attempts included seeking valuations on its patents and applying to a DoE competition in 2021. During the submission process to the DoE, FEAT was able to gather letters of support for its invention from numerous other innovators and business leaders in the field. Specifically, the DoE submission expressly cites to the '285 Patent, while expanding on the inventiveness with additional technologies, including those related to energy generation. In fact, in 2022, FEAT was invited – based on FEAT's prior submissions and reputation – to file a submission with the National Science Foundation ("NSF") for a first-round draft proposal to the learning and cognitive technology funding grant.

27. But FEAT found such efforts to be time consuming such that it took away from its goals of researching and developing new, innovative technologies. So, in 2022, including in order to avoid shifting focus from FEAT's mission to improve lives, FEAT assigned over much of its intellectual property, including the Patent-in-Suit – and its family – to LFS, which was created as a part of FEAT's efforts to enforce and monetize these intellectual property rights, including via litigation and/or licensing. Including as noted above, over the years, FEAT and LFS have reached out to various companies, including Defendants, offering to collaborate with them on the patented technology to keep advancing and growing the market for cognitive learning products. These offers have included, *inter alia*, sharing FEAT's research, providing hardware and software testing and support services on the products of these companies, and suggesting ways to partner with these companies to advance these technologies. In return, FEAT has typically asked only for public recognition of, or minimal compensation for, its unconventional, innovative contributions to the field.

28. Witnessing first-hand how modern classrooms are ineffective for visual and kinesthetic learners, how attention spans have waned, and how lifestyles have become more sedentary – along

with Mr. Clarke's first-hand experience of what such a sedentary lifestyle can do, as further reinforced by the decline and ultimate death of a close family member, Mr. Clarke and FEAT continue to innovate cognitive improvement products in multiple categories and continue to research and develop in these and related fields. The heart of FEAT, and its founder, Mr. Clarke, remain the drive to innovate and improve the world, especially including the lives of, *inter alia*, the students he mentors, by promoting further development of cognitive learning methods.

B. Overview Of The Patent-in-Suit And Its Family

1. The '285 Patent

a. Overview of the '285 Patent

29. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

30. The '285 Patent is entitled "Method and Apparatus for Moving While Receiving Information," and issued on November 14, 2017, and claims priority to U.S. Provisional Patent Application No. 61/786,840, filed on March 15, 2013.

b. Overview of the Prosecution of the '285 Patent

31. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

32. During prosecution of the '285 Patent, on May 5, 2016, the patent examiner issued a restriction requirement for then-pending claims 1-20 under 35 U.S.C. § 121, stating that claim 18 is drawn to an invention that is distinct from the invention claimed in claims 1-17 & 19-20.

33. On December 2, 2016, the applicant responded by withdrawing claim 18 and amending claim 20 for clarification.

34. On February 6, 2017, the examiner issued a Non-Final Rejection, provisionally rejecting then-pending claims 1-17 & 20 on the grounds of non-statutory double patenting over the claims of co-pending U.S. Patent Application No. 14/217,512. Further, the examiner rejected claim 6

under 35 U.S.C. § 112, ¶ 2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor regards as the invention by lacking antecedent basis for the limitation "the user learns" in line 1.

35. Further, the examiner rejected claims 1-9, 11-12, 16-17, & 20 under 35 U.S.C. § 102, as being anticipated by conventional U.S. Patent Publication No. 2013/0,288,223 to Watterson et al. ("*Watterson '223*"); claims 10 & 13 under 35 U.S.C. § 103(a), as being obvious in view of conventional *Watterson '223* and conventional U.S. Patent Publication No. 2007/0,060,451 to Lucas ("*Lucas*"); and claims 14-15 under 35 U.S.C. § 103(a), as being unpatentable in view of conventional *Watterson '223* and conventional U.S. Patent No. 3,281,964 to Hewes ("*Hewes*").

36. On June 6, 2017, the applicant had a telephonic interview with the examiner, discussing then-pending claims 1-2 and "how *Watterson ['223]* is read on the claims. As currently presented. The applicant and the examiner discussed possible claim amendments which would positively reflects the inventive subject matter to better reflect the claimed invention, if made will overcome the *Watterson ['223]* reference."

37. On June 6, 2017, the applicant filed a response, amending claim 6 to obviate the rejection under 35 U.S.C. § 112; amending claims 1-9, 11-12, 16-17, & 20, arguing that then-pending claims, as amended, were not rendered unpatentable under 35 U.S.C. § 102 as anticipated by the cited conventional *Watterson 223* reference; amending claims 10 & 13, arguing that then-pending claims, as amended, were not rendered unpatentable under 35 U.S.C. § 103 as obvious in view of the cited combination of the conventional *Watterson '223* and conventional *Lucas* references, nor would it be obvious to combine these references; and amending claims 14-15, arguing that then-pending claims, as amended, were not rendered unpatentable under 35 U.S.C. § 103 as obvious in view of the cited combination of the conventional *Watterson '223* and conventional *Hewes* references, nor would it be obvious to combine these references. Further, the applicant filed a

terminal disclaimer as requested by the examiner.

38. In regard to the rejection of claim 6 under 35 USC § 112, the applicant amended claim 6 by replacing the limitation "the user learns" with "the user controls, is educated by, or is entertained by." The applicant argued that this amendment obviates the rejection for the limitation "the user learns" lacking sufficient antecedent basis.

39. In regard to the rejection of claims 1-9, 11-12, 16-17, and 20 under 35 U.S.C. § 102 as being anticipated by *Watterson '223*, the applicant noted that conventional *Watterson '223* did not include the limitations of "one or more control factors" measured against "one or more default or user defined set points"; nor comprises the ability of the user to control a media device; nor comprises a circular treadmill.

40. In regard to the rejection of claims 10 and 14 under 35 USC § 103, the applicant noted that neither conventional *Watterson '223*, nor conventional *Lucas*, alone, or in combination, neither teaches nor suggests, nor renders obvious, a standard treadmill which responds to signals sent to any of the movement devices based on "control factors, measured against default of user defined set points"; nor comprises any reference to maintaining a default speed, which falls under one of the default set points.

41. In regard to the rejection of claims 14 and 15 under 35 USC § 103, the applicant noted that neither conventional *Watterson '223*, nor conventional *Hewes*, alone, or in combination, neither teaches nor suggests, nor renders obvious, a treadmill which responds to signals sent to any of the movement devices measured against "set points" or based on "control factors" "measured against default or user defined set points"; nor comprise any reference to a walkway for use by multiple users.

42. On July 19, 2017, the patent examiner issued a notice of allowance with examiner remarks for allowance, stating the "[t]he claims as currently presented are allowed because no

references, or reasonable combination thereof, could be found, which disclose, suggest, or teach, the recited features of the independent claims 1 and 2", and that the combination of Watterson and Lucas, "fails to disclose or teach all the recited claim limitations as required by the independent claims 1 & 2."

2. The '574 Patent

a. Overview of the '574 Patent

43. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

44. The '574 Patent is entitled "Method and Apparatus for Teaching Utilizing Moving Walkways," and issued as U.S. Patent No. 9,922,574 (the "'574 Patent") on March 20, 2018, and claims priority to U.S. Provisional Patent Application No. 61/786,840, filed on March 15, 2013.

b. Overview of the Prosecution of the '574 Patent

45. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

46. During prosecution of the '574 Patent, on September 15, 2015, the patent examiner issued a restriction requirement for then-pending claims 1-20 under 35 U.S.C. § 121, stating that claims 1-4 and 11-15 are drawn to an invention that is distinct from the invention claimed in claims 5-10 and 20, and distinct from the invention claimed in claim 16.

47. On November 11, 2015, the applicant responded by cancelling claims 2-15 and 20, withdrawing claims 16-19 in view of the restriction requirement, and added new claims 21-34.

48. On January 8, 2016, the examiner issued a Non-Final Rejection, rejecting then-pending claims 1, 16-18, and 21-34 under 35 U.S.C. § 102, as being anticipated by the cited conventional U.S. Patent Publication No. 2003/0017913 to Stewart ("*Stewart*") reference.

49. On April 5, 2016, the applicant filed a response, amending claims 1, 16, and 21, and

adding new claims 35-36, arguing that then-pending claims, as amended, were not rendered unpatentable under 35 U.S.C. § 102 as anticipated by the cited conventional *Stewart* reference.

50. On June 20, 2016, the examiner issued a Final Rejection, rejecting then-pending claims 1, 16-18, and 21-36, under 35 U.S.C. § 102, as being anticipated by conventional U.S. Patent Publication No. 2012/023,7911 to Watterson et al. ("*Watterson '911"*).

51. On December 19, 2016, the applicant filed a Request for Continued Examination ("RCE"), arguing that then-pending claims were not rendered unpatentable under 35 U.S.C. § 102 as anticipated by the cited conventional *Watterson '911* reference.

52. On January 26, 2017, the examiner issued a Non-Final Rejection, rejecting then-pending claims 1, 16-18, and 21-34 under 35 U.S.C. § 102, as being anticipated by the cited conventional *Watterson '223* reference.

53. On April 25, 2017, the applicant filed a response, arguing that then-pending claims were not rendered unpatentable under 35 U.S.C. § 102 as anticipated by the cited conventional *Watterson '223* reference.

54. On June 12, 2017, the applicant had a telephonic interview with the examiner, and "discussed how *Watterson* [*'223*] is read on the claims, as currently presented, and potential claim amendment."

55. On July 5, 2017, the examiner issued a Final Rejection, rejecting then-pending claims 1, 16-18, and 21-36 under 35 U.S.C. § 102, as being anticipated by the cited conventional *Watterson '223* and/or *Watterson '911* references.

56. On October 4, 2017, the applicant filed a RCE amending the claims, and argued that then-pending claims 1, 16, and 21-36, as amended, were not rendered unpatentable as anticipated by the cited conventional *Watterson '911* reference; and that then-pending claims 1, 16-18, and 21-36, as amended, were not rendered unpatentable as anticipated by the cited conventional *Watterson*

'223 reference.

57. On November 9, 2017, the patent examiner issued a notice of allowance.

3. The '929 Patent

a. Overview of the '929 Patent

58. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

59. The '929 Patent is entitled "Apparatus, System, and Method for Sensor Relays Facilitating the Transfer of Information Via A Movement Device and Output Device," and issued as U.S. Patent No. 11,645,929 (the "'929 Patent") on May 9, 2023 from U.S. Patent Application No. 15/727,748, filed on October 9, 2017, is a division and continuation of U.S. Patent Application No. 14/217,512, filed on March 18, 2014, which issued as the '574 Patent, a continuation-in-part of U.S. Patent Application No. 14/217,508, filed on March 18, 2014, which issued as the '285 Patent, and claims priority to U.S. Provisional Patent Application No. 61/786,840, filed on March 15, 2013.

b. Overview of the Prosecution of the '929 Patent

60. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

61. During prosecution of the '929 Patent, on August 2, 2019, the patent examiner provisionally rejected then-pending claims 1-20 on the grounds of non-statutory double patenting over the claims of the '574 Patent.

62. The examiner also rejected claims 1-20 under 35 U.S.C. § 112(b), as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor regards as the invention by lacking antecedent basis for several limitations in the claims; as being incomplete for omitting essential structural cooperative relationships of elements; for failing to

particularly point out and distinctly claim the subject matter which the applicant regards as the invention; and for the use of specific phrasing in the language of the then-pending claims because it is unclear whether the limitations following the phrase are part of the claimed invention.

63. Further, the examiner rejected then-pending claims 1-5 and 9-20 under 35 U.S.C. § 102, as being unpatentable as anticipated by the cited conventional *Watterson '223* reference, and claims 6-8 under 35 U.S.C. 103(a) as being unpatentable as rendered obvious in view of the cited conventional *Watterson '223* and conventional *Lucas* references.

64. On November 1, 2019, the applicant filed a response, amending claims 1-2, 15, 17, and 20, and canceling claim 12, arguing that the then-pending claims, as amended, were not rendered unpatentable under 35 U.S.C. § 112(b); that the then-pending claims, as amended, were not rendered unpatentable under 35 U.S.C. § 102 as anticipated by the cited conventional *Watterson '223* reference; and that the then-pending claims, as amended, were not rendered unpatentable under 35 U.S.C. § 103 as rendered obvious in view of the cited combination of the conventional *Watterson '223* and conventional *Lucas* references, nor would it be obvious to combine these references.

65. In regard to the rejection of claims 1-5 and 9-20 under 35 U.S.C. § 102 as being anticipated by *Watterson '223*, the applicant noted that conventional *Watterson '223* did not include the limitations of "one or more control factors" measured against "one or more default or user defined set points"; nor comprises the ability of the user to control a media device; nor comprises a circular treadmill.

66. In regard to the rejection of claims 6-9 under 35 USC § 103, the applicant noted that neither conventional *Watterson '223*, nor conventional *Lucas*, alone, or in combination, neither teaches nor suggests, nor renders obvious, a standard treadmill which responds to signals sent to any of the movement devices based on "control factors, measured against default of user defined

set points"; nor comprises any reference to maintaining a default speed, which falls under one of the default set points.

67. On January 21, 2020, the patent examiner issued a Final Office Action, rejecting claims 1-11 and 13-20 under 35 USC § 102 as being unpatentable as anticipated by the cited conventional *Watterson '911* reference; again, rejecting then-pending claims 6-9 35 USC § 103 as being unpatentable as rendered obvious in view of the cited conventional *Watterson '911* and conventional *Lucas* references, reiterating prior arguments; and rejecting then-pending claim 18 under 35 USC § 103 as being unpatentable as rendered obvious in view of the cited conventional *Watterson '911* and conventional U.S. Patent Publication 2009/0,124,938 to *Brunner* ("*Brunner*") references.

68. Further, the examiner noted that, although then-pending claim 4 is rejected as being dependent upon a rejected base claim, it would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The examiner allowed then-pending claim 20.

69. On November 3, 2020, a Notice of Abandonment was mailed due to applicant's failure to timely file a reply to the January 21 ,2020 Final Office Action.

70. On August 6, 2022, applicant filed a Petition for Revival under 37 C.F.R. § 1.137(a), along with a RCE; payment of all required fees; amendments to then-pending claims 1, 5, 13, and 15; cancelation of then-pending claims 2-4 and 12, and arguments, noting that the applicant failed to respond due to the sickness and subsequent loss of a close family member, as noted above.

71. In regard to the rejection of then-pending claims 1-11 and 13-20 as unpatentable under 35 USC § 102 as being anticipated by the cited conventional *Watterson '911* references, the applicant argued that the cited conventional *Watterson '911* reference did not include all limitations of the then-pending claims.

72. In regard to the rejection of claims 6-9 as unpatentable 35 USC § 103, the applicant argued that neither conventional *Watterson '223*, nor conventional *Lucas*, alone, or in combination, neither teaches nor suggests, nor renders obvious, a standard treadmill which responds to signals sent to any of the movement devices based on "control factors, measured against default of user defined set points"; nor comprises any reference to maintaining a default speed, which falls under one of the default set points.

73. On October 7, 2022, the USPTO granted the petition to revive.

74. On October 21, 2022, the applicant had an interview with the examiner, where the applicant "submitted claim language from allowable dependent claims to be implemented into the independent" claims to overcome the cited conventional *Watterson '911* reference.

75. On November 14, 2022, the patent examiner issued a notice of allowance with examiner's amendment with respect to then-pending claim 9.

4. Overview of the Unconventional '285 Patented Inventions and the Conventional Technology at the Time

76. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

77. In the early 2010's, at the time of the '285 inventions, as ultimately reflected in the issued claims (the "patented inventions"), wearables that gave users feedback via sending information to other devices, and devices that took the data from wearables and adjusted their speed, accordingly, were limited, if not non-existent. *See* '285/2:5-12. Furthermore, at the time of the '285 patented inventions, audio visual devices that adapted or ceased functionality based on feedback from a wearable, or caused a movement device to adapt or cease functionality based on performance on the audio-visual device, were also limited, if not non-existent. *See id.* At that time, despite many conventional devices comprising systems to allow movement while creating (such as via a laptop computer), movement while reading or learning (such as via a tablet processor), and/or movement

while being entertained (such as via a virtual reality headset), none of these devices were designed specifically for use while moving, and none of them were designed to provide feedback to the user or assistance to the user specifically related to that movement, as disclosed in the '285 Patent. '285/2:5-12. These conventional devices were especially limited in the specific area of movement devices, and, more specifically, exercise and related movement devices (*e.g.*, treadmills, bicycles, etc.). *See id*. at 2:13-19.

78. More specifically, at the time of the '285 patented inventions, usage of handheld and/or wearable devices, such as heart rate monitors, optical devices, audio/visual devices, and/or AR/VR devices, for collecting user information was in its infancy. *See id*. at 2:5-12. Similarly, movement devices, such as treadmills, bicycles, and/or similar equipment, lacked the ability to, *inter alia*, connect to these handheld and/or wearable devices, collect data from these devices, and utilize information beyond the simple distance and equipment movement information. *See id*. at 2:5-19. Simply put, there were neither handheld and/or wearable devise which provided users with feedback (including via transmission of information between devices), nor exercise or similar equipment for receiving and/or utilizing such information (including to self-adjust and/or provide feedback information to the user). *See id*. Nor, at the time of the '285 patented inventions, were there handheld and/or wearable devices which adapted and/or ceased functionality based on such feedback. *See id*. Nor were there such handheld and/or wearable devices which caused the exercise or similar equipment to move, adapt, and/or cease functionality based on performance of such handheld and/or wearable devices. *See id*. As a result, at the time of the '285 patented inventions, the most common, conventional, and practical way to provide feedback for the user to adjust the user's movement and/or adjust the movement device, including in view of the above-noted limitations, was simply to, *inter alia*, have the user (or someone on the user's behalf) continuously monitor the information at various points in time and make manual adjustments continuously in

an attempt to maintain the user's collected information to better align with the specified criteria, such as slowing down or speeding up the machine to have the user's heart rate decrease or increase, respectively.

79. In view of, and in order to address, the issues noted in the conventional art noted herein, and in the disclosures of the Patent-in-Suit (and its family), the Patent-in-Suit discloses, *inter alia*, integrating a unique method of receiving sensory feedback while moving involving: sensor relays; output devices; movement device; and computer processes that, *inter alia*, receive a signal from any of the one or more sensor relays, including via detecting the information related to the user; analyze the detected information against one or more default and/or user-defined set points or specified criteria; and either send a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points, or send a signal to any of the movement devices, controlling said movement devices based on said analysis for at least signaling the user to adjust their movement, including via outputting the information to the user via an output device, and/or causing the movement device to adjust itself automatically. *See id*. at Claims 1 & 4; 2:32-43; 48-3:14; 4:2-26; 4:36-51; 5:23-38; 5:52-57; 5:63-67; 6:27-29; 6:41-7:12; 7:28-45; 7:64-8:1; & 8:11-30.

80. At least some embodiments of the '285 patented inventions comprise methods and apparatuses including, but not limited to, users conducting tasks such as learning, working, creating on a computer or other device, and/or being engaged in a simulation all while moving and outputting sensory information related to those tasks, their movement, and/or both to one or more devices. *Id*. at 2:23-29. Such sensory information collected may comprise any audio, visual, and/or tactile information, which may relate to the user's actions and/or inactions in performing those tasks or in moving, with such information available for sending from these sensor relay devices to any number of other devices, comprising other sensor relays, computer processors, and/or

movement devices. *Id*. at 2:29-36 & 4:2-4. These sensor relays may also output such collected information to any of the computer processor, another sensor relay, a movement device, and/or an output device which converts the information into a form that the user and/or an observer understands and can utilize for further instructions and/or alteration of the user's movement. *Id*. at 2:36-39.

81. Such sensor relays may comprise an apparatus comprising any combination of devices, including, but not limited to, sensors (including, *inter alia*, an audio sensor, a visual sensor, a tactile sensor, a gyroscope, an accelerometer, proximity device, and/or a magnetometer) and/or relays (such as those for sending information – *e.g.*, sensory information or positional information, input/output relays, or any combination thereof which permits the sending and/or receiving of a signal from the user, an observer, any extension of the user, computer processor, and/or any other sensor relay). *Id*. at 3:57-67; 4:52-5:20; 5:34-35; 5:43-52; 6:27-45; 6:52-65; 7:13-20; 7:64-8:1; & 8:26-29. Such visual sensors may comprise one or more of a variety of video devices, including, but not limited to, cameras and/or optical sensors, that can detect movement, including, but not limited to, movement of the user's body, any body parts, extensions of the user's body, and/or eyes (including, but not limited to, pupil dilation, eye-crossing, eye wiggles, rapid-eye movement, and/or normal eye movement). *Id*. at 4:58-64. Such tactile sensors may comprise one or more of a variety of devices which sense contact (including, but not limited to, touching, depressing, and/or hitting) and/or changes in contact (including, but not limited to, grip modulation, sweating, altered breathing, altered pulse, shaking, and/or swiping) in relation to any part of the user's body, observer's body, and/or extensions of their bodies (including, but not limited to, clothes, gloves, and/or any object directly connected to them) and/or any combination thereof, which makes such contact with the sensor and/or any extension connected to the sensor via wired and/or wireless means. *Id*. at 4:66-5:8. Such gyroscopes may comprise one or more of a variety of sensors which

may detect changes in the location of one body part and/or extension of body part in relation to another and/or from its original position, including, but not limited to, those changes indicating alterations in balance, angular velocity, angular momentum, spin, inertia, and/or torque. *Id*. at 5:9-14. Such accelerometers may comprise one or more of a variety of sensors which may detect the user's average speed, velocity, and/or any changes thereto. *Id*. at 5:14-17. Such magnetometers may comprise one or more of a variety of sensors which may detect changes in magnetization and/or proximity of a magnetized object connected to the user and/or any extension of the user. *Id*. at 5:17-20. Further, in at least some embodiments where the sensor relay receives signals, the sensor relay may comprise audio sensors which may comprise one or more of a variety of sensors, including, but not limited to, microphones, vibration monitors, and/or any other audio device that can receive input from the user and/or an observer related to sounds that they make, purposely or otherwise. *Id.* at 4:52-57.

82. In at least some embodiments, the computer processor processes and analyzes the collected information, which may be received from a variety of sources (*e.g.*, the sensor relays, movement devices, output devices, media devices, and/or any combination thereof), in any number of different ways, including, but not limited to, comparatively analyzing the information against a set of predetermined set points and/or specified criteria prior to sending output information to other devices (*e.g.*, output devices and/or movement devices). *Id*. at 2:39-43; 4:1-11; 4:38-41; 5:23-27; 6:32-37; 6:66-7:3; & 7:20-27. Such computer processors may comprise any device which may receive, process, store, and/or transmit information. *Id*. at 4:1-2. The computer processor may further send a signal and/or combination of signals to a variety of devices, including, but not limited to, other computer processors, sensor relays, output devices, movement device, and/or media devices. *Id*. at 4:14-18; 7:3-6; 7:28-32; & 7:35-45. Such set points comprise permanent and/or adjustable values and/or attributes that may be predefined by individuals, including, but not

limited, to a user, an observer, and/or a manufacturer. *Id*. at 4:12-14.

83. Said movement devices may comprise any device designed to facilitate the user's movement and/or exercise, including, but not limited to, treadmills and/or moving platforms, bicycles, elliptical machines, cable-row machines, automatically adjustable weight devices, and/or similar devices, and respond, including via automatic movement, to signals and/or input received from any of the computer processor, signal relay, and/or a user or observer who has received feedback regarding the user's sensory information. *Id*. at 2:44-51; 5:21-27; 5:35-42; 5:52-62; & 6:14-21. In at least some embodiments of the '285 patented inventions, the users, observers, sensor relays, and/or computer processors may direct the movement device to, *inter alia*, alter its settings, including, but not limited to, its velocity, resistance, incline, and/or pressure. *Id*. at 5:21-27.

84. Said media devices may comprise a processor which receives and/or outputs information, such as media information, which may include, without limitation, learning materials (including, but not limited to, either audio and/or visual lectures, quizzes, and/or books), entertainment materials (including, but not limited to, movies, music, and/or video games), and/or simulation materials (including, but not limited to, computing materials, materials directly related to the user's movement for physiotherapy, and/or exercise assistance materials). *Id*. at 4:28-36. The media device may adjust its rate of output of media information if directed to do so by its processor. *Id*. at 4:36-38. The media device's processor may receive information from a variety of sources, including, but not limited to, users, observers, computer processors, output devices, and/or sensor relays. *Id*. at 4:38-41.

85. At least some embodiments of the '285 patented inventions comprise an apparatus comprising sensor relays, a treadmill (or similar equipment), and a headset, all ergonomically designed to transmit signals, including such that the user receives information while using the treadmill (or similar equipment) regarding the user's performance, including via the headset, with

the user simultaneously able to utilize the headset to listen to a lecture or other instructions. *Id*. at 2:52-57. In at least some embodiments, the apparatus comprises a treadmill (or similar equipment) which communicates with the headset via Bluetooth (or similar protocol), including so that a microphone in the headset acts as a sensor relay which wirelessly transmits signals to the treadmill indicating when the user is out of breath, thereby causing the treadmill to slow or otherwise adjust. *Id*. at 2:57-62. In at least some embodiments, the apparatus comprises a treadmill including a sensor relay which transmits a signal to the headset via wireless protocol indicating the user's pace has slowed or otherwise become altered beyond specified criteria. *Id*. at 2:62-64. In at least some embodiments, a processor may be used to determine that the rate of simulation presented to the user from the headset should be altered, including based on the feedback and/or other information transmitted. *Id*. at 2:64-66. In at least some embodiments, the movement device comprises a treadmill designed in an adjustable elliptical shape which has sensor relays located along the handlebars of the movement device, including to sense the user's position, and, *inter alia*, relays the user's position to the user's, and/or an observer's, output device, who may then choose to alter the speed of the treadmill, including remotely. *Id*. at 2:67-3:4.

86. Including as disclosed in the specification of the '285 Patent, any signal sent from a sensor relay, computer processor, output device, and/or media device to another can be sent via, *inter alia*, any means, including, but not limited to, wired means (*e.g.*, coaxial, VGA, HDMI, component, composite, fiber optic, and/or DVI cables) and/or wireless means (*e.g.*, Bluetooth, WiFi, and/or infrared and/or other electromagnetic waves). *Id*. at 4:42-48. Further, any signal sent from an output device to either a user, observer, any extension of the user, and/or any sensor relay may be sent via, *inter alia*, any means, including, but not limited to, visual, audio, and/or tactile means. *Id*. at 4:48-51.

87. In at least some embodiments, the user may wear a visual headset on their face acting as

an output device and a sensor relay on their leg or other body part, with the sensor relay indicating, *inter alia*, when the user has exited a perimeter marked by electromagnetic signals sent between other sensor relays located at the boundaries of the perimeter or otherwise operates the devices outside specified criteria and/or bounds. *Id*. at 3:4-11. The sensor relay would then send one or more signals to the user's visual headset interrupting the movie (or other video) the user was watching on it, including to inform the user they are operating beyond the specified criteria and/or bounds. *Id*. at 3:11-14.

88. Indeed, unlike conventional devices, methods, and apparatuses, the disclosure of the Patent-in-Suit expressly recognizes that '285 patented inventions may be used to help users engage in movement while effectively processing information related to their tasks, and, when executed correctly, the user's multitasking may be assisted by this system of devices. *Id*. at 3:14-19.

89. The "SUMMARY" section of the '285 Patent states, in part, as follows:

> Embodiments of the disclosure herein may refer to methods and apparatus including but not limited to users conducting tasks such as learning, working, creating on a computer or other device, or being engaged in a simulation all while moving and outputting sensory information related to those tasks, their movement, or both to one or more devices. Sensory information collected by those devices may include but is not limited to any audio, visual, or tactile information, which may relate to the user's actions or inactions in performing those tasks or in moving. That information may be sent from those devices, herein referred to as sensor relays, to any number of other devices, including but not limited to other sensor relays, one or more computer processors, one or more movement devices. The sensor relay may instead output the information to an output device which converts the information into a form that the user or an observer understands. If the information is received by a computer processor, the computer processor may analyze the information against a set of predetermined set points before sending output information to other devices including but not limited to output devices and movement devices. Movement devices may include any device designed to facilitate the user's movement, including but not limited to treadmills or moving platforms, bicycles, elliptical machines, cable row machines, automatically adjustable weight devices. When receiving a signal from the computer processor, signal relay, or a user or observer who has received feedback regarding the user's sensory information, the movement device may respond accordingly.
>
> One example of an embodiment of this disclosure may be an apparatus containing sensor relays, a treadmill and a headset, all ergonomically designed to transmit signals such that the user receives information while using the treadmill

> regarding her performance through the headset while simultaneously utilizing the headset to listen to a lecture. Another example may be a treadmill which communicates with a Bluetooth headset so that a microphone in the headset acts as a sensor relay which wirelessly transmits signals to the treadmill indicating when the user is out of breath, thereby causing the treadmill to slow. Additionally, the treadmill may include a sensor relay which transmits a signal to the headset wirelessly indicating the user's pace has slowed. A processor may determine that the rate of simulation presented to the user from the headset should be altered. Another example may be a treadmill designed in an adjustable elliptical shape which has sensor relays located along its handlebars to sense the users position, and relays the users position to an observer's output device, who may then choose to remotely alter the speed of the treadmill. Yet another embodiment may be a user with a visual headset on their face acting as an output device and a sensor relay on their leg. The sensor relay may indicate when the user has exited a perimeter marked by electromagnetic signals sent between other sensor relays located at the boundaries of the perimeter. The sensor relay would then send one or more signals to the user's visual headset interrupting the movie the user was watching on it to tell them they are outside of a designated safe pacing zone.

Id. at 2:23-3:13.

90. The '285 patented inventions have advantages over conventional methods and apparatuses, including that they disclose, *inter alia*, an apparatus for detecting information related to specific criteria, including as set by a user, as captured by sensor relays for use in displaying information to a user on an output device, including in order to inform the user how closely they are meeting the specified criteria, so that either the apparatus may adjust itself, including via the movement device, or the user may manually adjust their activity, to better meet the specified criteria that may be set by the user or correspond to a default setting, including via, *inter alia*, integrating existing sensor devices (including one or more sensor relays – *e.g.*, a heart rate monitor), output devices (including one or more output devices – *e.g.*, a display or monitor), and movement devices (including one or more sensor relays – *e.g.*, a treadmill or bicycle) to, on an ongoing basis, create a feedback loop wherein the user, or another person, is provided feedback on how well the user is meeting specified criteria (*e.g.*, heart rate targets or goals) that is pre-programmed or selected or input by the user, to permit the user's activity to be adjusted towards meeting the specified criteria either manually by the user or via automatic adjustment of the

sensors, output devices, and/or movement devices, including by enabling control factors that the user can decide to create set points for and decide whether to activate or deactivate a media device. *Id*. at Abstract; 2:32-43; 48-3:14; 4:2-26; 4:36-51; 5:23-38; 5:52-57; 5:63-67; 6:27-29; 6:41-7:12; 7:28-45; 7:64-8:1; & 8:11-30; Claims of the Patent-in-Suit; *see also* Claims of the '574 Patent & '929 Patent.

91. In at least some embodiments, this includes the user of, *inter alia*, user set points which are either default (predefined) or user-defined parameters and are permanent or adjustable values of attributes that may be defined by individuals such as a user, observer, or manufacturer, so that a feedback loop is created for the user and/or apparatus to adjust the user's activity to better align with these set points. *See id*. at 4:12-18; 6:27-8:1. While some conventional art has a prerequisite that is required to be reached prior to the media device activating, this is not a requirement of the claimed invention. *See id*. at 4:26-41; 7:35-36; & 7:46-63. Included as noted herein, these methods and apparatuses failed to provide a means for providing feedback to the user or other operator for use in, *inter alia*, adjusting the movement device or otherwise.

92. In at least one embodiment, the '285 patented inventions comprise sensor relay 110 attached to strap 112, including as signals are sent and/or received by sensor relay 110, including as shown in Figure 1 of the '285 Patent:

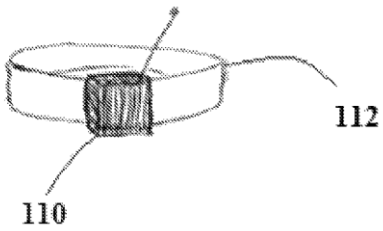


Fig. 1

Id. at Fig. 1; 3:29-31 & 5:28-30.

93. In at least one embodiment, the '285 patented inventions comprise sensor relay 210 which

comprises wire 212 for connection to another device and, *inter alia*, sends signals to an output device, such as audio speaker 218, including as shown in Figure 2:

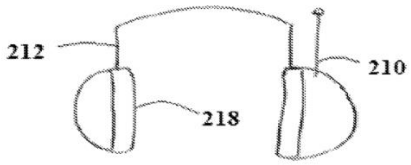


Fig. 2

Id. at Fig. 2; 5:31-33.

94. In at least one embodiment, the ’285 patented inventions comprise sensor relay 314 which may be fitted to the user’s calf 316, wherein sensor relay 314 may transmit information about the user's movement, and thereby control track 320 on treadmill 322, including while the user is on treadmill 322, for example, such as the exemplary system shown in Figure 3 of the ’285 Patent:

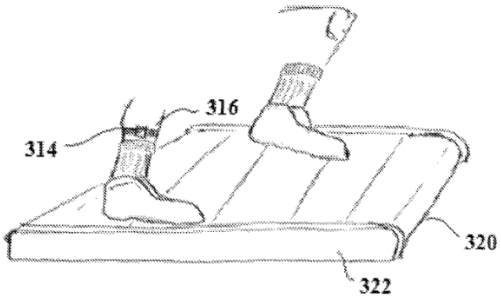


Fig. 3

Id. at Fig. 3; 5:34-38. However, in at least some embodiments, the user is not required to be on a moving device and/or the moving device does not need to be a treadmill and can be a non-treadmill moving device, including, but not limited to, a moving walkway, bicycle, elliptical, track-pad, and/or cable-row machine. *Id*. at 38-42.

95. In at least one embodiment, the ’285 patented inventions comprise sensor relay 414, which may be fitted to the user’s calf 416, wherein the user is walking on the ground and the sensor

relay sends and/or receives information concerning the user's proximity to nearby objects to an output device, for example, such as the exemplary system shown in Figure 4 of the '285 Patent:

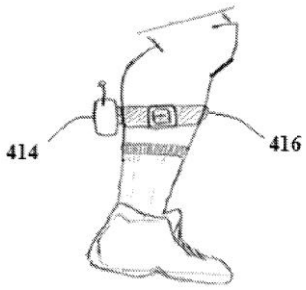


Fig. 4

Id. at Fig. 4; 5:43-47. However, in at least some embodiments, the sensor relay may comprise a proximity monitor, or the sensor relay may comprise one or more of a variety of devices including, but not limited to, accelerometers, audio sensors, tactile sensors, or gyroscopes. *Id*. at 5:47-51.

96. In at least one embodiment, the '285 patented inventions comprise sensor relay 510, which, *inter alia*, sends signals to motion device 520, including in the form of treadmill 522 or moving walkway 522, which may comprise a circular or elliptical shape, such as the exemplary system shown in Figure 5 of the '285 Patent:

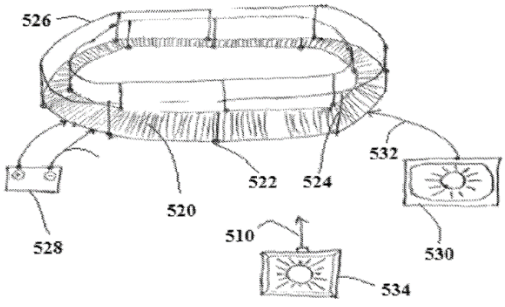


Fig. 5

Id. at Fig. 5; 5:52-55. In at least one embodiment, the track upon which the user moves is in a shape that allows the user to traverse it from beginning to end without fear of going off the track, giving the advantages of allowing the user's speed to significantly differ from the treadmill's

speed, without the user having to run into a portion of the treadmill and/or fall off of the treadmill and allowing the user more flexibility in movement than a standard treadmill. *Id*. at 5:55-62.

97. In at least one embodiment, the movement of the user may be assisted by any of signals sent by the signal relays; a physical guide (including, but not limited to, supports 524) which support handlebars 526; an observer who receives signals and guides the user; and/or any combination thereof. *Id*. at 5:62-67. Or the user may receive no external assistance in traversing the track, but can effectively traverse in the direction of the track through their own means including, but not limited to, muscle memory, observation, and/or mental memory. *Id*. at 5:67-6:5.

98. In at least one embodiment, the ’285 patented inventions comprise D/C battery 528, powering a device such as a circular treadmill, which may be rechargeable, synergistically charged by the user’s dispensed kinetic energy, powered by solar panel 530, which can alternatively be used to power the media device via wires 532. *Id*. at 6:6-13.

99. In at least one embodiment, the ’285 patented inventions comprise, instead of a circular treadmill, the movement device as any exercise and/or entertainment equipment, including, but not limited to, a standard treadmill, bicycle, elliptical, a motorized rocking chair, a track-pad which senses the users location and movements on the pad, and/or a chair powered by electricity for the purposes of movement and/or audio output through its embedded speakers, and/or any combination of such devices. *Id*. at 6:14-21. In at least some embodiments, rechargeable and/or portable energy may be used, *inter alia*, for assisting in maintaining the energy needed to power the device(s) the user is operating, any signal relays, computer processors, and/or combinations thereof. *Id*. at 6:21-26.

100. In at least one embodiment, the ’285 patented inventions comprise the user’s face fitted by output device 610 which comprises connection 612 to sensor relay 614 which may comprise the ability to detect tactile information (including, but not limited to, any information on the user’s

sweat secretions), including, for example, that the sensor relay's tactile sensor may detect moisture, such as, for example, as shown in Figure 6 of the '285 Patent:

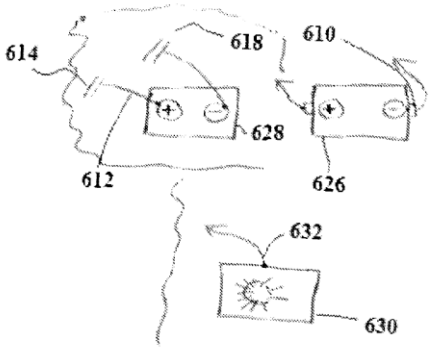


Fig. 6

Id. at Fig. 6; 6:27-32. The sensor relay may then send a signal to a computer processor which, *inter alia*, analyzes the signal and may send a signal to the movement device to alter the user's velocity, or to the user through an output device making a suggestion to alter the user's velocity. *Id*. at 6:32-37. In at least some embodiments, the sensor relay, *inter alia*, measures the opening and/or closing of a sweat gland directly, including as detected by the tactile sensor of the sensor relay, which is designed to measure such movements (on a scale less than a mm^2). *Id*. at 6:37-40.

101. In at least one embodiment, the '285 patented inventions comprise the sensor relay detecting pulse (for example, via mounting to a vein and being designed to detect movement of the vein) and send it to a processor which calculates the beats per minute ("bpm") to use that bpm to determine, *inter alia*, the fatigue of the user. *Id*. at 6:41-45. In at least some embodiments, the processor may perform a variety of functions, including, but not limited to, analyzing the user's fatigue computed against a default and/or a user-defined set point and/or specified criteria, and then sending a signal to the movement device and/or to the output device, including in order to allow the user to decide whether to slow the device the user is utilizing, cease activity, or neither. *Id*. at 6:45-51.

102. In at least one embodiment, the '285 patented inventions comprise the user fitted with an

array of sensor relays, including tactile sensors, which may detect the user's biometric information, such as pulse (which may be measured by means including, but not limited to, measuring vibrations, caused from the beating of the user's heart sending blood to the brain, and/or elsewhere, through the users arteries and veins, and/or any one or more of which the sensor relay is attached to), brain activity (which may be measured by means including, but not limited to, a tactile sensor relay and/or sensor relays designed to detect the direct flow of current from the brain to any one or more points on the users scalp), sweat (which may be measured by means including, but not limited to, a tactile sensor measuring moisture detection and/or weight over a pre-set threshold or both), and/or any combination thereof. *Id*. at 6:52-65. The sensor relay may then send the information it detects to a computer processor designed to, *inter alia*, analyze the information through a variety of means including, but not limited to, plotting the user's pulse, brain activity, sweat, and/or any combination thereof over time, and, after analyzing this information against a default and/or user-defined set point and/or specified criteria, send a signal to the movement device and/or an output device which may prompt the decision maker (*e.g.*, any user or observer) to alter the movement device's settings, including, but not limited to, its incline, resistance, pressure, height, velocity, acceleration, and/or jerk, based on those detections, whereas a signal to the movement device would cause said device to automatically adjust its settings. *Id*. at 6:66-7:12.

103. In at least one embodiment, the '285 patented inventions comprise the signal relay attached to the user's nerve cells, including in order to detect variations through a variety of means, including, but not limited to, detecting voltage in a range from −70 mV to 30 mV (+/−15 mV) or, instead, measure the total displacement out of 100 mV (+/−10 mV), and/or any combination thereof, and sending that information to a computer processor which correlates the information against the user's learning progress over time. *Id*. at 7:13-20. The computer processor can then calculate the user's learning over time by any number of means, including, but not limited to,

measuring the number of pages the user scrolls per minute, the average speed in which they answer questions over a given period of time, the number of questions which they answer correctly, and/or any variation of responses to learning, entertainment, and/or other processing activity. *Id*. at 7:20-27.

104. In at least one embodiment, the '285 patented inventions comprise the computer processor sending a signal to an output device to provide feedback, allowing the user to control the velocity of the device they are using, their own speed, adjust the device they are using, and/or adjust their own position, breathing, and/or any other control factors (which may be any factor related to the user that can be monitored including but not limited to those such as breathing rate or pulse. *Id*. at 7:28-35. The computer processor can also control, and/or provide feedback to, the output device and/or media device allowing the user to control the media feed rate based on that information and/or other nerve activity (including, but not limited to, detecting current or voltage from automatic nerves, central nerves, or cranial nerves to measure proper functionality according to predefined set points and/or user-defined set points and/or specified criteria, and/or determining if the current and/or voltage from those nerves begins to fall outside of that range, including in order to send a signal to the device for an emergency stop, set off an alarm, and/or send an emergency signal to an observer). *Id*. at 7:35-45. The media feed rate is the rate at which a user is fed material, including, but not limited to, educational materials (such as readings and/or lectures), entertainment materials (such as television and/or videogames), and/or user-controlled materials (such as materials which can be downloaded and/or installed into the media device's processor through a number of means, including, but not limited to USB, CD, Internet, and/or any combination thereof). *Id*. at 7:46-52. This can be either controlled by the user's actions (including, but not limited to, the user turning the page in a book, scrolling down a personal tablet, and/or changing the slide on a computer slide show); and/or processor controlled by the actions of a

processor (including, but not limited to, automatically moving the digital image of an electronic display – such as scrolling and/or turning the page in an electronic book and/or website, changing the audio content to a song with a faster or slower pace accordingly, and/or pausing an entertainment movie until the user reaches their preset comfort level threshold). *Id*. at 7:53-63.

105. In at least one embodiment, the ’285 patented inventions comprise sensor relay 614 fitted with audio relay 618, designed to, *inter alia*, send signals to the user for them to process, including, but not limited to, verbal commands, beeps, and/or music related to the performance of the user. *Id*. at 7:64-8:1. In at least some embodiments, the sensor relay may be directly powered by a variety of sources, including, but not limited to, external battery 626. *Id*. at 8:1-3. In at least some embodiments, extensions of the sensor relay may be powered by a variety of sources, including, but not limited to, external battery 628. *Id*. at 8:3-6. In at least some embodiments, the sensor relay and/or its external rechargeable battery may be wired to any source of energy, including, but not limited to, solar panel 630, and/or a wind turbine, electrical outlet, and/or any combination thereof, and send energy 632 back to the system. *Id*. at 8:6-10.

106. In at least one embodiment, the ’285 patented inventions comprise the device comprising track 720 on top of a circular or an ellipsoidal treadmill 722, wherein the user would move in a continuous pattern, such as, for example, as shown in Figure 7 of the ’285 Patent:

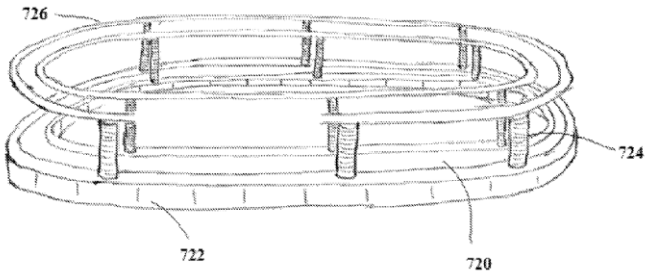


Fig. 7

Id. at Fig. 7; 8:11-13. In at least some embodiments, this device may comprise supports 724 for handlebars 726, which may be used for a variety of purposes, including, but not limited to, guiding

the user as they traverse the track through the use of their body, hands, and/or any part of their body and/or the handlebars. *Id*. at 8:14-18.

107. In at least some embodiments, any number of users and/or observers 950 may act on sensor relays 952 in any number of ways, which may, in turn, act on any number of movement devices 954, computer processors 956, other sensor relays 958, output devices 960, and/or media devices 962, such as, for example, as shown in Figure 8 of the '285 Patent:

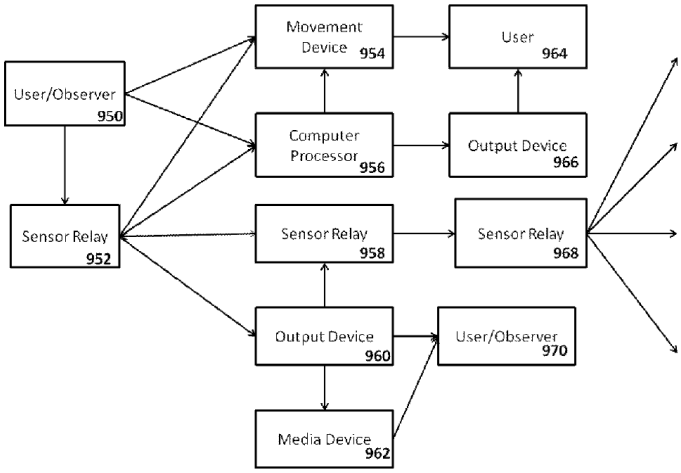


Fig. 8

Id. at Fig. 8; 8:19-23. Whereas a movement device may only act on any user 964, the computer processor may act on either the movement device or output device 966. *Id*. at 8:24-26. The sensor relay may act on another sensor relay 968, which may, in turn, act on any number of movement devices, computer processors, sensor relays, and/or output devices – which, in turn, may act on a sensor relay, a media device, and/or user and/or observer 970. *Id*. at 8:26-30.

108. On the other hand, including as noted herein, the convention at the time of the '285 patented inventions were the use of separate, independent, and/or otherwise non-connected devices for sensing or otherwise detecting information about the user's use of the device. Further, the convention at the time was to simply have the user adjust their movement and/or the device in order to best estimate the way they should be operating the device, without the use of any feedback

information. Nor was there any ability to automatically and/or interactively adjust the movement device based on any information actually collected regarding the user.

C. The Claims Of The '285 Patent Are Directed To Patentable Subject Matter

109. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

110. Including as set forth herein, the claims of the '285 Patent are directed to patentable subject matter. The claims of the Patent-in-Suit, including the asserted claims, when viewed as a whole, including as an ordered combination, are not merely the recitation of well-understood, routine, or conventional technologies or components. The claimed inventions were not well-known, routine, or conventional at the time of the invention, over ten (10) years ago, and represent specific improvements over the prior art and prior existing methods and apparatuses.

1. The '285 Patent is not Directed to an Abstract Idea

111. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

112. These technologies, and their many unique applications, provide for a novel and useful series of movement devices that are interconnectable and interactive with handheld and/or wearable devices and have the capability of facilitating movement of a user while the user is learning, exercising, or otherwise processing and responding to various stimuli, including via the automated operation of a movement device (such as a treadmill or other exercise equipment) based on, *inter alia*, feedback from connected sensor devices provided to the user and the movement device for adjusting the movement device to, *inter alia*, assist the user in achieving specific goals (*i.e.*, control factors) set by the user or a decision maker (such as a training coach).

113. The claims of the '285 Patent neither describe nor claim a concept nor a generic method or computerized system. Instead, the '285 claims address, among other things, a persistent problem

with movement device apparatuses and methods for providing feedback and adjustability in the user's utilization of the device, including via the use of output devices and/or sensor relays at the time of the'285 patented inventions, whereby apparatuses and methods for same were unavailable (for example, no such device existed at the time which comprised the necessary feedback loop system to provide ongoing feedback for the user and/or other operator); impossible (for example, there was a lack of interconnectivity between the handheld and/or wearable devices and movement devices); and/or impractical (for example, it was cumbersome or otherwise unfeasible for a user to receive information from the sensors and, in turn, use that information to adjust their movement and/or the movement device while continuing to move). At that time, prior to the disclosures of the '285 Patent, this could mean users of movement devices would need to cease operation of the movement device in order to look at, or otherwise receive, the information from the sensor relays for use as feedback and, once the feedback was received, alter their movement and/or the movement device.

114. Particularly, the claims of the '285 Patent enable integrating a unique method of receiving sensory feedback while moving involving: sensor relays; output devices; movement device; and computer processes that, *inter alia*, receive a signal from any of the one or more sensor relays, including via detecting the information related to the user; analyze the detected information against one or more default and/or user-defined set points or specified criteria; and either send a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points, or send a signal to any of the movement devices, controlling said movement devices based on said analysis for at least signaling the user to adjust their movement, including via outputting the information to the user via an output device, and/or causing the movement device to adjust itself automatically. *See id*. at Claims 1 & 4; 2:32-43; 48-3:14; 4:2-26; 4:36-51; 5:23-38; 5:52-57; 5:63-67; 6:27-29; 6:41-7:12; 7:28-45; 7:64-8:1; &

8:11-30.

a. The Claims of the '285 Patent are Directed to Innovative Movement and Sensor-Based Methods and Apparatuses

115. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

116. None of the elements that comprise the claimed methods or apparatuses that are described in the claims of the '285 Patent are abstract. Including as described herein, and in the '285 Patent, the apparatus, sensor relays, output devices, movement devices, media devices, audio devise, audio sensors, visual sensors, tactile sensors, and computer processors ('285/Figs. 1-6 (and associated description in the specification)), among other claimed aspects, are physical and/or tangible things known to a person of ordinary skill in the art ("POSITA"), including in light of the specification; and including in view of the unconventionality and provided technological solutions noted herein. *Id*. at Abstract; 1:14-27, 2:5-3:14, 3:62-7:12, & 7:64-8:30.

117. As exemplified by claim 1, the subject claims of the '285 Patent are directed to:

> 1. A method of receiving sensory feedback while moving involving:
> one or more sensor relays;
> any number of output devices;
> any number of movement devices; and
> one or more computer processors that:
> receive a signal from any of the one or more sensor relays, detecting the information related to the user;
> analyze the detected information against one or more default or user defined set points;
> and either:
> send a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points;
> or
> send a signal to any of the movement devices, controlling said movement devices based on said analysis.

Id. at Claim 1.

118. As exemplified by claim 4, the subject claims of the '285 Patent are directed to:

> 4. An apparatus comprising:
> one or more sensor relays;
> and either:
> one or more output devices;
> or
> one or more movement devices;
> wherein said sensor relay may detect information related to one or more user control factors;
> and
> wherein said sensor relay may send one or more signals to one or more other sensor relays, output devices or movement devices;
> said output devices translating and communicating said signals to a decision maker as measured against one or more default or user defined set points;
> said movement devices altering based on said signal measured against one or more default or user defined set points;
> or
> said other sensor relays detecting information related to the user and sending a signal to any of the one or more other sensor relays, output devices, or movement devices, or relaying the signal sent to it, to one or more other sensor relays, output devices, or movement devices measured against one or more default or user defined set points.

Id. at Claim 4.

119. Claims 1 and 4 of the ’285 Patent, quoted above, are exemplary. A POSITA would understand that the language of the ’285 claims is not directed merely to apparatuses and methods for generically or conventionally providing feedback for improved operation of a movement device and/or providing such feedback to be based on specific pre-programmed and/or user-selectable control factors, including via collecting and receiving sensor data, analyzing sensor data, providing instructions, and/or controlling movement and/or output devices. *Id*. at 1:14-27, 2:5-3:14, 3:62-7:12, & 7:64-8:30. Rather, it comprises the specific aspects noted herein which provided the noted inventive, technological solutions to the problems faced by the inventors. Specifically, as noted herein, the claimed inventions provide inventive, unconventional, and technological solutions to the conventional problems of allowing a user to process information by learning, creating, or being entertained while moving through coordination, exercise, or physiotherapy, and that aids the user by providing feedback or assistance related to that movement, processing, or any

combination thereof. *Id*. at Abstract; 2:13-19.

b. The '285 Claimed Inventions Could not be Done Manually or in One's Head

120. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

121. A POSITA would understand that the claimed solutions could not be done manually, including because they necessarily require implementation via specialized, or specially programmed, computers, including one or more sensor relays, output devices, movement devices, media devices, audio devise, audio sensors, visual sensors, and/or tactile sensors, and, further, including at least one or more sensor relays for detecting information related to one or more user control factors, sending one or more signals to one or more other sensor relays, output devices, or movement devices, detecting information related to the user, ending a signal to any of the oner or more other sensor relays, output devices, or movement devices, and/or relaying the signal sent to the sensor relay, to one or more other sensor relays, output devices, or movement devise measured against one or more default or user defined set points; one or more output devices for translating and/or communicating said signals to a decision maker as measured against one or more default or user defined set points; and/or movement devices being altered based on the signals measured against one or more default or user defined set points. *Id*. at Claims 1 & 4; Abstract; Figs. 1-6; 1:14-27, 2:5-3:14, 3:62-7:12, & 7:64-8:30. More specifically, these specialized, or specially programmed, computers and/or other devices, *inter alia*, permit the providing feedback for improved operation of a movement device, including based on specific pre-programmed and/or user-selectable control factors, including via collecting and receiving sensor data, analyzing sensor data, providing instructions, and/or controlling movement and/or output devices. *Id*.

122. Nor can the claimed solutions be performed in a person's head. Furthermore, for example, the constant connectivity between devices required for collecting and retrieving sensor data and

sending information to the movement devices and/or output devices is not something that could be done manually or in one's head. Nor, for example, is the adjusting of the speed and/or other physical characteristics of a movement device something that could be done manually or in one's head.

2. The '285 Claimed Inventions Provide Innovative, Unconventional Concepts and Technological Solutions

123. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

124. In sum, including as noted herein, the claimed technologies of the Patent-in-Suit improved, *inter alia*, prior computer, data communication, movement, sensor, output, and related technology, including in connection with, among other things:

a. Improving and increasing the efficiencies of the claimed inventions, including over inferior alternative means for achieving the same or similar ends of communicating data, including by enabling the communication of sensor data to the user and/or other operator of a movement device and/or the movement device, thus enabling a feedback loop enabling the automatic adjustment of the movement device. *See, e.g.*, '285/Abstract; 2:32-43; 48-3:14; 4:2-26; 4:36-51; 5:23-38; 5:52-57; 5:63-67; 6:27-29; 6:41-7:12; 7:28-45; 7:64-8:1; & 8:11-30.

b. Leveraging the capabilities of already-existing devices (including through use of custom hardware and/or software), including by creating the ability for these devices, e.g., output devices, sensor relays, computer processors, and movement devices, to interact and/or communicate with one another to, *inter alia*, greatly enhance the functionality of movement device systems, including because this interconnectivity permits the communication of information relating to the user and/or the user's use of the devices. *See, e.g.*, '285/Abstract; 2:32-43; 48-3:14; 4:2-26; 4:36-51; 5:23-38; 5:52-57; 5:63-67; 6:27-29; 6:41-7:12; 7:28-45; 7:64-8:1; & 8:11-30.

125. The '285 patented inventions also provide improved movement device efficiency and usability at least because they permit the automatic adjustment of the speed, incline, or other variable of the movement device as related to specific information of the user and/or the user's use of the device, such as heart rate, breathing, or other information, including via, *inter alia*, receiving a signal from any of the one or more sensor relays, including via detecting the information related

to the user; analyzing the detected information against one or more default and/or user-defined set points or specified criteria; and either sending a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points, or sending a signal to any of the movement devices, controlling said movement devices based on said analysis for at least signaling the user to adjust their movement, including via outputting the information to the user via an output device, and/or causing the movement device to adjust itself automatically. *See id*. at Claims 1 & 4; 2:32-43; 48-3:14; 4:2-26; 4:36-51; 5:23-38; 5:52-57; 5:63-67; 6:27-29; 6:41-7:12; 7:28-45; 7:64-8:1; & 8:11-30. Thus, this necessarily increased and improved the functionality of these devices, including the ways a user could operate the devices and/or the benefits received by the user from the use of such devices, while retaining a consistent, reliable (yet vastly improved) user experience, including by utilizing the feedback loop systems, interconnectivity of devices, and/or automatic adjustability, including as described in the ’285 Patent. The inventors did more than simply apply current technology to an existing problem. The inventions, as embodied in the claims of the ’285 Patent, were a significant advancement in movement device systems and methods. The inventions covered by the claims of the ‘285 Patent comprise utilization of the sensor relay and output device technologies to create a novel architecture for providing a feedback loop and automated adjustability of movement devices based on specified criteria, such as the user’s biometric information – something that, to this day, is simply not done on any large scale with respect to user devices.

126. These noted improvements over the prior art represent meaningful limitations and/or inventive concepts based upon the state of the art nearly a decade ago. Further, including in view of these specific improvements, the inventions of the claims of the ’285 Patent, when such claims are viewed as a whole and in ordered combination, were not, nor are, routine, well-understood, conventional, generic, existing, commonly used, well known, previously known, typical, and the

like nearly a decade ago, including because, until the inventions of the claims of the Patent-in-Suit, the claimed inventions were not existing or even considered in the field, and, in fact, went against the conventional methods.

127. The claims of the '285 Patent, including as a whole and where applicable in ordered combination, comprise, *inter alia*, a non-conventional and non-generic arrangement of communications between user equipment, intermediate servers, and destination data servers that is a technical improvement to the communications between these devices as operated in a conventional manner, including those improvements noted herein.

128. The claimed inventions are necessarily rooted in computer technology, *i.e.*, computer processing technology, sensor relay technology, and data communication technology, and comprise improvements over prior technologies in order to overcome the problems, including those noted herein, specifically arising in the realm of these technologies. The claimed solutions amount to an inventive concept for resolving the particular problems and inefficiencies noted herein, including in connection to data communications between movement devices, output devices, and sensor relays, including as described.

129. As opposed to using conventional systems and methods, such as those described in the '285 Patent and herein, the unconventional solutions provided have specific advantages over prior art systems, including allowing the user's speed to significantly differ from the movement device's speed, without the user having to run into a portion of the device or fall off of the device. *See id*. at 5:57-60. Moreover, these unconventional solutions improved the related technologies, including by granting the user more flexibility in movement than standard movement devices. *See id*. at 5:61-62.

3. The Claims of the Patent-in-Suit do not Unreasonably Preempt their Respective Fields

130. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the

above paragraphs as if set forth fully herein.

131. Including as noted herein, the ’285 Patent does not claim merely the abstract idea of sending information from sensors to other devices that provides no inventive concept. Instead, the ’285 Patent claims specific methods and systems for improving the ability of movement devices, and their users, to adjust the movement device and/or the user’s use of the device, including via the use of connectivity between sensor devices which track various aspects of the user and/or the device, provides that information to the user and/or the device, and is used for, *inter alia*, adjusting, including automatically, the movement device or to permit the user to adjust their use of the device in order to meet specific criteria set by the user and/or other operator. Such specific, narrow improvements include, *inter alia*, receiving a signal from any of the one or more sensor relays, including via detecting the information related to the user; analyzing the detected information against one or more default and/or user-defined set points or specified criteria; and either sending a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points, or sending a signal to any of the movement devices, controlling said movement devices based on said analysis for at least signaling the user to adjust their movement, including via outputting the information to the user via an output device, and/or causing the movement device to adjust itself automatically. *See id*. at Claims 1 & 4; 2:32-43; 48-3:14; 4:2-26; 4:36-51; 5:23-38; 5:52-57; 5:63-67; 6:27-29; 6:41-7:12; 7:28-45; 7:64-8:1; & 8:11-30. Moreover, despite these various improvements over the prior art, infringement of the patent claims can be readily avoided while still practicing any alleged abstract idea, given that the patent claims do not purely read on any alleged abstract idea. Indeed, the claims of the ’285 Patent do not operate in a similar manner as in the prior art, but, instead, provide those specific improvements noted herein, including the use of a feedback loop and the interconnectivity between the devices, such that the movement device and/or the user may adjust the user’s use of

the movement device, including based on specific criteria as discussed extensively herein.

132. For example, detecting and receiving signals using sensor relays for use in comparing and analyzing said signal information against default and/or user-defined set points for use in controlling or communicating with other sensor relays, output devices, and/or movement devices may be practiced outside of the limited claimed scope of the patented inventions at least by:

a. The use of a system such as that described in the *Hewes* reference (U.S. Patent No. 3,281,964), cited by the examiner;

b. The use of a system such as that described in the *Andrus* reference (U.S. Patent No. 5,591,104), cited by the examiner;

c. The use of a system such as that described in the *Corkum* reference (U.S. Patent No. 5,984,839), cited by the examiner;

d. The use of a system such as that described in the *Watterson* reference (U.S. Patent No. 6,458,060), cited by the examiner;

e. The use of a system such as that described in the *McClure* reference (U.S. Patent No. 6,902,513), cited by the examiner;

f. The use of a system such as that described in the *Rivera* reference (U.S. Patent No. 7,044,891), cited by the examiner;

g. The use of a system such as that described in the *Dugan* reference (U.S. Patent No. 8,939,831), cited by the examiner;

h. The use of a system such as that described in the *Bilang* reference (U.S. Patent No. 8,992,383), cited by the examiner;

i. The use of a system such as that described in the *Brontman* reference (U.S. Patent No. 9,358,422), cited by the examiner;

j. The use of a system such as that described in the *Stewart* reference (U.S. Patent Publication No. 2003/0,017,913), cited by the examiner;

k. The use of a system such as that described in the *Watterson* reference (U.S. Patent Publication No. 2006/0,205,566), cited by the examiner;

l. The use of a system such as that described in the *Lucas* reference (U.S. Patent Publication No. 2007/0,060,451), cited by the examiner;

m. The use of a system such as that described in the *Watterson* reference (U.S. Patent Publication No. 2012/0,237,911), cited by the examiner;

n. The use of a system such as that described in the *Watterson* reference (U.S. Patent Publication No. 2013/0,288,223), cited by the examiner;

o. The use of a system such as that described in the *Clarke* reference (U.S. Patent Publication No. 2014/0,190,789), cited by the examiner;

p. The use of a system wherein the user can stop operation of the movement device, view sensor information, make adjustments, and resume operation.

q. The use of a large, separate screen to show the user information.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 9,818,285 BY PRECOR

133. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

134. Plaintiff is the assignee of the ’285 Patent and it has all substantial rights to the ’285 Patent, including the right and standing to sue, and recover damages, for past, present, and future infringement of the patent.

135. Claim 1 of the ’285 Patent covers a “method of receiving sensory feedback while moving involving: one or more sensor relays; any number of output devices; any number of movement devices; and one or more computer processors that: receive a signal from any of the one or more sensor relays, detecting the information related to the user; analyze the detected information against one or more default or user defined set points; and either: send a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points; or send a signal to any of the movement devices, controlling said movement devices based on said analysis.”

136. Claim 4 of the ‘285 Patent covers an “apparatus comprising: one or more sensor relays; and either: one or more output devices; or one or more movement devices; wherein said sensor relay may detect information related to one or more user control factors; and wherein said sensor relay may send one or more signals to one or more other sensor relays, output devices or movement

devices; said output devices translating and communicating said signals to a decision maker as measured against one or more default or user defined set points; said movement devices altering based on said signal measured against one or more default or user defined set points; or said other sensor relays detecting information related to the user and sending a signal to any of the one or more other sensor relays, output devices, or movement devices, or relaying the signal sent to it, to one or more other sensor relays, output devices, or movement devices measured against one or more default or user defined set points."

137. Precor has infringed, and is now infringing, the '285 Patent, including at least claims 1 and 4, in this judicial district and elsewhere, in violation of 35 U.S.C. § 271 through actions comprising the practicing, without authority from Plaintiff, methods and apparatuses for receiving sensory feedback while moving and having either instructions for changing the user's use or the moveable portions of the device controlled via signals to corresponding portions of the device based on information input, detected, and/or analyzed by sensor relays, via Precor's TRM apparatus, including as claimed in the '285 asserted claims. On information and belief, Precor practices the claimed methods and provides the claimed apparatuses with and via its TRM apparatuses, and services related thereto, including, without limitation, its TRM 445 Treadmill, and services related thereto.

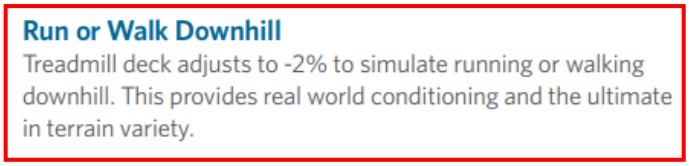
138. Without limitation, and for example, the accused instrumentality comprising the TRM apparatus practices said methods of receiving sensory feedback while moving involving: one or more sensor relays; any number of output devices; any number of movement devices; and one or more computer processors that: receive a signal from any of the one or more sensor relays, detecting the information related to the user; analyze the detected information against one or more default or user defined set points; and either: send a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or

more set points; or send a signal to any of the movement devices, controlling said movement devices based on said analysis.

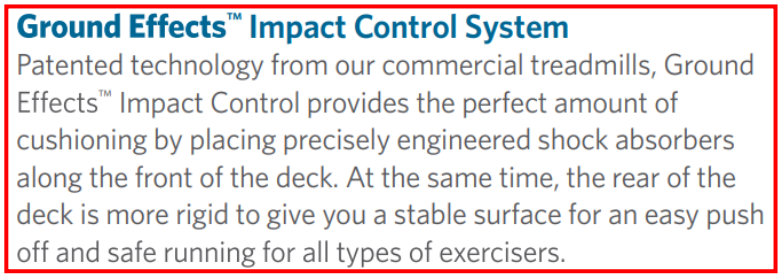
139. Without limitation, and for example, the accused instrumentality comprising the TRM apparatus comprises an apparatus comprising: one or more sensor relays; and either: one or more output devices; or one or more movement devices; wherein said sensor relay may detect information related to one or more user control factors; and wherein said sensor relay may send one or more signals to one or more other sensor relays, output devices or movement devices; said output devices translating and communicating said signals to a decision maker as measured against one or more default or user defined set points; said movement devices altering based on said signal measured against one or more default or user defined set points; or said other sensor relays detecting information related to the user and sending a signal to any of the one or more other sensor relays, output devices, or movement devices, or relaying the signal sent to it, to one or more other sensor relays, output devices, or movement devices measured against one or more default or user defined set points.

140. Further, the TRM apparatus comprises methods and apparatuses which comprise hardware, firmware, software, code, and/or data, including implemented via a software and/or similar application for at least use and/or access by computers, mobile devices, and/or similar devices, wherein the software application is obtained via Precor, along with specific hardware (*e.g.*, a user device, computer, and/or server) in communication with each other and configured for use with the software application, wherein the software application is executed on the hardware, including for enabling and/or facilitating the increasing of bandwidth available to the user device for data communications, including via the selective enabling and disabling of radio access technologies of the user device, for example:

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf



See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf



See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

SPECIFICATIONS

Motor:	3.0 HP Continuous Duty
Deck:	Phenolic surface, 1" / 2.54 cm fiberboard, reversible
Deck Elevation Range:	2% Decline to 15% Incline
Speed Range:	0.5 - 12.0 mph / 0.8 - 19.3 kph
Running Surface:	22" W x 56" L / 56 cm W x 142 cm L
Handrails:	Full length SofTouch™
Heart Rate Monitoring*:	Touch sensor and wireless with any Polar® compatible chest strap transmitter
Number of Workout Metrics:	27
Preset Workouts:	23 + 16 exerciser created
User IDs:	4

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Integrated Footplant Technology™

Exclusive to Precor and used on all of our commercial models, Integrated Footplant Technology™ reduces stress on your knees, ankles and hips by instantaneously adjusting the belt speed to match the slowing and accelerating natural movement of your foot as you run or walk.

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Getting Accurate Heart Rate Readings

Precor cannot guarantee the accuracy of any readings you may get, but for best results, heart rate sensors need to be securely in contact with your skin. Use the following guidelines to make sure they are.

Note: You may have better results using a chest transmitter strap.

See, e.g., Precision™ & Energy™ SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

141. The TRM apparatus comprises one or more sensor relays, including, for example, at least an attached heart rate monitor (*e.g.*, one or more sensor relays). Including as presently understood, the TRM apparatus comprise a user's use of Precor's Tread device and Precor's Heart Rate Monitor and/or Precor's Heart Rate Band, which, when used in operation together, provide information related to, *inter alia*, the user, where said operation may occur, *inter alia*, via wireless

connectivity (*e.g.*, ANT+ and/or Bluetooth) between the Precor Heart Rate Monitor or Precor Heart Rate Band and the Precor Tread device and/or via connection between the Precor Mobile Application, for example:

SPECIFICATIONS

Motor:	3.0 HP Continuous Duty
Deck:	Phenolic surface, 1" / 2.54 cm fiberboard, reversible
Deck Elevation Range:	2% Decline to 15% Incline
Speed Range:	0.5 - 12.0 mph / 0.8 - 19.3 kph
Running Surface:	22" W x 56" L / 56 cm W x 142 cm L
Handrails:	Full length SofTouch™
Heart Rate Monitoring*:	Touch sensor and wireless with any Polar® compatible chest strap transmitter
Number of Workout Metrics:	27
Preset Workouts:	23 + 16 exerciser created
User IDs:	4

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Precor cannot guarantee the accuracy of any readings you may get, but for best results, measure your heart rate in one of two ways:

- If you have a chest strap (for use with a fitness watch, for example), the equipment can receive the heart rate signal the strap transmits.
- You can grasp the heart rate sensors on the handlebars.

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

Product Features

Ground Effects™	Saved Custom Workouts
Integrated Footplant Technology®	Heart Rate Telemetry (chest strap)
Capacitive Touch Display	Heart Rate Touch Sensors
SmartRate®	USB Device Charging
QuickStart™	USB Software Upgrades

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

142. The TRM apparatus comprises any number of output devices, including, for example, at least a touchscreen display device (*e.g.*, an output device). Including as presently understood, the

TRM apparatus comprises a touchscreen display device which, *inter alia*, permits the TRM Apparatus to provide, *inter alia*, output to the user, *e.g.*, displaying information (including, for example, biometric information) about the user and/or instructions for the user, for example:

Number of Workout Metrics:	27
Preset Workouts:	23 + 16 exerciser created
User IDs:	4
Console Display:	7" color LCD graphic display
Speed & Deck Elevation Controls:	Lever style Motion Controls
Dimensions:	79" L x 34" W x 60" H 204 cm L x 86 cm W x 151 cm H

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Preset Workouts and Customizable Display
Personalize your workout with 23 preset workouts and 16 that you create. Customize the capacitive touch display to show the data most important to you.

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

SmartRate® Target Heart Zone
When age and weight are entered, SmartRate displays when the exerciser's heart rate is in the fat burn, cardio or peak target zone.*

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Shows that the exercise workout is paused. Pressing the button again ends the workout and displays the workout summary. Pressing it a third time returns the user to the home screen.

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

Figure 7: Controls and display areas

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

Area	Purpose
1	The **display screen** shows you what the equipment is currently doing and how you are using it. As you work with the equipment, the available options appear next to the buttons along the left and right edges of this area. If you've connected a player to the console and are using it while you work out, the current track information appears along the top edge. **Note:** You must use your player's screen to display video, but you can play its audio portion through the console.

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

The following figure shows how the home screen appears on the console. All eight buttons are active, and the name of each button appears next to it.

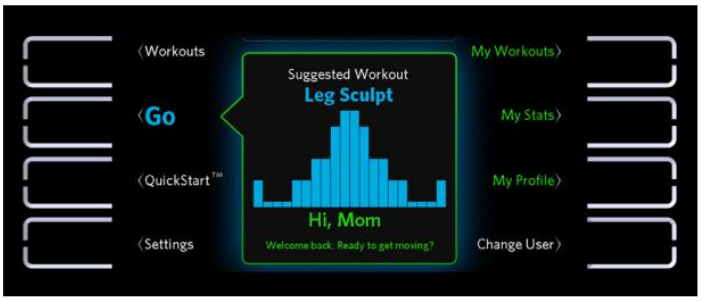


Figure 8: Home screen and capacitive buttons

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

143. The TRM apparatus comprises any number of movement devices, including, for example, at least a treadmill device with a standard running belt (*e.g.*, a movement device). Including as presently understood, the TRM apparatus comprises a treadmill device with a standard running belt which, *inter alia*, permits the TRM Apparatus to provide, *inter alia*, a rotating and moving platform upon which the user can stand, run, and/or walk, for example:

SPECIFICATIONS

Motor:	3.0 HP Continuous Duty
Deck:	Phenolic surface, 1" / 2.54 cm fiberboard, reversible
Deck Elevation Range:	2% Decline to 15% Incline
Speed Range:	0.5 - 12.0 mph / 0.8 - 19.3 kph
Running Surface:	22" W x 56" L / 56 cm W x 142 cm L
Handrails:	Full length SofTouch™
Heart Rate Monitoring*:	Touch sensor and wireless with any Polar® compatible chest strap transmitter
Number of Workout Metrics:	27
Preset Workouts:	23 + 16 exerciser created
User IDs:	4
Console Display:	7" color LCD graphic display
Speed & Deck Elevation Controls:	Lever style Motion Controls

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Integrated Footplant Technology™
Exclusive to Precor and used on all of our commercial models, Integrated Footplant Technology™ reduces stress on your knees, ankles and hips by instantaneously adjusting the belt speed to match the slowing and accelerating natural movement of your foot as you run or walk.

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Ground Effects™ Impact Control System
Patented technology from our commercial treadmills, Ground Effects™ Impact Control provides the perfect amount of cushioning by placing precisely engineered shock absorbers along the front of the deck. At the same time, the rear of the deck is more rigid to give you a stable surface for an easy push off and safe running for all types of exercisers.

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Run or Walk Downhill
Treadmill deck adjusts to -2% to simulate running or walking downhill. This provides real world conditioning and the ultimate in terrain variety.

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

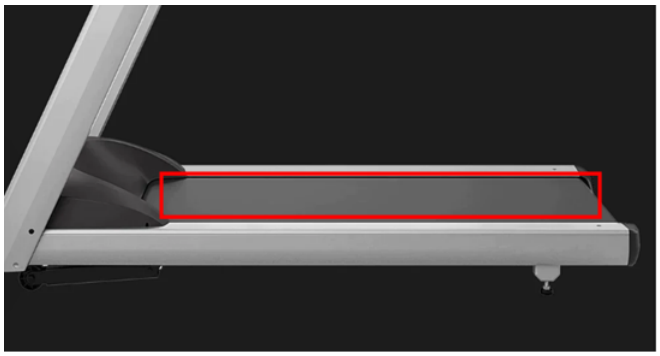
See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

See, e.g., TRM 445 TREADMILL page at https://static.precor.com/precor-at-home/Precor-TRM-445-Treadmill.pdf

Maintain the equipment in good working condition (refer to *Maintenance*). Make sure that all fasteners are secure and the running belt is clean and running smoothly.

Before the running belt begins moving (before your workout), and after it stops (at the end of your workout), straddle the belt by placing your feet firmly on the right and left staging platforms.

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

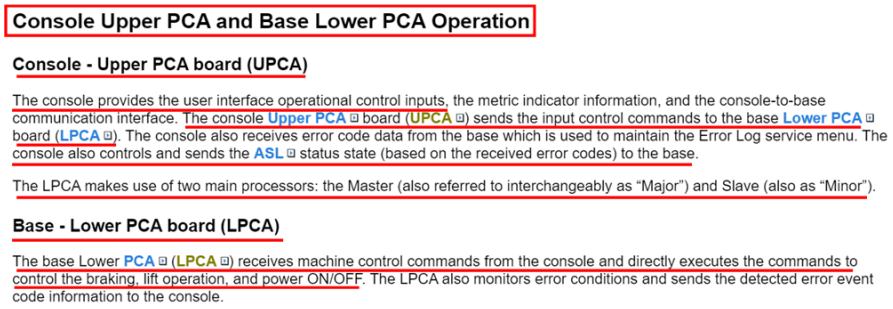


INTEGRATED FOOTPLANT TECHNOLOGY

Most treadmill belts run at a steady speed making them feel too treadmill-y. Our patented technology controls the belt's rate of deceleration when you plant your foot and the rate of acceleration when you push off making it feel as though you're running on a natural surface.

See, e.g., Precor TRM 445 Treadmill https://www.precorhomefitness.com/products/precor-trm-445-treadmill

144. The TRM apparatus comprises one or more computer processors, including, for example, at least a processor (*e.g.*, a computer processor) built into the touchscreen display device. Including as presently understood, the TRM apparatus comprises a computer processor, including at least a processor built in, and/or contained within, the touchscreen display device, which, *inter alia*, performs specific functionality for, *inter alia*, at least receiving sensory feedback while moving and either instructing the decision maker or controlling the moveable portions of the device via signals to corresponding portions of the device based on information input, detected, and/or analyzed by sensor relays, for example:



Console Upper PCA and Base Lower PCA Operation

Console - Upper PCA board (UPCA)

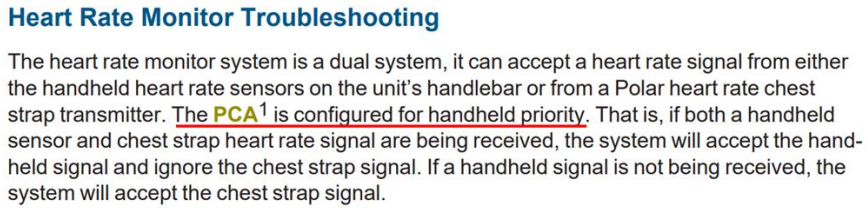
The console provides the user interface operational control inputs, the metric indicator information, and the console-to-base communication interface. The console Upper PCA board (UPCA) sends the input control commands to the base Lower PCA board (LPCA). The console also receives error code data from the base which is used to maintain the Error Log service menu. The console also controls and sends the ASL status state (based on the received error codes) to the base.

The LPCA makes use of two main processors: the Master (also referred to interchangeably as "Major") and Slave (also as "Minor").

Base - Lower PCA board (LPCA)

The base Lower PCA (LPCA) receives machine control commands from the console and directly executes the commands to control the braking, lift operation, and power ON/OFF. The LPCA also monitors error conditions and sends the detected error event code information to the console.

See, *e.g.*, Console Upper PCA and Base Lower PCA Operation page at https://precor-articulate.s3.amazonaws.com/ServiceManuals/SM-HTML5Output/TRM700-16Base/content/sourcetopics/theoryofoperation.htm



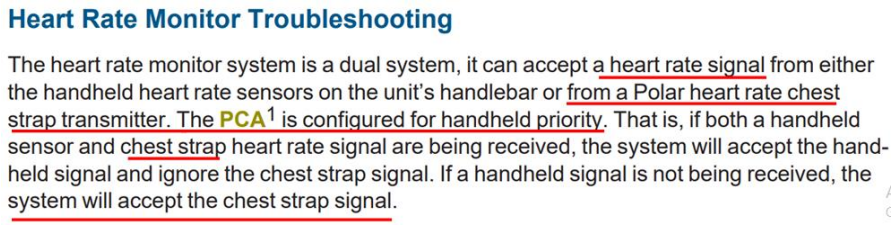
Heart Rate Monitor Troubleshooting

The heart rate monitor system is a dual system, it can accept a heart rate signal from either the handheld heart rate sensors on the unit's handlebar or from a Polar heart rate chest strap transmitter. The PCA[1] is configured for handheld priority. That is, if both a handheld sensor and chest strap heart rate signal are being received, the system will accept the hand-held signal and ignore the chest strap signal. If a handheld signal is not being received, the system will accept the chest strap signal.

See, *e.g.*, Service Manual Precision™ Series 400 line TRM400-14/18 Treadmills page at https://precor.mcoutput.com/1374620/TRM400-14_BaseServiceManual_20081-123.pdf

145. The TRM apparatus comprises the processor, *inter alia*, receiving a signal from any of the one or more sensor relays detecting the information related to the user, including, for example, receiving, via use of electronic and/or wireless signals (*e.g.*, receive a signal), information provided by the attached heart rate monitor (*e.g.*, a sensor relay), including, *inter alia*, information related to the heart rate of the user (*e.g.*, information related to the user) which is, *inter alia*, obtained by

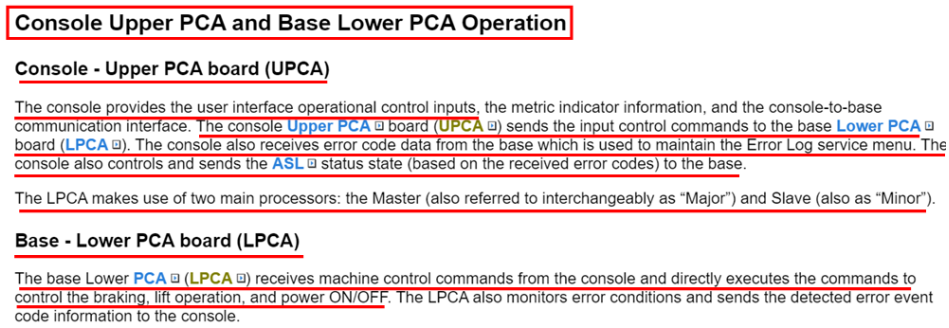
the processor (*e.g.*, detected). Including as presently understood, the TRM apparatus permits the attachment of a heart rate monitor, *e.g.*, a Precor Heart Rate Monitor or Precor Heart Rate Band, for use with the Precor Tread device, including via the use of a wireless connection (*e.g.*, ANT+ and/or Bluetooth), including in combination with the Precor Mobile Application, and, subsequently, the heart rate monitor transmits, *inter alia*, the user's heart rate information to the processor of the treadmill device via electronic and/or wireless signals. Once connected, and when in operation and worn by the user, the heart rate monitor tracks, *inter alia*, the heart rate of the user. Including as presently understood, this information is transmitted to the Precor Tread device via the wireless connection where it is, in turn, transmitted to the processor for, *inter alia*, processing for use by the TRM apparatus, including wherein the processor receives this information via electrical signal from the corresponding electronics of the wireless connection circuitry (*e.g.*, ANT+ and/or Bluetooth chip), such that the attached and connected heart rate monitor tracks the heart rate of the user, for example:



Heart Rate Monitor Troubleshooting

The heart rate monitor system is a dual system, it can accept a heart rate signal from either the handheld heart rate sensors on the unit's handlebar or from a Polar heart rate chest strap transmitter. The PCA[1] is configured for handheld priority. That is, if both a handheld sensor and chest strap heart rate signal are being received, the system will accept the hand-held signal and ignore the chest strap signal. If a handheld signal is not being received, the system will accept the chest strap signal.

See, *e.g.*, Service Manual Precision™ Series 400 line TRM400-14/18 Treadmills page at https://precor.mcoutput.com/1374620/TRM400-14_BaseServiceManual_20081-123.pdf



Console Upper PCA and Base Lower PCA Operation

Console - Upper PCA board (UPCA)

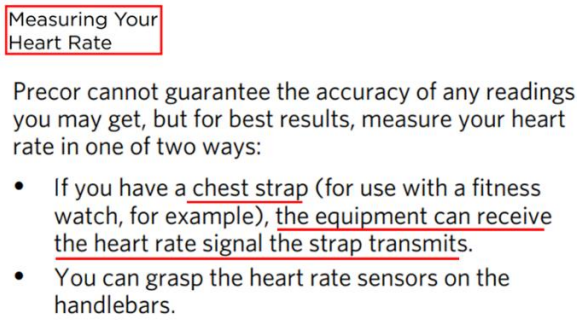
The console provides the user interface operational control inputs, the metric indicator information, and the console-to-base communication interface. The console Upper PCA board (UPCA) sends the input control commands to the base Lower PCA board (LPCA). The console also receives error code data from the base which is used to maintain the Error Log service menu. The console also controls and sends the ASL status state (based on the received error codes) to the base.

The LPCA makes use of two main processors: the Master (also referred to interchangeably as "Major") and Slave (also as "Minor").

Base - Lower PCA board (LPCA)

The base Lower PCA (LPCA) receives machine control commands from the console and directly executes the commands to control the braking, lift operation, and power ON/OFF. The LPCA also monitors error conditions and sends the detected error event code information to the console.

See, *e.g.*, Console Upper PCA and Base Lower PCA Operation page at https://precor-articulate.s3.amazonaws.com/ServiceManuals/SM-HTML5Output/TRM700-16Base/content/sourcetopics/theoryofoperation.htm

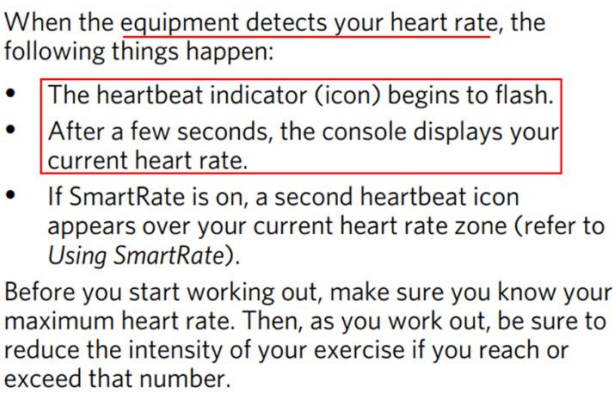


Measuring Your Heart Rate

Precor cannot guarantee the accuracy of any readings you may get, but for best results, measure your heart rate in one of two ways:

- If you have a chest strap (for use with a fitness watch, for example), the equipment can receive the heart rate signal the strap transmits.
- You can grasp the heart rate sensors on the handlebars.

See, e.g., Precision™ & Energy™ S E RIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf



When the equipment detects your heart rate, the following things happen:

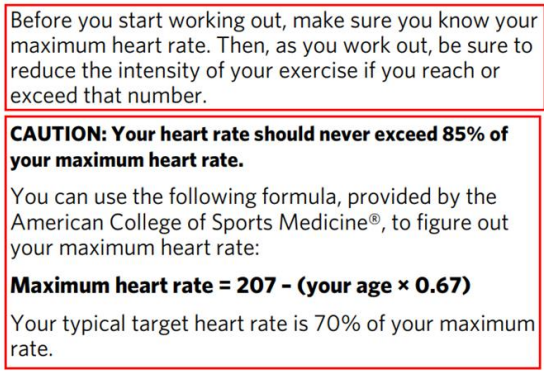
- The heartbeat indicator (icon) begins to flash.
- After a few seconds, the console displays your current heart rate.
- If SmartRate is on, a second heartbeat icon appears over your current heart rate zone (refer to *Using SmartRate*).

Before you start working out, make sure you know your maximum heart rate. Then, as you work out, be sure to reduce the intensity of your exercise if you reach or exceed that number.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

146. The TRM Apparatus comprises the processor (*see* above re one or more computer processors), *inter alia*, analyzing the detected information against one or more default or user defined set points, including, for example, comparing the received heart rate information for the user (*e.g.*, detected information) to specific heart rate levels selected by the user (*e.g.*, a user defined set point) and/or set by Precor as default values (*e.g.*, a default set point). Including as presently understood, the TRM apparatus permits the user to select specific heart rate levels or targets for use with training, classes, or other activities with the Precor Tread device, including, *inter alia*, what Precor refers to as "SmartRate," which correspond to different levels of effort, where the percentage ranges for each of these zones is calculated based on, *inter alia*, a heart rate value, which uses a default calculation or can be customized by the user. The TRM apparatus analyzes the detected heart rate information from the heart rate monitor and, *inter alia*, shows the

corresponding SmartRate number and colored bars on the touchscreen based on the values the treadmill device comprises for the user, for example:



Before you start working out, make sure you know your maximum heart rate. Then, as you work out, be sure to reduce the intensity of your exercise if you reach or exceed that number.

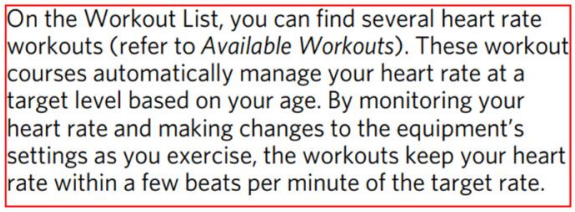
CAUTION: Your heart rate should never exceed 85% of your maximum heart rate.

You can use the following formula, provided by the American College of Sports Medicine®, to figure out your maximum heart rate:

Maximum heart rate = 207 – (your age × 0.67)

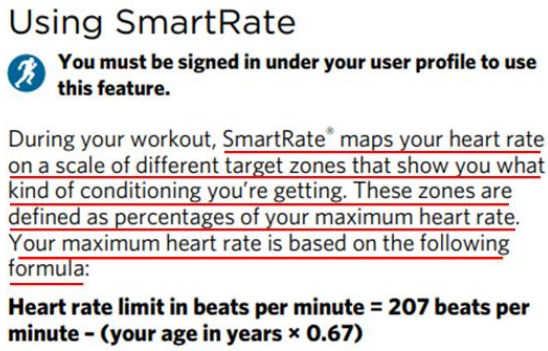
Your typical target heart rate is 70% of your maximum rate.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf



On the Workout List, you can find several heart rate workouts (refer to *Available Workouts*). These workout courses automatically manage your heart rate at a target level based on your age. By monitoring your heart rate and making changes to the equipment's settings as you exercise, the workouts keep your heart rate within a few beats per minute of the target rate.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf



Using SmartRate

You must be signed in under your user profile to use this feature.

During your workout, SmartRate® maps your heart rate on a scale of different target zones that show you what kind of conditioning you're getting. These zones are defined as percentages of your maximum heart rate. Your maximum heart rate is based on the following formula:

Heart rate limit in beats per minute = 207 beats per minute – (your age in years × 0.67)

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

The following table shows the percentage ranges for each zone.

Table 2. SmartRate zone boundaries

Heart Rate Range	SmartRate Zone
Less than 54% of limit	Warm-up
55%–69% of limit	Moderate (good for weight loss)
70%–84% of limit	High (good for cardiovascular conditioning)
Above 85% of limit	Maximum

CAUTION: Your heart rate should never exceed 85% of your maximum heart rate or go into the Maximum zone. If it does, reduce the intensity of your workout IMMEDIATELY.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

147. The TRM Apparatus comprises the processor (*see* above re one or more computer processors), *inter alia*, sending a signal to any of the output devices instructing the decision maker with feedback related to one or more control factors measured against one or more set points, which, *inter alia*, informs the instructor and/or user of the device (*e.g.*, instructs the decision maker) of specific information collected about the user for adjusting the user's use (*e.g.*, feedback related to one or more control factors) which are compared to certain specified criteria the user should be aiming for, such as a chosen heart rate target selected by the user and/or set by Precor as default values (*e.g.*, measured against one or more set points). Including as presently understood, the TRM Apparatus permits the user to select specific heart rate levels or targets for use with training, classes, or other activities with the Precor Tread device, including, *inter alia*, what Precor refers to as "Heart Rate Zones," which correspond to different levels of effort. The TRM Apparatus analyzes the detected heart rate information from the heart rate monitor and, *inter alia*, shows the corresponding Heart Rate Zone number and colored bars on the touchscreen based on the values the treadmill device comprises for the user so that the user may adjust their use of the Precor Tread device to increase or decrease their efforts (and, in turn, their heart rate) in order to match the set target heart rate, for example:

Measuring Your Heart Rate

Precor cannot guarantee the accuracy of any readings you may get, but for best results, measure your heart rate in one of two ways:

- If you have a chest strap (for use with a fitness watch, for example), the equipment can receive the heart rate signal the strap transmits.
- You can grasp the heart rate sensors on the handlebars.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

When the equipment detects your heart rate, the following things happen:

- The heartbeat indicator (icon) begins to flash.
- After a few seconds, the console displays your current heart rate.
- If SmartRate is on, a second heartbeat icon appears over your current heart rate zone (refer to *Using SmartRate*).

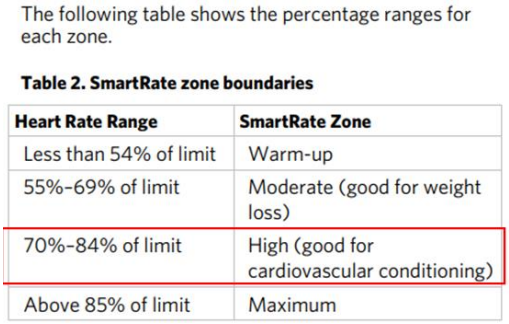
Before you start working out, make sure you know your maximum heart rate. Then, as you work out, be sure to reduce the intensity of your exercise if you reach or exceed that number.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

If SmartRate is on, you will see a heart rate indicator (♥) over the SmartRate zone bar during your workout. This indicator shows where your current heart rate falls within the active zone. You can then change the intensity of the workout to stay within the zone you want.

Figure 14: SmartRate zone bar

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

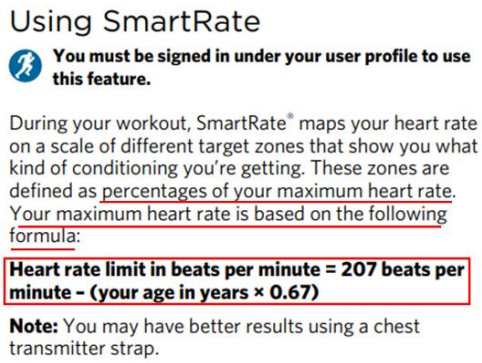


The following table shows the percentage ranges for each zone.

Table 2. SmartRate zone boundaries

Heart Rate Range	SmartRate Zone
Less than 54% of limit	Warm-up
55%–69% of limit	Moderate (good for weight loss)
70%–84% of limit	High (good for cardiovascular conditioning)
Above 85% of limit	Maximum

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf



Using SmartRate

You must be signed in under your user profile to use this feature.

During your workout, SmartRate® maps your heart rate on a scale of different target zones that show you what kind of conditioning you're getting. These zones are defined as percentages of your maximum heart rate. Your maximum heart rate is based on the following formula:

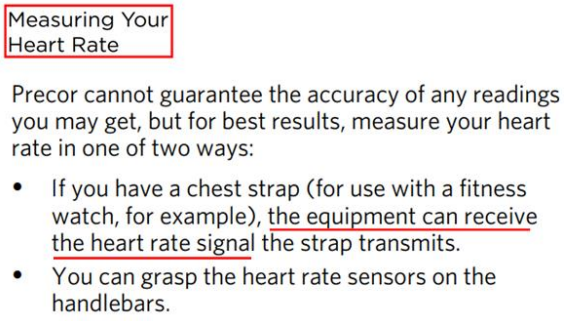
Heart rate limit in beats per minute = 207 beats per minute – (your age in years × 0.67)

Note: You may have better results using a chest transmitter strap.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

148. The TRM Apparatus comprises the processor, *inter alia*, sending a signal to any of the movement devices, controlling said movement devices based on said analysis, including, for example, *inter alia*, sending electronic signals (*e.g.*, sending a signal to any of the movement devices) which causes the treadmill to adjust the treadmill's speed, incline, or other aspect of the treadmill (*e.g.*, controlling said movement devices) in order to increase or decrease the efforts of the user based on the comparison to certain specified criteria the user should be aiming for, such as a chosen heart rate target selected by the user and/or set by Precor as default values (*e.g.*, based on said analysis). Including as presently understood, the TRM Apparatus permits the user to select specific heart rate levels or targets for use with training, classes, or other activities with the Precor Tread device, including, *inter alia*, what Precor refers to as "Heart Rate Zones," which correspond to different levels of effort. The TRM Apparatus analyzes the detected heart rate information from

the heart rate monitor and, *inter alia*, adjusts the speed or incline of the treadmill so that the user's use of the Precor Tread device is varied, including in order to increase or decrease their efforts (and, in turn, their heart rate) in order to match the set target heart rate, for example:

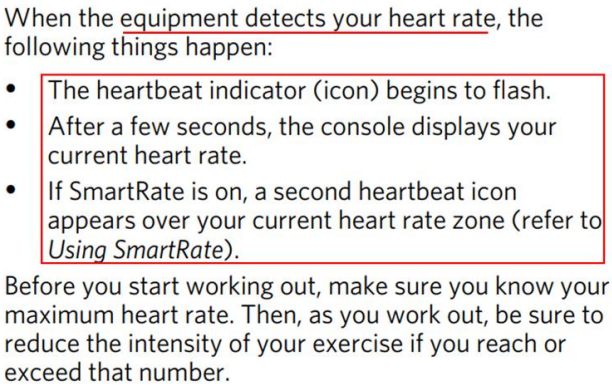


Measuring Your Heart Rate

Precor cannot guarantee the accuracy of any readings you may get, but for best results, measure your heart rate in one of two ways:

- If you have a chest strap (for use with a fitness watch, for example), the equipment can receive the heart rate signal the strap transmits.
- You can grasp the heart rate sensors on the handlebars.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

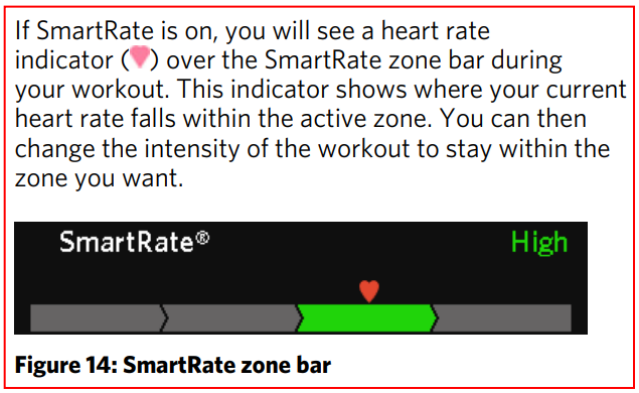


When the equipment detects your heart rate, the following things happen:

- The heartbeat indicator (icon) begins to flash.
- After a few seconds, the console displays your current heart rate.
- If SmartRate is on, a second heartbeat icon appears over your current heart rate zone (refer to *Using SmartRate*).

Before you start working out, make sure you know your maximum heart rate. Then, as you work out, be sure to reduce the intensity of your exercise if you reach or exceed that number.

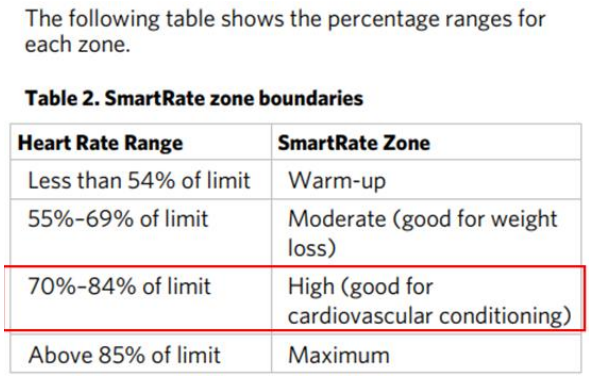
See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf



If SmartRate is on, you will see a heart rate indicator (♥) over the SmartRate zone bar during your workout. This indicator shows where your current heart rate falls within the active zone. You can then change the intensity of the workout to stay within the zone you want.

Figure 14: SmartRate zone bar

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf



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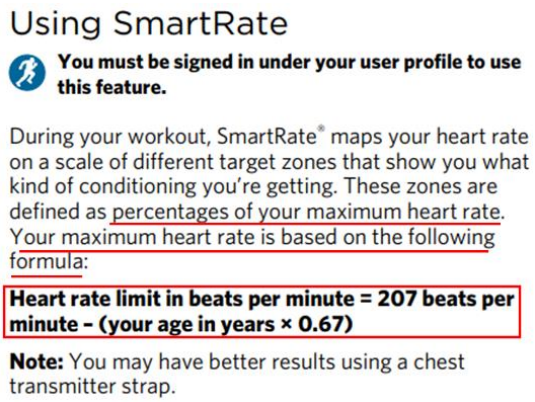

Using SmartRate

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Note: You may have better results using a chest transmitter strap.

See, e.g., Precision & Energy SERIES TREADMILLS TRM 445 page at https://static.precor.com/precor-at-home/legacy/303117-114_TRM_Owners_Manual_445_243_102518_ENU.pdf

149. Precor has directly infringed, and continues to directly infringe, the claims of the '285 Patent, including at least those noted above, including by making and using the TRM apparatus in violation of 35 U.S.C. § 271(a). Further, including at least to the extent Precor provides and/or supplies hardware and/or software, including software running on a user's computer and/or other device, the direct infringement of users that occurs in connection with Precor's applications and/or services occurs under the direction or control of Precor.

150. Additionally, and/or in the alternative, since receiving notice of the '285 Patent, including, if necessary, from this suit, Precor has induced, and continues to induce, infringement of the '285 Patent in this judicial district, and elsewhere, by actively inducing direct infringement of the '285 Patent, including by knowingly and actively aiding or abetting infringement by

customers and/or users, by and through at least instructing and encouraging the use of the PT products, services, and software noted herein, including the TRM apparatus. Such aiding and abetting comprises providing software, user devices, servers, and/or instructions regarding the use and/or operation of the TRM apparatus, applications, servers, and devices in an infringing manner. Such induced infringement has occurred since Precor became aware of the ’285 Patent, at a minimum, as noted herein, and the knowledge and awareness that such actions by customers and/or users comprise infringement of the ’285 Patent.

151. Additionally, and/or in the alternative, since receiving notice of the ’285 Patent, including, if necessary, from this suit, Precor has contributed, and continues to contribute, to infringement of the ’285 Patent in this judicial district, and elsewhere, by actions comprising contributing to at least the use of said products, software, and/or services noted herein, including the use of the TRM apparatus by customers and/or other end users. Such contributions necessarily comprises providing software, user devices, servers, and/or instructions regarding the use and/or operation of the TRM apparatus, applications, servers, and devices with the knowledge that such systems are especially made or especially adapted for use in an infringing manner and not a staple article or commodity of commerce suitable for substantial non-infringing use. Such contributory infringement has occurred since Precor became aware of the ’285 Patent, at a minimum, as noted herein, and the knowledge and awareness that such actions by customers and/or other end users comprise infringement of the ’285 Patent.

152. Precor has had at least constructive notice of the ’285 Patent since at least its issuance. Precor will have been on actual notice of the ’285 Patent since, at the latest, the service of this Complaint. By the time of trial, Precor will have known and intended (at least since receiving such notice) that its continued actions would actively induce and/or contribute to the infringement of the asserted claims of the ’285 Patent, including by customers and/or other end users.

153. The TRM apparatus clearly meets the asserted claim limitations in its normal and expected usage. On information and belief, normal and expected usage of the TRM apparatus by customers and/or end users satisfies the claim limitations for direct infringement. Further, at minimum, the provision of products, systems, and/or functionalities clearly capable of such infringing usage and/or provision of instructions/specifications for such infringing usage constitutes inducement of and/or contributing to directly infringing usage.

154. Further, as noted above, Precor is being made aware of infringement of the '285 Patent through use of the TRM apparatus at least via the infringement allegations set forth herein. Such direct, induced, and contributory infringement has been and remains clear, unmistakable, and inexcusable. On information and belief, Precor knew, knows, and/or should have known, of the clear, unmistakable, and inexcusable direct, induced, and/or contributory infringing conduct at least since receiving notice of the '285 Patent. Thus, on information and belief, Precor has, at least since receiving notice of the '285 Patent, specifically intended to directly and/or indirectly infringe, including via direct infringement of customers and/or end users.

155. Plaintiff believes and contends that, at a minimum, Precor's knowing and intentional post-suit continuance of its unjustified, clear, and inexcusable infringement of the '285 Patent since receiving notice of its infringement of the '285 Patent, is necessarily willful, wanton, malicious, in bad-faith, deliberate, conscious and wrongful, and it constitutes egregious conduct worthy of a finding of willful infringement. Accordingly, at least since receiving notice of this suit, Precor has willfully infringed the '285 Patent.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 10,454,285 BY PELOTON

156. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

157. Plaintiff is the assignee of the '285 Patent and it has all substantial rights to the '285

Patent, including the right and standing to sue, and recover damages, for past, present, and future infringement of the patent.

158. Claim 1 of the '285 Patent covers a "method of receiving sensory feedback while moving involving: one or more sensor relays; any number of output devices; any number of movement devices; and one or more computer processors that: receive a signal from any of the one or more sensor relays, detecting the information related to the user; analyze the detected information against one or more default or user defined set points; and either: send a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points; or send a signal to any of the movement devices, controlling said movement devices based on said analysis."

159. Claim 4 of the '285 Patent covers an "apparatus comprising: one or more sensor relays; and either: one or more output devices; or one or more movement devices; wherein said sensor relay may detect information related to one or more user control factors; and wherein said sensor relay may send one or more signals to one or more other sensor relays, output devices or movement devices; said output devices translating and communicating said signals to a decision maker as measured against one or more default or user defined set points; said movement devices altering based on said signal measured against one or more default or user defined set points; or said other sensor relays detecting information related to the user and sending a signal to any of the one or more other sensor relays, output devices, or movement devices, or relaying the signal sent to it, to one or more other sensor relays, output devices, or movement devices measured against one or more default or user defined set points."

160. Peloton has infringed, and is now infringing, the '285 Patent, including at least claims 1 and 4, in this judicial district and elsewhere, in violation of 35 U.S.C. § 271 through actions comprising the practicing, without authority from Plaintiff, methods and apparatuses for receiving

sensory feedback while moving and having either instructions for changing the user's use or the moveable portions of the device controlled via signals to corresponding portions of the device based on information input, detected, and/or analyzed by sensor relays, via Peloton's PT apparatus, including as claimed in the '285 asserted claims. On information and belief, Peloton practices the claimed methods and provides the claimed apparatuses with and via its PT apparatuses, and services related thereto, including, without limitation, its Peloton Tread device, and services related thereto.

161. Without limitation, and for example, the accused instrumentality comprising the PT apparatus practices said methods of receiving sensory feedback while moving involving: one or more sensor relays; any number of output devices; any number of movement devices; and one or more computer processors that: receive a signal from any of the one or more sensor relays, detecting the information related to the user; analyze the detected information against one or more default or user defined set points; and either: send a signal to any of the output devices, instructing the decision maker with feedback related to one or more control factors measured against one or more set points; or send a signal to any of the movement devices, controlling said movement devices based on said analysis.

162. Without limitation, and for example, the accused instrumentality comprising the PT apparatus comprises an apparatus comprising: one or more sensor relays; and either: one or more output devices; or one or more movement devices; wherein said sensor relay may detect information related to one or more user control factors; and wherein said sensor relay may send one or more signals to one or more other sensor relays, output devices or movement devices; said output devices translating and communicating said signals to a decision maker as measured against one or more default or user defined set points; said movement devices altering based on said signal measured against one or more default or user defined set points; or said other sensor relays

detecting information related to the user and sending a signal to any of the one or more other sensor relays, output devices, or movement devices, or relaying the signal sent to it, to one or more other sensor relays, output devices, or movement devices measured against one or more default or user defined set points.

163. Further, the PT apparatus comprises methods and apparatuses which comprise hardware, firmware, software, code, and/or data, including implemented via a software and/or similar application for at least use and/or access by computers, mobile devices, and/or similar devices, wherein the software application is obtained via Peloton, along with specific hardware (*e.g.*, a user device, computer, and/or server) in communication with each other and configured for use with the software application, wherein the software application is executed on the hardware, including for enabling and/or facilitating the increasing of bandwidth available to the user device for data communications, including via the selective enabling and disabling of radio access technologies of the user device, for example:

On-screen metrics

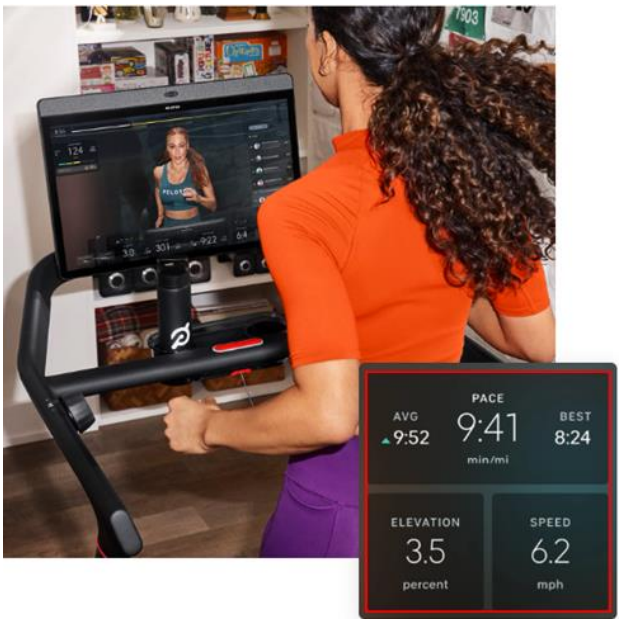
Track performance in class and over time with a range of connected metrics.

Real-time metrics

See in-class metrics like pace, incline, output, mileage, heart rate, and more.

Track progress over time

Check workout streaks, personal bests, goals achieved, and more.



Fill in every muscle with Body Activity

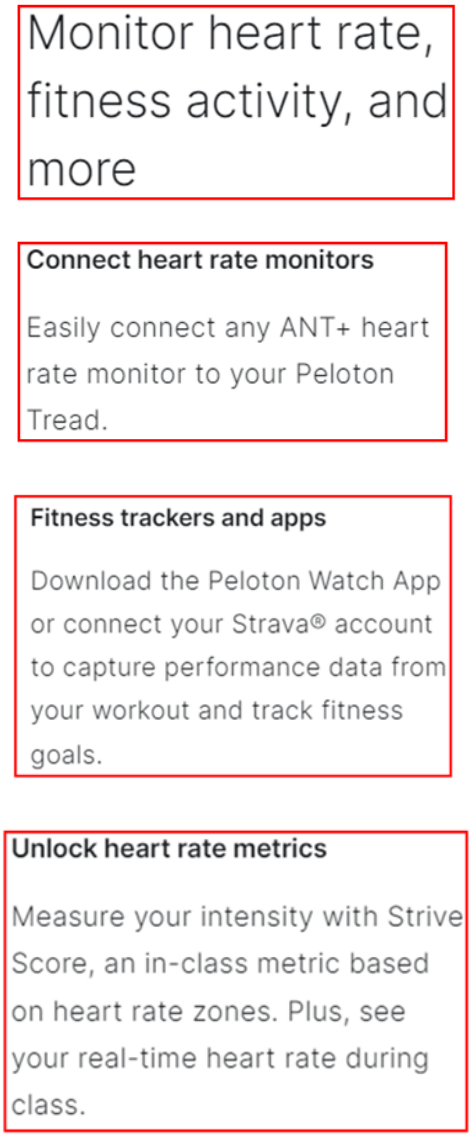
See the muscles you worked in class over the last 7 to 30 days.

Personalized recommendations

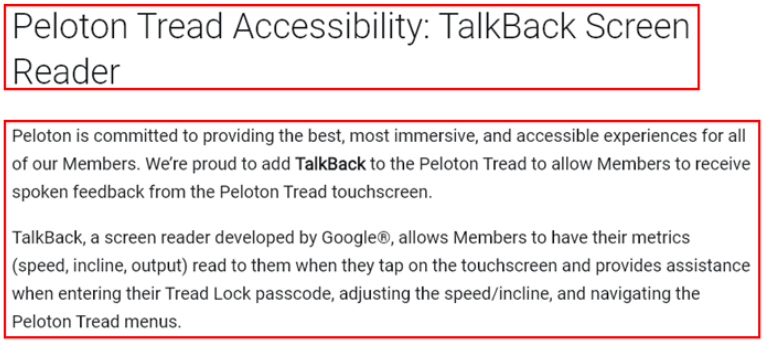
We'll show you classes that target the muscle groups you haven't filled in.

Find classes by muscle groups

Preview which exercises and muscle groups will be targeted in a class.



See, e.g., Peloton Tread features page at https://www.onepeloton.com/tread

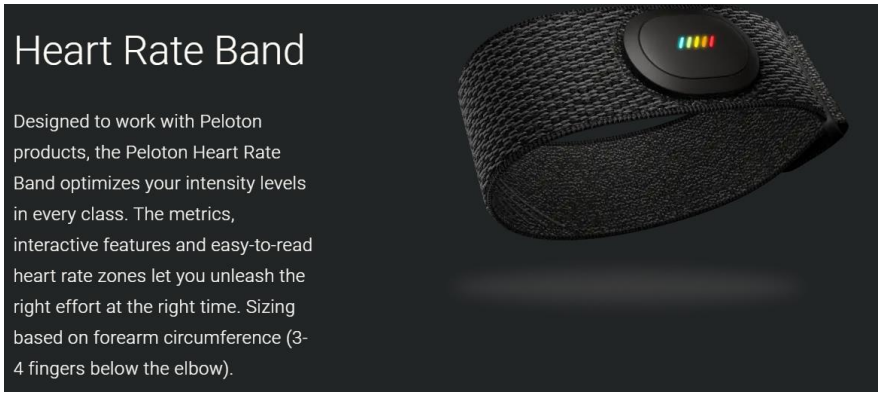


See, e.g., Peloton Tread Accessibility: TalkBack Screen Reader page at https://support.onepeloton.com/hc/en-us/articles/7290834742036-Peloton-Tread-Accessibility-TalkBack-Screen-Reader

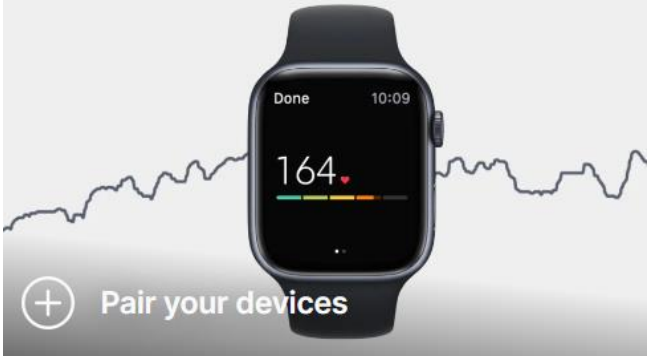
164. The PT apparatus comprises one or more sensor relays, including, for example, at least

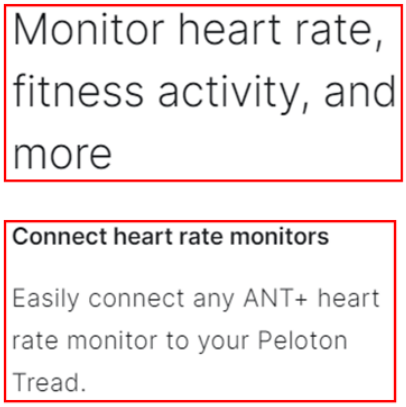
an attached heart rate monitor (*e.g.*, one or more sensor relays). Including as presently understood, the PT apparatus comprise a user's use of Peloton's Tread device and Peloton's Heart Rate Monitor and/or Peloton's Heart Rate Band, which, when used in operation together, provide information related to, *inter alia*, the user, where said operation may occur, *inter alia*, via wireless connectivity (*e.g.*, ANT+ and/or Bluetooth) between the Peloton Heart Rate Monitor or Peloton Heart Rate Band and the Peloton Tread device and/or via connection between the Peloton Mobile Application, for example:

See, e.g., Peloton Heart Rate Monitor page at https://www.onepeloton.com/shop/accessories/pl-hr-c-01

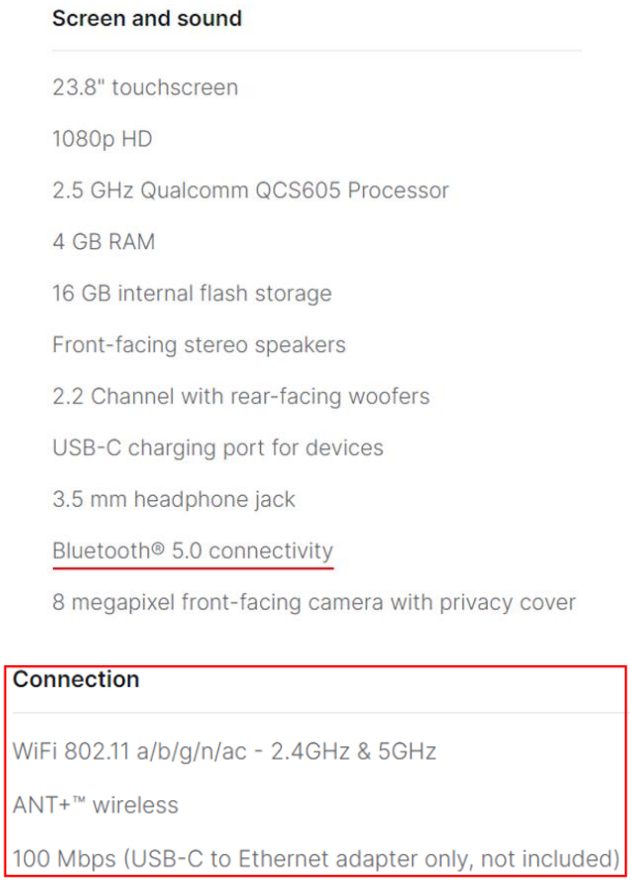


See, e.g., Peloton Heart Rate Band page at https://www.onepeloton.com/shop/accessories/heart-rate-band





See, e.g., Peloton Tread features page at https://www.onepeloton.com/tread



See, e.g., Peloton Tread Specifications page at https://www.onepeloton.com/tread/specs

PELOTON HEART RATE MONITORS

If you do not already own an ANT+ compatible heart rate monitor, you may **purchase the Peloton Heart Rate Band**.

Some known devices that are compatible with the Peloton are:

- Peloton Heart Rate Band
- Bluetooth® compatible Polar heart rate sensor straps
- Wahoo Tickr straps

See, e.g., Peloton Support page titled "Pairing A Heart Rate Monitor With Peloton Bikes and Treads" at https://support.onepeloton.com/hc/en-us/articles/203418895-Pairing-A-Heart-Rate-Monitor-With-Peloton-Bikes-and-Treads#h_01G92TE1E64WHEHP4D1R4WFWJC

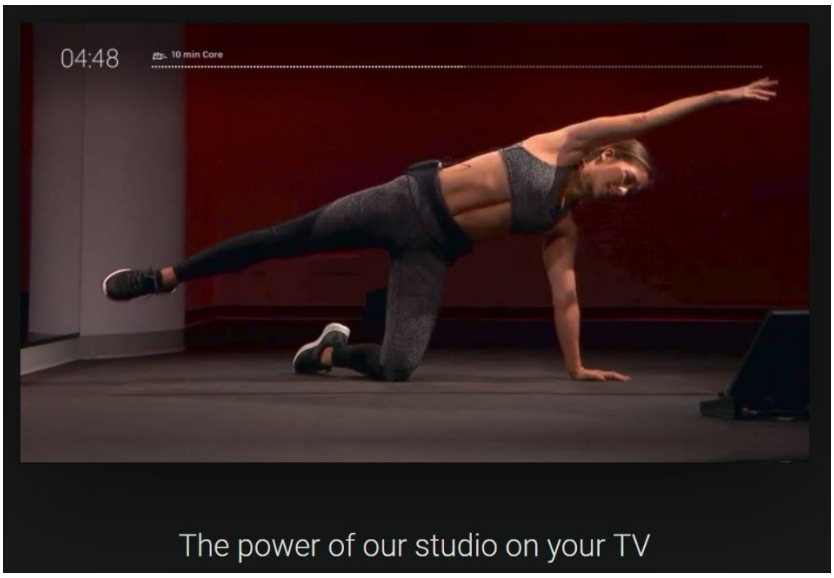
The Peloton Heart Rate Band is compatible with Bluetooth® connectivity to the following:

- Peloton Bike/Bike+
- Peloton Tread/Tread+
- Apple® iOS
- Android® Mobile
- Apple® TV
- Android® compatible devices

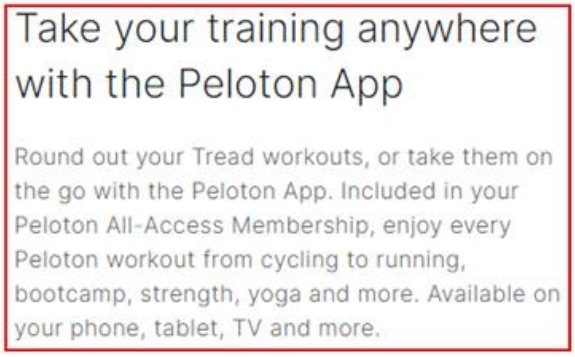
See, e.g., Peloton Support page titled "Pairing The Peloton Heart Rate Band" at https://support.onepeloton.com/hc/en-us/articles/4417019271572-Pairing-The-Peloton-Heart-Rate-Band

With the Peloton App, you can connect a Bluetooth®-enabled Heart Rate Monitor to the app to see your real-time heart rate in every class. Tracking your heart rate during a workout is one of the best ways to see how hard you're working and help track your progress over time.

See, e.g., Peloton Support page title "Pairing Your Heart Rate Monitor To The Peloton App" at https://support.onepeloton.com/hc/en-us/articles/115002332346-Pairing-Your-Heart-Rate-Monitor-To-The-Peloton-App



See, *e.g.*, Peloton App page at https://www.onepeloton.com/app

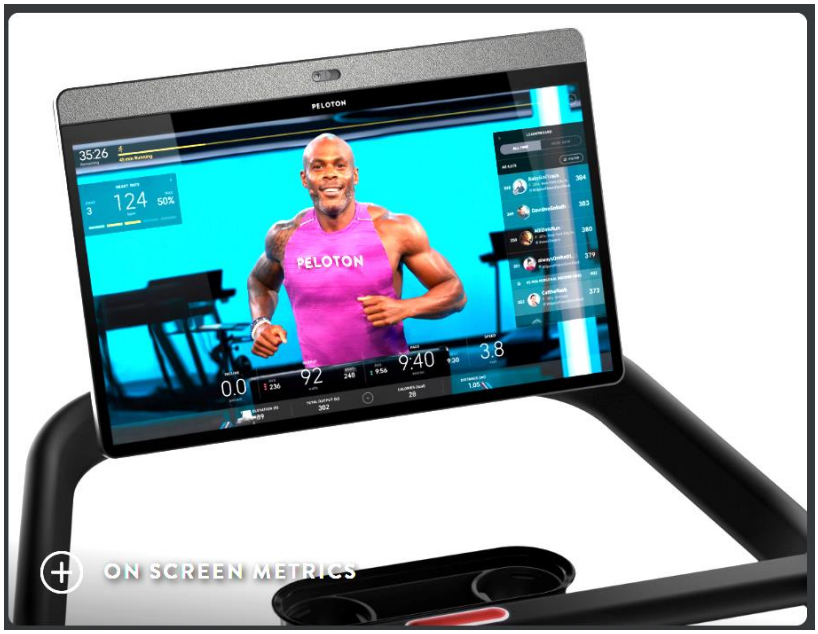


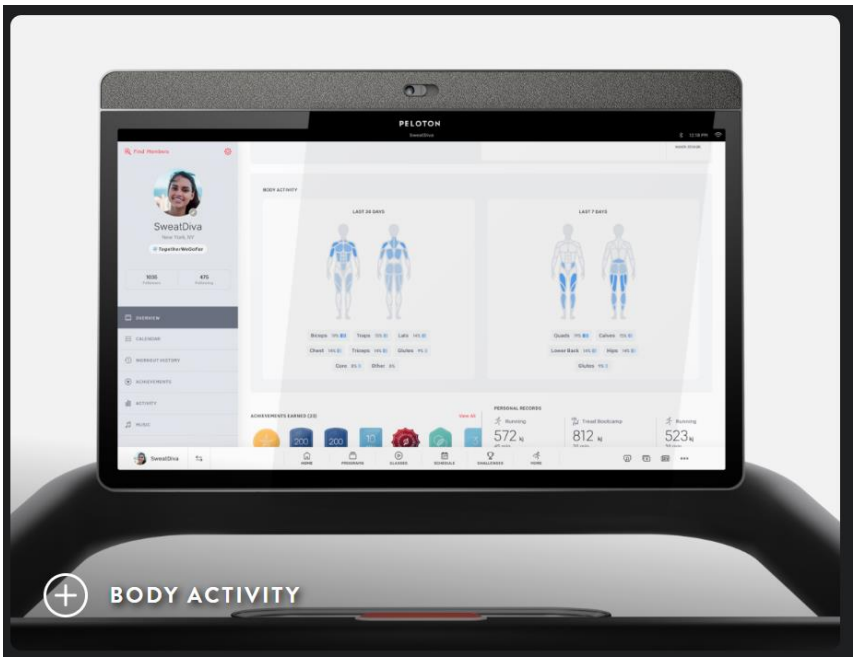
See, *e.g.*, Peloton Tread Classes page at https://www.onepeloton.com/tread/classes

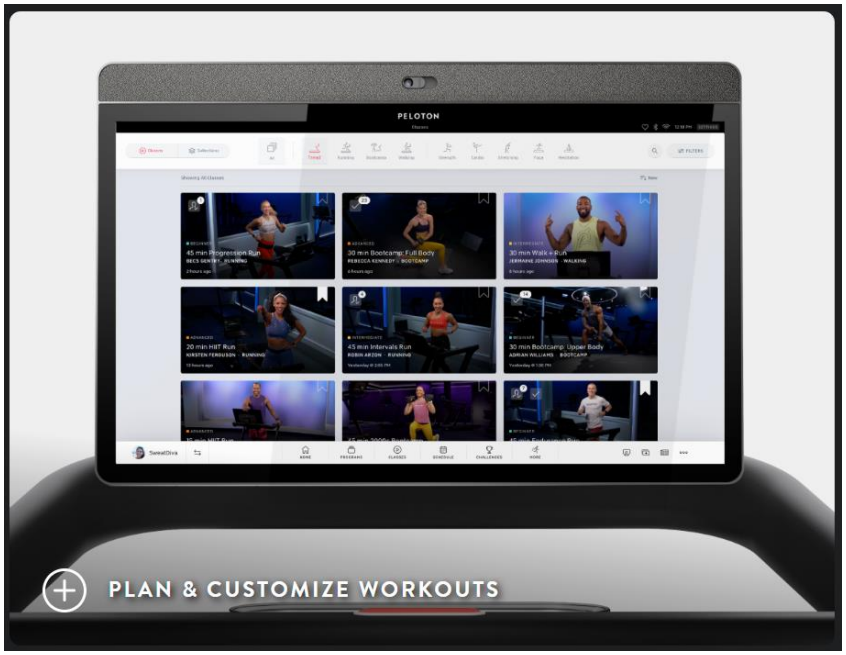
165. The PT apparatus comprises any number of output devices, including, for example, at least a touchscreen display device (*e.g.*, an output device). Including as presently understood, the PT apparatus comprises a touchscreen display device which, *inter alia*, permits the PT Apparatus to provide, *inter alia*, output to the user, *e.g.*, displaying information (including, for example, biometric information) about the user and/or instructions for the user, for example:

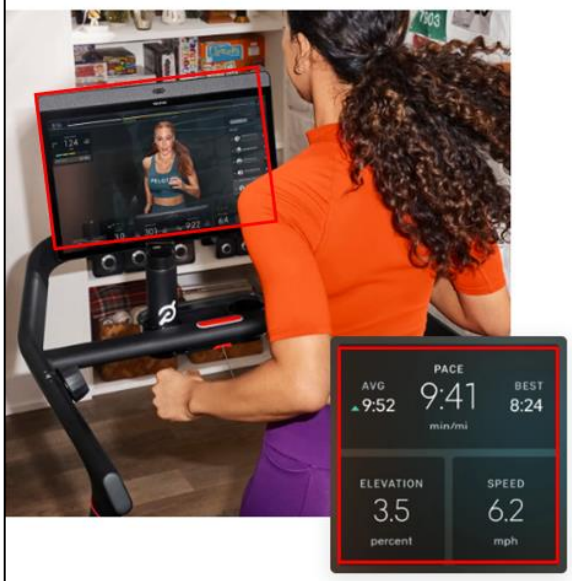
Screen and sound
23.8" touchscreen
1080p HD
2.5 GHz Qualcomm QCS605 Processor
4 GB RAM
16 GB internal flash storage
Front-facing stereo speakers
2.2 Channel with rear-facing woofers
USB-C charging port for devices
3.5 mm headphone jack
Bluetooth® 5.0 connectivity
8 megapixel front-facing camera with privacy cover
Built in 4 digital array microphone

See, e.g., Peloton Tread Specifications page at https://www.onepeloton.com/tread/specs




PELOTON
SweatDiva
BODY ACTIVITY


PELOTON
PLAN & CUSTOMIZE WORKOUTS



On-screen metrics

Track performance in class and over time with a range of connected metrics.

Real-time metrics

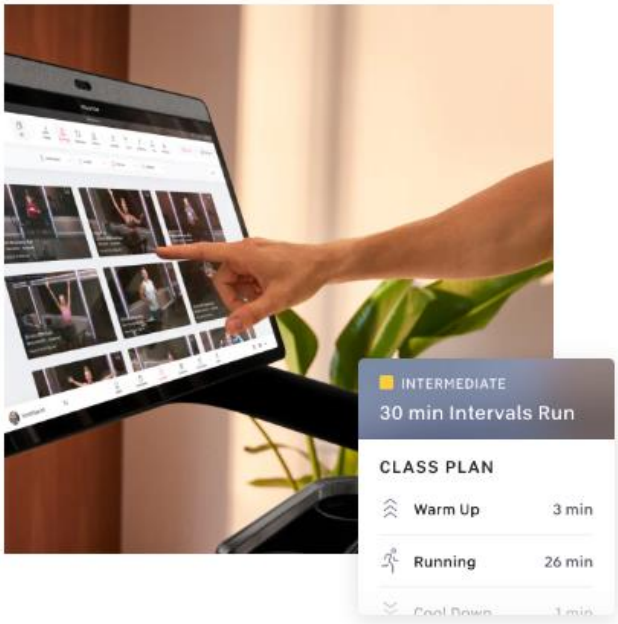
See in-class metrics like pace, incline, output, mileage, heart rate, and more.

Track progress over time

Check workout streaks, personal bests, goals achieved, and more.

Leaderboard

See who's in class, give out high-fives, and chase others up the Leaderboard for some friendly competition.



Find, plan, and customize workouts

Custom-build your workout

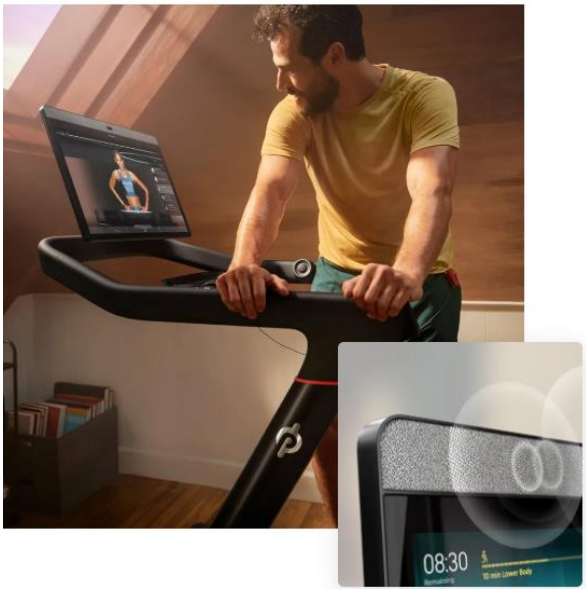
Line up classes and easily go from one to the next with Stacked Classes. Add on things like warm-ups, stretching, yoga, and more to your workout.

Filter to find classes

Sort by length, difficulty, class type, music, instructor, and more.

Preview class plans

See the movements you'll do in class, segment breakdowns, and the music playlists before jumping



Step into the studio without leaving home

24" anti-glare HD touchscreen

Designed so you can see your workout at any angle, this 24" HD touchscreen is our biggest screen yet.

Studio-quality sound

Be immersed in sound with both front and rear-facing speakers.

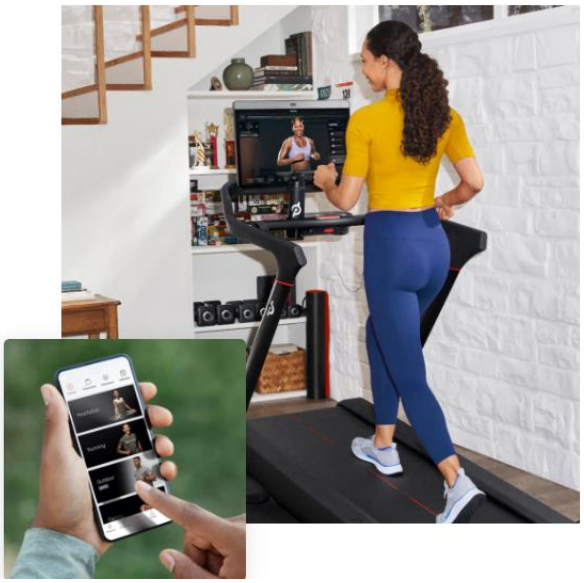
Compact machine, unlimited motivation

5′ x 8′ footprint

Get a powerful cardio workout in less space than your average treadmill.

Workouts beyond Tread

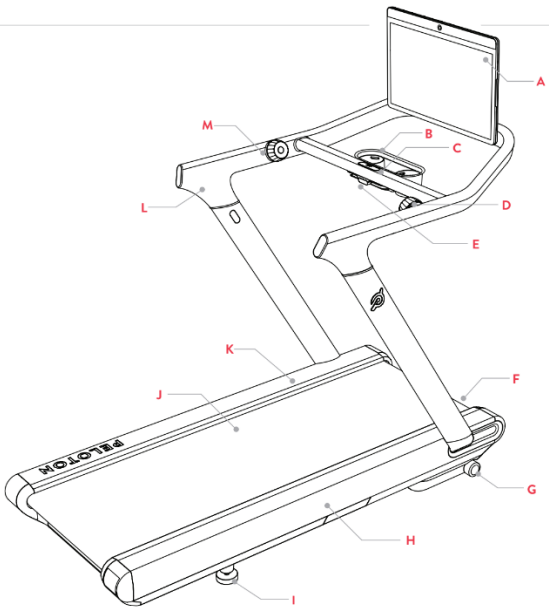
Add on strength, yoga, HIIT, and more off to the side of Peloton Tread or anywhere you'd like using Peloton App, included with your All-Access Membership.



See, e.g., Peloton Tread page at https://www.onepeloton.com/tread

SPECIFICATIONS

A	TOUCHSCREEN
B	TRAY
C	STOP BUTTON
D	SPEED KNOB
E	SAFETY KEY
F	POWER SWITCH
G	INCLINE WHEELS
H	DECK
I	FEET
J	BELT
K	FOOTRAILS
L	HANDRAIL
M	INCLINE KNOB



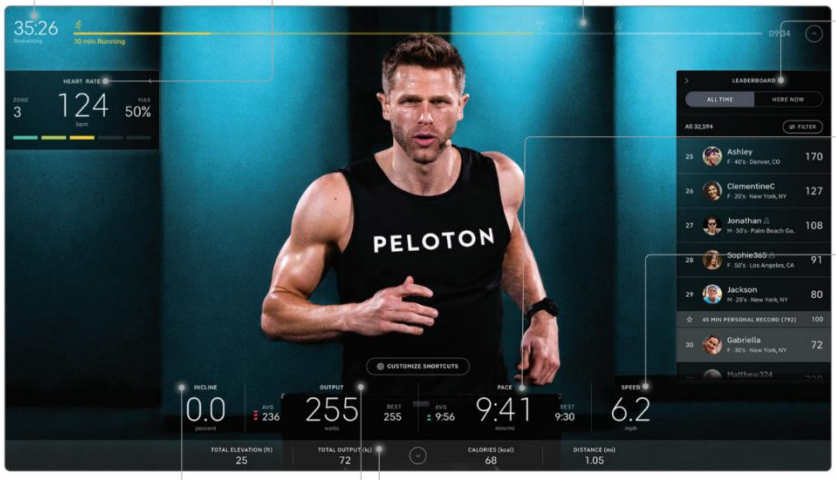
WEB VERSION

CLASS SCREEN

TIME REMAINING
Time remaining in the class

HEART RATE
Heart rate is measured when you connect a heart rate monitor

TIMELINE
Your Timeline shows class segments and your progress within the class



LEADERBOARD
- The Leaderboard shows all participants in a class
- Filter by Friends, Tags, or users who are Here Now

PACE
Your current Pace, in minutes per mile

SPEED
Your current Speed

WARNING: Heart rate monitoring systems may be inaccurate. Over-exercising may result in serious injury or death. If you feel faint stop exercising immediately. Use metrics on the screen for reference only.

INCLINE
Your current Incline, in percent grade

OUTPUT
Your Output, in watts, is a combination of Speed and Incline

TOTAL OUTPUT

WEB VERSION

ADJUSTING THE TOUCHSCREEN

- Hold the top and bottom of the screen and tilt back or forward.
- You should be able to look at the screen comfortably from the center of the deck.

See, e.g., Peloton Tread Manual (Web Version) at https://support.onepeloton.com/hc/en-us/article_attachments/16176622491796

166. The PT apparatus comprises any number of movement devices, including, for example, at least a treadmill device with a standard running belt (*e.g.*, a movement device). Including as presently understood, the PT apparatus comprises a treadmill device with a standard running belt which, *inter alia*, permits the PT Apparatus to provide, *inter alia*, a rotating and moving platform upon which the user can stand, run, and/or walk, for example:

Quick look

Standard running belt

Tread Lock helps prevent unauthorized access

59" of running space

See, e.g., Peloton Tread Specifications page at https://www.onepeloton.com/tread/specs

A surface you know with room to run

Let loose on this textured running belt with 59 inches of space.

Red centerline

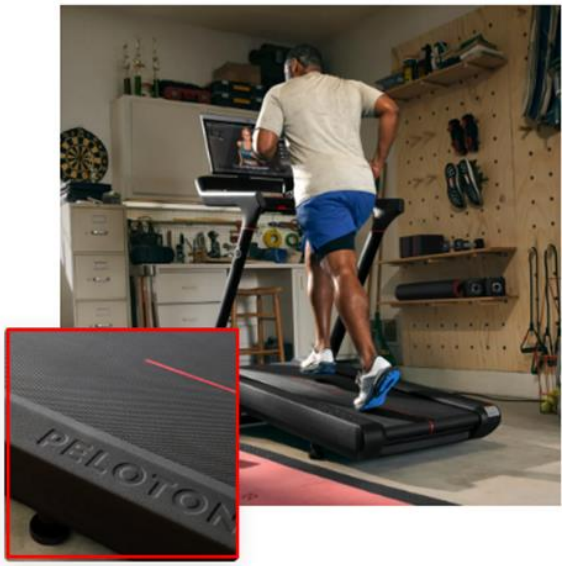
Align your stride with the line and keep your running mechanics in check.

Step-off side rails

Need a break? Step off to the textured side rails on either side of the belt.

Safety features

Clip-on the safety key while running and the belt will come to a quick stop if detached. Lock your Tread with a passcode when not in use.



See, e.g., Peloton Tread page at https://www.onepeloton.com/tread

SPECIFICATIONS

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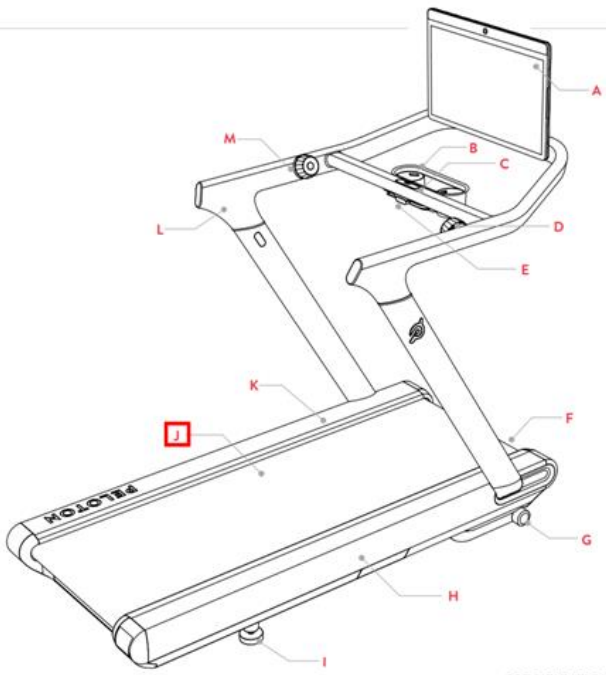
M	INCLINE KNOB

12



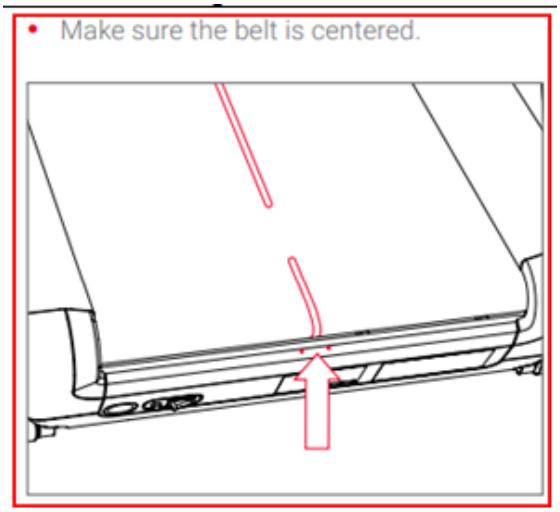
WEB VERSION

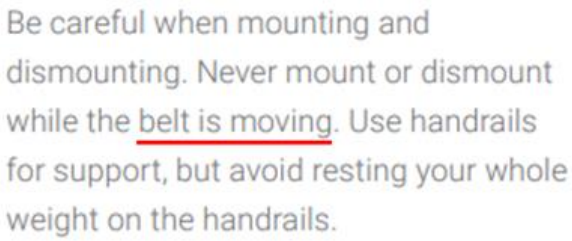
SPECIFICATIONS | 13

Keep hands away from moving parts. Never touch the moving belt or reach under the Tread while it is powered on. Never put items under the deck.

WALKING BELT: FIVE YEARS FOR PELOTON TREAD+ AND THREE YEARS FOR PELOTON TREAD

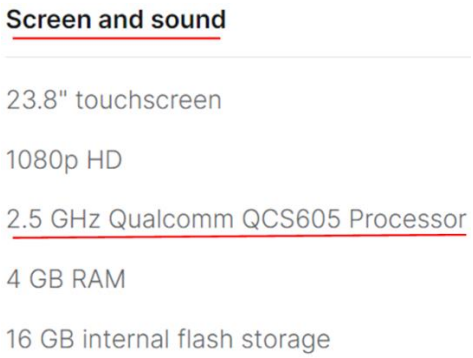
- Make sure the belt is centered.





See, e.g., Peloton Tread Manual (Web Version) at https://support.onepeloton.com/hc/en-us/article_attachments/16176622491796

167. The PT apparatus comprises one or more computer processors, including, for example, at least a processor (*e.g.*, a computer processor) built into the touchscreen display device. Including as presently understood, the PT apparatus comprises a computer processor, including at least a processor built in, and/or contained within, the touchscreen display device, which, *inter alia*, performs specific functionality for, *inter alia*, at least receiving sensory feedback while moving and either instructing the decision maker or controlling the moveable portions of the device via signals to corresponding portions of the device based on information input, detected, and/or analyzed by sensor relays, for example:



See, e.g., Peloton Tread Specifications page at https://www.onepeloton.com/tread/specs

168. The PT apparatus comprises the processor, *inter alia*, receiving a signal from any of the one or more sensor relays detecting the information related to the user, including, for example, receiving, via use of electronic and/or wireless signals (*e.g.*, receive a signal), information provided by the attached heart rate monitor (*e.g.*, a sensor relay), including, *inter alia*, information related to the heart rate of the user (*e.g.*, information related to the user) which is, *inter alia*, obtained by

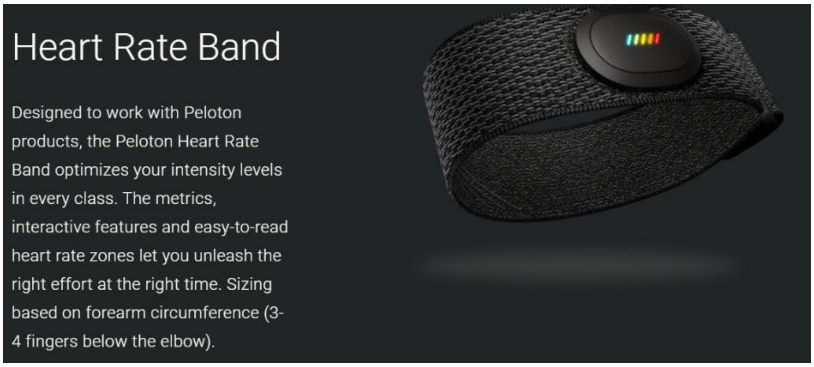
the processor (*e.g.*, detected). Including as presently understood, the PT apparatus permits the attachment of a heart rate monitor, *e.g.*, a Peloton Heart Rate Monitor or Peloton Heart Rate Band, for use with the Peloton Tread device, including via the use of a wireless connection (*e.g.*, ANT+ and/or Bluetooth), including in combination with the Peloton Mobile Application, and, subsequently, the heart rate monitor transmits, *inter alia*, the user's heart rate information to the processor of the treadmill device via electronic and/or wireless signals. Once connected, and when in operation and worn by the user, the heart rate monitor tracks, *inter alia*, the heart rate of the user. Including as presently understood, this information is transmitted to the Peloton Tread device via the wireless connection where it is, in turn, transmitted to the processor for, *inter alia*, processing for use by the PT apparatus, including wherein the processor receives this information via electrical signal from the corresponding electronics of the wireless connection circuitry (*e.g.*, ANT+ and/or Bluetooth chip), such that the attached and connected heart rate monitor tracks the heart rate of the user, for example:

See, e.g., Peloton Heart Rate Monitor page at https://www.onepeloton.com/shop/accessories/pl-hr-c-01

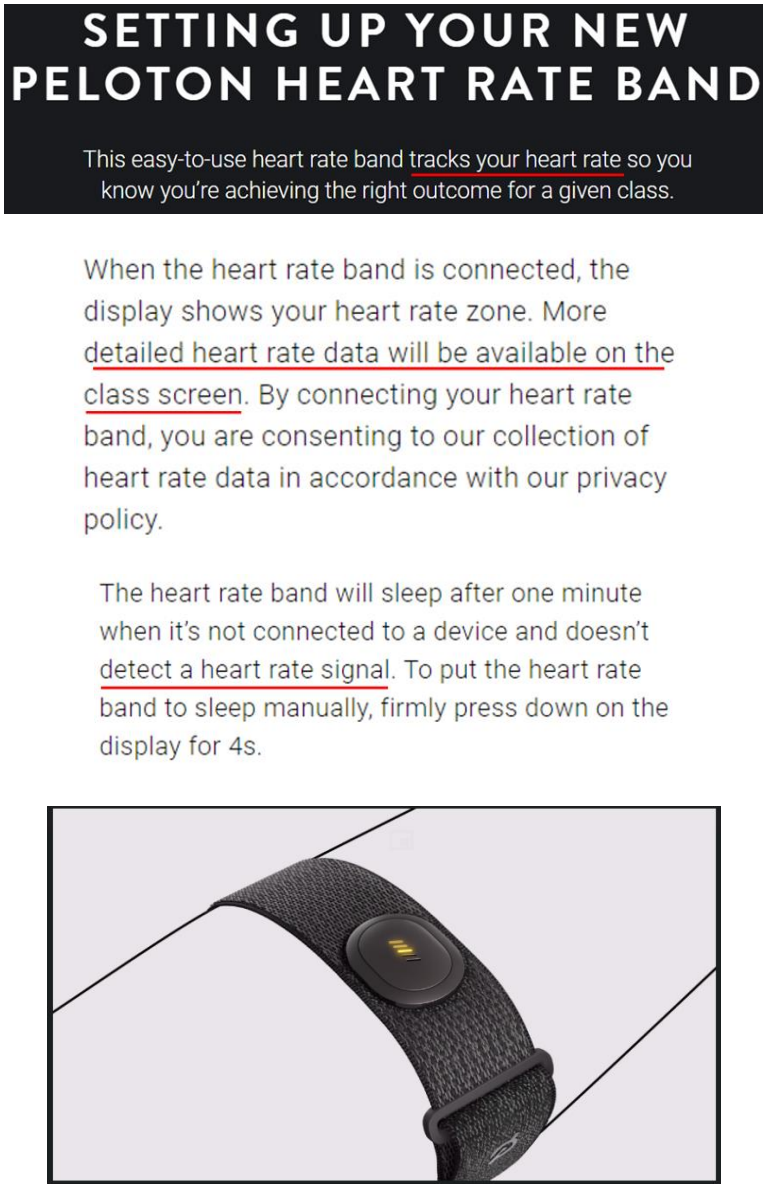
SPECIFICATIONS

Heart rate measurement range : 30 – 240 beats per minute (bpm)

See, e.g., Peloton Heart Rate Monitor (Model No. HRC01) User Manual



See, *e.g.*, Peloton Heart Rate Band page at https://www.onepeloton.com/shop/accessories/heart-rate-band



See, *e.g.*, Peloton Heart Rate Band Setup page at https://www.onepeloton.com/setup/heart-rate-monitor

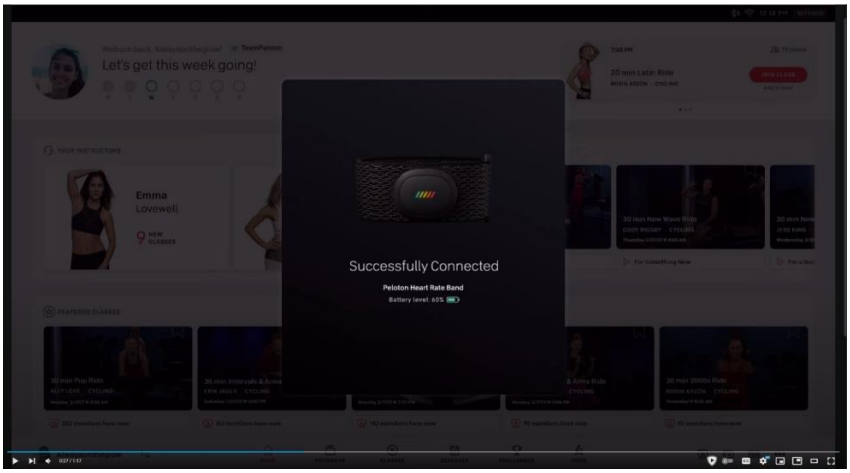
Heart rate monitoring systems may be inaccurate. Use metrics for reference only.

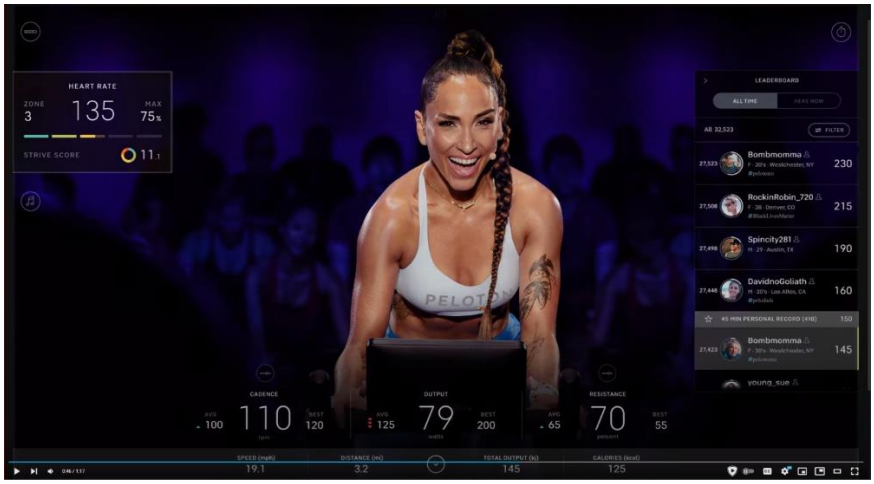
See, e.g., Peloton Heart Rate Band User Manual at https://assets.ctfassets.net/6jnflt57iyzx/7A6YIfZ8kTUxbUhn31VTSg/54ed9610171f7c600f268b269e3e53d8/HR02_PelotonHeartRateBand_UserGuide_1.1_M01.pdf

What is heart rate training?

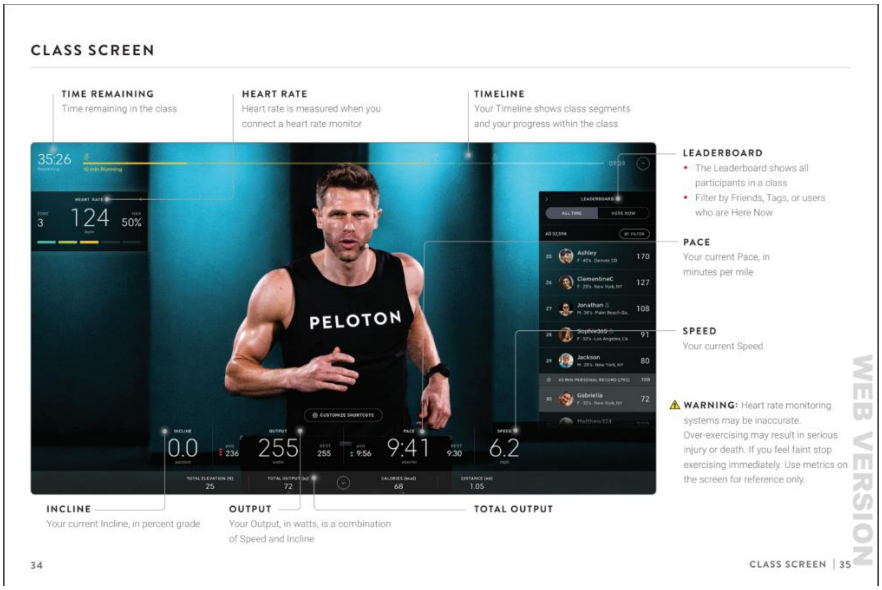
It's a tool that can make your workouts more effective and precise. Your heart rate is measured in beats per minute (BPM) through the sensors of a Heart Rate Monitor that is strapped to your chest. The feedback from the Heart Rate Monitor is then displayed on your touchscreen, so you can monitor your heart rate and increase or decrease your effort based on your goal.

See, e.g., Peloton Support page titled "Heart Rate Zones" at https://support.onepeloton.com/hc/en-us/articles/217019646-Heart-Rate-Zones

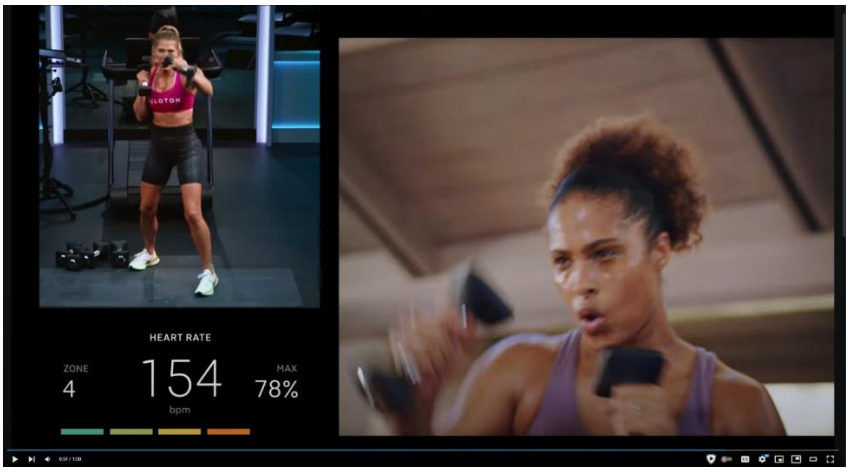




See, e.g., Peloton YouTube Video page titled "Using the Peloton Heart Rate Band" at https://www.youtube.com/watch?v=0_tj7ftRrjY



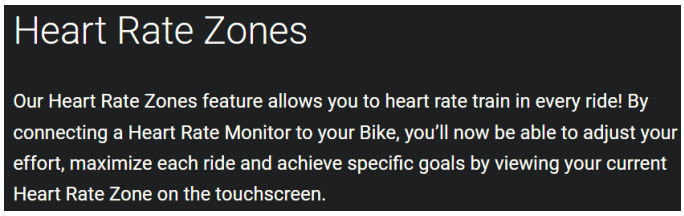
See, *e.g.*, Peloton Tread Manual (Web Version) at https://support.onepeloton.com/hc/en-us/article_attachments/16176622491796

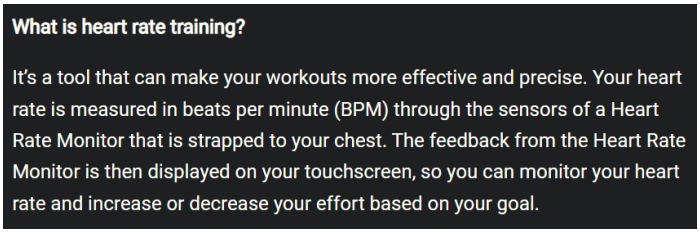


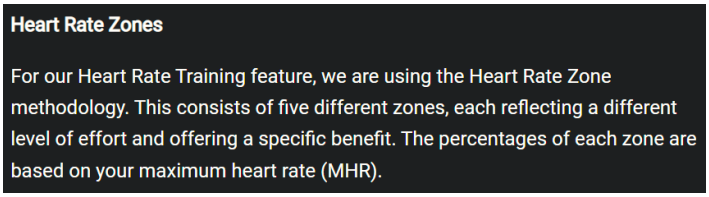
See, *e.g.*, Peloton YouTube Video page titled "The All-New Peloton Tread" at https://www.youtube.com/watch?v=yku0FXLug_Q

169. The PT Apparatus comprises the processor (*see* above re one or more computer processors), *inter alia*, analyzing the detected information against one or more default or user defined set points, including, for example, comparing the received heart rate information for the user (*e.g.*, detected information) to specific heart rate levels selected by the user (*e.g.*, a user defined set point) and/or set by Peloton as default values (*e.g.*, a default set point). Including as presently understood, the PT apparatus permits the user to select specific heart rate levels or targets for use with training, classes, or other activities with the Peloton Tread device, including, *inter*

alia, what Peloton refers to as "Heart Rate Zones," which correspond to different levels of effort, where the percentage ranges for each of these zones is calculated based on, *inter alia*, a "Max Heart Rate" value, which uses a default calculation or can be customized by the user. The PT apparatus analyzes the detected heart rate information from the heart rate monitor and, *inter alia*, shows the corresponding Heart Rate Zone number and colored bars on the touchscreen based on the values the treadmill device comprises for the user. Additionally, and/or in the alternative, including as presently understood, the PT apparatus permits the user to select what Peloton refers to as a "Strive Score," for example:







Your heart rate and current zone will be displayed in real-time on the touchscreen – so you will be able to track your effort level as you move within zones.

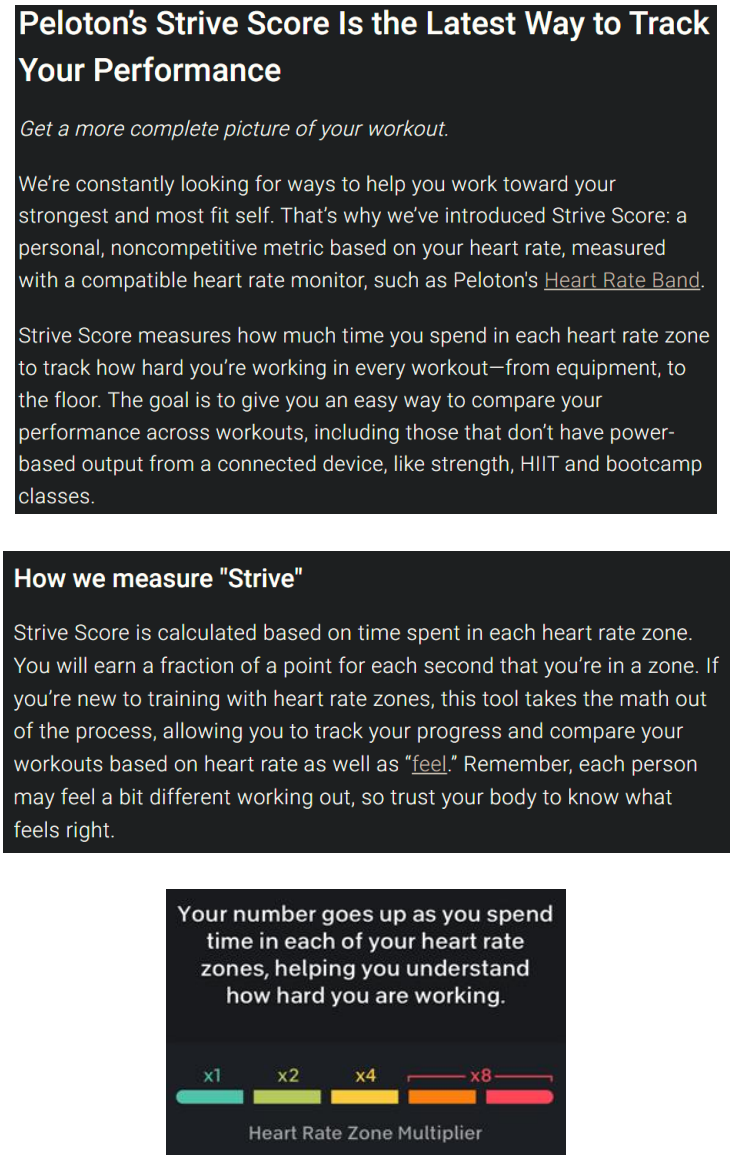
How it Works

Start by connecting your Heart Rate Monitor to the Bike. If you don't have one, you can purchase one here.

By default, your max heart rate is automatically calculated using the Karvonen formula (220 – your age) — with your age being pulled from the age you entered in your profile. If you have not entered your age, or need to adjust, you can do so in your profile settings on the bike.

Note: Your default max heart rate may not be perfectly accurate since it will not incorporate factors like individual fitness level. As you begin your heart rate training, you may find that the levels are too easy or too difficult, and may need to adjust accordingly. To set a custom MHR, go to your **Account Settings** on the bike via the **Menu** on the bottom left corner of your touchscreen. You will see a field called **Max Heart Rate**, which will allow you to use either the default calculation or enter your own custom MHR.

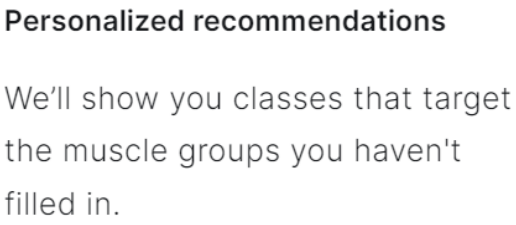
See, e.g., Peloton Support page titled "Heart Rate Zones" at https://support.onepeloton.com/hc/en-us/articles/217019646-Heart-Rate-Zones



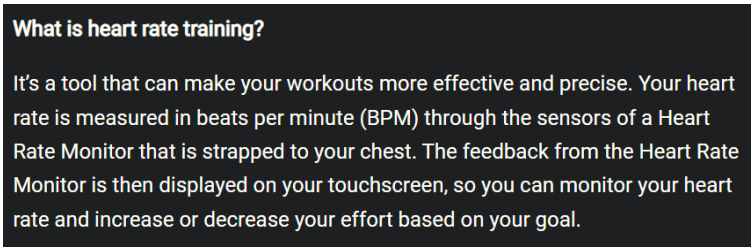
See, *e.g.*, Peloton Blog page titled "Peloton's Strive Score Is the Latest Way to Track Your Performance" at https://www.onepeloton.com/blog/strive-score/

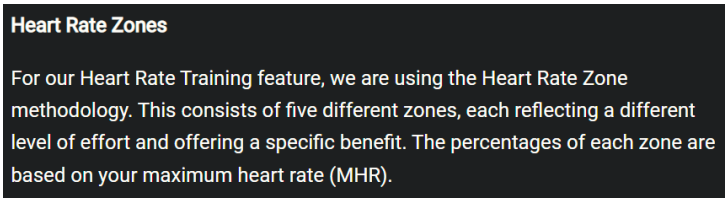
170. The PT Apparatus comprises the processor (*see* above re one or more computer processors), *inter alia*, sending a signal to any of the output devices instructing the decision maker with feedback related to one or more control factors measured against one or more set points, which, *inter alia*, informs the instructor and/or user of the device (*e.g.*, instructs the decision maker) of specific information collected about the user for adjusting the user's use (*e.g.*, feedback related to one or more control factors) which are compared to certain specified criteria the user should be aiming for, such as a chosen heart rate target selected by the user and/or set by Peloton

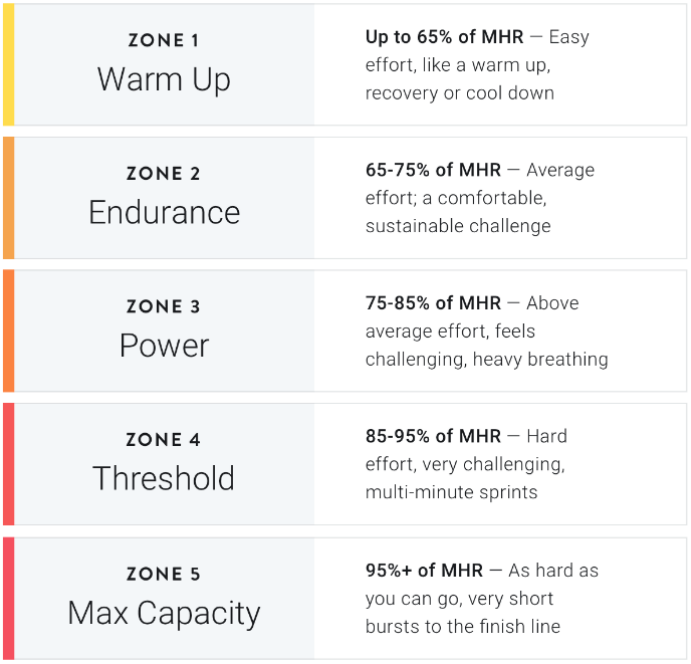
as default values (*e.g.*, measured against one or more set points). Including as presently understood, the PT Apparatus permits the user to select specific heart rate levels or targets for use with training, classes, or other activities with the Peloton Tread device, including, *inter alia*, what Peloton refers to as "Heart Rate Zones," which correspond to different levels of effort. The PT Apparatus analyzes the detected heart rate information from the heart rate monitor and, *inter alia*, shows the corresponding Heart Rate Zone number and colored bars on the touchscreen based on the values the treadmill device comprises for the user so that the user may adjust their use of the Peloton Tread device to increase or decrease their efforts (and, in turn, their heart rate) in order to match the set target heart rate, for example:

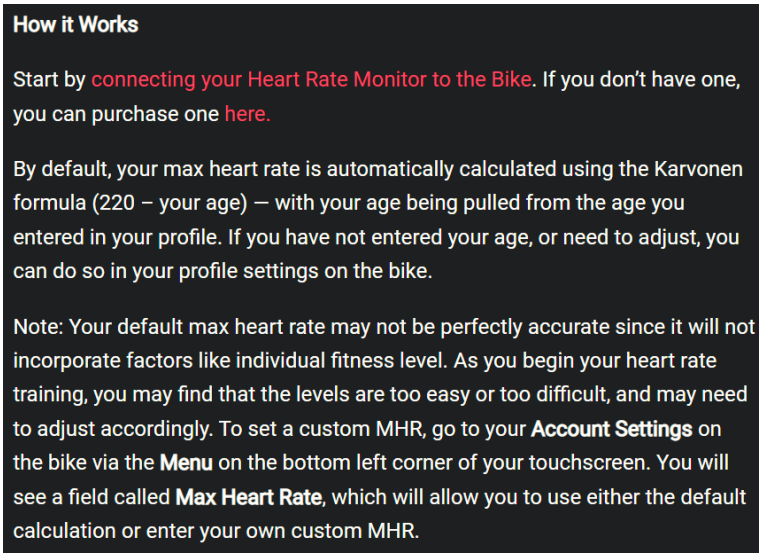


See, e.g., Peloton Tread at https://www.onepeloton.com/tread









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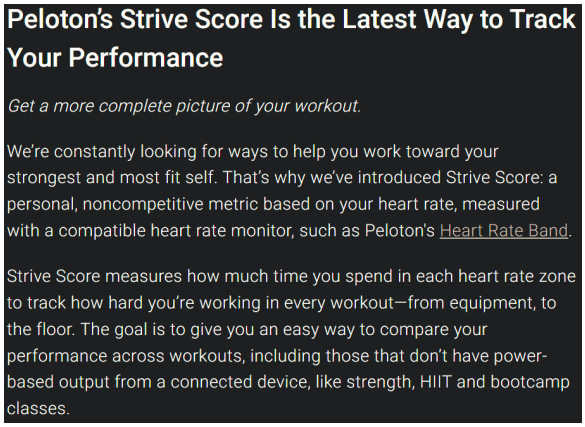
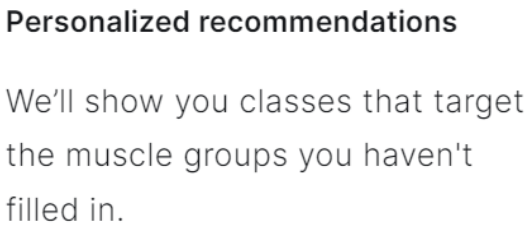
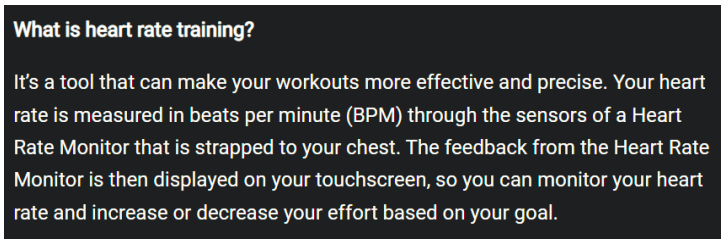


See, e.g., Peloton Blog page titled "Peloton's Strive Score Is the Latest Way to Track Your Performance" at https://www.onepeloton.com/blog/strive-score/

171. The PT Apparatus comprises the processor, *inter alia*, sending a signal to any of the movement devices, controlling said movement devices based on said analysis, including, for example, *inter alia*, sending electronic signals (*e.g.*, sending a signal to any of the movement devices) which causes the treadmill to adjust the treadmill's speed, incline, or other aspect of the treadmill (*e.g.*, controlling said movement devices) in order to increase or decrease the efforts of the user based on the comparison to certain specified criteria the user should be aiming for, such as a chosen heart rate target selected by the user and/or set by Peloton as default values (*e.g.*, based on said analysis). Including as presently understood, the PT Apparatus permits the user to select specific heart rate levels or targets for use with training, classes, or other activities with the Peloton Tread device, including, *inter alia*, what Peloton refers to as "Heart Rate Zones," which correspond to different levels of effort. The PT Apparatus analyzes the detected heart rate information from the heart rate monitor and, *inter alia*, adjusts the speed or incline of the treadmill so that the user's use of the Peloton Tread device is varied, including in order to increase or decrease their efforts (and, in turn, their heart rate) in order to match the set target heart rate, for example:



See, e.g., Peloton Tread at https://www.onepeloton.com/tread



Heart Rate Zones

For our Heart Rate Training feature, we are using the Heart Rate Zone methodology. This consists of five different zones, each reflecting a different level of effort and offering a specific benefit. The percentages of each zone are based on your maximum heart rate (MHR).

ZONE 1 Warm Up	**Up to 65% of MHR** — Easy effort, like a warm up, recovery or cool down
ZONE 2 Endurance	**65-75% of MHR** — Average effort; a comfortable, sustainable challenge
ZONE 3 Power	**75-85% of MHR** — Above average effort, feels challenging, heavy breathing
ZONE 4 Threshold	**85-95% of MHR** — Hard effort, very challenging, multi-minute sprints
ZONE 5 Max Capacity	**95%+ of MHR** — As hard as you can go, very short bursts to the finish line

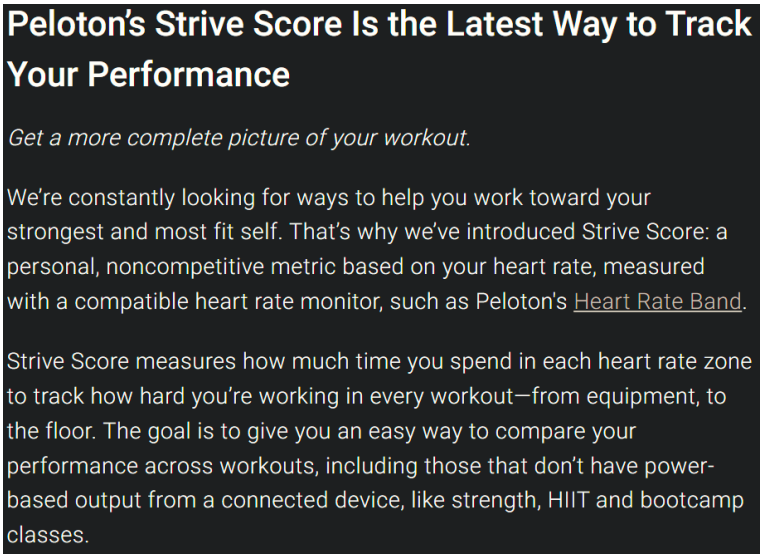
How it Works

Start by connecting your Heart Rate Monitor to the Bike. If you don't have one, you can purchase one here.

By default, your max heart rate is automatically calculated using the Karvonen formula (220 – your age) — with your age being pulled from the age you entered in your profile. If you have not entered your age, or need to adjust, you can do so in your profile settings on the bike.

Note: Your default max heart rate may not be perfectly accurate since it will not incorporate factors like individual fitness level. As you begin your heart rate training, you may find that the levels are too easy or too difficult, and may need to adjust accordingly. To set a custom MHR, go to your **Account Settings** on the bike via the **Menu** on the bottom left corner of your touchscreen. You will see a field called **Max Heart Rate**, which will allow you to use either the default calculation or enter your own custom MHR.

See, e.g., Peloton Support page titled "Heart Rate Zones" at https://support.onepeloton.com/hc/en-us/articles/217019646-Heart-Rate-Zones



Peloton's Strive Score Is the Latest Way to Track Your Performance

Get a more complete picture of your workout.

We're constantly looking for ways to help you work toward your strongest and most fit self. That's why we've introduced Strive Score: a personal, noncompetitive metric based on your heart rate, measured with a compatible heart rate monitor, such as Peloton's Heart Rate Band.

Strive Score measures how much time you spend in each heart rate zone to track how hard you're working in every workout—from equipment, to the floor. The goal is to give you an easy way to compare your performance across workouts, including those that don't have power-based output from a connected device, like strength, HIIT and bootcamp classes.

See, e.g., Peloton Blog page titled "Peloton's Strive Score Is the Latest Way to Track Your Performance" at https://www.onepeloton.com/blog/strive-score/

172. Peloton has directly infringed, and continues to directly infringe, the claims of the '285 Patent, including at least those noted above, including by making and using the PT apparatus in violation of 35 U.S.C. § 271(a). Further, including at least to the extent Peloton provides and/or supplies hardware and/or software, including software running on a user's computer and/or other device, the direct infringement of users that occurs in connection with Peloton's applications and/or services occurs under the direction or control of Peloton.

173. Additionally, and/or in the alternative, since receiving notice of the '285 Patent, including, if necessary, from this suit, Peloton has induced, and continues to induce, infringement of the '285 Patent in this judicial district, and elsewhere, by actively inducing direct infringement of the '285 Patent, including by knowingly and actively aiding or abetting infringement by customers and/or users, by and through at least instructing and encouraging the use of the PT products, services, and software noted herein, including the PT apparatus. Such aiding and abetting comprises providing software, user devices, servers, and/or instructions regarding the use and/or operation of the PT apparatus, applications, servers, and devices in an infringing manner. Such induced infringement has occurred since Peloton became aware of the '285 Patent, at a minimum,

as noted herein, and the knowledge and awareness that such actions by customers and/or users comprise infringement of the ’285 Patent.

174. Additionally, and/or in the alternative, since receiving notice of the ’285 Patent, including, if necessary, from this suit, Peloton has contributed, and continues to contribute, to infringement of the ’285 Patent in this judicial district, and elsewhere, by actions comprising contributing to at least the use of said products, software, and/or services noted herein, including the use of the PT apparatus by customers and/or other end users. Such contributions necessarily comprise providing software, user devices, servers, and/or instructions regarding the use and/or operation of the PT apparatus, applications, servers, and devices with the knowledge that such systems are especially made or especially adapted for use in an infringing manner and not a staple article or commodity of commerce suitable for substantial non-infringing use. Such contributory infringement has occurred since Peloton became aware of the ’285 Patent, at a minimum, as noted herein, and the knowledge and awareness that such actions by customers and/or other end users comprise infringement of the ’285 Patent.

175. Peloton has had at least constructive notice of the ’285 Patent since at least its issuance. Peloton will have been on actual notice of the ’285 Patent since, at the latest, the service of this Complaint. By the time of trial, Peloton will have known and intended (at least since receiving such notice) that its continued actions would actively induce and/or contribute to the infringement of the asserted claims of the ’285 Patent, including by customers and/or other end users.

176. The PT apparatus clearly meets the asserted claim limitations in its normal and expected usage. On information and belief, normal and expected usage of the PT apparatus by customers and/or end users satisfies the claim limitations for direct infringement. Further, at minimum, the provision of products, systems, and/or functionalities clearly capable of such infringing usage and/or provision of instructions/specifications for such infringing usage constitutes inducement of

and/or contributing to directly infringing usage.

177. Further, as noted above, Peloton is being made aware of infringement of the ’285 Patent through use of the PT apparatus at least via the infringement allegations set forth herein. Such direct, induced, and contributory infringement has been and remains clear, unmistakable, and inexcusable. On information and belief, Peloton knew, knows, and/or should have known, of the clear, unmistakable, and inexcusable direct, induced, and/or contributory infringing conduct at least since receiving notice of the ’285 Patent. Thus, on information and belief, Peloton has, at least since receiving notice of the ’285 Patent, specifically intended to directly and/or indirectly infringe, including via direct infringement of customers and/or end users.

178. Plaintiff believes and contends that, at a minimum, Peloton’s knowing and intentional post-suit continuance of its unjustified, clear, and inexcusable infringement of the ’285 Patent since receiving notice of its infringement of the ’285 Patent, is necessarily willful, wanton, malicious, in bad-faith, deliberate, conscious and wrongful, and it constitutes egregious conduct worthy of a finding of willful infringement. Accordingly, at least since receiving notice of this suit, Peloton has willfully infringed the ’285 Patent.

REMEDY AND DAMAGES

179. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

180. Defendants’ infringement of Plaintiff’s rights under the Patent-in-Suit will continue to damage Plaintiff, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court, including under 35 U.S.C. § 283.

181. By way of its infringing activities, Defendants have caused, and continues to cause, Plaintiff to suffer damages, and Plaintiff is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants’ wrongful acts in an amount subject to proof at

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

182. Plaintiff also requests that this Court make a finding that this is an exceptional case entitling Plaintiff to recover its attorneys' fees and costs, including pursuant to 35 U.S.C. § 285.

DEMAND FOR JURY TRIAL

183. Plaintiff hereby refers to, and incorporates by reference below, the allegations in the above paragraphs as if set forth fully herein.

184. Pursuant to Rule 38 of the FEDERAL RULES OF CIVIL PROCEDURE, Plaintiff hereby respectfully requests a trial by jury of any issues so triable by right.

PRAYER FOR RELIEF

WHEREFORE, LFS hereby respectfully requests that this Court enter judgment in favor of LFS and against Defendants, and that the Court grant LFS the following relief:

A. That this Court enter Judgment including an adjudication that one or more claims of the Patent-in-Suit has been directly and/or indirectly infringed by Defendants, including pursuant to 35 U.S.C. § 281;

B. That this Court enter Judgment including a grant of a preliminary and permanent injunction, including pursuant to 35 U.S.C. § 283, enjoining Defendants and all persons, including their officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in active concert or participation therewith, from making, using, offering to sell, and/or selling in the United States and/or importing into the United States any apparatuses, methods, systems, and/or computer readable media that directly and/or indirectly infringe any claim of the Patent-in-Suit, and/or any apparatuses, methods, systems, and/or computer readable media that are not more than colorably different;

C. That this Court enter Judgment including an award to Plaintiff of damages, including pursuant to 35 U.S.C. § 284, adequate to compensate Plaintiff for Defendants' past infringement, together with pre-judgment and post-judgment interest, and any continuing and/or future infringement through the date such Judgment is entered, including all applicable, legally allowable, interest, costs, expenses, and an accounting of all infringing acts, including, but not limited to, those acts not presented at trial;

D. That this Court enter Judgment including a declaration that Defendants' post-notice infringement has been, and continues to be, willful, including that Defendants acted to infringe the Patent-in-Suit despite an objectively high likelihood that their actions constituted infringement of a valid patent and, accordingly, award enhanced damages, including treble damages, including pursuant to 35 U.S.C. §§ 284 & 285;

E. That this Court enter Judgment including a declaration that this case is an exceptional case and award Plaintiff reasonable attorneys' fees and costs, including in pursuant to 35 U.S.C. § 285; and

F. Any and all such other and further relief to which Plaintiff may be shown justly entitled that this Court deems just and proper.

Dated: January 5, 2024

Respectfully submitted,

BY: /s/ Antranig Garibian

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