

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MAGIC LEAP, INC.
Petitioner,

v.

PERCEPT TECHNOLOGIES INC.
Patent Owner.

Patent No. 9,010,929

Inter Partes Review No. IPR2023-00494

DECLARATION OF DR. JOSEPH J. LAVIOLA JR.

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Petitioner's Exhibit List

Exhibit Description	Exhibit #
U.S. Patent No. 9,010,929 to Lewis (“the ’929 Patent”)	EX-1001
Prosecution History of U.S. Patent No. 9,010,929	EX-1002
Declaration of Dr. Joseph J. LaViola Jr. in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent No. 9,010,929	EX-1003
<i>Curriculum Vitae</i> and Litigation History for Dr. Joseph J. LaViola Jr.	EX-1004
Canadian Patent Application No. CA 2,362,895 to Mann (“Mann ’895”)	EX-1005
U.S. Patent Application Publication No. 2005/0281440A1 to Perner (“Perner”)	EX-1006
U.S. Patent No. 7,278,734 to Jannard (“Jannard”)	EX-1007
Patent Owner’s Opening Claim Construction brief in co-pending litigation No. 1:22-cv-0025-RGA	EX-1008
Petitioner’s Answering Claim Construction brief in co-pending litigation No. 1:22-cv-0025-RGA	EX-1009
Patent Owner’s Reply Claim Construction brief in co-pending litigation No. 1:22-cv-0025-RGA	EX-1010
Petitioner’s Sur-Reply Claim Construction brief in co-pending litigation No. 1:22-cv-0025-RGA	EX-1011
Return of Service in co-pending litigation No. 1:22-cv-0025-RGA	EX-1012
Affidavit of Gary M. Travis	EX-1013
Excerpts from ANDREW S. TANENBAUM, COMPUTER NETWORKS (Prentice-Hall, Inc. 4th ed. 2002)	EX-1014

I, Joseph J. LaViola Jr., make this declaration in connection with the proceeding identified above.

I. INTRODUCTION

1. I have been retained by counsel for Magic Leap, Inc. (“Petitioner” or “Magic Leap”) in connection with the proceeding identified above. I submit this declaration in support of Magic Leap’s Petition for *Inter Partes* Review of United States Patent No. 9,010,929 (EX-1001, “the ’929 Patent”). I understand that Percept Technologies Inc. (“Patent Owner”) states that it is the owner of the ’929 Patent.

2. I have reviewed and am familiar with the ’929 patent, which issued to Scott W. Lewis on April 21, 2015. I understand that the ’929 patent includes 22 claims of which claims 1, 7-12, 15-17, and 22 are the independent claims. I also understand that the Petition for *inter partes* review that accompanies this Declaration (the “Petition”) seeks to cancel claims 1-11, 15, 17, and 22 (the “challenged claims”) of the ’929 patent. My analysis and opinions will focus on the challenged claims of the ’929 patent.

3. In preparation for this Declaration, I studied Exhibits EX-1005 through EX-1009 provided by the Petitioner, in addition to the ’929 Patent. In addition to the above exhibits and other documents, my opinions herein are based

upon my personal knowledge, professional judgment, education, and experience gained through my years as a computer scientist, professor, and consultant.

4. The '929 patent is generally directed to eyewear that includes circuitry within the frame member for enhancing the use of the eyewear. (EX-1001, Abstract.) I am familiar with the technology described in the '929 patent both as of its earliest possible priority date of October 7, 2005, and its actual filing date of January 11, 2013.

5. I have been asked to consider how a person of ordinary skill in the art ("POSITA") would have understood the challenged claims in light of the disclosure of the '929 patent. I also have been asked to consider how a POSITA would have understood the prior art references Mann '895, Perner, and Jannard. Further, I have been asked to consider and provide my technical review, analysis, insights, and opinions regarding whether a POSITA would have understood the disclosures of Mann '895 in view of Perner and the disclosures of Jannard to render obvious claims 1-11, 15, 17, and 22.

6. I am being paid \$450 an hour for my work on this matter. My compensation is not dependent on the outcome of this *inter partes* review and in no way affects the substance of my statements in this declaration.

7. I reside in Oviedo, Florida, USA.

II. SUMMARY OF GROUNDS

8. I understand that the Petition for *inter partes* review of the '929 patent asserts the following grounds of unpatentability:

Ground	35 U.S.C. §	Claims(s)	Prior Art Reference(s)
1	103	1-8, 10, 11, 15, 17, 22	Mann '895, Perner
2	103	7, 9, 10, 15	Jannard

III. QUALIFICATIONS AND EXPERTISE

9. In formulating my opinions, I have relied upon my knowledge, training, and experience. My qualifications are stated more fully in my *curriculum vitae*, which has been provided as EX-1004. Here, I provide a brief summary of my qualifications.

10. I have almost 25 years of experience working in the virtual reality ("VR") and augmented reality ("AR") fields, as well as advancing three-dimensional ("3D") interaction techniques and user interfaces for use in both VR and AR applications. More specifically, I have worked extensively on and with user and object motion tracking sensors, algorithms and systems.

11. I am the Charles N. Millican Professor of Computer Science in the Department of Computer Science at the University of Central Florida, located in Orlando, Florida. I also serve as the Director of the Interactive Computing Experiences Research Cluster at the University of Central Florida. Through these

functions, I supervise over ten graduate and undergraduate students working on various research projects in the general area of human-computer interaction. In addition, since 2013, I have served as an Adjunct Associate Professor of Computer Science at Brown University, located in Providence, Rhode Island.

12. I received my Bachelor of Science degree in Computer Science from Florida Atlantic University in 1996. I also hold two Masters degrees—an Sc.M. in Computer Science and an Sc.M. in Applied Mathematics from Brown University—which were awarded in 2000 and 2001 respectively. I received my Ph.D. in Computer Science from Brown University in 2005.

13. I serve as Associate Editor for various publications in the area of human-computer interaction, including the International Journal of Human-Computer Studies and the Association for Computing Machinery's Transactions on Interactive Intelligent Systems. I have also served as an associate editor for IEEE Computer Graphics & Applications.

14. I have contributed to more than 35 peer-reviewed journal publications and nearly 150 refereed conferences, workshop papers, and other writings, the majority of which deal with virtual and augmented reality and user and object motion tracking. I am the lead author of the second edition of the most comprehensive textbook on 3D user interaction, entitled "3D User Interfaces: Theory and Practice." As part of that work, I analyzed many different types of

input and output hardware, 3D user interfaces, perceptual user interfaces, and general topics related to virtual and augmented reality—including, for example, eye trackers and wearable circuitry such as described in the '929 Patent. I have also worked specifically with wearable devices, including eyewear, such as described in the '929 Patent.

15. I have been working with virtual and augmented reality systems, including eyewear and other wearable devices for virtual and augmented reality systems. I have implemented aspects of virtual and augmented reality systems in practice and written several papers on them as part of my work in motion tracking and 3D interfaces, including the following:

Pfeil, K., Taranta, E., Kulshreshth, A., Wisniewski, P., and LaViola, J. "A Comparison of Eye-Head Coordination Between Virtual and Physical Realities", Proceedings of the 15th ACM Symposium on Applied Perception (SAP '18), Article 18: 7 pages, August 2018.

Kulshreshth, A. and LaViola, J. "Dynamic Stereoscopic 3D Parameter Adjustment for Enhanced Depth Discrimination", Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16), 177-187, May 2016.

Gupta, P., da Vitoria Lobo, N., and LaViola, J. "Markerless Tracking Using Polar Correlation of Camera Optical Flow", Proceedings of IEEE Virtual Reality 2010, 223-226, March 2010.

LaViola, J. "Input Devices", Wiley Encyclopedia of Computer Science and Engineering, B. Wah (ed.), Wiley, Vol.3, 1575-1584, January 2009.

LaViola, J., Forsberg, A., Huffman, J., and Bragdon, A. "The Influence of Head Tracking and Stereo on User Performance with Non-Isomorphic 3D Rotation", In the Proceedings of the 14th Eurographics Symposium on

Virtual Environments, 111-118, May 2008.

16. I have also been teaching topics related to virtual and augmented reality systems to my students over the last 20 years. I have developed and taught courses related to 3D interaction and user interfaces for virtual and augmented reality systems. For example, I have taught the course “3D User Interfaces for Games and Virtual Reality” every year since 2008. Examples of courses on 3D user interfaces and virtual and augmented reality that I have taught at conferences include:

LaViola, J. and Keefe, D. “3D Spatial Interaction: Applications for Art, Design, and Science”, Course #1, Presented at ACM SIGGRAPH 2011, Vancouver, Canada, August 2011.

LaViola, J., Kruijff, E., Bowman, D., Poupyrev, I., and Stuerzlinger, W. "3D User Interfaces: Design, Implementation, Usability", Course #16, Presented at ACM CHI 2009, Boston, Massachusetts, April 2009.

Bowman, D., LaViola, J., Mine, M., and Poupyrev, I. “Advanced Topics in 3D User Interface Design”, Course #44, Presented at ACM SIGGRAPH 2001, Los Angeles, California, August 2001.

17. I am a named inventor on five U.S. patents. These patents are generally related to computer visualization, interfaces, and simulation, including for augmented reality systems.

18. I have served as an expert witness and technical consultant in litigation and *inter partes* review matters, including matters relating generally to

user interaction and interfaces, augmented reality, and virtual reality. My litigation history and CV are provided as EX-1004.

19. Throughout my career I have received several best paper awards at top conferences including the ACM conference on Human Factors in Computing Systems (CHI) and the ACM Symposium on Spatial User Interfaces. I have been active in reviewing papers for respected journals and conferences including the IEEE Virtual Reality conference and the ACM CHI conference as well as IEEE Transactions on Visualization and Computer Graphics. I also served as the program chair for IEEE Virtual Reality 2013 and for the IEEE Symposium on 3D User Interfaces from 2010 to 2012. I am also a senior member of ACM and IEEE.

IV. LEGAL UNDERSTANDING

A. My Understanding of Claim Construction

20. I have been advised and understand that claim construction is a matter of law and that the final claim construction will ultimately be determined by the Patent Trial and Appeal Board (the “Board”). I have been advised and understand that patent claims are construed from the perspective of one of ordinary skill in the art at the time the claimed invention was made. I have further been advised and understand that, in an *inter partes* review, patent claims are to be construed according to the methodology set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). In performing my analysis and rendering my opinions, I have

interpreted claim terms by giving them the ordinary and customary meaning they would have to the POSITA reading the '929 patent as of October 7, 2005, and in light of its specification and file history.

B. A Person Having Ordinary Skill in the Art

21. I have been advised and understand that a POSITA is presumed to be aware of all pertinent art, thinks along conventional wisdom in the art, and is a person of ordinary creativity, not an automaton. With this understanding, a POSITA at the time of the invention claimed in the '929 patent would have been a person holding a B.S. degree and a Masters degree in Computer Science, Computer Engineering, Electrical Engineering, Physics, or an equivalent field, as well as one to two years of academic or industry experience in wearable electronic devices or comparable industry experience.

C. My Understanding of Obviousness

22. I have been advised and understand that a claimed invention is unpatentable if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a POSITA to which the subject matter pertains. This means that even if all of the requirements of the claim cannot be found in a single prior art reference that would anticipate the claim, the claim can still be invalid.

23. It is my understanding that obviousness is a question of law based on underlying factual findings: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of skill in the art; and (4) objective considerations of non-obviousness. I understand that for a single reference or a combination of references to render the claimed invention obvious, a POSITA must have been able to arrive at the claims by altering or combining the applied references.

24. I also understand that prior art references can be combined under several different circumstances. For example, it is my understanding that one such circumstance is when a proposed combination of prior art references results in a system that represents a predictable variation, which is achieved using prior art elements according to their established functions.

25. I also understand that when considering the obviousness of a patent claim, one should consider whether a teaching, suggestion, or motivation to combine the references exists so as to avoid impermissibly applying hindsight when considering the prior art. I understand this test should not be rigidly applied, but that the test can be important to avoiding such hindsight.

V. THE '929 PATENT

A. Background of the '929 Patent

26. The '929 Patent describes eyeglasses that include circuitry within the frames to purportedly enhance the eyeglasses. (EX-1001, 1:44-59.) The '929 Patent identifies three areas of enhancement:

(1) Media focals, that is, utilizing the eyewear for its intended purpose and enhancing that use by using imaging techniques to improve the vision of the user.

(2) Telecommunications enhancements that allow the eyeglasses to be integrated with telecommunication devices such as cell phones or the like.

(3) Entertainment enhancements that allow the eyewear to be integrated with devices such as MP3 players, radios, or the like.

(EX-1001, 1:44-59.)

27. As an example of the media focals, “a digital camera could be placed within the eyewear to allow for seeing certain of these images.” (EX-1001, 2:42-45.)

28. The '929 Patent further describes that the eyeglasses can include, or interface with, various features common to popular computing devices at the time. For example, the '929 Patent describes an “information bar” (*e.g.*, a stock ticker), MP3 player, and cell phone and states that the eyeglasses can “function within a client/server model.” (EX-1001, 2:59-62, 3:44-46, 3:62-63, 4:42-43.)

B. Prosecution History of the '929 Patent

29. The application that became the '929 Patent is a continuation that was filed on Jan. 11, 2013, and claims priority through a series of continuation applications to an application filed on October 7, 2005. For the purposes of this declaration, I assume a priority date of October 7, 2005 for the challenged claims.

30. The prosecution histories of the priority applications are lengthy. In his December 8, 2014 Notice of Allowability, the Examiner found that the claims overlapped substantially with the prior art: “the prior art teaches eyewear comprising, a frame member, a lens, circuitry within the frame member for enhancing the use of the eyewear, and an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user.” (EX-1002, 104.) All the challenged claims recite these known elements. They were only allowed on the basis of various remaining limitations that, as set forth in this declaration, were also known in the art. (EX-1002, 104.)

C. Claim Construction

31. As discussed above, I understand that, during an *inter partes* review, words in a claim are given their ordinary and customary meaning, which is the meaning understood by a POSITA at the time of the alleged invention after reading the entire patent. In performing my analysis and rendering my opinions, I have interpreted claim terms by giving them the ordinary and customary meaning they

would have to the POSITA reading the '929 patent as of October 7, 2005, and in light of its specification and file history.

32. I understand that in co-pending litigation in the U.S. District Court for the District of Delaware, Patent Owner asserts that the Petitioner infringes claims 7 and 10 of the '929 Patent. I understand the Patent Owner and the Petitioner have exchanged briefing regarding proposed constructions of certain claim terms of the '929 Patent, as shown in exhibits EX-1008 through EX-1011 and as summarized in the chart below:

Claim Term	Patent Owner's Proposed Construction	Petitioner's Proposed Construction
media focals	utilizing the eyewear for its intended purpose and enhancing that use by using imaging techniques to improve the vision of the user	circuitry that uses imaging techniques to improve the vision of the user
the eye sensor activating the circuitry responsive to eye motion of a user	plain and ordinary meaning	the eye sensor making the inactive circuitry become active, in response to eye motion of a user
a lens	plain and ordinary meaning	plain and ordinary meaning ¹

¹ I understand Petitioner previously took the position that “a lens” should be construed to mean “a transmissive optical device which focuses a light beam by refraction.”

Claim Term	Patent Owner's Proposed Construction	Petitioner's Proposed Construction
cell phone	plain and ordinary meaning	plain and ordinary meaning ²
MP3 player	plain and ordinary meaning	plain and ordinary meaning ³

33. I do not believe any claim construction is necessary for the purposes of the Petition. I believe the challenged claims are unpatentable under any reasonable interpretation of the claim language.

D. Priority Date of the Challenged Claims

34. The '929 Patent issued from U.S. Patent Application No. 13/739,929, filed Jan. 11, 2013, claiming priority to U.S. Patent Application No. 11/245,756, filed Oct. 7, 2005. Therefore, the earliest possible priority date of the challenged claims is Oct. 7, 2005.

² I understand Petitioner previously took the position that “cell phone” should be construed to mean “circuitry that sends and receives telephone calls over a cellular network.”

³ I understand Petitioner previously took the position that “MP3 player” should be construed to mean “circuitry that inputs a computer file in MP3 format and outputs an audio signal based on the computer file.”

VI. TECHNICAL ANALYSIS OF PRIOR ART

A. Ground 1: Claims 1-8, 10, 11, 15, 17, and 22 are Obvious in View of Mann '895 and Perner

35. It is my view that Mann '895 in view of Perner teaches each and every limitation of claims 1-8, 10, 11, 15, 17, and 22 of the '929 Patent, for the reasons set forth below.

1. Summary of Mann '895

36. Mann '895 is a Canadian patent application that was published by the Canadian Intellectual Property Office on Dec. 26, 2002. Mann '895 is thus prior art to the '929 Patent under at least 35 U.S.C. § 102(a) and (b) based on the October 7, 2005 priority date of the '929 Patent. Mann '895 was not considered during the prosecution of the '929 Patent.

37. Mann '895 discloses “a wearable eyeglass based device allowing the wearer to view data,” such as from a wearable computer screen built into the eyeglasses, “where the device appears to others to be simply a pair of ordinary eyeglasses.” (EX-1005, 4.) Fig. 3 illustrates an embodiment:

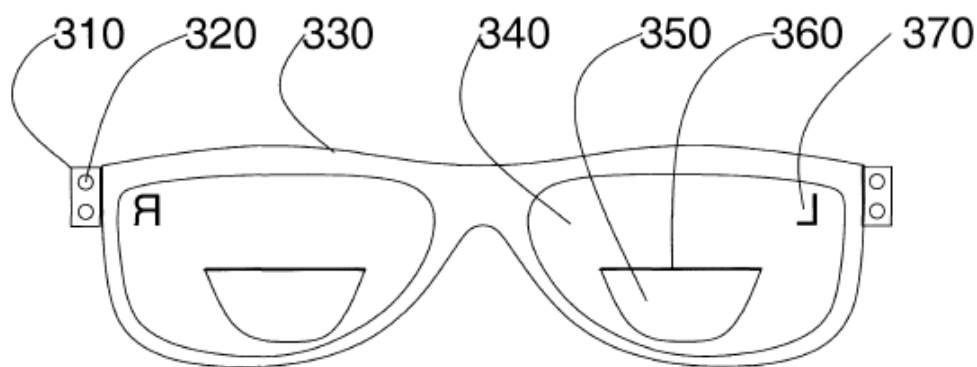


FIG. 3

(EX-1005, Fig. 3.)

38. There is electronic circuitry built into the frames of the eyeglasses, such as in “a microphone, speakers, indicator lights, cameras, etc.,” or a “pocke[t] sized computer,” which are all devices or components that commonly include electronic circuitry. (EX-1005, 10.) This allows the eyeglasses to perform various additional functions. For example, the eyeglasses can function as “a telephone, videophone, pocket organizer, personal safety device, or the like.” (EX-1005, 10.) An information display in the lenses can present a computer screen, or other information such as an “organizer, calendar, clock, airline information, etc.” (EX-1005, 5, 9, 13, 15.) The information display can also present “3D scene information and annotation,” which can be overlaid on an image captured by a camera in the eyeglasses. (EX-1005, 10, 11.)

39. Mann ’895 discloses that a “sight license” can be downloaded to the eyeglasses over a network to “enable the eyeglasses to operate.” (EX-1005, 11.)

A retinal or iris scanner in the eyeglasses can be used to license the eyeglasses to provide sight to authorized users, but not to unauthorized users (*e.g.*, those who might steal the eyeglasses). (EX-1005, 11.) In some examples, certain markings, materials, or environmental lighting can be provided only to users who have a sight license. (EX-1005, 12.) The sight license can also activate other eyeglass functionality, such as thermal imaging. (EX-1005, 12.)

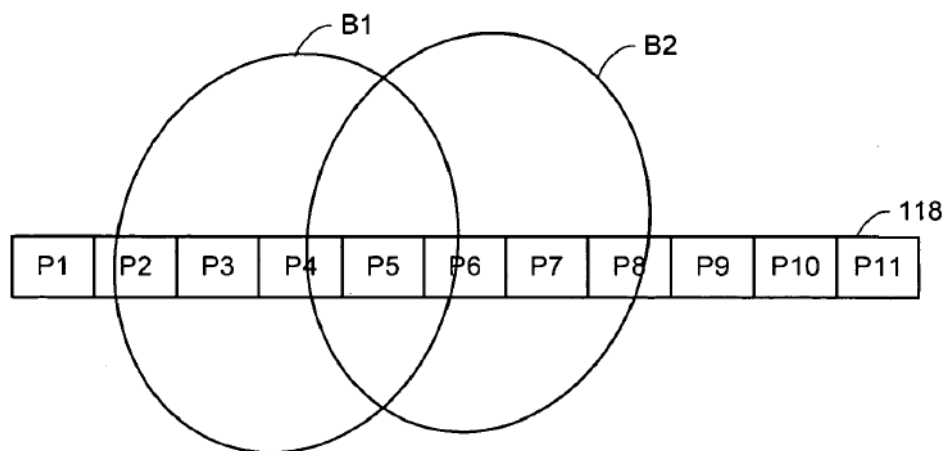
2. Summary of Perner

40. Perner is a U.S. patent application that was filed on June 18, 2004 and published on Dec. 22, 2005. Perner is thus prior art to the '929 Patent under at least 35 U.S.C. § 102(e) based on the October 7, 2005 priority date of the '929 Patent.

41. Perner discloses an iris feature detector: an eye sensor in which sequential iris images are captured in response to a user's "rapid eye motion," and used to identify and authenticate the user. (EX-1006, [0006], [0025], [0035].) This can be used to grant the user certain privileges. (EX-1006, [0035].)

42. In Perner's iris feature detector, a reflexive eye motion is triggered by exposing the user's eye to first and second light sources, such as LEDs. (EX-1006, [0017]-[0020].) A controller 120 causes an image sensor to capture two sequential images of the eye during a tracking interval, which is an interval in which the eye

motion occurs. (EX-1006, [0020]-[0022].) Fig. 2 of Perner shows an example of the eye motion with respect to the image sensor 118:



(EX-1006, Fig. 2, [0023].)

43. The only difference between the two sequential images is the motion of the eye. (EX-1006, [0020]-[0022].) A processor 122 determines an edge pattern based on the difference between the two images. (EX-1006, [0020]-[0022].) Because the edge pattern is “unique to an individual,” it can be used to identify and authenticate the user, by comparing the edge pattern to a database of reference patterns. (EX-1006, [0025]-[0026].) If the eye does not move, the sequential images will be the same, and an edge pattern will not be produced. (EX-1006, [0027].) Thus, Perner’s iris scanner responds to the eye motion of the user, by generating an edge pattern—used to identify and authenticate the user—if and only if the user’s eye is in motion.

44. Perner's iris feature detector improves on "conventional iris scanners" that do not respond to eye motion. (EX-1006, [0004].) Such scanners utilize encoded images of an eye that has been centered in a field of view. (EX-1006, [0004].) They may be slow, computationally intensive, and expensive. (EX-1006, [0004].) In contrast, because Perner's iris feature detector uses edge patterns generated from images of eye motion, it does not require complex processing such as registration of the iris, extracting the iris from the background, and artifact removal, which are tasks performed by conventional iris scanners. (EX-1006, [0025].) This allows Perner's iris feature detector to provide faster detection of iris features, as well as faster processing for identification and authentication. (EX-1006, [0025].)

3. Claim 1

45. Mann '895 in view of Perner meets each limitation of claim 1, as described below.

a. [Preamble] *Eyewear comprising:*

46. The preamble is taught by Mann '895 in view of Perner. For example, Mann '895 discloses "a *wearable eyeglass based device* allowing the wearer to view data," such as from a wearable computer screen, "where the device appears to others to be simply *a pair of ordinary eyeglasses.*" (EX-1005, 4 (emphasis added).) Fig. 3 illustrates an embodiment:

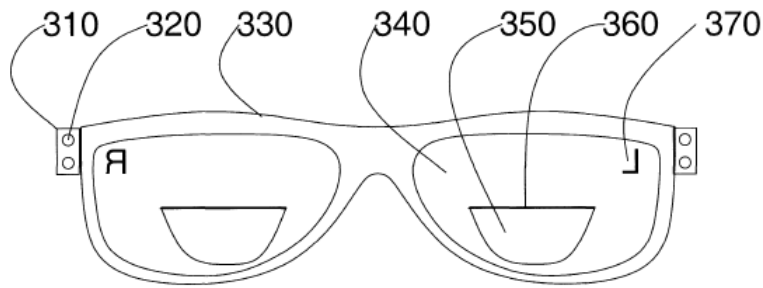


FIG. 3

(EX-1005, Fig. 3.)

b. [A] a frame member;

47. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses a pair of eyeglasses “having temple side pieces of *frame 100* with frames that support eyeglass lenses 100L.” (EX-1005, 8 (emphasis added).) Fig. 1 illustrates an example, showing frame member 100:

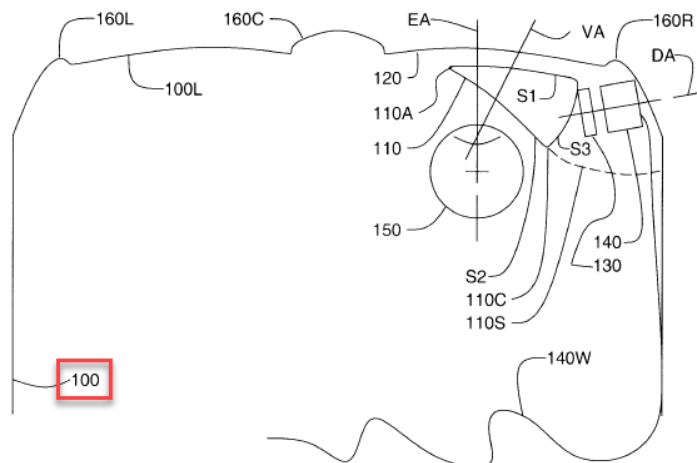


FIG. 1

(EX-1005, Fig. 1 (annotated).)

c. [B] a lens;

48. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses a pair of eyeglasses, “having temple side pieces of frame 100 with frames that support *eyeglass lenses 100L*.” (EX-1005, 8 (emphasis added).) Fig. 1 illustrates an example of lens 100L:

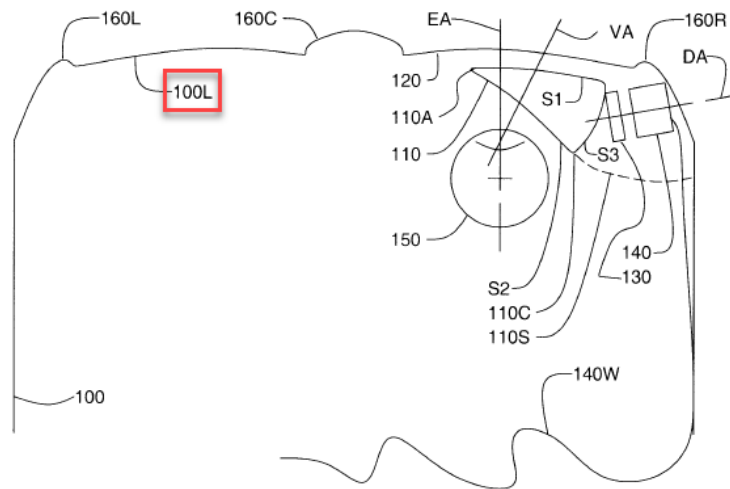


FIG. 1

(EX-1005, Fig. 1 (annotated).)

49. Mann '895 clarifies that the term “lens” is “used in the wide sense,” encompassing any reasonable interpretation of the term. (EX-1005, 8.)

d. [C] *circuitry within the frame member for enhancing the use of the eyewear; and*

50. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses that “the [pocket sized] computer may be built into the eyeglass frames.” (EX-1005, 10.) Mann '895 explains that, among other enhancements, the eyewear allows the wearer to view data from the screen of the wearable computer,

while appearing to be a pair of ordinary eyeglasses. (EX-1005, 4.) Thus, the circuitry (computer) within the frame member is for enhancing the use of the eyewear. Mann '895 further notes that “[o]ther devices in the eyeglasses such as a microphone, speakers, indicator lights, cameras, etc., allow the eyeglasses to function as a telephone, videophone, pocket organizer, personal safety device, or the like.” (EX-1005, 10.) And Mann discloses that an electronic viewscreen in the eyeglasses can display the output of a camera that is “concealed in the eyeglass frames.” (EX-1005, 6-7.) These are additional examples in which circuitry (as in, e.g., microphone, speakers, indicator lights, cameras) within the frame member enhances the use of the eyewear.

- e. ***[D] an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user;***

51. Mann '895 in view of Perner meets this element.⁴ For example, Mann '895 discloses a “sight license” feature. (EX-1005, 11.) As Mann '895 explains, a

⁴ In the co-pending litigation, the Petitioner and the Patent Owner have proposed competing constructions for “the eye sensor activating the circuitry responsive to eye motion of a user” for the purposes of the litigation. However, as explained herein, this element is met under either party’s proposed construction, or any reasonable interpretation of the claim language.

“retinal or iris scanner in the eyeglasses” can license the eyeglasses to provide sight to the wearer. (EX-1005, 11.) Retinal scanners and iris scanners are examples of eye sensors that scan and detect components of the human eye (*i.e.*, the retina; the iris). For example, an iris scanner senses an eye by scanning the iris of the eye. The retinal or iris scanner in the eyeglasses in Mann ’895 thus meets the claimed *eye sensor coupled to the frame member*.

52. Mann ’895 further explains that the sight license granted by the retinal or iris scanner can “enable the eyeglasses to operate.” (EX-1005, 11.) For example, the retinal or iris scanner can license the eyeglasses to provide sight to the wearer, but not to others. (EX-1005, 11.) Thus the eye sensor is *activating the circuitry*, at least by enabling the eyeglasses to operate (*e.g.*, by enabling the circuitry of the eyeglasses to provide sight to the licensed wearer).

(i) *responsive to eye motion of a user*

53. To the extent that Mann ’895 alone does not teach the eye sensor activating the circuitry *responsive to eye motion of a user*, this element is taught by Mann ’895 in combination with Perner. For example, as described above, Mann ’895 discloses that an iris scanner is used to activate the circuitry of the eyeglasses. Perner discloses an iris feature detector with which sequential iris images are captured in response to a user’s “rapid eye motion.” (EX-1006, [0006].) An edge pattern is determined based on these images of the eye motion, and the edge

pattern is used to identify and authenticate the user. (EX-1006, [0024]-[0026], Fig. 2.) If the eye is not in motion, no edge pattern is produced. (EX-1006, [0027].) Perner's iris feature detector is thus an eye sensor that is responsive to the eye motion of the user. And Perner's iris feature detector identifies and authenticates a user, as Mann '895's iris scanner does to provide the sight license as described above. The combination of Mann '895 with the eye motion-based iris scanner of Perner thus meets the limitation that the eye sensor activates the circuitry responsive to eye motion of a user.

(ii) *Motivation to Combine Mann '895 and Perner*

54. A POSITA would have been motivated to combine Mann '895 and Perner to meet the claim limitations with reasonable expectation of success.

55. First, Mann '895 expressly identifies an *iris scanner* as a component used with the disclosed eyewear to selectively provide eyeglasses functionality to a licensed user. (EX-1005, 11.) Perner invites its combination with Mann '895 by explaining how it improves on "conventional iris scanners," and expressly suggesting how its eye sensor can be used in "identification and authentication systems," "devices that use biometric passwords," and other systems that use iris scans. (EX-1006, [0004], [0059].) The eyewear disclosed in Mann '895 is one such device, at least because Mann '895 uses an iris scanner to activate the eyewear for authorized users, but not for unauthorized users (such as "others who

might steal the eyeglasses”). (EX-1005, 11.) The POSITA would thus have been motivated to utilize the iris feature detector of Perner in place of the iris scanner of Mann ’895, particularly given the express suggestion in Perner.

56. Second, the iris feature detector of Perner would have been readily combinable with the eyewear of Mann ’895, which includes an iris scanner, by the POSITA. The teachings of Mann ’895 and Perner are implemented using analogous electronic components. For example, Perner explains that its iris feature detector can be implemented by using a controller 120 to control light sources and acquire an image using an image sensor. (EX-1006, [0029], Fig. 3.) The controller 120 notifies a processor 122, which can process the image sensor output to perform authentication or identification. (EX-1006, [0029], [0032]-[0035], Figs. 3-4.) Perner describes that the controller 120 and processor 122 of Perner may be implemented in a single chip, such as an ASIC, and that doing so can provide advantages in cost, power consumption, size, weight, reliability, and performance. (EX-1006, [0037]-[0038].) Mann ’895 discloses implementing components of its eyewear (such as a processor, or the computer built into the eyeglasses frames, described above) using FPGAs and programmable logic devices. (EX-1005, 8.) FPGAs and programmable logic devices are well-known electronic components that would be well suited for implementing the controller and processor of Perner, including in a single chip, thereby realizing the above advantages described by

Pemer. (EX-1005, 8.) And Mann '895 discloses an iris scanner, analogous to Pemer's iris feature detector, that operates in this system. (EX-1005, 11.) The combination of Mann '895 and Pemer thus would have yielded predictable results with a reasonable expectation of success.

57. Third, the POSITA would have been motivated to combine the iris feature detector of Pemer with the eyewear of Mann '895 because the iris feature detector of Pemer offers specific technical advantages that would improve the functionality, usability, and safety of the Mann '895 eyewear. As Pemer explains, conventional iris scanners that do not respond to eye motion have drawbacks: they are “expensive” and “computationally intensive.” (EX-1006, [0004]-[0005].) But Pemer's iris feature detector can identify and authenticate a user based on an edge pattern that is generated from the user's eye motion. (EX-1006, [0023]-[0025], Fig. 2.) Unlike conventional iris scanners, detecting iris features from the edge pattern “does not require complex processing” such as registration of the iris, extracting the iris from the background, and artifact removal. (EX-1006, [0025].) Pemer's eye sensor thus offers faster detection of iris features, as well as faster processing for identification and authentication, while reducing computational overhead. (EX-1006, [0025].) A POSITA would have been motivated to combine Pemer with Mann '895 to realize these technical advantages.

58. The POSITA would have recognized that these advantages may be especially valuable for head-worn systems, such as the eyewear of Mann '895. In such devices, battery capacity and processing power are at a premium, because the size, mass, and thermal output of the device are limited by what the user can safely and ergonomically wear on his or her head. By reducing the complexity of iris scanning operations, as described in Perner, the head-worn eyewear of Mann '895 can benefit from, *e.g.*, smaller battery size, longer battery life, and reduced heat dissipation, improving the wearability and safety of the eyewear.

f. [E] *wherein an information bar is provided on the lens.*

59. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses “an information display having the appearance of ordinary eyeglasses.” (EX-1005, 7.) The information display can present a computer screen, or other information such as an “organizer, calendar, clock, airline information, etc.” (EX-1005, 5.) The information display can also present “3D scene information and annotation.” (EX-1005, 11.) The information display can also include markings including rectangles. (EX-1005, 5.) A POSITA would have understood these various elements to include an information bar.

60. Moreover, these information displays are consistent with the '929 Patent's description of the information bar as conveying “a variety of types of information.” (EX-1001, 2:55-64.) They are further consistent with the '929

Patent’s example information bar, which is a scrolling stock ticker that presents stock price information—analogous to, *e.g.*, the display of airline information expressly mentioned in Mann ’895. (EX-1001, 2:55-64, Fig. 2; EX-1005, 5.)

Mann ’895 in view of Perner thus meets the claimed *information bar*.

61. The information display is presented to the eye via optics 110. (EX-1005, 8-9.) Optics 110 can be part of the lens 100L, or bonded to the lens 100L, such that there is “no apparent discontinuity” between the display optics and the lens. (EX-1005, 13.) Further, in some embodiments, “lens 350 *is* optics 110.” (EX-1005, 15 (emphasis added).) By integrating the display optics with the lens, the information bar can be “overlaid on top of [the user’s] visual field of view such that the information is relevant to the imagery being viewed.” (EX-1005, 5.) Thus, the information bar is provided *on the lens*.

4. Claim 2

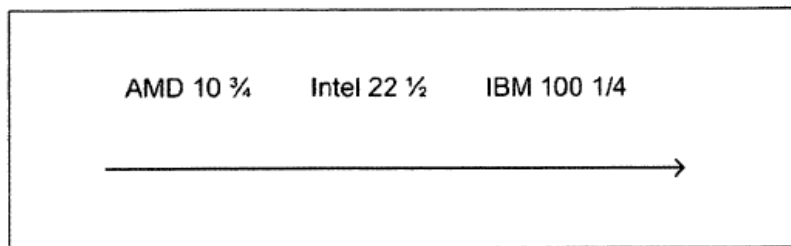
62. Mann ’895 in view of Perner meets each limitation of claim 2, as described below.

a. [Preamble] *The eyewear of claim 1*

63. Mann ’895 in view of Perner meets the eyewear of claim 1 as described above for claim 1.

b. [A] *wherein the information bar is provided across the lens for a user.*

64. Mann '895 in view of Perner meets this element as described above for claim 1[E]. The information bar is provided *across* the lens for a user at least because a POSITA would have understood that textual information such as “airline information” can be presented from left to right, or right to left, across the lens. (EX-1005, 5.) This is consistent with the '929 Patent's description that a stock ticker is provided “across” the eyewear, as shown in Fig. 2 below, and the POSITA would have understood that information such as Mann '895's airline information can be presented in a similar fashion.



(EX-1001, Fig. 2.)

5. Claim 3

65. Mann '895 in view of Perner meets each limitation of claim 3, as described below.

a. [Preamble] *The eyewear of claim 1*

66. Mann '895 in view of Perner meets the eyewear of claim 1 as described above for claim 1.

b. [A] *wherein the lens is reflective.*

67. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses that lens 110L can be tinted to match the appearance of optics 110. (EX-1005, 13-14.) A surface S1 of optics 110 can be “mirrored,” and thus reflective, and the lens 110L can be tinted to match this mirrored surface. (EX-1005, 13-14.) Similarly, Mann '895 discloses that “a lens of said eyeglasses has a mirrored finish.” (EX-1005, 21.) Mann '895 in view of Perner thus teaches that *the lens is reflective.*

6. Claim 4

68. Mann '895 in view of Perner meets each limitation of claim 4, as described below.

a. [Preamble] *The eyewear of claim 1*

69. Mann '895 in view of Perner meets the eyewear of claim 1 as described above for claim 1.

b. [A] *wherein the lens is partially reflective.*

70. Mann '895 in view of Perner meets this element. For example, as described above for claim 4, Mann '895 discloses that lens 110L can be tinted to match the appearance of optics 110. (EX-1005, 13-14.) A surface S1 of optics 110 can be “partially reflective,” and the lens 110L can be tinted to match this

partially reflective surface. (EX-1005, 13-14.) Mann '895 in view of Perner thus teaches that *the lens is partially reflective*.

7. Claim 5

71. Mann '895 in view of Perner meets each limitation of claim 5, as described below.

a. [Preamble] *The eyewear of claim 1*

72. Mann '895 in view of Perner meets the eyewear of claim 1 as described above for claim 1.

b. [A] *wherein a logo is placed on a front surface of the lens.*

73. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses that eyeglass lenses 340 can “contain markings 370 made directly on the glass.” (EX-1005, 16.) These markings can include the manufacturer’s name or an abbreviation, such as the letters “GA” on a lens of Giorgio Armani glasses. (EX-1005, 16.) Mann '895 in view of Perner thus teaches that *a logo is placed on a front surface of the lens*.

8. Claim 6

74. Mann '895 in view of Perner meets each limitation of claim 6, as described below.

a. [Preamble] *The eyewear of claim 1*

75. Mann '895 in view of Perner meets the eyewear of claim 1 as described above for claim 1.

b. [A] *wherein the eyewear incorporates a camera to project a reciprocal display using a second lens.*

76. Mann '895 in view of Perner meets this element. The term “reciprocal display” does not appear anywhere in the '929 Patent. Nor is “reciprocal display” recognized as a term of art. As best understood, the claimed reciprocal display refers to the '929 Patent's description of using a second lens to present a camera image to an external viewer. (EX-1001, 2:52-54.) In the sole example provided in the specification, using the second lens to present an image of the user to an external viewer can make the second lens appear to be “see-through,” from the perspective of the external viewer. (EX-1001, 2:52-54.)

77. In Mann '895, the eyewear can incorporate a camera. (EX-1005, 6-7, 10.) A viewscreen in the eyewear can present the output of the camera (*e.g.*, a picture taken by the camera) to a user. (EX-1005, 6-7.) Mann '895 discloses that the camera output can be presented to the user via a display device that only the user can see. (EX-1005, 5.) Mann '895 also discloses that the camera output can be projected to an “additional display device that the user can show to others”. (EX-1005, 5.) The additional display device, which is presented to an external

viewer, meets the claimed “reciprocal display,” as I understand that term. Mann ’895 in view of Perner thus teaches that *the eyewear incorporates a camera to project a reciprocal display*.

78. Further, the additional display device meets the claimed second lens, at least because Mann ’895 discloses that its display devices can be integrated into a lens, such as described above for claim 1[E]. Moreover, Mann ’895 describes that, in a preferred embodiment, “both eyes have a display,” such that the preferred embodiment includes two lenses. (EX-1005, 3.) Mann ’895 in view of Perner thus teaches that the eyewear incorporates a camera to project a reciprocal display *using a second lens*.

9. Claim 7

79. Mann ’895 in view of Perner meets each limitation of claim 7, as described below.

a. [Preamble] *Eyewear comprising:*

80. Mann ’895 in view of Perner meets the preamble as described above for claim 1[Preamble].

b. [A] *a frame member;*

81. Mann ’895 in view of Perner meets this element as described above for claim 1[A].

c. [B] *a lens;*

82. Mann '895 in view of Perner meets this element as described above for claim 1[B].

d. [C] *circuitry within the frame member for enhancing the use of the eyewear; and*

83. Mann '895 in view of Perner meets this element as described above for claim 1[C].

e. [D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user*

84. Mann '895 in view of Perner meets this element as described above for claim 1[D].

f. [E] *wherein the circuitry provides any of a cell phone, media focal, and an MP3 player.*

85. Mann '895 in view of Perner meets this element. By the plain text of the claim, the circuitry provides *any of* the three recited features (1) a cell phone, (2) media focal, and (3) an MP3 player. This element is thus met if the references teach that the circuitry provides *even one* of the above three features, let alone multiple of them. As described below, Mann '895 in view of Perner meets *all three* of the features, even though just one would be sufficient to satisfy this claim limitation.

(i) *media focals*

86. Mann '895 in view of Perner meets this element. According to the '929 Patent, “media focals” is “utilizing the eyewear for its intended purpose and enhancing that use by using imaging techniques to improve the vision of the user.” (EX-1001, 2:25-27.) In the co-pending litigation, the Patent Owner endorsed this exact description as its proposed construction of “media focals.”⁵

87. Mann '895 in view of Perner teaches that the circuitry provides media focals. As an example, as described above with respect to claim 1[C], Mann '895 discloses eyewear in which circuitry within the frame member includes a wearable camera coupled to a viewfinder. (EX-1005, 4.) A “computational system” may be “built into the wearable camera” and “used to enhance images.” (EX-1005, 4.) Mann '895 notes that the image enhancement “may be of value to the visually impaired.” (EX-1005, 4.)

88. Mann '895 describes the eyewear as “a wearable apparatus that provides the wearer with an electronic display device ... similar to or suitable for a

⁵ In the co-pending litigation, the Petitioner and the Patent Owner have proposed competing constructions for “media focals” for the purposes of the litigation. However, as explained herein, this element is met under either party’s proposed construction.

camera viewfinder screen, or for a wearable computer information display.” (EX-1005, 1.) Thus, the circuitry—including the wearable camera and the computational system—utilizes the eyewear for its intended purpose (providing the wearer with an electronic display device). The circuitry enhances that use (*e.g.*, is “used to enhance images”) by using imaging techniques, such as object recognition, face recognition, and combining images to increase “spatial extent, spatial resolution, dynamic range, or tonal fidelity.” (EX-1005, 4, 5, 7.) And the vision of the user is improved, at least by enhancing images to assist the visually impaired, as described in Mann ’895; and by overlaying relevant information on top of the user’s visual field of view. (EX-1005, 4, 5.)

89. Mann ’895 also describes various additional ways in which imaging techniques are used to improve the user’s vision: for example, by providing night vision, thermal vision, bifocal, or magnifying glass capabilities. (EX-1005, 10, 11, 15.)

90. The above features are consistent with what the ’929 Patent calls a “key feature” of the media focals: “being able to more accurately and clearly see the objects” in the user’s field of view. (EX-1001, 3:4-7.) Furthermore, the ’929 Patent provides a specific example of media focals:

Media focals 100 allow for enhancing the eyewear for its primary purpose, for example, a digital camera could be placed within the eyewear to allow for seeing certain of these images. For example, the circuitry 106 for the media focals 100 could be placed within the frame 108 of the eyewear.

(EX-1001, 2:42-47.)

91. The examples of Mann '895 described above correspond to this example of media focals. For example, as described above, Mann '895 discloses a digital camera placed within the eyewear to allow for seeing images. (EX-1005, 4.) And as described above, the circuitry (*e.g.*, the camera and computational system) for the media focals is placed within the frame of the eyewear. (EX-1005, 4.)

92. For the above reasons, Mann '895 in view of Perner teaches that *the circuitry provides media focals*. Thus, Mann '895 in view of Perner also teaches that *the circuitry provides any of a cell phone, media focals, and an MP3 player*.

(ii) a cell phone

93. Mann '895 in view of Perner meets this element.⁶ Mann '895 discloses that “devices in the eyeglasses ... allow the eyeglasses to function as a

⁶ In the co-pending litigation, the Petitioner and the Patent Owner initially proposed competing constructions for “cell phone,” and now agree that the term should be afforded its plain and ordinary meaning for the purposes of the litigation.

telephone, videophone, pocket organizer, personal safety device, or the like.” (EX-1005, 10 (emphasis added).)

94. A POSITA would have understood Mann ’895’s “devices in the eyeglasses,” that “allow the eyeglasses to function as a telephone,” “videophone,” or “pocket organizer,” to teach that the circuitry of those devices provides a cell phone, as recited in the claim. First, by the effective filing date of October 7, 2005, cellular telephones (cell phones) were becoming ubiquitous. For example, according to the U.S. Census Bureau, by 2005, 71 percent of U.S. households owned a cell phone (up from 36 percent in 1998); and, according to World Bank data, in 2005, there were over 203 million mobile cellular subscriptions in the United States—69 such subscriptions per 100 people. (*Cellphone Ownership Soared Since 1998*, WALL ST. J., Nov. 27, 2009 (<https://www.wsj.com/articles/BL-REB-8073>); World Bank, *Mobile cellular subscriptions – United States* <https://data.worldbank.org/indicator/IT.CEL.SETS?locations=US>.) In view of the prevalence of cell phones by 2005, the POSITA would have understood Mann ’895’s disclosure of “telephone” and “videophone” to include cell phones. Second, the POSITA would have understood that a telephone or videophone in a mobile

However, as explained herein, this element is met under any of the proposed constructions, or any reasonable interpretation of the claim language.

wearable device, such as Mann '895's eyewear, must also be a mobile device—such as a cell phone. If it were not, the eyewear would not be mobile and wearable.

95. Further, in the co-pending litigation, the Patent Owner took the position that the claimed cell phone should be viewed in a “broad context of telecommunications enhancements”; and that “the patentee intended a broad interpretation of ‘cell phone’” to include “functions such as accessing voicemail, email, multimedia messages, and other data.” (EX-1008, 15 (citing EX-1001, 1:48-56, 4:46-5:39).) Under the Patent Owner's position, the claimed cell phone is thus taught at least by the “telephone,” “videophone,” and “pocket organizer” functions of Mann '895's eyewear. For example, as the POSITA would recognize, a telephone allows a user to access voicemail; a videophone allows a user to access multimedia messages (*e.g.*, messages with audio and video); and a pocket organizer allows a user to access email and other data.

96. For the above reasons, Mann '895 in view of Perner teaches that *the circuitry provides a cell phone*. Thus, Mann '895 in view of Perner also teaches that *the circuitry provides any of a cell phone, media focals, and an MP3 player* for at least these reasons, in addition to the reasons described above for *media focals*.

(iii) *an MP3 player*

97. Mann '895 in view of Perner meets this element.⁷ Mann '895 discloses that a computer can be built into the eyeglass frames. (EX-1005, 10.) Mann '895 also discloses that “devices in the eyeglasses ... allow the eyeglasses to function as a telephone, videophone, pocket organizer, personal safety device, or the like.” (EX-1005, 10.)

98. A POSITA would have understood the above devices in the eyeglasses to teach that the circuitry of those devices provides an MP3 player, as recited in the claim. By the effective filing date of October 7, 2005, MP3 players had become commonplace, with many portable electronic devices (such as mobile telephones) incorporating MP3 player functionality. For example, in December 2004, the technology website *Engadget* announced a prediction that the year 2005 would be “all about MP3 phones,” referencing numerous then-current trends: the popularity of the iPod (a dedicated portable MP3 player); the decreasing cost of

⁷ In the co-pending litigation, the Petitioner and the Patent Owner initially proposed competing constructions for “MP3 player,” and now agree that the term should be afforded its plain and ordinary meaning for the purposes of the litigation. However, as explained herein, this element is met under any of the proposed constructions, or any reasonable interpretation of the claim language.

flash memory; the growth of mini hard drives; the arrival of high-speed 3G data services; a partnership between Apple and Samsung to bring the iTunes MP3 player software to handsets; and the prevalence of “smartphones and regular cellphones already available now which can play MP3s.” (Peter Rojas, *2005 the year of the MP3 phone?*, ENGADGET (Dec. 29, 2004),

<https://www.engadget.com/2004-12-29-2005-the-year-of-the-mp3-phone.html>

(accessed Jan. 7, 2023).) The POSITA would thus have understood at least Mann ’895’s disclosure of “telephone” and “videophone” to include MP3 players, based at least on the factors identified above. The POSITA further would have understood the computer in Mann ’895’s eyewear to include an MP3 player, at least because the computer (like many computers in 2005) would have been capable of running MP3 player software, such as the aforementioned iTunes software.

99. Moreover, in the co-pending litigation, the Patent Owner took the position that the claimed MP3 player should be viewed in a “broad context of playing or downloading music generally,” referencing a dictionary definition of an MP3 player as “a device for playing MP3s or other digital audio files.” (EX-1008, 17-18 (citing EX-1001, 4:3-7).) Under the Patent Owner’s position, the claimed MP3 player is thus taught at least by the “computer,” “telephone,” “videophone” and “pocket organizer” functions of Mann ’895’s eyewear. A POSITA would have

recognized that all of these devices can allow the user to play digital audio files, such as via the speakers of the Mann '895 eyewear. (EX-1005, 10.)

100. For the above reasons, Mann '895 in view of Perner teaches that *the circuitry provides an MP3 player*. Thus, Mann '895 in view of Perner also teaches that *the circuitry provides any of a cell phone, media focals, and an MP3 player* for at least these reasons, in addition to the reasons described above for *media focals* and *a cell phone*.

10. Claim 8

101. Mann '895 in view of Perner meets each limitation of claim 8, as described below.

a. [Preamble] *Eyewear comprising:*

102. Mann '895 in view of Perner meets the preamble as described above for claim 1[Preamble].

b. [A] *a frame member;*

103. Mann '895 in view of Perner meets this element as described above for claim 1[A].

c. [B] *a lens;*

104. Mann '895 in view of Perner meets this element as described above for claim 1[B].

- d. [C] *circuitry within the frame member for enhancing the use of the eyewear; and***

105. Mann '895 in view of Perner meets this element as described above for claim 1[C].

- e. [D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user;***

106. Mann '895 in view of Perner meets this element as described above for claim 1[D].

- f. [E] *wherein the eyewear can be utilized in a client server system to allow for the display of certain information.***

107. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses in at least three instances that the eyewear can be utilized in a client server system to allow for the display of certain information. Any one of these instances, let alone all three, would be sufficient to meet the claim limitation.

108. First, Mann '895 discloses a "Sight License server," and similarly discloses that the eyewear can download a sight license "over the network," to enable the eyeglasses to operate. (EX-1005, 11, 20.) A POSITA would have understood downloading a file over a computer network, such as from the Sight License server, to teach downloading a file by *utilizing a client server system*, at least because client server systems are ubiquitous components of computer networks. (EX-1014, 4 ("[T]he client-server model ... is widely used and forms

the basis of much network usage.”.) For example, in such a network, a client device (*e.g.*, the Mann ’895 eyewear) can download a file from a server, such as the Sight License server, that hosts the file. This is analogous to the ’929 Patent’s description that the eyeglasses can use a client server system to retrieve live news or special reports from the Internet (a computer network). (EX-1001, 3:44-50.) Mann ’895’s sight license *allows for the display of certain information* by providing a “license to see,” such that downloading the sight license over the network, such as from the Sight License server, “enable[s] the eyeglasses to operate.” (EX-1005, 11, 20.)

109. Second, Mann ’895 discloses that the eyewear “allows the storage and retrieval of images by transmitting and recording images at one or more remote locations.” (EX-1005, 6.) A POSITA would have understood the eyewear storing and retrieving images from a remote location to teach storing and retrieving the images *utilizing a client server system* (*e.g.*, in which the eyewear includes a client and the remote location includes a server). This is at least because client server systems are a ubiquitous way for a device (*e.g.*, a client device) to exchange data with a remotely located computer (*e.g.*, a server). (EX-1014, 4-5.) Retrieving the images from the server *allows for the display of certain information* (*i.e.*, the images).

110. Third, Mann '895 discloses that clocks in the environment may be equipped with “special license servers,” such that the clock “does not properly display time” to eyewear that does not have a license. (EX-1005, 13.) A POSITA would have understood this to teach *utilizing a client server system* in which a client (the eyewear) connects to a server (the special license server) to *allow for the display of certain information* (the correct time).

111. Mann '895 in view of Perner meets this element for at least the foregoing reasons.

11. Claim 10

112. Mann '895 in view of Perner meets each limitation of claim 10, as described below.

a. [Preamble] *Eyewear comprising:*

113. Mann '895 in view of Perner teaches preamble as described above for claim 1[Preamble].

b. [A] *a frame member;*

114. Mann '895 in view of Perner meets this element as described above for claim 1[A].

c. [B] *a lens;*

115. Mann '895 in view of Perner meets this element as described above for claim 1[B].

- d. [C] *circuitry within the frame member for enhancing the use of the eyewear; and***

116. Mann '895 in view of Perner meets this element as described above for claim 1[C].

- e. [D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user;***

117. Mann '895 in view of Perner meets this element as described above for claim 1[D].

- f. [E] *wherein the circuitry can provide any of texts, email; multimedia information; caller id.***

118. Mann '895 in view of Perner meets this element. By the plain text of the claim, the circuitry can provide *any of* the four recited features: (1) texts, (2) email, (3) multimedia information, and (4) caller id. This element is thus met if the references teach that the circuitry provides *even one* of the above four features, let alone multiple of them. As described below, Mann '895 in view of Perner meets *all four* of the features, even though just one would be sufficient to satisfy this claim limitation.

(i) *texts*

119. Mann '895 in view of Perner meets this element. As described above for claim 1, Mann '895 discloses eyeglasses with circuitry within the frames; for instance, the eyeglasses can include a display (*e.g.*, a viewfinder) that allows the

wearer to view data, such as from a wearable computer. (EX-1005, 4.) This data can include texts. As one example, Mann '895 describes that a camera within the eyeglasses can recognize the face of someone in the camera's field of view, and "superimpose the name of the person it recognized into the viewfinder." (EX-1005, 4.) A POSITA would have understood superimposing the person's name on the display to teach that the circuitry provides *texts*.

120. As another example, as described above for claim 1[E], Mann '895 discloses that the display includes information including an "organizer, calendar, clock, airline information, etc." (EX-1005, 4.) The information display can also present "3D scene information and annotation." (EX-1005, 11.) The POSITA would have understood these features to teach that the circuitry provides *texts*. For example, the POSITA would have understood in 2005 that each of the organizer, calendar, clock, and airline information would present texts on the display in order to convey their respective information (*e.g.*, airline flight times).

121. As another example, as described above for claim 7[E], Mann '895 discloses that a computer can be built into the eyeglass frames. (EX-1005, 10.) Mann '895 also discloses that "devices in the eyeglasses ... allow the eyeglasses to function as a telephone, videophone, pocket organizer, personal safety device, or the like." (EX-1005, 10.) The POSITA would have understood these features to teach that the circuitry provides *texts*. For example, the POSITA would have

understood in 2005 that a telephone, videophone, or pocket organizer in the eyeglasses would present text messages, such as SMS messages, to the user. This is consistent with a position taken by the Patent Owner in the co-pending litigation, in which it characterized “accessing voicemail, email, multimedia messages, and other data” as “typical cell phone functions” in the context of the ’929 Patent. (EX-1008, 15.)

122. For the above reasons, Mann ’895 in view of Perner teaches that *the circuitry can provide texts*. Thus, Mann ’895 in view of Perner also teaches that *the circuitry can provide any of texts, email; multimedia information; caller id*.

(ii) email

123. Mann ’895 in view of Perner meets this element. For example, as described above, Mann ’895 discloses that the eyeglass frames can include a computer, a telephone, a videophone, and a pocket organizer. (EX-1005, 10.) The POSITA would have understood that each of these devices in 2005 would provide *email* to the user. This is consistent with a position taken by the Patent Owner in the co-pending litigation, in which it characterized “accessing voicemail, *email*, multimedia messages, and other data” as “typical cell phone functions” in the context of the ’929 Patent. (EX-1008, 15 (emphasis added).)

124. For the above reasons, Mann ’895 in view of Perner teaches that *the circuitry can provide email*. Thus, Mann ’895 in view of Perner also teaches that

the circuitry can provide any of texts, email; multimedia information; caller id for at least these reasons, in addition to the reasons described above for *texts*.

(iii) *multimedia information*

125. Mann '895 in view of Perner meets this element. For example, as described above, Mann '895 discloses that the eyeglass frames can include a computer, a telephone, and a videophone. (EX-1005, 10.) The POSITA would have understood that each of these devices would present *multimedia information* to the user. For example, by 2005, at least a computer and a videophone could provide multimedia information, at least by presenting multimedia content that includes video and audio; and at least a telephone and a videophone could provide multimedia information by sending multimedia messages (*e.g.*, in the Multimedia Messaging Service (MMS) format). This is consistent with a position taken by the Patent Owner in the co-pending litigation, in which it characterized “accessing voicemail, email, *multimedia messages*, and other data” as “typical cell phone functions” in the context of the '929 Patent. (EX-1008, 15 (emphasis added); EX-1001, 5:36-39.)

126. For the above reasons, Mann '895 in view of Perner teaches that *the circuitry can provide multimedia information*. Thus, Mann '895 in view of Perner also teaches that *the circuitry can provide any of texts, email; multimedia*

information; caller id for at least these reasons, in addition to the reasons described above for *texts* and *email*.

(iv) *caller id*

127. Mann '895 in view of Perner meets this element. For example, as described above, Mann '895 discloses that the eyeglass frames can include a telephone or a videophone. (EX-1005, 10.) The POSITA would have understood that each of these devices would present *caller id* to the user. For example, the '929 Patent describes that cell phone circuitry allows “a telephone number ... to be displayed” on the lens of the eyewear. (EX-1001, 4:43-50.) Displaying the telephone number for an incoming call was a ubiquitous feature of telephones and videophones in 2005. Moreover, this is consistent with the position taken by the Patent Owner in the co-pending litigation, in which it characterized “accessing voicemail, email, multimedia messages, *and other data*” as “typical cell phone functions” in the context of the '929 Patent. (EX-1008, 15 (emphasis added).) The POSITA would have understood the “other data” in this context to include incoming caller data.

128. For the above reasons, Mann '895 in view of Perner teaches that *the circuitry can provide caller id*. Thus, Mann '895 in view of Perner also teaches that *the circuitry can provide any of texts, email; multimedia information; caller id*

for at least these reasons, in addition to the reasons described above for *texts*, *email*, and *multimedia information*.

12. Claim 11

129. Mann '895 in view of Perner meets each limitation of claim 11, as described below.

a. [Preamble] *Eyewear comprising:*

130. Mann '895 in view of Perner meets the preamble as described above for claim 1[Preamble].

b. [A] *a frame member;*

131. Mann '895 in view of Perner meets this element as described above for claim 1[A].

c. [B] *a lens,*

132. Mann '895 in view of Perner meets this element as described above for claim 1[B].

d. [C] *wherein an information bar is provided on the lens;*

133. Mann '895 in view of Perner meets this element as described above for claim 1[E].

e. [D] *a digital camera;*

134. Mann '895 in view of Perner meets this element as described above for claims 1[C] and 6[A]. For example, Mann '895 discloses a camera that is

“concealed in the eyeglass frames.” (EX-1005, 6-7.) Mann ’895 broadly defines “cameras” to include digital cameras. (EX-1005, 8.)

- f. ***[E] circuitry within the frame member and coupled to the camera for enhancing the use of the eyewear,***

135. Mann ’895 in view of Perner meets this element as described above for claim 1[C]. The circuitry is coupled to the camera as described above for claims 1[C] and 6[A].

- g. ***[F] wherein the circuitry provides any of a cell phone, media focal, and an MP3 player, or wherein the circuitry can provide any of texts, email; multimedia information; caller id; and***

136. Mann ’895 in view of Perner meets this element as described above for claims 7[E] and 10[E].

- h. ***[G] an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user,***

137. Mann ’895 in view of Perner meets this element as described above for claim 1[D].

- i. ***[H] wherein the eyewear can be utilized in a client server system to allow for the display of certain information, or wherein the eyewear includes a pushbutton system for control.***

138. Mann ’895 in view of Perner meets this element as described above for claim 8[E].

13. Claim 15

139. Mann '895 in view of Perner meets each limitation of claim 15, as described below.

a. [Preamble] *Eyewear comprising:*

140. Mann '895 in view of Perner meets the preamble as described above for claim 1[Preamble].

b. [A] *a frame member;*

141. Mann '895 in view of Perner meets this element as described above for claim 1[A].

c. [B] *a lens; and;*

142. Mann '895 in view of Perner meets this element as described above for claim 1[B].

d. [C] *circuitry within the frame member for enhancing the use of the eyewear utilizing a client server model; and*

143. Mann '895 in view of Perner meets this element as described above for claim 8[E].

e. [D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user.*

144. Mann '895 in view of Perner meets this element as described above for claim 1[D].

14. Claim 17

145. Mann '895 in view of Perner meets each limitation of claim 17, as described below.

a. [Preamble] *Eyewear comprising:*

146. Mann '895 in view of Perner meets the preamble as described above for claim 1[Preamble].

b. [A] *a frame member;*

147. Mann '895 in view of Perner meets this element as described above for claim 1[A].

c. [B] *a lens, wherein an information bar is provided on the lens;*

148. Mann '895 in view of Perner meets this element as described above for claim 1[B] and [E].

d. [C] *wherein the lens has a set of integrated media enhancements,*

149. Mann '895 in view of Perner meets this element. For example, as described above for claim 1[E], Mann '895's eyewear can present various media enhancements on the lens, such as 3D scene information and annotation overlaid on an image. (EX-1005, 11.) The eyewear can also present texts (*e.g.*, names), as described above for 10[E](i). This set of media enhancements is *integrated* at least because it is provided by circuitry that is integrated into the frame of the

eyeglasses; and presented via a display that is integrated into the lens of the eyeglasses, as described above for claim 1.

- e. ***[D] wherein an information is provided on the lens,***

150. Mann '895 in view of Perner meets this element as described above for claim 1[E].

- f. ***[E] an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of the user, and;***

151. Mann '895 in view of Perner meets this element as described above for claim 1[D].

- g. ***[F] circuitry within the frame member for enhancing the use of the eyewear;***

152. Mann '895 in view of Perner meets this element as described above for claim 1[C].

- h. [G] *wherein the circuitry includes voice recognition when a speaker is recognized, wherein the eyewear can be utilized in a client server system to allow for the display of certain information, or wherein the eyewear includes a pushbutton system for control, or wherein the circuitry can provide any of texts, email; multimedia information; caller id.***

153. Mann '895 in view of Perner meets this element at least as described above for claims 8[E] (for *client server system*) and 10[E] (for *any of texts, email; multimedia information; caller id*).

15. Claim 22

154. Mann '895 in view of Perner meets each limitation of claim 22, as described below.

- a. [Preamble] *Eyewear comprising:***

155. Mann '895 in view of Perner meets the preamble as described above for claim 1[Preamble].

- b. [A] *a frame member;***

156. Mann '895 in view of Perner meets this element as described above for claim 1[A].

- c. [B] *a lens;***

157. Mann '895 in view of Perner meets this element as described above for claim 1[B].

d. [C] *a binocular mechanism;*

158. Mann '895 in view of Perner meets this element. For example, Mann '895 discloses that “*either or both eyes* may be accommodated with display capability,” and that, in a preferred embodiment, “*both eyes* have a display.” (EX-1005, 3, 9 (emphasis added).) Mann '895's display is thus a *binocular mechanism*.

159. Moreover, the '929 Patent describes that using the eyewear as binoculars can “allow for the user to see objects more closely based on certain activities of the user.” (EX-1001, 3:4-14.) Mann '895's binocular mechanism allows the user to see objects more closely at least because the display is “magnified” by optics 110—for example, by “magnifying surface” S3. (EX-1005, 9.) Further, the lens of Mann '895's eyewear can include an inset lens 350, which may be a “magnifying glass,” allowing the user to see objects more closely when the user looks through the inset lens. (EX-1005, 15.)

e. [D] *circuitry within the frame member and coupled to the binocular mechanism for enhancing the use of the eyewear; and*

160. Mann '895 in view of Perner meets this element as described above for claims 1[C] and 22[C].

- f. *[E] an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user.*

161. Mann '895 in view of Perner meets this element as described above for claim 1[D].

B. Ground 2: Claims 7, 9, 10, and 15 are Obvious in View of Jannard

162. It is my view that Jannard teaches each and every limitation of claims 7, 9, 10, and 15 of the '929 Patent, for the reasons set forth below.

1. Summary of Jannard

163. Jannard is a U.S. patent that was filed on November 19, 2004, published on September 15, 2005, and issued on October 9, 2007. Jannard is thus prior art to the '929 Patent under at least 35 U.S.C. § 102(a) and (e). Jannard indicates that it was assigned to the eyewear company Oakley, Inc. (EX-1007, Cover Page.)

164. Jannard is directed to head-wearable audio devices. (EX-1007, 1:22-24.) Embodiments of Jannard's wearable audio devices include eyeglasses with lenses, speakers, and circuitry integrated into the eyeglasses frame. (EX-1007, 11:11-27, 20:60-67, 45:59-46:8, Fig. 22.) The circuitry of the audio device can be configured to "store and playback any desired type of electronic audio and/or video file," thereby functioning as an "audio storage and playback system." (EX-1007, 20:60-21:4.) For example, the audio device can "store MP3 files in a memory"

and “play back the MP3 files through the speakers.” (EX-1007, 21:4-7.) In some embodiments, one or more lenses can be a “view finder or a video display unit.” (EX-1006, 12:41-43.)

165. Fig. 24 illustrates an embodiment 304 of a wearable audio device according to Jannard:

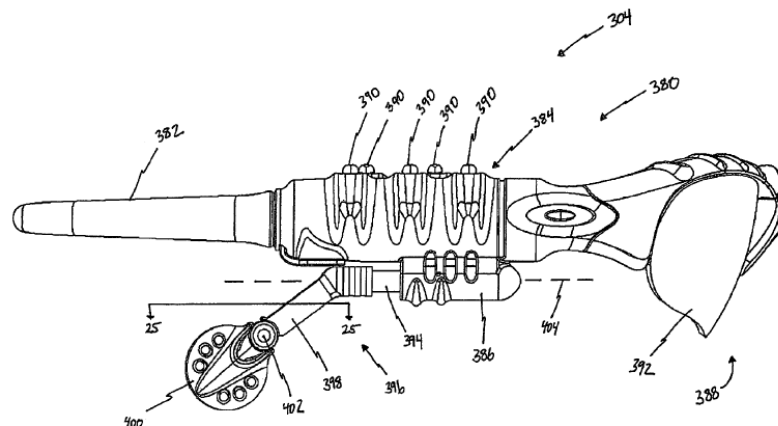


Figure 24

(EX-1007, Fig. 24.)

166. With respect to Fig. 24, an electronic housing 384 is formed within frame 380 of audio device 304. (EX-1007, 45:59-46:8.) Jannard discloses that “electronic components of the audio device 304,” such as “any one or all of the components described ... with respect to FIG. 22 and elsewhere [in Jannard],” are “at least partially enclosed within electronic housing 384.” (EX-1007, 46:5-8 (emphasis added).) Fig. 22 thus illustrates electronic components that can be enclosed within the frame of the audio device 304:

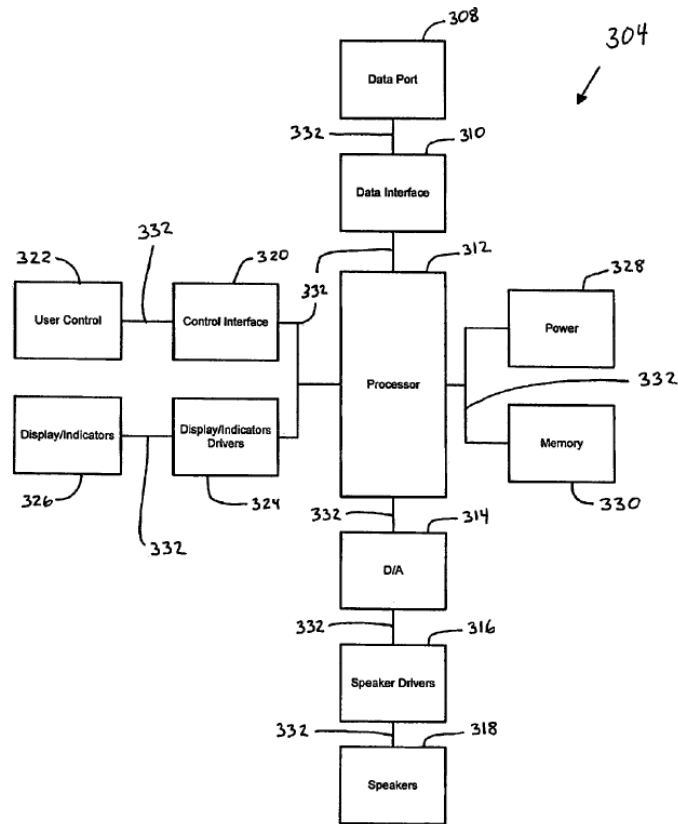


Figure 22

(EX-1007, Fig. 22.)

167. One of those electronic components of the audio device is user controls 322, which can include a sensor to “monitor eye movement,” and control the audio device based upon, *e.g.*, “blinking of the user’s eyes.” (EX-1007, 42:67-43:2.) For instance, user controls 322 can control media playback, or turn the audio device 304 on and off, based on the user’s eye movement. (EX-1007, 43:3-11.) Another component can include processor 312, which “controls the overall function and operation” of the audio device. (EX-1007, 41:12-16, Fig. 22.)

168. Audio devices can communicate with a content source 302 to send and receive content via a communications link 306. (EX-1007, 39:63-67.) For example, audio device 304 can download music from the content source. (EX-1007, 40:31-36.) Fig. 21 illustrates an example:

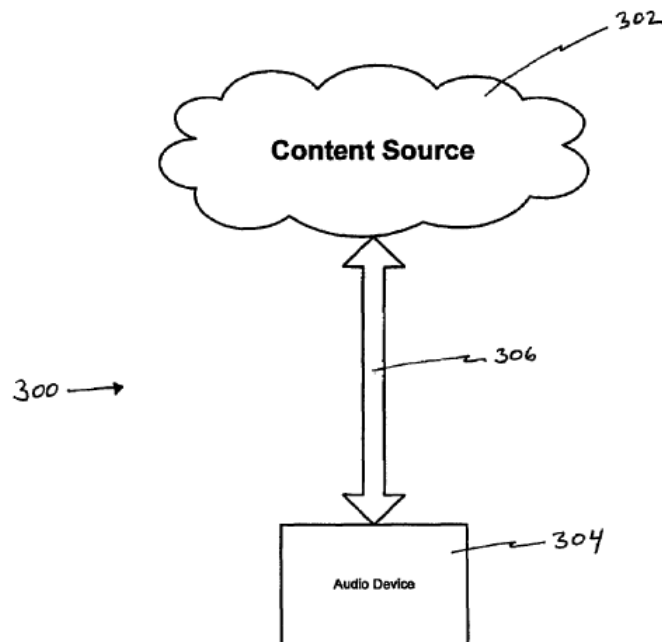


Figure 21

(EX-1007, Fig. 21.)

169. Content source 302 can include, *e.g.*, a computer, a network, a storage device (such as a hard drive or USB drive), a Bluetooth-enabled telephone, a PDA, or a Blackberry device. (EX-1007, 39:67-40:12.) The content source 302 can provide, *e.g.*, “audio files, entertainment, news, media, music, photos, videos, advertising, etc.” (EX-1007, 39:67-40:12.) Communications link 306 can include,

b. [A] a frame member;

172. Jannard meets this element. For example, Jannard discloses that the audio device 304 “includes a *frame* 380,” as shown in Fig. 24 below:

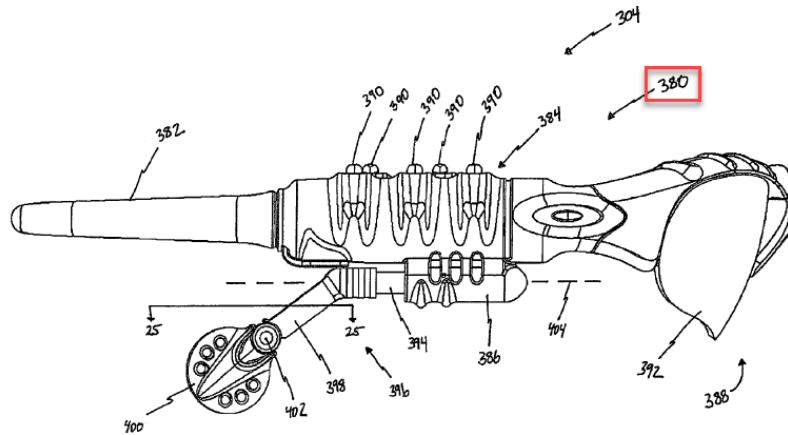


Figure 24

(EX-1007, 45:63-66 (emphasis added), Fig. 24 (annotated).)

c. [B] a lens;

173. Jannard meets this element. For example, Jannard discloses that the audio device 304 includes a *lens* 392, which is partially enclosed by and/or supported by orbitals 388 of frame 380, as shown in Fig. 24 below:

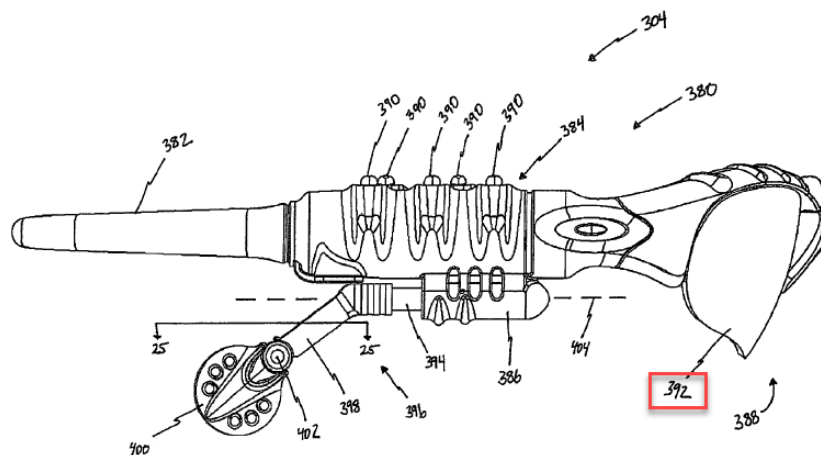


Figure 24

(EX-1007, 45:63-66, 46:12-13, Fig. 24 (annotated).)

d. **[C] *circuitry within the frame member for enhancing the use of the eyewear; and***

174. Jannard meets this element. For example, with respect to Fig. 24, an electronic housing 384 is formed within frame 380 of audio device 304. (EX-1007, 45:59-46:8.) Jannard discloses that “*electronic components* of the audio device 304,” such as “any one or all of the components described ... with respect to FIG. 22 and elsewhere [in Jannard],” are “at least partially enclosed within electronic housing 384.” (EX-1007, 46:3-8 (emphasis added).) Electronic housing 384 of frame 380 is shown, for example, in Fig. 24:

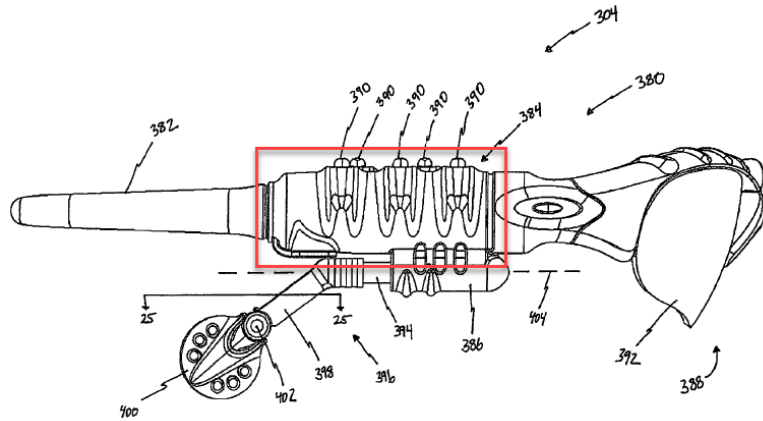


Figure 24

(EX-1007, 45:59-46:2, Fig. 24 (annotated).)

175. Fig. 22 describes example circuitry for audio device 304 that, as described above, can be enclosed within the electronic housing 384 of the frame:

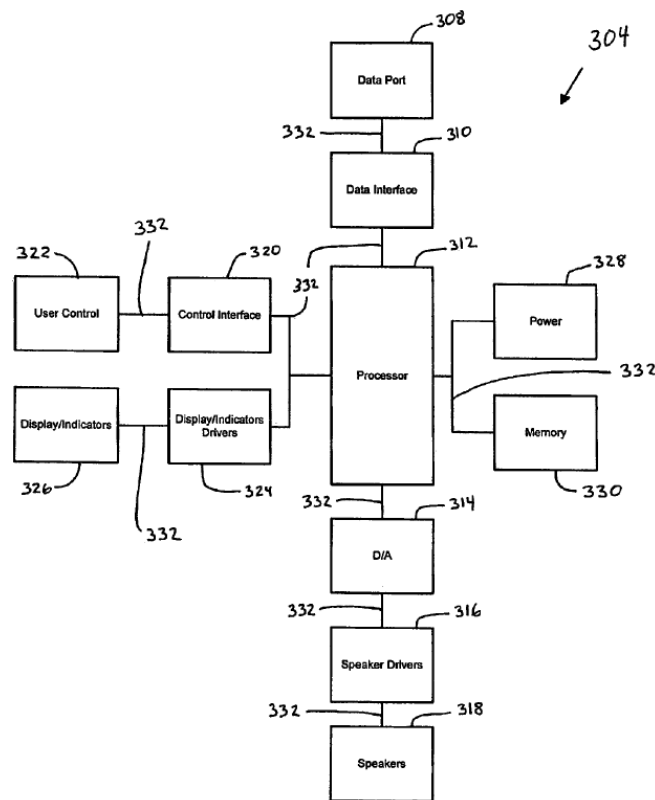


Figure 22

(EX-1007, 40:37-49, Fig. 22.)

176. The circuitry in the frame member can include a processor 312, which “controls the overall function and operation of audio device 304.” (EX-1007, 41:12-16, Fig. 22.) Processor 312 can be, for example, a microprocessor that executes software instructions. (EX-1007, 41:16-23.) Processor 312 “couples directly or indirectly to the various electronic components of the audio device 304.” (EX-1007, 41:12-16.) For example, processor 312 can couple to a memory module 330, which can store audio data files, such as MP3 files. (EX-1007, 43:60-61, Fig. 22.) Processor 312 can, among other tasks, “process encoded digitized audio data,” including stored MP3 files, for presentation to a user via speakers of the audio device 304. (EX-1007, 41:31-42:10, 45:36-58, Fig. 23.)

177. Other circuitry components of Fig. 22 that can be included in the frame member include display/indicators 326 and display/indicator drivers 324, which can be used to display information such as a song selection, a song title, or other data related to an audio file. (EX-1007, 43:12-26, Fig. 22.) Display/indicators 326 can also display device information, such as power, volume level, and remaining battery life. (EX-1007, 43:12-26, Fig. 22.)

178. To the extent not expressly disclosed in Jannard, it would have been obvious to a POSITA that circuitry of content source 302 can be located within the frame member of the audio device with reasonable expectation of success. For

example, Jannard provides that audio device 304 may “include any or all of the features of any of the audio devices described above with respect to FIGS. 1-23.” (EX-1007, 45:60-63.) The POSITA would have understood the content source 302 to be one such feature, based at least on its description with respect to Fig. 21 of Jannard. (EX-1007, 39:63-40:36, Fig. 21.)

179. Jannard additionally provides, as noted above, that “any one or all of the components described ... with respect to FIG. 22 *and elsewhere herein*,” are “at least partially enclosed within electronic housing 384” of the frame 380 of audio device 304. (EX-1007, 46:3-8 (emphasis added).) The POSITA would have understood Jannard to teach that the content source 302 is one of the components described “elsewhere herein,” with respect to Jannard, that could be enclosed within the housing. (EX-1007, 28:3-9, 37:31-32, 37:66-38:1, Fig. 9A.)

180. For example, the POSITA would have understood Jannard to teach that the content source 302—which may include, for example, telephone, PDA, or Blackberry functionality—could be implemented using components of Fig. 22, such as processor 312, memory 330, user control 322, display 326, speakers 318, power 328, conductors 332, and data interface 310. (EX-1007, 40:37-44:10; Fig. 22.) This is so at least because the components of Fig. 22 include components common to content source 302. For instance, memory 330 can include a memory card or a USB drive, and content source 302 can be a memory card or a USB drive.

(EX-1007, 39:67-40:9.) The POSITA would have had a reasonable expectation of success in implementing Jannard in this manner, at least because the POSITA would have done so using the same electronic components already present in Jannard, as shown in Fig. 22, and by using them in their usual manner. Furthermore, these electronic components are commonly used and well understood components, such as a processor, memory, display, and data interface, such that the POSITA would have known how to use them to implement content source 302 without undue experimentation.

181. Further, content source 302 can include electronic communications devices such as telephones, PDAs, and Blackberry devices. (EX-1007, 39:67-40:12.) As a POSITA would have recognized, these devices include circuitry that can be implemented using components such as processors, memory, power supplies, user controls, displays, conductors, data interfaces, and other components of Fig. 22. (EX-1007, 40:37-44:10; Fig. 22.) The POSITA would thus understand Jannard to teach that the content source 302 may include components, such as circuitry of a telephone or PDA, enclosed within the housing 384 of the frame.

182. The circuitry *enhances the use of the eyewear* at least as described for element [E] below and for claim 10[E]. For example, the circuitry enhances the use of the eyewear at least by providing any of a cell phone, media focals, and an

MP3 player; and further by providing any of texts, email, multimedia information, caller id, as described below.

- e. **[D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user***

183. Jannard meets this element. Jannard discloses circuitry within a frame member of audio device 304 as described above for element [C]. Jannard further discloses that user controls 322 of audio device 304 include a “sensor,” and/or “any other input device that may be used by a user to control the audio device 304.” (EX-1007, 42:60-63.) The user controls 322 may be responsive to a biometric provided by a user to control the audio device 304. (EX-1007, 42:65-66.) As an example, the user controls “may *monitor eye movement*, and control the audio device 304 based upon blinking of the user’s eyes.” (EX-1007, 42:67-43:2 (emphasis added).) A POSITA would have understood that a *sensor* of user controls 322, that *monitors eye movement*, meets the claimed *eye sensor*.

184. To the extent not expressly disclosed in Jannard, it would have been obvious to the POSITA that the eye sensor of user controls 322 is *coupled to the frame member*, at least because Jannard discloses that “any one or all of the components described ... with respect to Fig. 22 ... are at least partially enclosed within electronic housing 384” of the frame 380; and because the components described with respect to Fig. 22 include the user controls 322. (EX-1007, 46:3-8,

Fig. 22.) The POSITA would have had a reasonable expectation of success in coupling the eye sensor to the frame member, at least because Jannard describes in detail, including through detailed figures, example relationships between the electronic housing 384 and the frame 380 with respect to the audio device. (*See, e.g., EX-1007, Figs. 22, 24, 28, 32, 35.*)

185. The eye sensor *activates the circuitry* responsive to eye motion of the user at least by “turn[ing] power on or off”. (EX-1007, 43:5-11 (emphasis added).) The eye sensor can additionally activate the circuitry by activating functionality of the MP3 player, described below with respect to section [E](i): for example, by activating media playback functions (*e.g., fast-forward, skip, cue, play, pause, rewind*), media file functions (*e.g., load a playlist, delete a playlist*), or “any other function related to an audio data file.” (EX-1007, 43:3-11.)

186. Jannard’s eye sensor activating the circuitry by activating media playback or file management functions is consistent with the Patent Owner’s position in the co-pending litigation, in which the Patent Owner argued that “activate” means to “cause to function or act,” or to “make active or more active.” (EX-1008, 12 (emphasis in original).) It is also consistent with the Petitioner’s narrower position in the co-pending litigation, under which “activating the circuitry” is to make “inactive circuitry become active” (*e.g., by turning the power on as described above*).

187. Jannard's teaching of blinking to control the audio device is also analogous to the '929 Patent's "preferred embodiment" of "controlling the digital media," in which the user can "blink twice" to activate a function of the digital media (e.g., zooming an image). (EX-1001, 3:36-40.)

f. [E] *wherein the circuitry provides any of a cell phone, media focals, and an MP3 player.*

188. Jannard meets this element. For example, as described above for element [C], Jannard discloses circuitry within the frame of audio device 304.

189. As described above for Ground 1, the circuitry needs to provide only one of a cell phone, media focals, and an MP3 player in order to meet this claim element. For example, the claim is satisfied if the circuitry provides only the MP3 player. Nevertheless, all three of the cell phone, media focals, and MP3 player are provided by the circuitry of Jannard as described below.

(i) *MP3 player*

190. Jannard meets this element. For example, Jannard discloses wearable audio devices that can be configured to "store and playback any desired type of electronic audio and/or video file," thereby functioning as an "audio storage and playback system." (EX-1007, 20:60-21:4.) The audio storage and playback system of the audio devices can "store MP3 files in a memory" and "play back the MP3 files through the speakers." (EX-1007, 21:4-7.)

191. Fig. 23 below illustrates an example process 350 of playing MP3 files:

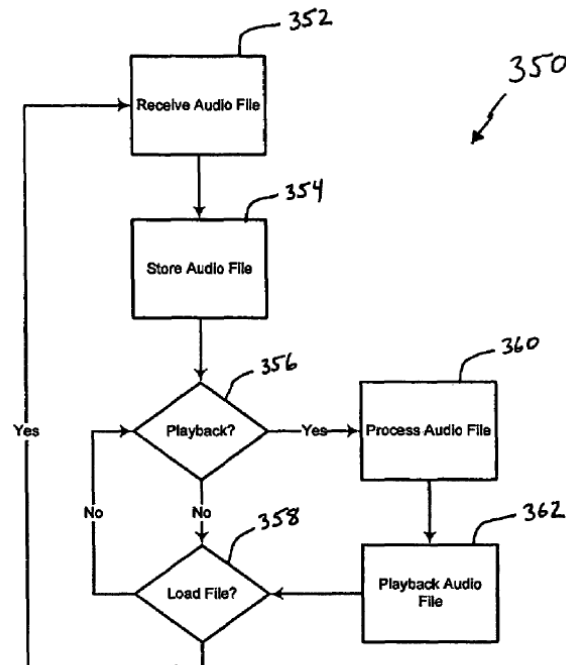


Figure 23

(EX-1007, 45:28-35, Fig. 23.)

192. With respect to process 350 in the above figure, an “MP3 formatted audio file” is stored in the audio device 304 at block 354. (EX-1007, 45:34-37, Fig. 23.) If the user has instructed the audio device 304 to play back the MP3 file (356), the circuitry processes the MP3 file (360), such as by adjusting the playback volume, tone, balance, bass, treble, or another audio parameter. (EX-1007, 45:45-53, Fig. 23.) The MP3 file is then played back (362), such as by decompressing the file, converting it to an analog signal, and sending the signal to speakers so that the MP3 file can be heard by a user. (EX-1007, 45:54-58, Fig. 23.)

193. As described above for element [C], circuitry (*e.g.*, processor 312) in a frame member of audio device 304 can “process encoded digitized audio data,” including MP3 files, for presentation to a user via speakers of the audio device 304. (EX-1007, 41:31-42:10, 45:36-58, Fig. 23.) To the extent not expressly disclosed in Jannard, it would therefore have been obvious to a POSITA for process 350—which includes processing (360) and presenting (362) MP3 audio data—to be performed by the circuitry (*e.g.*, processor 312) within the frame member of audio device 304, the circuitry thereby providing an *MP3 player*.

194. The POSITA would have had a reasonable expectation of success in employing the circuitry to perform process 350 because Jannard specifically provides that process 350 is a process for playing an MP3 file; and explains that the circuitry of Jannard is suited to “store MP3 files in a memory” and “play back the MP3 files through the speakers,” such as described by process 350, by using well-understood circuitry components such as processors (*e.g.*, processor 312) and memory (*e.g.*, memory 330). (EX-1007, 21:2-10.) Jannard additionally provides specific commercial examples of “suitable electronics for enabling and amplifying MP3 storage and playback,” indicating that the technology for doing so had already been successfully applied and commercialized. (EX-1007, 21:2-10.)

195. The MP3 player described above is consistent with a position taken by Petitioner in the co-pending litigation: that the claim term “MP3 player” is

“circuitry that inputs a computer file in MP3 format and outputs an audio signal based on the computer file.” For example, as described above, the circuitry of audio device 304 inputs a computer file in MP3 format (354), and outputs an audio signal based on that file (362). The MP3 player described above is also consistent with the term “MP3 player” being afforded its plain and ordinary meaning, an interpretation to which the parties to the co-pending litigation now agree. (EX-1010, 1.)

(ii) *cell phone*

196. Jannard meets this element. For example, as described above for element [C], circuitry within the frame member of audio device 304 can include content source 302, which can include a “communications-enabled device,” such as a “telephone” (including a “BLUETOOTH enabled telephone”), PDA or Blackberry. (EX-1007, 39:67-40:9.) A POSITA would have understood these devices to include a cell phone; for example, the POSITA would have understood a “BLUETOOTH enabled telephone” to include a cell phone, at least because Jannard discloses that a “cell phone” can use the Bluetooth protocol to communicate with an audio device. (EX-1007, 37:31-40.)

(iii) *media focals*

197. Jannard meets this element. As described above for Ground 1, the ’929 Patent describes “media focals” as “utilizing the eyewear for its intended

purpose and enhancing that use by using imaging techniques to improve the vision of the user.” (EX-1001, 2:25-27.) The Patent Owner has endorsed this description as a definition of the media focals. (EX-1008, 5-6.)

198. Jannard teaches that the circuitry in the frame of the audio device 304 provides the *media focals*. For example, as described for element [C], Jannard teaches that circuitry in the frames of audio device 304 can include display/indicator drivers 324, which can drive display/indicators 326. (EX-1007, 43:12-26, Fig. 22.) As Jannard explains, the display/indicators 326 can be used to display information such as “a song selection, a power level, a volume, a remaining battery life” or various data related to an audio file. (EX-1007, 43:12-26, Fig. 22.) It would have been obvious to a POSITA for display/indicators 326 to include a “view finder or video display unit,” which—as taught by Jannard—can be used for at least one of the lenses of the audio device eyewear. (EX-1007, 12:41-43, 47:41-48:50.) This is so at least because Jannard discloses that the display/indicators 326 can include an LCD display, which is a type of display commonly used for such view finders or video display units (*e.g.*, electronic viewfinders). (TOM ANG, FUNDAMENTALS OF PHOTOGRAPHY 69 (Random House, Inc. 1st Am. Ed. 2008); EX-1007, 43:17-21.) This application of the display/indicators 326 to the view finder or video display unit thus would have

yielded predictable results with a reasonable expectation of success, owing to the use of common and well-known display components.

199. It would have been obvious to the POSITA to use the display/indicators 326 in this manner to improve the vision of the user, akin to a “heads-up display” such as disclosed by Jannard. (EX-1007, 32:53-56, 33:54-60.) For example, by using a view finder or video display unit as a lens of the audio device, such as Jannard discloses, the audio device could present the user with a view of the environment—using the audio device eyewear for its intended purpose—while displaying media information via the view finder or display unit, such as described for the display/indicators 326, thereby improving the user’s vision using imaging techniques by augmenting the field of view with contextual information (*e.g.*, “a song selection, a power level, a volume, a remaining battery life”). (EX-1007, 43:12-26.)

3. Claim 9

200. Jannard meets each limitation of claim 9, as described below.

a. [Preamble] *Eyewear comprising:*

201. Jannard meets the preamble as described above for claim 7[Preamble].

b. [A] *a frame member;*

202. Jannard meets this element as described above for claim 7[A].

c. [B] *a lens;*

203. Jannard meets this element as described above for claim 7[B].

d. [C] *circuitry within the frame member for enhancing the use of the eyewear; and*

204. Jannard meets this element as described above for claim 7[C].

e. [D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user;*

205. Jannard meets this element as described above for claim 7[D].

f. [E] *wherein the eyewear includes a pushbutton system for control.*

206. Jannard meets this element. For example, with respect to Fig. 24 below, the audio device 304 includes “at least three *buttons* 390,” which “extend from the electronic housing 384” and “allow user *control* over operation of the audio device 304.” (EX-1007, 46:8-12 (emphasis added), Fig. 24.)

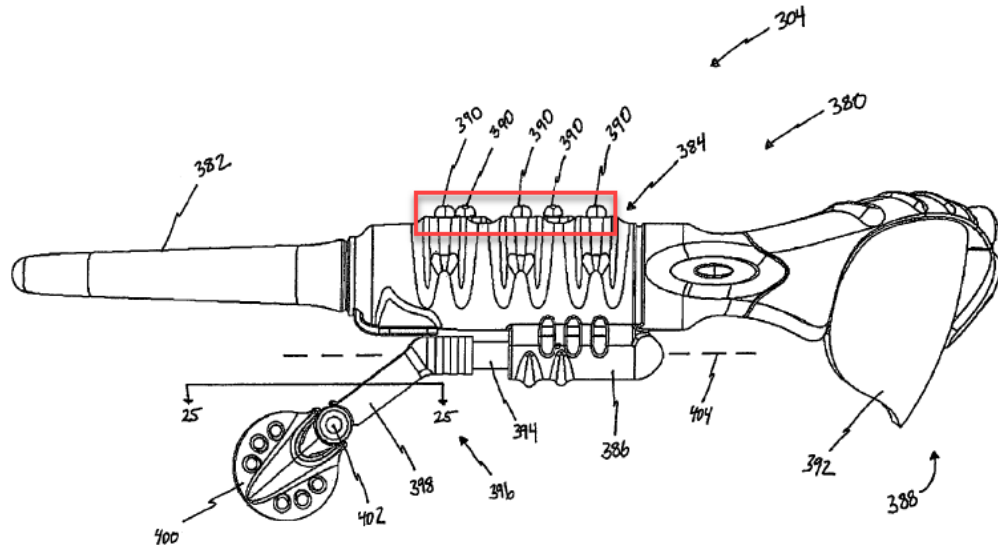


Figure 24

(EX-1007, Fig. 24 (annotated).)

4. Claim 10

207. Jannard meets each limitation of claim 1, as described below.

a. [Preamble] *Eyewear comprising:*

208. Jannard teaches preamble as described above for claim 7[Preamble].

b. [A] *a frame member;*

209. Jannard meets this element as described above for claim 7[A].

c. [B] *a lens;*

210. Jannard meets this element as described above for claim 7[B].

d. [C] *circuitry within the frame member for enhancing the use of the eyewear; and*

211. Jannard meets this element as described above for claim 7[C].

- e. **[D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user;***

212. Jannard meets this element as described above for claim 7[D].

- f. **[E] *wherein the circuitry can provide any of texts, email; multimedia information; caller id.***

213. Jannard meets this element. As described above for Ground 1, *any one of* texts, email, multimedia information, and caller id is sufficient to meet this claim element. For example, this claim element is met merely by the circuitry providing email. However, as explained below, *all of* texts, email, multimedia information, and caller id are met by Jannard.

(i) *texts*

214. Jannard meets this element. For example, as described above for claim 7[C], circuitry in the frame of audio device 304 can include display/indicators 326. Jannard discloses that “display/indicators 326 indicate a song selection, a power level, a volume, a remaining battery life, an artist, a song title ... or any other data related to an audio data file.” (EX-1007, 43:21-26.) A POSITA would have understood the circuitry providing the above information, via display/indicators 326, to meet the circuitry providing *texts*. For example, the POSITA would have understood at least a song selection, artist, and song title to include texts identifying that information.

(ii) *email*

215. Jannard meets this element. For example, as described above for claim 7[C], the circuitry of audio device 304 can include content source 302, which can include a “communications-enabled device,” such as a telephone, PDA, or Blackberry. (EX-1007, 39:67-40-12.) As Jannard discloses, Blackberry devices (for example) can “communicate with a variety of wireless networks for receiving *email*, phone calls, and/or internet browsing.” (EX-1007, 39:34-37 (emphasis added).) The circuitry thus provides *email*.

(iii) *multimedia information*

216. Jannard meets this element for at least the reasons described above for element [E](1) (*texts*). For example, as described above, Jannard discloses that display/indicators 326 of the circuitry indicate a “song selection,” “an artist,” “a song title,” “time remaining during the playback of an audio file,” or “any other data related to an audio data file.” (EX-1007, 43:21-26.) A POSITA would have understood the circuitry displaying the above textual and audio data to include the circuitry providing *multimedia information*, at least by presenting text media via display/indicators 326 “during the playback” of audio media. (EX-1007, 43:21-26.)

217. In addition, as described above for claim 7[E](i), Jannard discloses that audio device 304 can be configured to “store and playback any desired type of

electronic audio and/or video file.” (EX-1007, 20:60-21:4.) A POSITA would storing and playing back electronic audio and video files to meet providing *multimedia information*, at least because the POSITA would have understood such files to comprise multimedia information (*e.g.*, audio and video information). Similarly, Jannard discloses that content source 302 can provide audio device 304 with content such as “audio files, entertainment, news, media, music, photos, videos, advertising”—that is, *multimedia information*. (EX-1007, 39:67-40:12.)

218. Further, the POSITA would have understood the storing and playing back of the audio and video files to be performed by circuitry within the frame of audio device 304, at least because, as described above for claim 7[C], such circuitry can include memory 330, display/indicators 326, and speakers 318 as shown in Fig. 22. (EX-1007, Fig. 22.) The POSITA would have understood that at least these components of the circuitry would be used for storage and playback of the audio and video files, or the various types of content provided by content source 302.

(iv) *caller id*

219. Jannard meets this element for at least the reasons described above for claim 7[E](ii) (*cell phone*). To the extent not expressly disclosed by Jannard, it would have been obvious to the POSITA for the content source 302 of the circuitry—which, as described above, can include communications-enabled

devices such as telephones, PDAs, and Blackberry devices—to provide caller information for incoming calls, given the ubiquity of that feature among telephones and other communications-enabled devices in 2005. The POSITA would have had a reasonable expectation of success at least because caller information technology had been successfully commercialized and widely adopted in circuitry analogous to that of Jannard.

5. Claim 15

220. Jannard meets each limitation of claim 1, as described below.

a. [Preamble] *Eyewear comprising:*

221. Jannard meets the preamble as described above for claim 1[Preamble].

b. [A] *a frame member;*

222. Jannard meets this element as described above for claim 1[A].

c. [B] *a lens; and;*

223. Jannard meets this element as described above for claim 1[B].

d. [C] *circuitry within the frame member for enhancing the use of the eyewear utilizing a client server model; and*

224. Jannard meets this element. Jannard teaches *circuitry within the frame member for enhancing the use of the eyewear* at least as described above for claim 7[C].

225. In addition, Jannard teaches that the circuitry enhances the use of the eyewear *utilizing a client server model*. For example, as described above and shown in Fig. 21, Jannard discloses audio network 300, in which audio device 304 can send and receive data from a content source 302 via communications link 306:

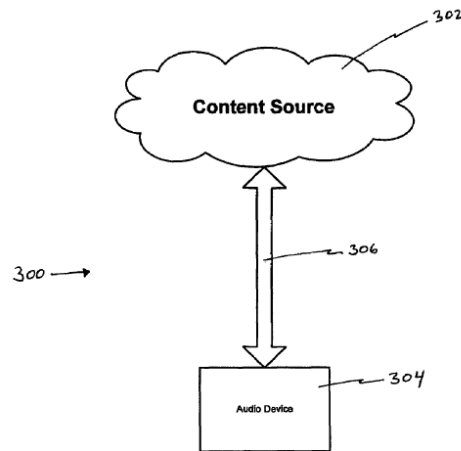


Figure 21

(EX-1007, 39:63-40:12, Fig. 21.)

226. Audio device 304 can use audio network 300 to, for example, download music (such as MP3 files) from the content source 302 via communications link 306. (EX-1007, 40:31-36.) The content source 302 can include “any of a variety of information sources,” including, in some embodiments, a computer, a network, a storage device (*e.g.*, a hard drive), a database, or the Internet. (EX-1007, 39:63-40:9.)

227. A POSITA would have understood at least audio device 304 downloading music from a network, or from the Internet, to meet *utilizing a client*

server model, at least because a client server model is a ubiquitous model for downloading data from a computer network. (EX-1014, 4.) For example, utilizing a client server model, a server of a computer network (*e.g.*, content source 302) can communicate data (*e.g.*, MP3 files) to a client (*e.g.*, audio device 304) via communications link 306. (EX-1014, 4-5; EX-1007, 39:63-40:12, 40:31-36.) Moreover, Jannard discloses that content source 302 can include the Internet, a well-known example of a network of computers arranged in configurations including a client server model. (EX-1014, 4-5.)

- e. **[D] *an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user.***

228. Jannard meets this element as described above for claim 7[D].

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Executed the 19th of January, 2023 in Oviedo, Florida.

Respectfully submitted,



Joseph J. LaViola Jr., Ph.D.