

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**HARMAN INTERNATIONAL INDUSTRIES, INC.,**

Petitioner,

**v.**

**ST CASESTECH LLC,**

Patent Owner.

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Case IPR2024-01301

U.S. Patent No. 8,805,692

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**PETITION FOR *INTER PARTES* REVIEW**

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**EXHIBIT LIST**

| <b>Exhibit<br/>("Ex.")</b> | <b>Description</b>                                                    |
|----------------------------|-----------------------------------------------------------------------|
| 1001                       | U.S. Patent No. 8,805,692 ("692")                                     |
| 1002                       | File History of U.S. Application No. 14/148,752 ("692FH")             |
| 1003                       | Declaration of Michael T. Johnson ("Johnson")                         |
| 1004                       | U.S. Patent Application Publication No. 2006/0132382 ("Jannard")      |
| 1005                       | U.S. Patent 7,529,677 B1 ("Wittenberg")                               |
| 1006                       | Wittenberg Patent Application (No. 11/038,426) As-Filed               |
| 1007                       | U.S. Patent Application Publication No. 2006/0020960 ("Relan")        |
| 1008                       | U.S. Patent Application Publication No. 2003/0220835 ("Barnes")       |
| 1009                       | U.S. Patent Application Publication No. 2003/0130852 ("Tanaka")       |
| 1010                       | U.S. Patent Application Publication No. 2010/0311390 ("Black").       |
| 1011                       | U.S. Patent Application Publication No. 2007/0165875 ("Rezvani")      |
| 1012                       | United States District Courts National Judicial Caseload Profile      |
| 1013                       | U.S. Patent Application Publication No. 2006/0136378 ("Martin")       |
| 1014                       | Australian Patent Application No. 2005201979 A1                       |
| 1015                       | Computer Dictionary, 2 <sup>nd</sup> Edition, 1994, excerpt page 365. |
| 1016                       | U.S. Patent No. 5,251,263 ("Andrea")                                  |
| 1017                       | Provisional Patent Application No. 60/806,769                         |
| 1018                       | Spoken language Processing, Huang, 2001 ("SLP")), Page 482            |

| <b>Exhibit<br/>("Ex.")</b> | <b>Description</b>                                                                                                                       |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1019                       | Complaint, <i>Staton Techiya, LLC v. Harman International Industries, Inc.</i> , C.A. No. 23-802 (JCG) (Dist. Del.), filed July 25, 2023 |
| 1020                       | Declaration of Jonathan Bradford                                                                                                         |

**TABLE OF ABBREVIATIONS**

| <b>Abbreviation</b> | <b>Description</b>                                        |
|---------------------|-----------------------------------------------------------|
| '692                | U.S. Patent No. 8,805,692 (Ex.1001)                       |
| '692FH              | File History of U.S. Application No. 11/774.965 (Ex.1002) |
| IPR                 | <i>Inter Partes</i> Review                                |
| Petitioner          | Petitioner                                                |
| PO                  | Patent Owner                                              |
| POSITA              | Person of Ordinary Skill in the Art                       |
| PTAB                | Patent Trial and Appeal Board                             |
| USPTO               | United States Patent and Trademark Office                 |

### LIST OF CHALLENGED CLAIMS

[1.pre] A wearable device, comprising:

[1.a] a housing for the wearable device;

[1.b] an ambient microphone within or on the housing;

[1.c] a communication module within or on the housing;

[1.d] a logic circuit communicatively coupled to the ambient microphone;

[1.e] a memory storage unit communicatively coupled to the logic circuit;  
and

[1.f] an interaction element, the interaction element and logic circuit cooperatively initiate control of media content from the wearable device or initiate operations of the wearable device;

[1.g] wherein the logic circuit is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server.

[2] The wearable device of claim 1, wherein the interaction element and logic circuit are configured to initiate control of access to the media content played back at the wearable device or mobile device coupled thereto.

[3] The wearable device of claim 2, wherein the memory storage unit and logic circuit are remote from the housing.

[4] The wearable device of claim 2, wherein the memory storage unit or logic circuit or both are remote from the housing.

[5] The wearable device of claim 1, wherein the wearable device comprises eye-wear.

[6] The wearable device of claim 1, wherein the interaction element comprises a voice controlled user interface.

[7] The wearable device of claim 1, wherein the wearable device further comprises a button with multiple contacts coupled to the logic circuit that forms a portion of the interaction element.

[8] The wearable device of claim 1, wherein the initiating of the operations of the wearable device is in response to a trigger of a predetermined alert condition.

[9] The wearable device of claim 1, wherein the wearable device comprises an earphone.

[10] The wearable device of claim 1, wherein the wearable device comprises at least a portion of a personal computer system, a personal music player system, a personal monitoring system, an automotive audio system, a home audio system, an avionics audio system, a personal video system, a mobile cell phone system, a personal digital assistant system, a standalone accessory, or an advanced eye-wear system with acoustical transducers.

[11] The wearable device of claim 1, wherein the wearable device further comprises speaker for providing an audible output.

[12] The wearable device of claim 1, wherein the wearable device further comprises a GPS receiver and wherein the communication module forms a peer-to-peer network using location information from the GPS receiver.

[13] The wearable device of claim 1, wherein the logic circuit is configured to perform a search of the web in response to a voice command and provide a web search result to the wearable device.

[14] The wearable device of claim 1, wherein the logic circuit is configured to cooperatively initiate control of the media content of the wearable device and initiate operations of the wearable device in response to analysis of the audio captured at the wearable device at the ambient microphone and analyzed at the remote server in response to instructions received from the remote server.

[15] The wearable device of claim 1, wherein the initiating of operations comprises commercial transactional operations.

[16] The wearable device of claim 1, wherein the logic circuit is configured to retrieve specific media content in response to voice commands captured at the wearable device using the ambient microphone, and the wearable device receives results from the remote server in response to speech recognition processing of the voice command at the remote server.

[17] The wearable device of claim 1, wherein the wearable device further comprises a presentation device operatively coupled to the wearable device for presenting one or more of text, images, webpages, location information, scheduling information, or audible outputs to complement detected voice commands at the wearable device and speech recognition results received at the wearable device from the remote server in response to analysis of the detected voice commands at the remote server.

[18.pre] A wearable device, comprising:

[18.a] a housing for the wearable device;

[18.b] an ambient microphone mounted on or within the housing;

[18.c] a communication module communicatively coupled to the ambient microphone;

[18.d] one or more processors communicatively coupled to the ambient microphone;

[18.e] a computer readable medium communicatively coupled to the one or more processors and containing instructions which when executed by the one or more processors, cause the one or more processors to perform functions comprising initiating control of audio content or initiating at least one operation of the wearable device; and

[18.f] wherein the one or more processors is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server.

[19] The wearable device of claim 18, wherein the one or more processors initiates control of the media content in response to a voice command received and processed by a voice controlled user interface, wherein a remote server receives and analyzes the processed voice command and sends results back to the wearable device.

[20.pre] A wearable device, comprising:

[20.a] a wearable structure having at least an ambient microphone;

[20.b] a communication module communicatively coupled to the ambient microphone;

[20.c] one or more processors communicatively coupled to the ambient microphone;

[20.d] a computer readable medium communicatively coupled to one or more processors and containing instructions which when executed by the one or more processors, cause the one or more processors to perform functions comprising initiating control of audio content accessed at the wearable device in response to detected voice commands in the captured audio; and

[20.e] wherein the one or more processors is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server.

Pursuant to §§311-319 and §42.1,<sup>1</sup> Harman International Industries, Incorporated (“Petitioner”) petitions for *inter partes* review (“IPR”) of claims 1-20 (“Claims”) of U.S. Patent No. 8,805,692 (Ex.1001, “’692”), assigned to ST CasesTech, LLC (“PO”). There is a reasonable likelihood—and it is highly likely—that at least one challenged claim is unpatentable as explained herein. Petitioner requests review of the Claims and judgment finding them unpatentable under §§102/103.

## **I. INTRODUCTION**

The ’692 purports to disclose a wearable device with an ambient microphone capturing voice commands and audio at the wearable device. These voice commands control media content of the wearable device. The ’692’s purported inventive concept is that the wearable device controls media of the wearable device in response to audio captured at the ambient microphone and analyzed at a server. ’692, Abstract. Johnson, ¶31.

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<sup>1</sup> Section cites reference 35 U.S.C. (pre-AIA) or 37 C.F.R. as context indicates. All emphasis/annotations added unless noted. Figure annotations herein generally quote the Claims for reference. Citations herein are exemplary and not meant to be limiting.

But the concept of a wearable device responsive to audio analyzed at a server was already well known in the art. For example, **Jannard** (Ex.1004) discloses a wearable audio device receiving voice commands to “fast-forward, skip, cue, play, [and] pause” music stored on the device. *See e.g.*, Jannard, [0257], [0265]. And **Wittenberg** (Ex.1005) discloses using a remote server to perform speech recognition of voice commands and transmit corresponding instructions back to a local device. Wittenberg, 2:35-64. Johnson, ¶32.

Accordingly, Petitioner requests that the Board institute trial and find the Claims unpatentable.

## **II. MANDATORY NOTICES**

### **A. Real Parties-in-Interest**

Petitioner Harman International Industries, Inc. is the real party-in-interest. No other parties had access to or control over the present Petition, and no other party funded or participated in preparation of the present Petition.

### **B. Related Matters**

The '692 is the subject of the following co-pending civil action:  
*Staton Techiya, LLC v. Harman International Industries, Inc.*, C.A. No. 23-802 (JCG) (Dist. Del.), filed July 25, 2023 (“Harman Litigation”).

### **C. Counsel and Service Information**

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Petitioner consents to electronic service of documents to the email addresses  
of the counsel identified above.

### III. PAYMENT OF FEES

The undersigned authorizes the Office to charge the fee required by §42.15(a) and any additional fees that might be due to Deposit Account No. 18-1945, under Order No. 111496-0012-655.

### IV. REQUIREMENTS FOR *INTER PARTES* REVIEW

#### A. Grounds for Standing

Pursuant to §42.104(a), Petitioner certifies the '692 is available for IPR. Petitioner and any real parties-in-interest are not barred or estopped from requesting IPR challenging the Claims on the grounds identified herein.

#### B. Identification of Challenge

Pursuant to §§42.104(b)-(b)(1), Petitioner requests IPR of Claims 1-20, and that the Board cancel the same as unpatentable.

#### 1. Specific Art on Which the Challenge Is Based

Petitioner relies on the following prior art (Johnson, ¶¶52-53):

| Name       | Ex.  | Publication/<br>Patent No. | Filed      | Published/<br>Issued | Prior art<br>under at<br>least |
|------------|------|----------------------------|------------|----------------------|--------------------------------|
| Jannard    | 1004 | U.S.<br>2006/0132382       | 12/22/2004 | 6/22/2006            | §102(a)/<br>§102(e)            |
| Wittenberg | 1005 | U.S.<br>7,529,677          | 1/21/2005  | 5/5/2009             | §102(e)                        |
| Relan      | 1007 | U.S.<br>2006/0020960       | 9/6/2005   | 1/26/2006            | §102(a)/<br>§102(e)            |
| Barnes     | 1008 | U.S.<br>2003/0220835       | 5/23/2002  | 11/27/2003           | §102(b)                        |

Jannard, Relan, and Barnes were published before the '692's parent's 7/8/2006 provisional filing date.<sup>2</sup> Wittenberg was filed before the '692's parent's 7/8/2006 provisional filing date.

## 2. Statutory Grounds on Which the Challenge Is Based

| Ground | Claims             | Basis | References <sup>3</sup>                  |
|--------|--------------------|-------|------------------------------------------|
| 1      | 1-11, 13-14, 16-20 | §103  | Jannard in view of Wittenberg            |
| 2      | 12                 | §103  | Jannard in view of Wittenberg and Relan  |
| 3      | 15                 | §103  | Jannard in view of Wittenberg and Barnes |

## V. '692 AND PROSECUTION HISTORY

### A. '692

The purported “invention” of the '692 “relate[s] in general to methods and devices for the storage and recall of audio content via an earpiece,” and “for the storage and playing of music or verbal content on a system that is built into a headphone.” '692, 1:14-18. The '692 purports to solve the problem of “separate[]” headphone systems and audio content playing devices by “[c]ombining the capacity

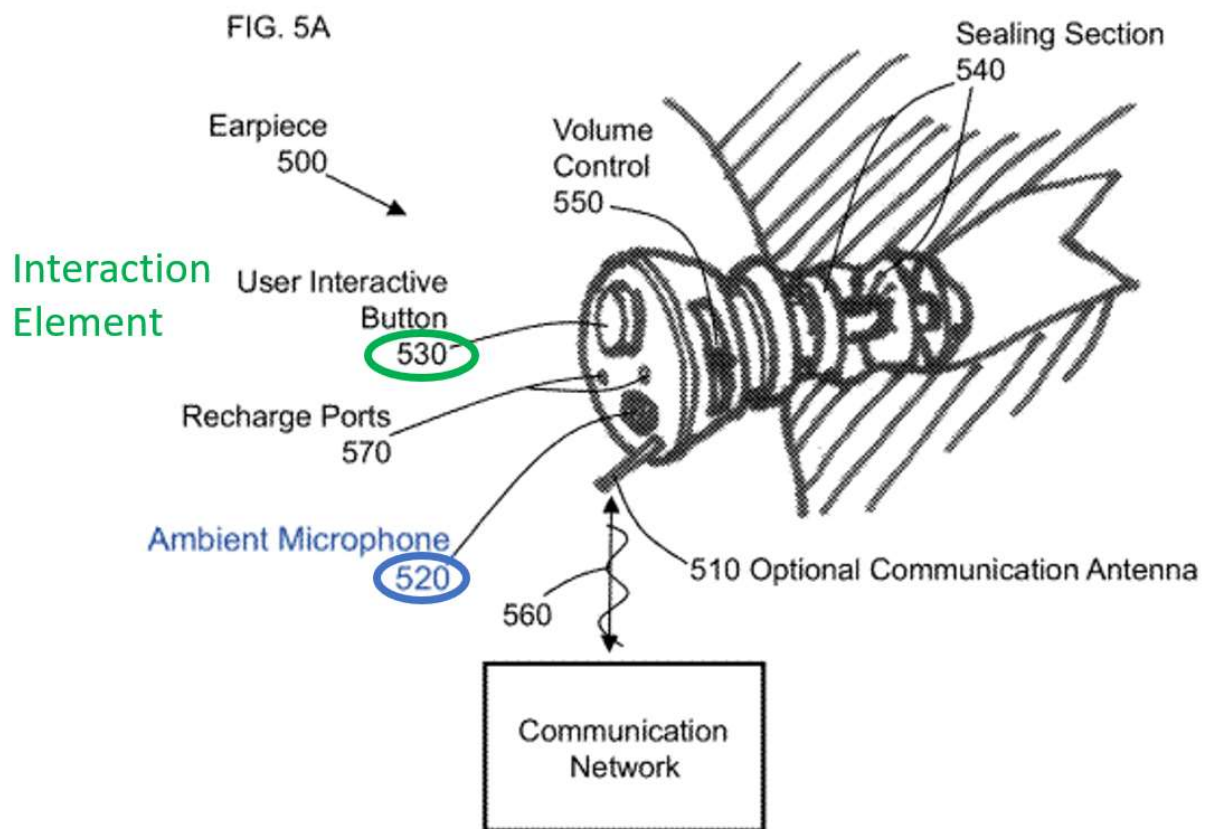
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<sup>2</sup> PO has not established the '692 Claims are entitled to the 7/8/2006 filing date of the '692's earliest filed application (Provisional Application No. 60/806769).

<sup>3</sup> See Johnson, ¶¶54-55.

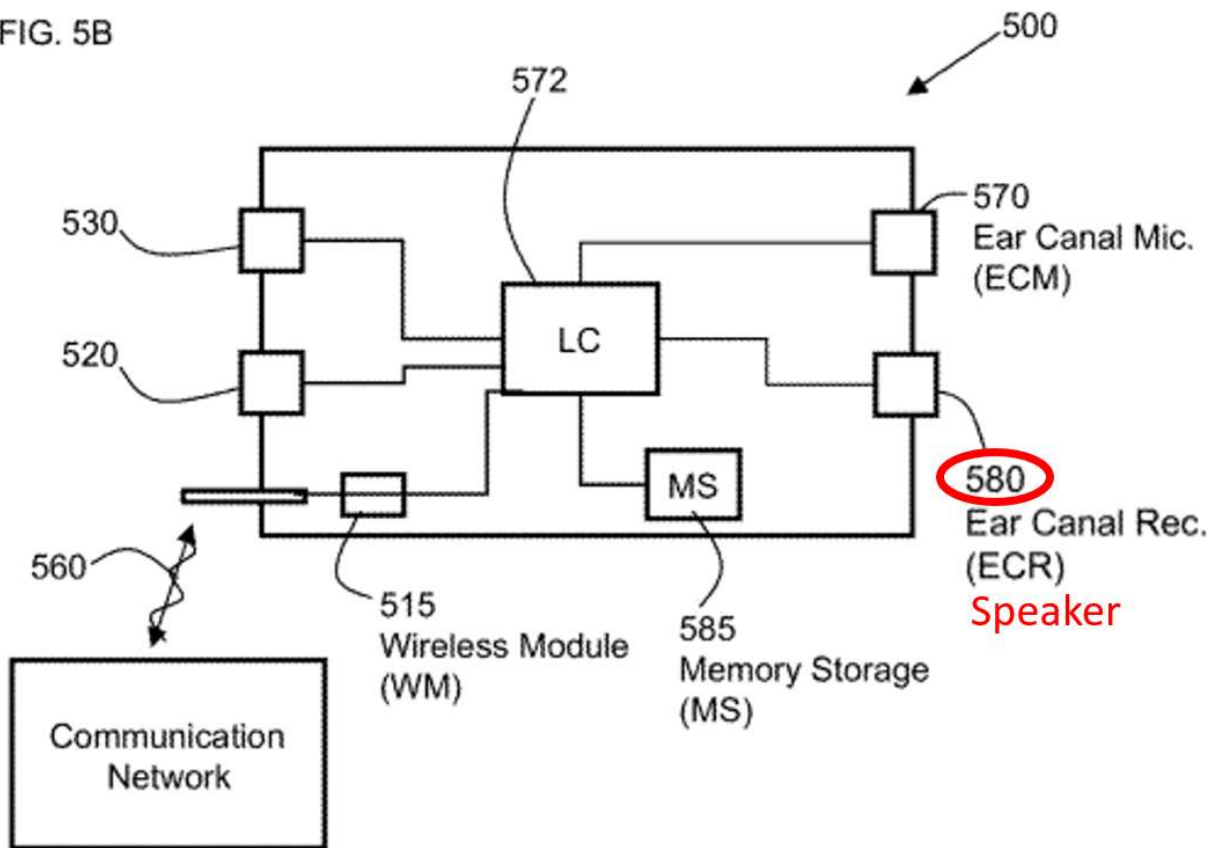
for audio download and playing in an earpiece system” with a “user interaction system.” ’692, 1:30-34. Johnson, ¶33.

The ’692 describes a wearable device, such as an earpiece, comprising elements operatively connected to a logic circuit: **ambient microphone**, **ear canal receiver**, communication module, memory storage unit, and user **interaction element**. *Id.* 8:33-37, 9:22-25, 39-43, Figs. 5A, 5B. The device “store[s] data such as registration, preference, and audio content data.” *Id.* 9:21-27. Johnson, ¶34.



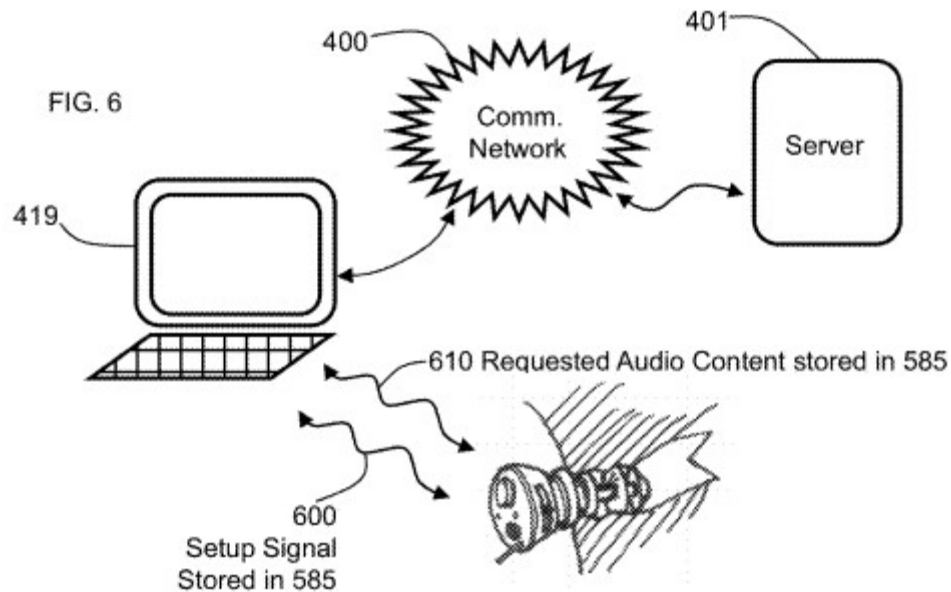
’692, Fig. 5A

FIG. 5B



'692, Fig. 5B

A communication module supports “bidirectional” transmission protocols (e.g., Bluetooth, TCP/IP, 802.11, or others) via a communication network allowing the “communication between the earpiece 500 and a communication network.” *Id.* 5:32-36, 9:9-12. The user “use[s] his/her computer 419 to communicate with a server 401 (e.g., via a communication network 400)” and “information can then be transmitted to set the stored parameters in the memory storage device 585 of the earpiece 500” and “audio content can be downloaded 610 into the memory storage device 585.” *Id.* 9:29-38, Fig. 6. Johnson, ¶35.



'692, Fig. 6

An **ambient microphone** “pick[s] up ambient audio content,” which may be committed “to the data memory storage system.” *Id.* 9:13-21, 12:55-61. Johnson, ¶36.

The user initiates communication with the server system via “voice commands.” *Id.* 4:39-41. Further, a “user **interaction element 530** (e.g., a **button**) that can be used to turn the earpiece 500 on,” or “activate an audio play commend.” *Id.* 8:67-9:3. Johnson, ¶37.

**B. Prosecution History**

The '692 claims priority from application No. 11/774,965, filed 7/9/2007, which claims priority to Provisional Application No. 60/806,769, filed 7/8/2006. Johnson, ¶38.

Claims 1, 2, 4, 6-11, 14, and 18-20 were rejected under pre-AIA 35 U.S.C. 102(b) as anticipated by U.S. Patent Application Publication No. 2003/0130852 ("Tanaka") (Ex.1009). '692FH, 144-46. Claims 5, 12-13, and 15-17 were rejected under pre-AIA 35 U.S.C. 103(a) as obvious over Tanaka in view of U.S. Patent Application Publication No. 2010/0311390 ("Black") (Ex.1010). '692FH, 147-49. Claims 3 and 12 were rejected under pre-AIA 35 U.S.C. 103(a) as unpatentable over Tanaka in view of U.S. Patent Application Publication No. 2007/0165875 ("Rezvani") (Ex.1011). '692FH, 149. Johnson, ¶39.

Regarding Claim 1, Applicant argued Tanaka does not disclose a wearable device with an ambient microphone within or on the housing for the wearable device and a logic circuit communicatively coupled to the ambient microphone. '692FH, 169. Applicant argued Tanaka discloses a wearable device with a "boom microphone that is directional and not an ambient microphone," and teaches away from the use of an ambient microphone because it would result in "'superpos[d]' surrounding noise." '692FH, 170-173, 175. Applicant argued Claims 18-20 were allowable because Tanaka failed to disclose an ambient microphone. '692FH, 175.

Applicant made additional arguments regarding the dependent claims. '692FH, 173-79. Johnson, ¶¶40-42.

The Examiner issued a final rejection for Claims 1, 2-4, 6-12, 14, and 18-20 under pre-AIA 35 U.S.C. 103(a) as obvious by Tanaka in view of Rezvani. '692FH, 186. The Examiner stated that while Tanaka does not teach an ambient microphone, Rezvani teaches an ambient microphone. *Id.* The Examiner rejected Applicant's argument that Tanaka teaches away from using an ambient microphone because "Tanaka simply chooses to use different kind of microphone that could simply be replaced with the well known ambient microphone as shown by Rezvani." '692FH, 192. Johnson, ¶43.

Applicant amended each independent claim to recite: "wherein the logic circuit is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server" (claim 1) or "wherein the one or more processors is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server" (claims 18 and 20). '692FH, 196, 200-201. Johnson, ¶44.

Subsequently, Claims 1-20 were allowed. '692FH, 233. Johnson, ¶45.

## VI. §325(d) AND §314(a) DISCRETION DOES NOT APPLY

### A. §325(d)

Under the two-part *Advanced Bionics* framework, the Board should not exercise discretion.

The Grounds raised by this Petition are not the same or substantially the same as the art or arguments raised during '692's prosecution. **Jannard, Wittenberg, Relan, and Barnes** were not considered during prosecution. Johnson, ¶55.

Furthermore, the disclosures considered by the Examiner are not substantially the same as any of the references relied upon in the Grounds of this Petition. **Jannard, Wittenberg, Relan** and **Barnes** each teach at least one limitation the Examiner erroneously believed missing from the prior art. For example, unlike the art cited during prosecution, **Jannard** teaches a system with voice-activated electronic controls of media of a wearable device. Jannard, [0177], [0315]. **Wittenberg** discloses offloading speech processing and resulting command formation to a remote device in contact with a local device. Wittenberg, 2:35-65. **Relan** discloses a wearable device capable of forming a peer-to-peer network, and **Barnes** discloses using voice commands for carrying out commercial transactions. Relan, [0059]; Barnes, [0124], [0128]. See §IX. Johnson, ¶55.

Even if the art or arguments were substantially the same, the Examiner erred in a manner material to the patentability of the Claims. Because the Examiner “did not expressly consider” nor issue any rejections based on the art relied on in this petition, it is difficult, if not impossible, to explain “why the Examiner allowed the claims” or “how the Examiner might have considered the arguments presented in the Petition.” *Bowtech, Inc. v. MCP IP, LLC*, IPR2019-00379, Pap. 14, \*20 (declining to exercise §325(d) discretion).

Indeed, the Examiner did not recognize any art teaching voice-command control of media content of an audio device. To the extent art considered by the USPTO was substantially the same as the references identified in the Grounds, the Examiner erred by not rejecting the Claims for the reasons discussed in §IX. Johnson, ¶55.

**B. §314(a)**

The PTAB should not exercise its §314(a) discretion where, as here, no schedule has been set in the Harman litigation, and the median time to trial in Delaware is 33 months, which would set the Harman trial to about April 2026, one month after an expected FWD. Ex.1012, 14; Ex.1019.

**VII. LEVEL OF ORDINARY SKILL**

For purposes of this Petition only, Petitioner assumes the Claims are entitled to the 7/8/2006 filing date of provisional application No. 60/806,769.

A person of ordinary skill in the art (“POSITA”) as of the claimed priority date of the ’692 would have had a bachelor’s degree in electrical, computer engineering, audio engineering or the equivalent thereof, and at least two years of experience with audio devices and/or audio signal processing, such as earphones, hearing aids and/or hearing protectors. More education can supplement practical experience, and vice-versa. Johnson, ¶¶12-21, 46-49.

### **VIII. CLAIM CONSTRUCTION**

Only terms necessary to resolve the controversy need construction. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). Because the prior art asserted herein discloses embodiments within the Claims’ indisputable scope, the Board need not construe the Claims’ outer bounds. All claim terms should be construed according to their plain and ordinary meaning. Johnson, ¶¶50-51.

### **IX. GROUNDS OF UNPATENTABILITY**

This Petition is supported by the Declaration of Michael Johnson, which describes the prior art’s scope and content at the time of the ’692. *See* Ex.1003. The prior art renders the Claims unpatentable based on the below Grounds. Johnson.

**A. Ground 1: Jannard in view of Wittenberg (Claims 1-11, 13,14, 16-20)**

**1. Overview of Jannard**

**Jannard** discloses a “wearable” device. Jannard, Abstract. Like the ’692, **Jannard** recognizes the problem of an audio playback device separate from an audio interface that “must [be] adjust[ed] or remove[d]” from the user’s ears whenever the user “wants to receive a cell phone call or even wear glasses or sunglasses.” *Id.* [0004]. **Jannard** addresses this by providing a wearable “audio device” with “a data port 308,” “**processor 312**,” “speakers 318,” “**user controls 322**,” and “**memory module 330**,” illustrated in Figure 22. Jannard, [0304]. Johnson, ¶¶56-58.

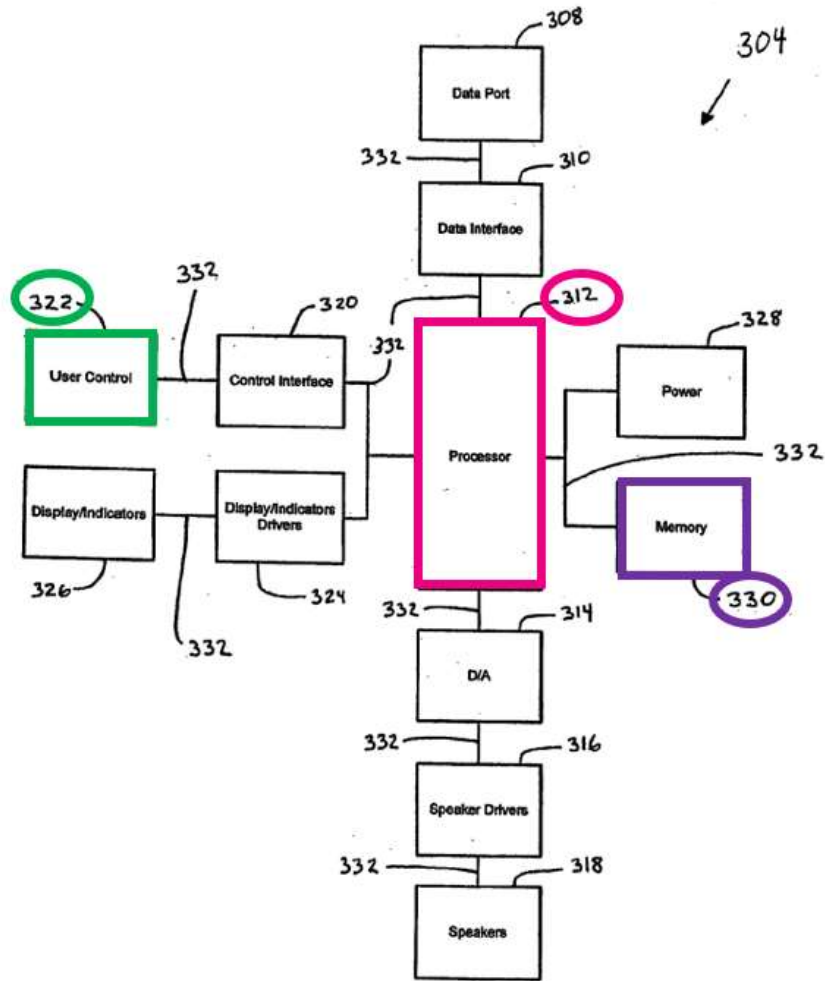
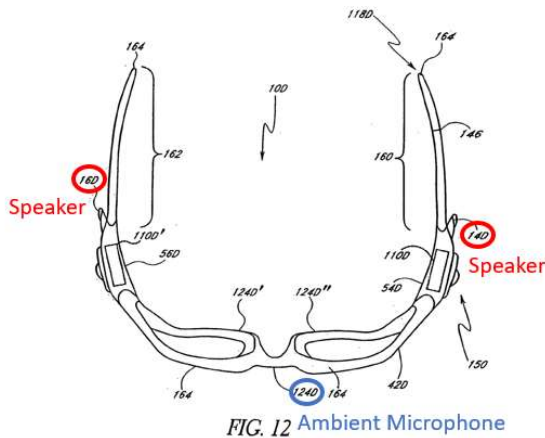
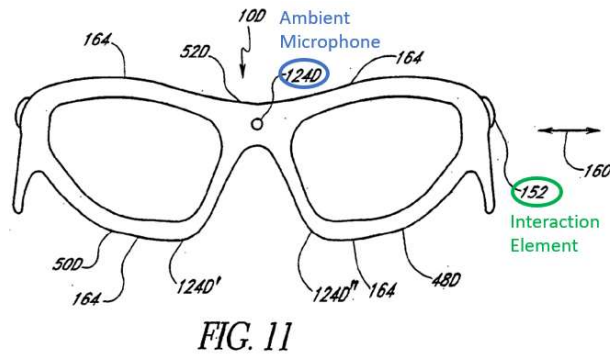


Figure 22

**Jannard** explains its device “can be in the form of a hat, sweatband, tiara, helmet, headphones, visor, and any of a variety of eyewear such as goggles, masks, face shields and eyeglasses.” Jannard, [0074]. One implementation is illustrated in Figures 11 and 12, showing the eyeglasses house “**microphone 124D**,” supports “**speakers 14D, 16D**,” and “**3-way button 152**.” Jannard, [0242], [0257], [0258].

While not shown, “transceiver 114, interface 116, and the antenna 118 can be disposed in the left ear stem 54D.” Jannard [0244]. Johnson, ¶59.



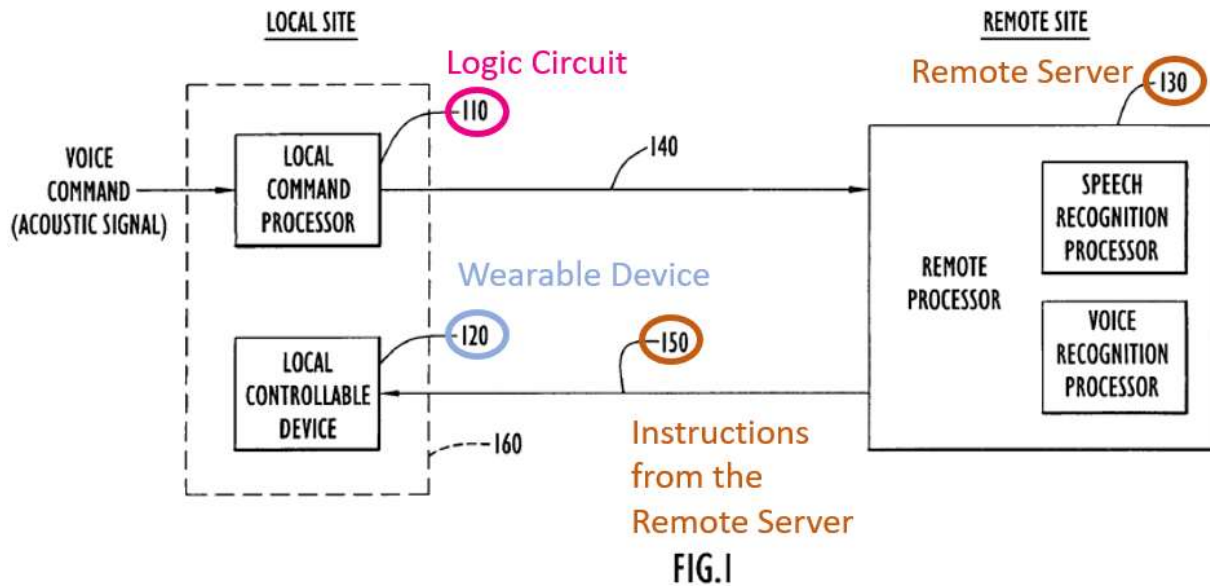
**Jannard’s** device controls various functionality. For example, “user controls 322 may be used to fast-forward, skip, cue, play, pause, turn power on or off, rewind, review, adjust volume, balance, tone, bass, or treble, randomize file selection, load a playlist, set a playlist, delete a playlist, repeat playback of all audio files, selected audio files, or a playlist, or perform any other function related to an audio data file.” Jannard, [0317]. Additionally, “**button 152**...can be used to choose different functions performed by the transceiver 114 or the interface 116. For example, inward movement of the **button 152** could be used to answer incoming phone calls where the audio device 10D is used as an audio interface for a cellular phone.” Jannard, [0259]. Among buttons, user controls 322 for controlling media content “include a **microphone** that receives a voice command” from a user. Jannard, [0316]. Johnson, ¶60.

**Jannard** describes “off board[ing]” functionality to “source electronics device,” like a “server” “to accomplish complex electronic functions, while retaining a sleek, low weight configuration.” Jannard, [0177], [0179], [0191], [0297]. Johnson, ¶61.

## 2. Overview of Wittenberg

**Wittenberg** discloses remote processing of locally generated and collected voice commands. Wittenberg, 2:35-40. Johnson, ¶62.

Local device 160 includes a “local controllable device 120” a user wants to control, and “**local command processor 110**” picking up voice commands and transmitting corresponding audio signal to remote processor 130. *Id.* 4:26-35, 4:44-63, 5:32-45. “**Remote processor 130** includes at least a speech recognition processor and a voice recognition processor” and “a transmitter for transmitting resulting command signals over communication link 150.” *Id.* 5:32-42. Once a voice command is identified via the speech recognition processing, “the **remote processor** transmits a command signal to local controllable device 120.” *Id.* 6:30-45. Johnson, ¶63.



**Wittenberg** describes applications of its invention to a “telephone, a television, a computer” and more. *Id.* 2:40-43. Wittenberg describes several examples of voice commands to control the local device: “switch to sub-net 3,” “switch to channel 7” or “switch to vibrate only mode.” *Id.* 3:15-29. Johnson, ¶64.

### 3. Motivation to Apply Wittenberg’s Teachings to Jannard

**Jannard** and **Wittenberg** are analogous art, in the same field as the ’692, which includes audio device control processing, and are reasonably pertinent to alleged problems addressed by the ’692 of combining the capacity of several devices into one wearable audio device. *E.g.*, ’692, 1:22-34; Jannard, Abstract, [0189]; Wittenberg, 2:25-31. For example, **Wittenberg** describes it is “advantageous to

control a local device with a locally-generated voice command without placing the demands of speech processing on a local device” (Wittenberg, 2:25-29), which is pertinent to ’692’s goal to operate “as simply as possible” (’692, 3:29) – without “bulk and weight” as **Jannard** describes. Jannard, [0177]. Johnson, ¶65.

A POSITA would have been motivated to apply **Wittenberg’s** teachings of a remote server with speech processing and instruction transmission to a local device to **Jannard’s** device to advantageously “off load[]” functionality to another device, without “placing [] demands” on the local device. Wittenberg, 2:25-29; Jannard, [0177]; Johnson, ¶66. **Jannard** and **Wittenberg** expressly suggest and motivate this off-loading. For example, **Jannard** teaches “off board[ing]” its functionality to “source electronics device,” “such as...a server,” will advantageously enable the wearable device to “accomplish complex electronic functions, while retaining a sleek, low weight configuration.” Jannard, [0177], [0179], [0191]. Likewise, **Wittenberg** teaches remote processing of voice commands and resulting instruction transmissions to the local device, advantageously “without placing the demands of speech processing on a local device.” Wittenberg, 2:27-29. Johnson, ¶66.

Thus, a POSITA would have found it routine, straightforward and advantageous to apply **Wittenberg’s** teachings of a remote server to analyze audio signals for voice commands and send corresponding instructions to a local device to

**Jannard’s** teachings of a voice-command-responsive device, and would have known such a combination (yielding the claimed limitations) would predictably work and provide the expected functionality. Johnson, ¶¶67-68.

#### 4. Claim Chart

| Claim Elements                         | Jannard (US 2006/0132382)                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [1.pre] A wearable device, comprising: | <p><b>To the extent the preamble is limiting, Jannard discloses a wearable device</b> (<i>e.g.</i>, “wearable audio device”/“audio device 10D”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><b>Jannard</b> teaches a “wearable audio device supported by a human head” in the form of eyeglasses. Jannard, [0018], [0074], Fig. 12. Johnson, ¶¶69-71.</p> <ul style="list-style-type: none"><li>• Fig. 12</li></ul> |

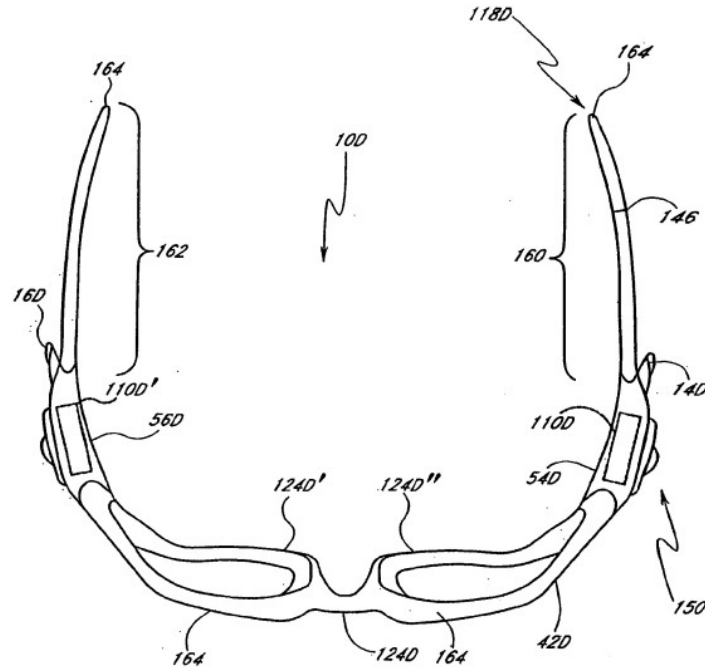


FIG. 12

- [0018] (“FIG. 1 is a schematic representation of a front elevational view of a **wearable audio device supported by a human head.**”)
- [0241] (“With reference to FIGS. 10-12, a modification of the audio device 10C is illustrated therein and identified generally by the reference numeral 10D. The components of the **audio device 10D which are the same as the components in the audio devices 10, 10A, 10B, and 10C** are identified with the same reference numerals, except that a letter “D” has been added.”)
- See also, [0015], [0020], [0073]-[0074], [0089], [0181], [0274].

[1.a] a housing for the wearable device;

**Jannard discloses a housing (e.g., “eyeglass”) for the wearable device (e.g., “audio device 10D”).**

**E.g., Jannard:**

See [1.pre]. **Jannard** further teaches “an eyeglass” (as shown in Fig. 12) including frame 42D and stems 54D, 56D. Jannard, [0241]-[0243], [0255]. Moreover, the “eyeglass”

houses components of audio device 10D, including interface 110D in ear stems 54D, 56D, and microphone 124D in frame 42D. Jannard, [0242]-[0243], Fig. 12. Johnson, ¶¶72-75.

- Fig. 12

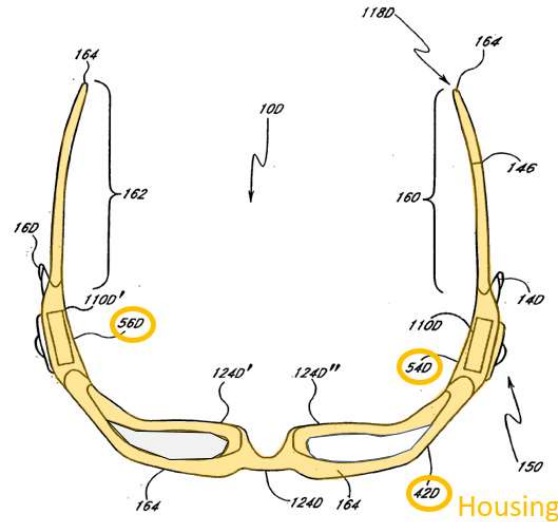


FIG. 12

- [0083] (“In the illustrated embodiment of the audio device 10A, the support 12A is in the form of **an eyeglass 40**. The eyeglass 40 comprises a frame 42 which supports left and right lenses 44, 46.”)
- [0241] (“***The components of the audio device 10D which are the same as the components in the audio devices 10, 10A, 10B, and 10C are identified with the same reference numerals, except that a letter “D” has been added.***”)
- [0242] (“In the audio device ***10D***, the ***microphone 124D*** can be disposed in the frame ***42D***. In particular, the ***microphone 124D*** can be disposed in the bridge portion ***52D***.”)
- [0243] (“With reference to FIG. 12, the interface device 110D can be disposed in one of the ***ear stems 54D, 56D***.”)
- [0255] (“Thus, where at least a portion of a frame of ***an eyeglass*** is used...”)
- See also [0074]

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>[1.b] an ambient microphone within or on the housing;</p> | <p><b>Jannard discloses an ambient microphone</b> (<i>e.g.</i>, “microphone 124D”; “banks of microphones” with “one bank providing an ambient noise-cancellation function”) <b>within or on the housing</b> (<i>e.g.</i>, within the “eyeglass”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.a]. <b>Jannard</b> further teaches “the microphone 124D can be disposed in the bridge portion 52D,” and thus within or on the eyeglass. Jannard, [0242]. Moreover, <b>Jannard</b> illustrates microphone 124D faces outward. Jannard, Fig. 11. Because microphone 124D faces outward, it picks up ambient noise. Johnson, ¶¶76-79.</p> <p>To the extent further disclosure is required for the microphone being an ambient microphone, <b>Jannard</b> further discloses “at least two banks of microphones, with one bank acting as a speaker of received and one bank providing an ambient noise-cancellation function.” Jannard, [0265]. The microphone banks “can be positioned at any suitable location or combination of locations (<i>e.g.</i>, on the audio device, within the audio device, opposing sides of the audio device, or the like).” <i>Id.</i> A POSITA would have understood <b>Jannard’s</b> microphones “within” or “on” the “audio device” to be within or on the eyeglass and at minimum it would have been obvious to pick up ambient noise with the microphone. Johnson, ¶80.</p> <ul style="list-style-type: none"><li>• Fig. 11</li></ul> |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

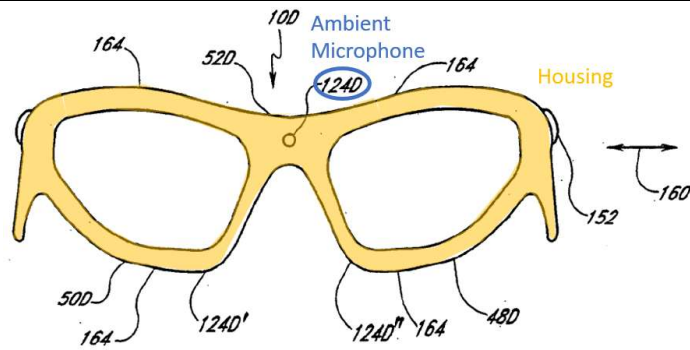


FIG. 11

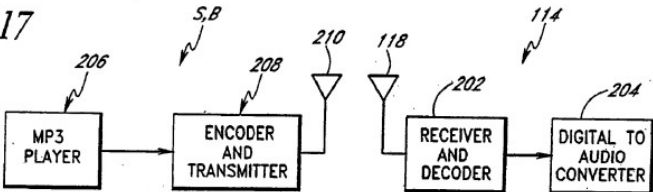
- [0242] (“In the audio device 10D, the *microphone 124D can be disposed in the frame 42D*. In particular, the microphone 124D can be disposed in the bridge portion 52D.”)
- [0265] (“[A] further modification of the audio devices 10, 10A, 10B, 10C, and 10D is provided wherein *the audio devices include at least two banks of microphones, with one bank acting as a speaker of received and one bank providing an ambient noise-cancellation function. The microphone banks can be positioned at any suitable location or combination of locations (e.g., on the audio device, within the audio device, opposing sides of the audio device, or the like).*”)
- See, also [0159], [0165], [0242], [0316], Figs. 4B, 9A, 9B.

[1.c] a communication module within or on the housing;

**Jannard discloses a communication module (e.g., “transceiver 114”) within or on the housing (e.g., “in the left ear stem 54D” within the “eyeglass”)**

**E.g., Jannard:**

See [1.a]. **Jannard** further teaches “transceiver 114 .... in the form of a wireless transceiver for one-way or two-way communication.” Jannard, [0183]. “[T]ransceiver 114...can be disposed in the left ear stem 54D.” Jannard, [0244], Fig. 12. Johnson, ¶¶81-84.

|                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                 | <ul style="list-style-type: none"> <li>• [0244] (“In one arrangement, <b><i>the transceiver 114, interface 116, and the antenna 118 can be disposed in the left ear stem 54D</i></b> with the battery 112 being disposed in the right ear stem 56D.”)</li> <li>• [0012] (“The <b><i>wearable cell phone and music system may additionally comprise radiofrequency electronics such as a Bluetooth receiver or transceiver</i></b>, for wireless communication between the cell phone and the support.”)</li> <li>• [0183] (“<b><i>The transceiver 114 can be in the form of a digital wireless transceiver for one-way or two-way communication</i></b>. For example, the transceiver 114 can be a transceiver used in known wireless networking devices that operate under the standards of 802.11a, 802.11b, or preferably, the standard that has become known as BLUETOOTH™.”)</li> <li>• Fig. 17</li> </ul> <p><b>FIG. 17</b></p>  <ul style="list-style-type: none"> <li>• See also [0016], [0100], [0172], [0181], [0183]-[0185], [0187], [0211]</li> </ul> |
| <p>[1.d] a logic circuit communicatively coupled to the ambient microphone;</p> | <p><b>Jannard discloses a logic circuit</b> (e.g., “processor 312”) <b>communicatively coupled to the ambient microphone</b> (e.g., “receive commands from a user via the user controls 322,” which “include a microphone that receives a voice command”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p>See [1.b]-[1.c]. Jannard further teaches “processor 312 [] receive[s] commands from a user via the user controls 322,” which “include a microphone that receives a voice</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

command.” Jannard, [0315], [0316]. In this regard, in audio device 10D, microphone 124D receives the voice command. Jannard, [0242]. Similarly, when **Jannard’s** microphone bank is used, the voice command is received via the microphone bank with “voice recognition” and provided to processor 312. Jannard, [0265]. At minimum, a POSITA would have understood and it would have been obvious for processor 312 to be communicatively coupled to the microphone in order to receive these commands and to pass them along to the server (*see* [1.g]). *See* Jannard, Fig. 22. Johnson, ¶¶85-89.

- Fig. 22

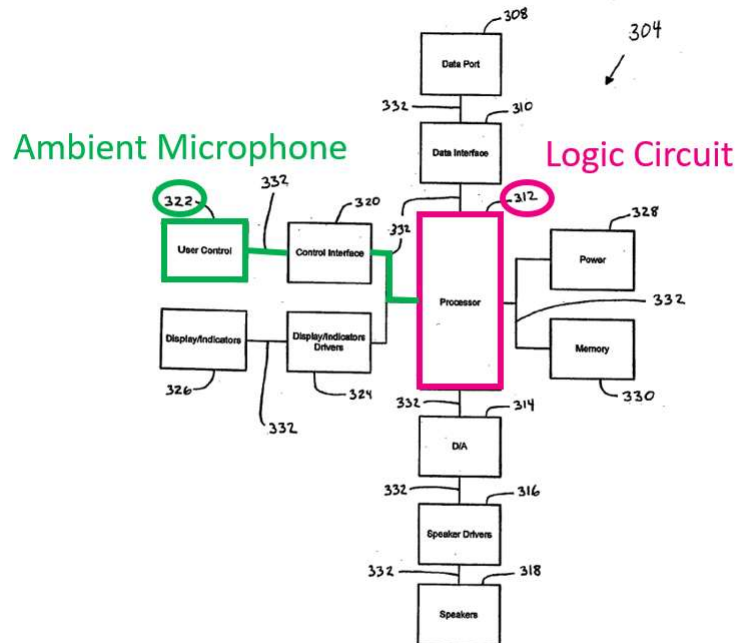


Figure 22

- [0315] (“The control interface 320 generally includes a buffer, register, pre-processor, transistor, resistor and/or other electronic circuit *to enable the processor 312 to receive commands from a user via the user controls 322.*”)
- [0316] (“*In one embodiment, the user controls 322 include a microphone that receives a voice command.*”)

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                               | <ul style="list-style-type: none"> <li>• [0265] (“<b><i>[T]he microphone banks can be arranged in an array</i></b> to be used in conjunction with algorithms to discern, reduce, and/or eliminate noise <b><i>for the purpose of voice recognition.</i></b>”)</li> <li>• [0312] (“The audio device 304 may be any of the audio devices described above with respect to FIGS. 1-19....”).</li> <li>• [0242] (“In the audio device 10D, the <b><i>microphone 124D</i></b> can be disposed in the frame 42D. In particular, the microphone 124D can be disposed in the bridge portion 52D.”)</li> <li>• See [0135], [0214]</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| [1.e] a memory storage unit communicatively coupled to the logic circuit; and | <p><b>Jannard discloses a memory storage unit</b> (e.g., “memory module 330”) <b>communicatively coupled to the logic circuit</b> (e.g., “processor 312,” see [1.d]).</p> <p><b><u>E.g., Jannard:</u></b></p> <p>See [1.d]. <b>Jannard</b> further teaches “memory module 330, which...stores audio data files.” Jannard, [0321]. <b>Jannard</b> also teaches a “memory...and...processor...configured to operate together” and shows the two communicatively coupled in Fig. 22. Jannard [0135]. Further, <b>Jannard</b> teaches “software executable by the processor 312 may be changed, uploaded, downloaded, deleted, and/or modified.” Jannard, [0307]. A POSITA would have understood such software is implemented with computer instructions stored in memory. Jannard, [0307]. Johnson, ¶¶90-93.</p> <p>At the very least, a POSITA would have found it obvious to include instructions for processor 312 in memory coupled to processor 312. A processor runs using instruction, and those instructions are stored in memory for the processor to access those instructions. A POSITA would have recognized alternatives to storing instructions in memory in the audio device (e.g., on a separate device) would have made the device more complex and slower as the instructions would</p> |

need to be sent to the processor from the separate device.  
Johnson, ¶94.

- Fig. 22

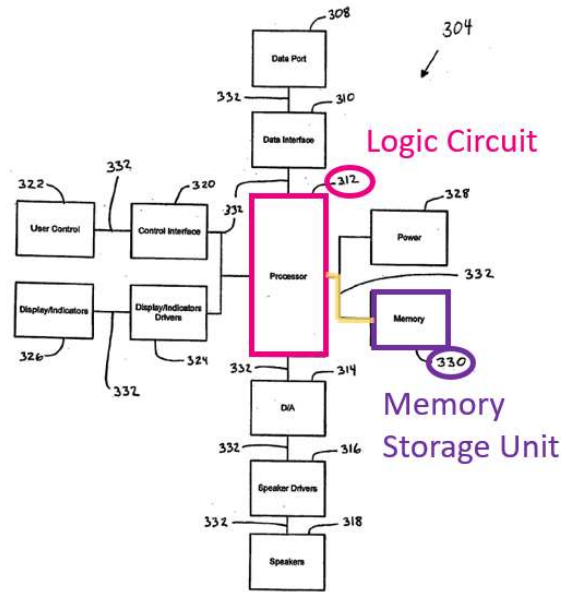


Figure 22

- [0135] (“The device 286 can be configured to store and playback any desired type of electronic audio and/or video file. In the illustrated embodiment, *the device 286 includes a memory, an amplifier, and a processor. The memory, amplifier, and the processor are configured to operate together to function as an audio storage and playback system. For example, the audio storage and playback system can be configured to store MP3 files in a memory* and to playback the MP3 files through the speakers 14A’, 16A.’”)
- [0307] (“For example, in one embodiment, processor 312 is *firmware, and software executable by the processor 312 may be changed, uploaded, downloaded, deleted, and/or modified.*”)
- [0321] (“The *memory module 330 may include any of a variety of electronic memory devices, including but not limited to, a hard drive, flash memory, RAM,*

|                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                | <p><b>ROM, EPROM, EEPROM, or PROM.</b> In one embodiment, <i>the memory module 330</i> includes NAND flash memory.”)</p> <ul style="list-style-type: none"> <li>• [0322] (“<i>The memory module 330 may be permanently contained within the audio device 304, or may be removable.</i>”)</li> <li>• <i>See also</i> [0134]</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [1.f] an interaction element, the interaction element and logic circuit cooperatively initiate control of media content from the wearable device or initiate operations of the wearable device | <p><b>Jannard discloses an interaction element, the interaction element</b> (e.g., “user controls 322” including a “button, dial ..., microphone, and/or any other input device that may be used by a user to control the audio device”) <b>and logic circuit</b> (e.g., “processor 312” <i>see</i> [1.d]) <b>cooperatively initiate control of media content</b> (e.g., “processor 312 receive[s] commands from a user via the user controls 322” to “perform any one or a combination of various functions with respect to an audio data file”) <b>from the wearable device</b> (e.g., “download[ed] from the content source...to the audio device”) <b>or initiate operations of the wearable device</b> (e.g., “button 152 could be used to answer an incoming phone call”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.pre], [1.d]. <b>Jannard</b> further teaches “processor 312 to receive commands from a user via the user controls 322.” Jannard, [0315]. “[U]ser controls 322 include a button, dial, switch, lever, sensor, touchpad, microphone, and/or any other input device that may be used by a user to control the audio device 304.” Jannard, [0316]. “[U]ser controls 322 are used to perform any one or a combination of various functions with respect to an audio data file” (media content), which is “download[ed] music from the content source 302,” including playing, pausing, skipping and fast-forwarding music. Jannard, [0303], [0317]. Among user controls 322, “button 152 could be used to answer an incoming phone call where the audio device 10D is used as an audio interface for a cellular phone.” Jannard, [0259]. Johnson, ¶¶95-98.</p> |

- Fig. 22

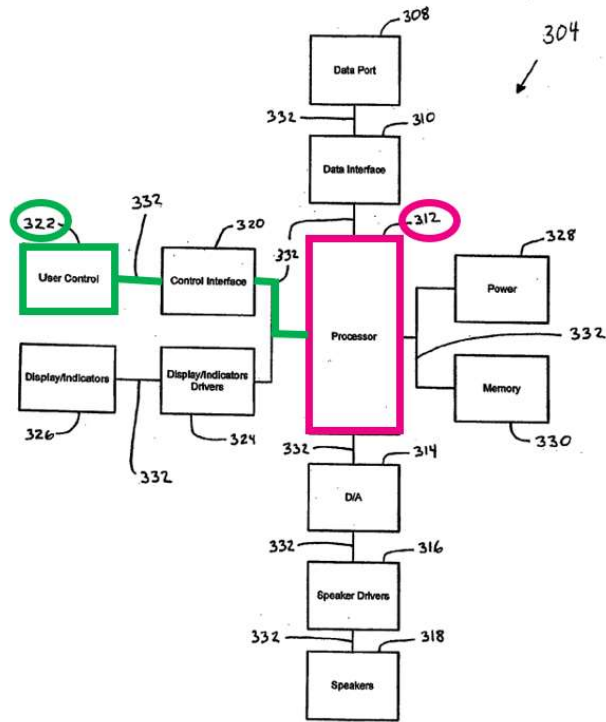


Figure 22

- [0257] (“Preferably, the audio device 10D includes a user interface device 150 configured to transmit user input signals to the interface 116 and/or the transceiver 114. In the illustrated embodiment, *the user interface device 150 is in the form of a 3-way button. The 3-way button 152 is configured to have three modes of operation.*”)
- Fig. 11

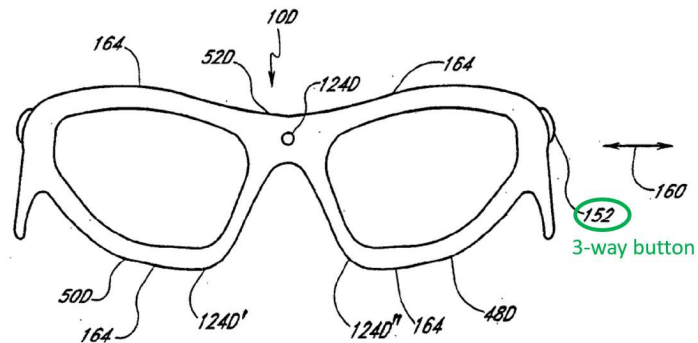


FIG. 11

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <ul style="list-style-type: none"><li>• [0258] (“<b><i>In one illustrative and non-limiting embodiment, the button 152 can be used to control volume.</i></b>”)</li><li>• [0259] (“[T]he medial-lateral movement of <b><i>the button 152</i></b>, along the directions identified by the arrow 160, <b><i>can be used to choose different functions performed by the transceiver 114 or the interface 116....</i></b>[A]n inward movement of <b><i>the button 152 could be used to answer an incoming phone call</i></b> where the audio device 10D is used as an audio interface for a cellular phone.”)</li><li>• [0302] (“The audio device 304 may be any of the audio devices described above with respect to FIGS. 1-19....”)</li><li>• [0303] (“[T]he audio network 300 is configured for the <b><i>downloading of music from the content source 302 (e.g., a user’s computer) to the audio device 304.</i></b>”)</li><li>• [0315] (“The control interface 320 generally includes a buffer, register, pre-processor, transistor, resistor and/or other electronic circuit to enable the <b><i>processor 312 to receive commands from a user via the user controls 322</i></b>. In one embodiment, the control interface 320 is integrated with the processor 312.”)</li><li>• [0316] (“In one embodiment, the user controls 322 include a <b><i>button, dial, switch, lever, sensor, touchpad, microphone, and/or any other input device that may be used by a user to control the audio device 304.</i></b>”)</li><li>• [0317] (“In other embodiments, user controls 322 are used to perform any one or a combination of various functions with respect to an audio data file.”)</li><li>• <i>See also</i> [0016], [0122]-[0127], [0135], [0137], [0151], [0220], [0291], [0307]</li></ul> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>[1.g] wherein the logic circuit is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server.</p> | <p><b>Jannard discloses the logic circuit is configured to cooperatively initiate control of media content of the wearable device (e.g., see [1.d], [1.f]) in response to analysis of audio captured at the wearable device at the ambient microphone (e.g. “commands from a user via the user controls 322,” which “include a microphone that receives a voice command”).</b></p> <p><b><u>E.g., Jannard:</u></b></p> <p>See [1.b], [1.d], [1.f]. As explained in [1.b], [1.d] and [1.f], <b>Jannard</b> teaches media content of audio device 10D is controlled by processor 312 and user controls 322, including a microphone for voice controls, which are in the form of “voice commands” captured by the microphone. Jannard, [0316]. <b>Jannard</b> further teaches “off-load[ing]” functionality from the audio device to “source electronics device,” “such as...a server” with “a speech recognition engine...that is properly trained to recognize the voice of the user.” Jannard, [0177], [0179], [0191], [0297]. Johnson, ¶¶99-102.</p> <ul style="list-style-type: none"> <li>• [0177] (“<i>[T]he source electronics</i> such as the MP3 player, cellular phone, computer or the like <i>may be off board, or located remotely from the audio device 10C. This enables the audio device 10C to accomplish complex electronic functions, while retaining a sleek, low weight configuration....</i> This accomplishes the function of <i>off loading the bulk and weight of the source electronics from the headset.</i>”)</li> <li>• [0257] Preferably, the audio device 10D includes a <i>user interface device 150 configured to transmit user input signals to the interface 116 and/or the transceiver 114.</i>”)</li> <li>• [0303] (“<i>In one embodiment, the audio network 300 is configured for the downloading of music from the content source 302 (e.g., a user's computer) to the audio device 304.</i>”)</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- [0307] (“For example, in one embodiment, *processor 312 is firmware, and software executable by the processor 312 may be changed, uploaded, downloaded, deleted, and/or modified.*”)
- [0316] (“In one embodiment, the user controls 322 include *a...microphone...that may be used by a user to control the audio device 304....*[T]he user controls 322 include *a microphone that receives a voice command.*”)
- FIG. 21

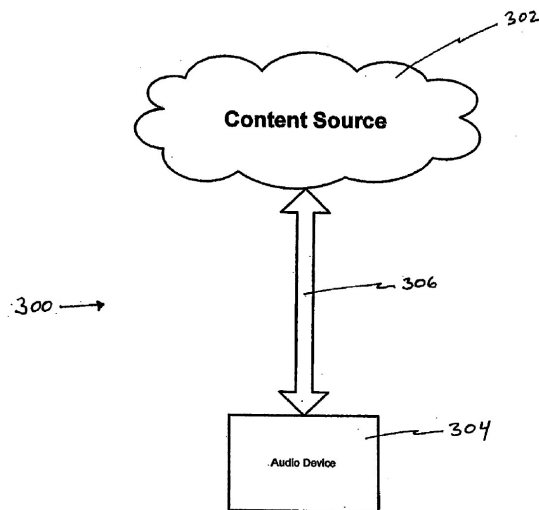


Figure 21

- See also [0011]-[0012], [0016], [0168], [0176], [0187], [0189]-[0191], [0236], [0301], [0316]

**Wittenberg discloses a logic circuit (e.g., “local command processor 110”) cooperatively initiating control of a device (e.g., “alter[ing] a state of local controllable device 120” within “device 160”) in response to analysis of audio analyzed at a remote server (e.g., “remote processor 130” “attempts to identify a voice command with the audio signal”) in response to instructions received from the**

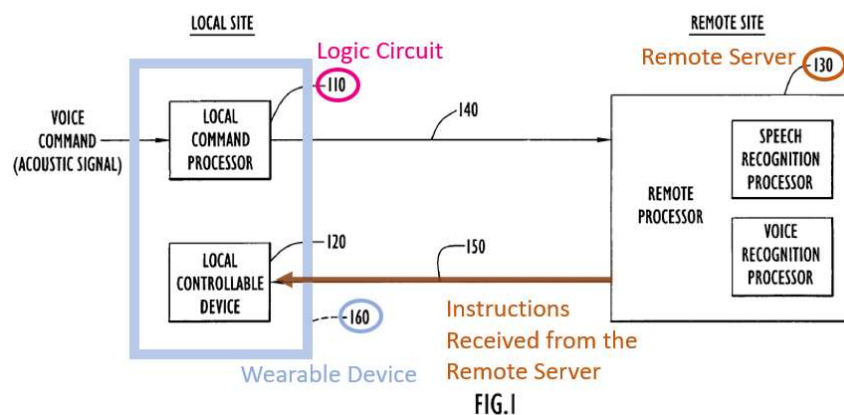
**remote server** (e.g., “local device 160” receives “a command signal” from “remote processor 130”).

**E.g., Wittenberg:**

**Wittenberg** discloses local device 160 including local command processor 110 and local controllable device 120. Wittenberg, 4:26-31. Local command processor 110 transmits audio signals containing control commands to remote processor 130, in which speech recognition processor 150 analyzes the audio signal by “attempt[ing] to identify a voice command within the audio signal.” Wittenberg, 5:38-40. Remote processor 130 then sends corresponding control commands (“control signals”) to controllable device 120, “in order to alter a state of the local controllable device 120.” Wittenberg, 6:30-36. A POSITA would have understood, by altering the state of controllable device 120, control of controllable device 120 (which is a component of local device 160) is initiated. Johnson, ¶¶103-104.

As described in §IX.A.3, a POSITA would have been motivated to apply **Wittenberg’s** teaching of remote processing and instruction transmission to a local device to **Jannard’s** audio device. Johnson, ¶105.

- Fig. 1



|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|  | <ul style="list-style-type: none"><li>• [Abstract] (“A technique for <i>remotely processing a local audio command to control a local device</i> includes: <i>receiving at a local site an acoustic signal and generating a corresponding audio signal; transmitting the audio signal to a remote site; performing speech recognition processing on the audio signal at the remote site to determine whether the audio signal includes a command; performing voice recognition processing on the audio signal at the remote site to determine whether the audio signal has been supplied by an authorized user; generating a command signal in response to the audio signal including a command and being supplied by an authorized user; and transmitting the command signal to a device at the local site to effect a change in a state of the local device.</i>”)</li><li>• 2:35-64 (“[A] method and system for the <i>remote processing of locally generated voice commands</i>, and... <i>for controlling a local device operated by an operator at a local site...</i>The <i>operator controls the local device by speaking voice commands. The voice command</i> constitutes an acoustic signal that travels through the air and is <i>received by a microphone of a local command processor. The local command processor generates a corresponding audio signal</i> (e.g., an electric or electromagnetic equivalent of the acoustic signal) <i>and sends the audio signal to a remote processor via a communication link. The remote processor, such as a server, performs speech recognition processing on the audio signal to determine the command to be carried out and performs voice recognition processing...</i>If a command is identified...the <i>remote processor sends a command signal to the local device via a communication link to control the state of the local device.</i>”)</li><li>• 3:30-35 (“The system of the present invention has particular applicability in networked systems where <i>control of a local device requires interaction or</i></li></ul> |
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|  | <p><b><i>authorization of a remote party or entity in addition to speech and voice processing of a voice command.”)</i></b></p> <ul style="list-style-type: none"><li>• 4:5-31 (“Referring to FIG. 1, a block diagram for a system for controlling a local device using remote speech and voice recognition processing according to an exemplary embodiment of the present invention includes a <b><i>local command processor 110, a local controllable device 120, a remote processor 130,</i></b> a communication link 140 between the local command processor 110 and the remote processor 130, and a <b><i>communication link 150 between the remote processor 130 and the local controllable device 120....</i></b> Another option is that <b><i>a common local device 160 includes both local command processor 110 and local controllable device 120 in a single device</i></b> (a dashed box is used for local device 160 in FIG. 1 to indicate that including these two devices in a single local device is optional).”)</li><li>• 4:32-35 (“Local command processor 110 and local controllable device 120 are typically incorporated into a common local device when the <b><i>local device commonly includes a microphone,</i></b> such as a wireless telephone or a two-way radio”)</li><li>• 4:44-49 (“<b><i>Local command processor 110 includes a microphone or similar mechanism for picking up acoustic signals.</i></b>”)</li><li>• 4:53-63 (“<b><i>In operation 210, to control the local controllable device 120, the operator or user at the local site issues an audible voice command (which is an acoustic signal) which can be detected by the microphone of the local command processor 110...</i></b> Once an acoustic signal is detected, local command processor 110 converts the acoustic signal to an audio signal, such as an electrical or electromagnetic representation of the acoustic signal (operation 220). The audio signal can be an analog signal or can be sampled to form a digital signal.”)</li></ul> |
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|  | <ul style="list-style-type: none"><li>• 4:64-5:15 (“Communication link 140 can employ any one or combination of communication media and protocols to convey the audio signal from the local site to a remote site (operation 230)...Depending on the nature of communication link 140, <b><i>local command processor 110 includes suitable means for processing the audio signal for transmission over communication link 140</i></b>, such as a modem, an RF transmitter and antenna, etc.”)</li><li>• 5:32-45 (“<b><i>Remote processor 130 includes at least a speech recognition processor and a voice recognition processor</i></b>. Although not shown in FIG. 1, <b><i>remote processor 130 also includes a receiver capable of receiving audio signals from communication link 140 and a transmitter for transmitting resulting command signals over communication link 150</i></b> (e.g., a modem). Upon reception of an audio signal, <b><i>the speech recognition processor attempts to identify a voice command</i></b> within the audio signal (operation 240 in FIG. 2)...”)</li><li>• 6:30-45 (“In operation 260, if a voice command is successfully identified via the speech recognition processing...then the <b><i>remote processor transmits a command signal to local controllable device 120 (located at the local site) over communication link 150 in order to alter a state of the local controllable device 120</i></b>. The command signal is preferably a digital signal having a format that is recognizable to local controllable device 120....”)</li><li>• 6:56-7:2 (“The following are some <b><i>examples of states of local controllable devices that can be altered via a command signal</i></b>.... In the context of a two-way radio, such as a military or public safety radio, <b><i>the command signal may instruct the radio to change an operational status (e.g., on/off, standby mode, sleep mode, etc)</i></b> or change a setting (e.g., increase/decrease volume, change transmission settings, change frequency, etc.)....”)</li></ul> |
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|                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• 7:15-36 (“[A] local operator (customer) issues a voice command at the local site to control the local controllable device 120, and the <b>local command processor 110</b> generates the audio signal in the manner described above (operations 410 and 420 in the flow diagram of FIG. 4). In operation 430, <b>the local command processor transmits the audio signal to the service provider 170 at a service provider site via a communication link...</b>”)</li> <li>• 7:54-63 (“The <b>remote processor, which provides speech and voice recognition processing...</b>”)</li> <li>• <i>See also</i>, 2:65-3:3, 3:15-25.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>[2] The wearable device of claim 1, wherein the interaction element and logic circuit are configured to initiate control of access to the media content played back at the wearable device or mobile device coupled thereto.</p> | <p><b>See [1]. Jannard discloses the interaction element (see [1.f]) and logic circuit (see [1.d]) are configured to initiate control of access to the media content played back at the wearable device or mobile device coupled thereto (see [1.g]; “perform any one or a combination of various functions with respect to an audio data file” including “randomize file selection, load a playlist”).</b></p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.d], [1.f]-[1.g]. As discussed in [1.d], <b>Jannard</b> teaches “processor 312” operates together with “user controls 322.” <b>Jannard</b> also teaches “user controls 322,” including a “button, dial..., microphone, and/or any other input device that may be used by a user to control the audio device” (<i>see</i> [1.f]), including “perform[ing] any one or a combination of various functions with respect to an audio data file” including “randomize file selection, load a playlist, set a playlist, delete a playlist, repeat playback of all audio files, selected audio files, or a playlist.” Jannard, [0317]. Johnson, ¶¶106-109.</p> |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|  | <ul style="list-style-type: none"><li>• [0317] (“In other embodiments, <b><i>user controls 322 are used to perform any one or a combination of various functions with respect to an audio data file.</i></b> For example, <b><i>user controls 322 may be used to</i></b> fast-forward, skip, cue, play, pause, turn power on or off, rewind, review, adjust volume, balance, tone, bass, or treble, <b><i>randomize file selection, load a playlist, set a playlist, delete a playlist, repeat playback of all audio files, selected audio files, or a playlist, or perform any other function related to an audio data file.</i></b>”)</li><li>• [0135] (“<b><i>The memory, amplifier, and the processor are configured to operate together to function as an audio storage and playback system. For example, the audio storage and playback system can be configured to store MP3 files in a memory and to playback the MP3 files through the speakers 14A, 16A". Suitable electronics for enabling and amplifying MP3 storage and playback are well known in the art,</i></b> and may be commercially available from Sigmatel, Inc. or Atmel, Inc.”)</li><li>• [0332] (“The audio file is stored in the audio device 304 at block 354. At block 356, the method 350 determines whether <b><i>the user has instructed the audio device 304 to play back the audio file.</i></b> If not, the method 350 continues to block 358, where the method 350 determines whether <b><i>the user has instructed the audio device 304 to load an audio file into the audio device 304.</i></b>”)</li><li>• [0333] (“[B]lock 360 includes any one or a combination functions that may be performed with respect to an audio file. For example, <b><i>at block 360 the audio file may be selected, the playback volume may be adjusted, the tone, balance, bass, treble, or other audio parameter may be adjusted, and/or any other processing function may occur.</i></b>”)</li><li>• Fig. 22</li></ul> |
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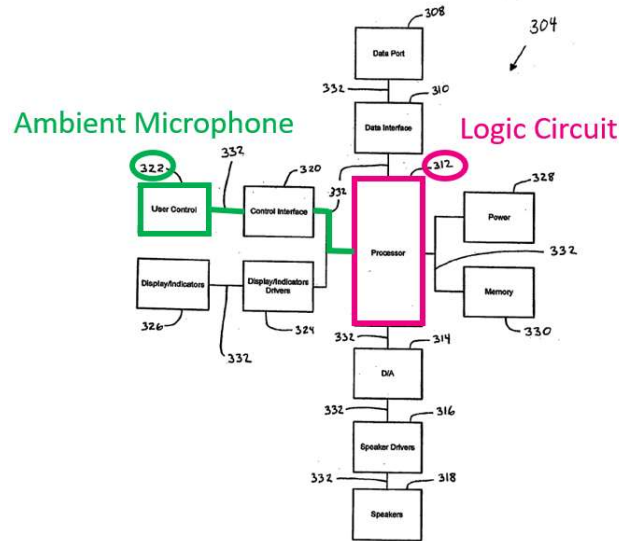


Figure 22

- Fig. 23

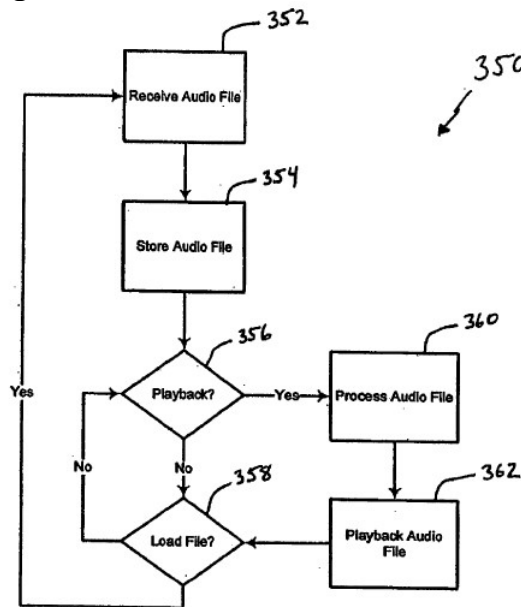


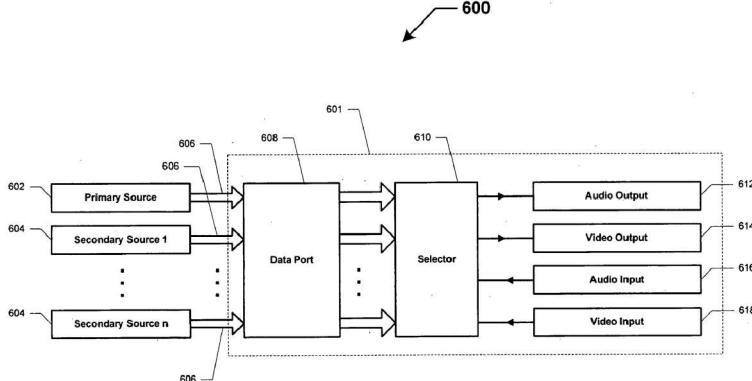
Figure 23

- See, also [0153]-[0157]

[3] The wearable device of claim 2, wherein the memory storage

See [2]. **Jannard discloses the memory storage unit (e.g., “memory module 330”; see [1.e]) and logic circuit (e.g., “processor 312”; see [1.d]) are remote from the housing**

|                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <p>unit and logic circuit are remote from the housing.</p> | <p>(e.g., “source electronics such as the MP3 player...may be off board, or located remotely from the audio device”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.a], [1.d]-[1.e]. <b>Jannard</b> further teaches “memory module 330 may be permanently contained within the audio device 304, or may be removable.” Jannard, [0322]. <b>Jannard</b> further teaches “source electronics such as the MP3 player...may be off board, or located remotely from the audio device 10C.” Jannard, [0177]. Thus, the memory module and processor are remote from the housing of the audio device (<i>see</i> [1.a]). Johnson, ¶¶110-113.</p> <ul style="list-style-type: none"> <li>• [Abstract] (“<b><i>Source electronics may be carried by the support or carried remotely</i></b>, and in wireless communication with the support...”)</li> <li>• [0012] (“The music source may either be carried by the support, or <b><i>exist remotely from the support and communicate wirelessly with the support</i></b>. In one embodiment, the music source comprises an MP3 player.”)</li> <li>• [0177] (“<b><i>[T]he source electronics such as the MP3 player, cellular phone, computer or the like may be off board, or located remotely from the audio device 10C</i></b>. This enables the audio device 10C to accomplish complex electronic functions, while retaining a sleek, low weight configuration.”)</li> <li>• [0200] (“<b><i>The source electronics may be external to the wearable electronic interface 601, as illustrated in FIG. 8A</i></b>, in which case the communication link 606 may either be a direct electrical coupling...or wireless.”)</li> <li>• Fig. 8A</li> </ul> |
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|                                                                                                                                  |  <p style="text-align: center;"><b>FIG. 8A</b></p> <ul style="list-style-type: none"> <li>• [0322] (“<i>The memory module 330 may be permanently contained within the audio device 304, or may be removable.</i>”)</li> <li>• See also [190], [0202], [0204], [0216]</li> </ul> |
| <p>[4] The wearable device of claim 2, wherein the memory storage unit or logic circuit or both are remote from the housing.</p> | <p>See [2], [3]. Johnson, ¶¶114-115.</p>                                                                                                                                                                                                                                                                                                                          |
| <p>[5] The wearable device of claim 1, wherein the wearable device comprises eye-wear.</p>                                       | <p>See [1]. Jannard discloses the wearable device comprises <b>eye-wear</b> (e.g., “eyeglass,” see [1.a]). Johnson, ¶¶116-118.</p>                                                                                                                                                                                                                                |
| <p>[6] The wearable device of claim 1, wherein the interaction element comprises a voice controlled user</p>                     | <p>See [1], [1.d], [1.f]. Jannard discloses the interaction <b>element comprises a voice controlled user interface</b> (e.g., “user controls 322” including a “microphone” (see [1.d], [1.f], [1.g])). Johnson, ¶¶119-122.</p>                                                                                                                                    |

|                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| interface.                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>[7] The wearable device of claim 1, wherein the wearable device further comprises a button with multiple contacts coupled to the logic circuit that forms a portion of the interaction element.</p> | <p><i>See</i> [1]. <b>Jannard discloses the wearable device further comprises a button with multiple contacts</b> (e.g., “3-way button 152,” with “[a]ppropriate contacts...mounted beneath the button 152 so as to be activated individually according to the modes of operation” (<i>see</i> [1.f])) <b>coupled to the logic circuit</b> (e.g., “processor 312 to receive commands from a user via the user controls 322”) <b>that forms a portion of the interaction element</b> (e.g., “user controls 322 include a button” (<i>see</i> [1.f]))).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.d], [1.f]. <b>Jannard</b> further teaches “user controls 322 includ[ing] a button” coupled to “processor 312” to provide commands from a user. Jannard, [0315]-[0316]. One such button is “3-way button 152,” where “[a]ppropriate contacts can be mounted beneath the button 152 so as to be activated individually according to the modes of operation.” Jannard, [0257]. Johnson, ¶¶123-126.</p> <p>To the extent this limitation requires the logic circuit form a portion of the interaction element, <b>Jannard</b> discloses in one embodiment “control interface 320” is “combined with processor 312,” and a POSITA would have understood the button 152 (which is a part of “user controls 322” coupled to control interface 320) and underlying circuitry performs its operations with assistance of processor 312, and in that sense, the processor 312 would be considered part of the interaction element—and at minimum it would have been obvious to so group them. Jannard, [0304]. Johnson, ¶127.</p> <ul style="list-style-type: none"> <li>• Fig. 11</li> </ul> |

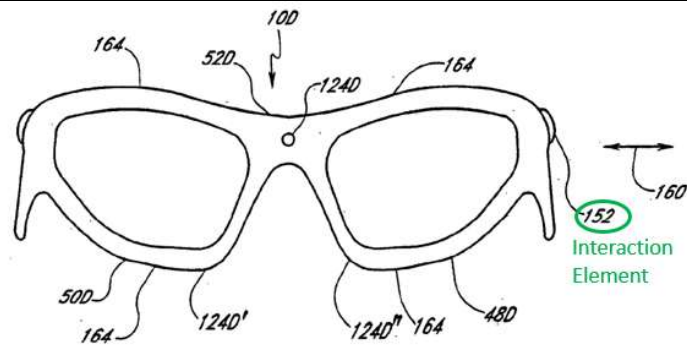


FIG. 11

- Fig. 22

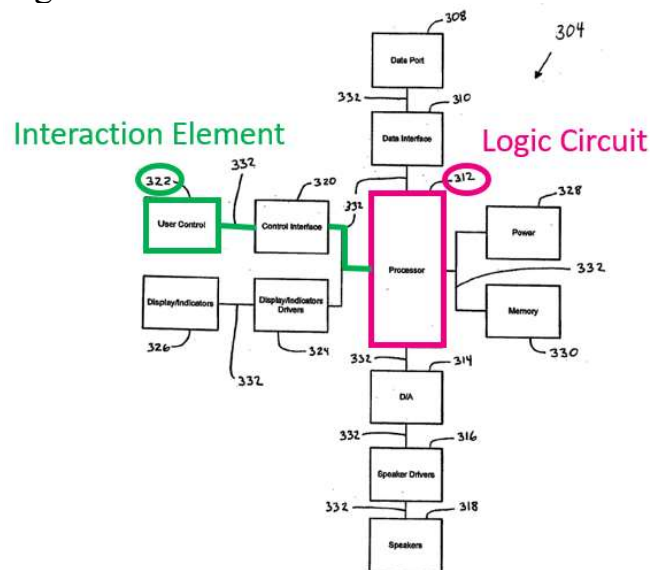


Figure 22

- [314] (“Audio device 304 generally includes...*processor 312...user controls 322...* however, any one or more of these components may be combined.”)
- [0257] (“In the illustrated embodiment, the user interface device 150 is in the form of a *3-way button*. *The 3-way button 152 is configured to have three modes of operation...Appropriate contacts can be mounted beneath the button 152 so as to be activated individually according to the modes of operation.*”)
- See, also [0123], [0126]-[0129], [0214], [0236], [0258].

|                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <p>[8] The wearable device of claim 1, wherein the initiating of the operations of the wearable device is in response to a trigger of a predetermined alert condition.</p> | <p><i>See</i> [1]. <b>Jannard discloses the initiating of the operations of the wearable device</b> (e.g., “initiate a telephone call”) <b>is in response to a trigger of a predetermined alert condition</b> (e.g., “when a caller, such as a supervisor, a customer, or other priority individual attempts to contact the wearer”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.f]. <b>Jannard</b> further teaches a user configures the audio device such that, “when a caller, such as a supervisor, a customer, or other priority individual attempts to contact the wearer” (a predetermined alert condition), the audio device “automatically accepts the incoming communication request, and allows the caller to communicate with the wearer.” Jannard, [0237]. A POSITA would have understood “user controls 322” (the interaction element) are used to set this configuration, as required by [1.f]. Johnson, ¶¶128-131.</p> <ul style="list-style-type: none"><li>• [0237] (“[A] wearer of a wearable electronic interface 601, such as a production-line worker, security guard, office employee, etc., may use the wearable electronic interface 601 to listen to mp3 audio or other entertainment. However, <i>when a caller, such as a supervisor, a customer, or other priority individual attempts to contact the wearer via the secondary source 604, the wearable electronic interface 601 automatically accepts the incoming communication request</i>, and allows the caller to communicate with the wearer as discussed herein.”)</li></ul> |
| <p>[9] The wearable device of claim 1, wherein the wearable device comprises an earphone.</p>                                                                              | <p><i>See</i> [1]. <b>Jannard discloses the wearable device comprises an earphone</b> (e.g., “speakers 14D, 16D”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.pre]. <b>Jannard</b> further teaches audio device 10D includes “speakers 14D, 16D.” Jannard, [0258]. Further,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

speakers 14D, 16D are earphones because they are located over the ear. For example, Jannard teaches the placement of certain circuitry “prevents misalignment of the speakers 14D, 16D,” which a POSITA would understand is intended to ensure the speakers are located directly over the ears, and are thus earphones. Jannard, [0262]. To the extent further disclosure of the speakers being directly over the ears is required, it would have been obvious to extend the speakers to directly overlay the ear to minimize others from hearing the audio being played for the user. Johnson, ¶¶132-135.

- Fig. 12

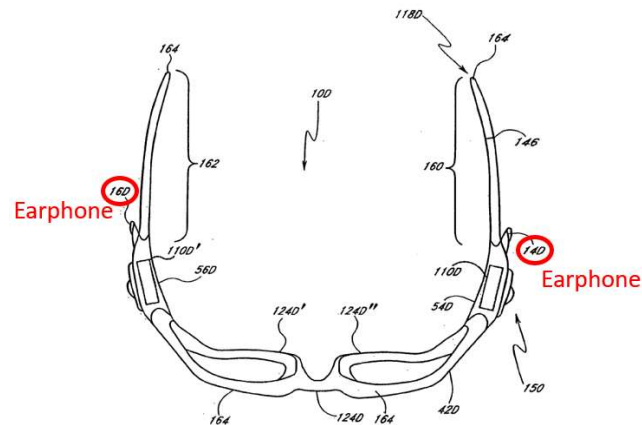


FIG. 12

- [0258] (“[B]y pressing on the forward portion 156, a contact can be made causing the transceiver 114...to increase the volume of the *speakers 14D, 16D.*”)
- [0262] (“[T]he power contacts 164 are disposed on the upper edges of the orbitals 48D, 50D. In this configuration, the audio device 10D is laid in a cradle in an inverted position, such that the contacts 164 make electrical contact with corresponding contacts in the cradle. This position is advantageous because it prevents weight from being applied to the supports 28D, 30D. *This prevents misalignment of the speakers 14D, 16D.*”)

[10] The wearable device of claim 1, wherein the wearable device comprises at least a portion of a personal computer system, a personal music player system, a personal monitoring system, an automotive audio system, a home audio system, an avionics audio system, a personal video system, a mobile cell phone system, a personal digital assistant system, a standalone accessory, or an advanced eye-wear system with acoustical transducers.

*See* [1]. **Jannard discloses the wearable device comprises at least a portion of...an advanced eye-wear system with acoustical transducers** (e.g., “eyeglass” with “speakers 14D, 16D”).

**E.g., Jannard:**

*See* [1.pre]-[1.e]. **Jannard** further teaches audio device 10D in the form of “eyeglass” with speakers 14D, 16D,” which a POSITA would have understood are a form of acoustical transducers. Jannard, [0255], [0258]. This is consistent with the ’692, which discloses “microphones” as an example of “acoustical transducer.” **Jannard** also discloses audio device 10A’ “includes an audio file storage and playback device 286,” is “configured to store and playback any desired type of electronic audio and/or video file,” where the audio files include “MP3 files.” Jannard, [0134]-[0135]. The playback device 286 thus constitutes a personal music player system. A POSITA would have understood (or at least found it obvious) that **Jannard’s** teachings of integrating playback device 286 apply to audio device 10D to advantageously provide extra functionality in the device and avoid the need to carry an extra device to play music. Johnson, ¶¶136-141.

• Fig. 12

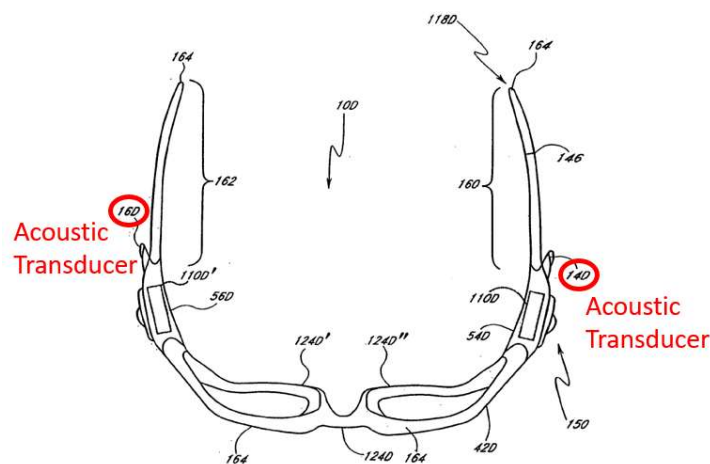
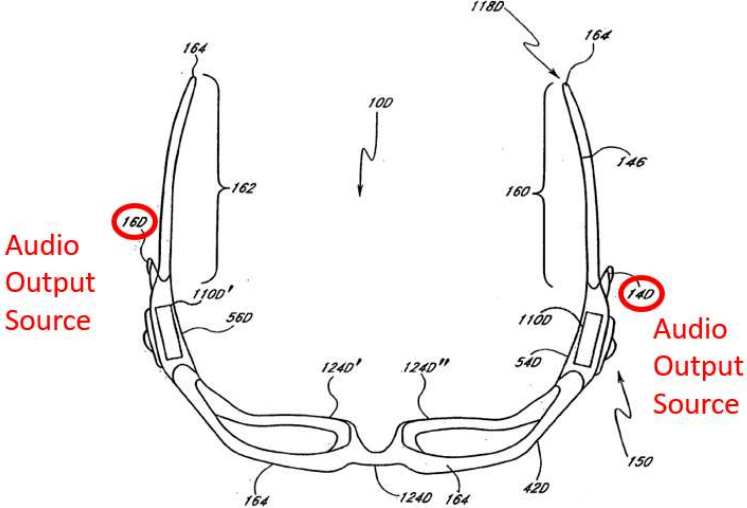


FIG. 12

|                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                                                                                                                                    | <ul style="list-style-type: none"> <li>• [0255] (“[T]he stem 56D would also become part of the antenna 118D, 118D’, thereby allowing transmission and reception of signals on three sides of the user's head. Thus, where at least a portion of a frame of an <i>eyeglass</i> is used as the antenna for the wireless transceiver 114, the audio device benefits from enhanced antenna efficiency.”)</li> <li>• [0258] (“[I]ncrease the volume of the <i>speakers 14D, 16D.</i>”)</li> <li>• [0176] (“[T]he <i>user U can listen</i> to the audio output of the cellular phone, such as the voice of a caller, <i>through sound transducers....</i>”)</li> <li>• [0134] (“Additionally, the printed circuit board 284 includes <i>an audio file storage and playback device 286.</i>”)</li> <li>• [0135] (“The device 286 can be configured to store and playback any desired type of electronic audio and/or video file...For example, <i>the audio storage and playback system can be configured to store MP3 files in a memory and to play back the MP3 files through the speakers 14A', 16A'.</i>”)</li> <li>• <i>See also</i> [0010], [0012].</li> </ul> |
| <p>[11] The wearable device of claim 1, wherein the wearable device further comprises speaker for providing an audible output.</p> | <p><i>See</i> [1]. <b>Jannard discloses the wearable device further comprises speaker for providing an audible output</b> (<i>e.g.</i>, “volume of the speakers 14D, 16D”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [9]. <b>Jannard</b> further teaches the “volume” of “speakers 14D, 16D” can be adjusted. Jannard, [0258]. Johnson, ¶¶142-145.</p> <ul style="list-style-type: none"> <li>• Fig. 12</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                                                                                           |  <p>FIG. 12</p> <ul style="list-style-type: none"> <li>• [0258] (“[T]he button 152 can be used to control volume. For example, by pressing on the forward portion 156, a contact can be made causing the transceiver 114 or the interface 116 to <b>increase the volume of the speakers 14D, 16D</b>. Additionally, by pressing on the rearward portion 158 of the button 152, the transceiver 114 or interface 116 could <b>lower the volume of the speakers 14D, 16D.</b>”)</li> <li>• See also [0074]</li> </ul>                                                                                             |
| <p>[13] The wearable device of claim 1, wherein the logic circuit is configured to perform a search of the web in response to a voice command and provide a web search result to the wearable device.</p> | <p>See [1]. <b>Jannard discloses the logic circuit (e.g., “processor,” see [1.d]) is configured to perform a search of the web (e.g., “internet browsing”) in response to a voice command (e.g., “recognize speech from the user, convert the speech to AT commands”) and provide a web search result to the wearable device (e.g., “control this source device,” including “internet browsing”).</b></p> <p><b><u>E.g., Jannard:</u></b></p> <p><b>Jannard</b> teaches “internet browsing” in response to “recogniz[ing] speech from the user, convert[ing] [] speech to AT commands, and control[ing]” the “source device using a standard AT command protocol.” Jannard, [0298], [0299]. A</p> |

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|                                                                   | <p>POSITA would have understood (or at least found it obvious) that internet browsing includes the use of a search engine to perform a web search to allow a user to find a desired website, and that such a web search would provide search results. <i>See, e.g.,</i> Martin, [0005] (“Because of the large number of websites on the Internet, searching the Internet for specific information usually requires the services of a search engine. Generally speaking, a search engine helps consumers look for relevant web pages...The links to matching web pages are presented to the consumer in the form of a listing referred to as “search results.””); Johnson, ¶148. <b>Jannard</b> further discloses using “text-to-speech” for “internet browsing,” such that search results would be provided to the user via text-to-speech. Jannard, [0299]. Johnson, ¶¶146-148.</p> <ul style="list-style-type: none"> <li>• [0298] (“<i>In another alternative, the interface electronics 116 can include a speech recognition engine and audio menus. In this alternative, the interface electronics 116 can recognize speech from the user, convert the speech to AT commands, and control this source device using a standard AT command protocol.</i>”)</li> <li>• [0299] (“[T]he source device B can be in the form of a palm-top or hand-held computer known as a BLACKBERRY [that]... can communicate with a variety of wireless networks for receiving email, phone calls, and/or <i>internet browsing</i>. One aspect of at least one of the present inventions includes the realization that such a hand-held computer can <i>include a text-to-speech engine...</i>”)</li> <li>• <i>See also</i> [0176], [0296], [0297]</li> </ul> |
| [14] The wearable device of claim 1, wherein the logic circuit is | <p><i>See</i> [1]. <b>Jannard discloses the logic circuit is configured to cooperatively initiate control of the media content of the wearable device (e.g., see [1.g]) and initiate operations of the wearable device (e.g., “answer an incoming phone call”; initiating a call by saying “call alpha”) in response to</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| <p>configured to cooperatively initiate control of the media content of the wearable device and initiate operations of the wearable device in response to analysis of the audio captured at the wearable device at the ambient microphone and analyzed at the remote server in response to instructions received from the remote server.</p> | <p><b>analysis of the audio captured at the wearable device at the ambient microphone and analyzed at the remote server in response to instructions received from the remote server</b> (<i>e.g.</i>, <i>see</i> [1.g]).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.g]. The limitation added by claim 14 is identical to [1.g], except it further requires “initiate operation of the wearable device.” <b>Jannard</b> further teaches the “wearer can then elect whether to accept the call, such as by...voice command,” and thus initiates accepting a voice call of the wearable device in response to the voice command. Jannard, [0236]. Additionally, <b>Jannard</b> teaches “if a user chooses a voice command option, the user could issue commands such as...‘call alpha’.” The voice command “call alpha” would result in initiation of a phone call at the wearable device. Jannard, [0297]. Johnson, ¶¶149-153.</p> <ul style="list-style-type: none"> <li>• [0236] (“In use, the wearer may be listening to music from the primary source when an incoming phone call is received....<b><i>The wearer can then elect whether to accept the call, such as by</i></b> pressing a button on the user interface, activating the phone by <b><i>voice command</i></b>, or other initiating mechanism.”)</li> <li>• [0297] (“For example, <b><i>if a user chooses a voice command option, the user could issue commands such as</i></b>, for example, but without limitation, “phonebook” or <b><i>“call alpha.”</i></b>”)</li> <li>• <i>See also</i> [0187], [0259], [0292], [0296], [0316]</li> </ul> |
| <p>[16] The wearable device of claim 1, wherein the logic circuit is configured to retrieve specific</p>                                                                                                                                                                                                                                     | <p><i>See</i> [1]. <b>Jannard discloses the logic circuit</b> (<i>e.g.</i>, “processor,” <i>see</i> [1.d]), <b>is configured to retrieve specific media content</b> (<i>e.g.</i>, “downloading of music from the content source 302 (<i>e.g.</i>, a user's computer) to the audio device 304,” <i>see</i> [1.d], [1.f]) <b>in response to voice commands captured at the wearable device using the ambient microphone</b> (<i>e.g.</i>,</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| <p>media content in response to voice commands captured at the wearable device using the ambient microphone, and the wearable device receives results from the remote server in response to speech recognition processing of the voice command at the remote server.</p> | <p>“commands from a user via the user controls 322,” which “include a microphone that receives a voice command”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.d], [1.f], [1.g], [14]. <b>Jannard</b> further teaches “downloading of music from the content source 302...to the audio device 304.” Jannard, [0303]; <i>see</i> [1.d], [1.f]. <b>Jannard</b> also teaches “processor 312...receive[s] commands from a user via the user controls 322”—including “a microphone that receives a voice command”—to “perform any one or a combination of various functions with respect to an audio data file.” Jannard, [0315]-[0317]. Johnson, ¶¶154-157.</p> <ul style="list-style-type: none"> <li>• [0191] (“<b><i>[T]he source electronics may include a computing device, such as a computer, a server, a network, drive, RAM, ROM or other non-removable or removable memory chip.</i></b>”)</li> <li>• [0303] (“In one embodiment, the audio network 300 is configured for the <b><i>downloading of music from the content source 302</i></b> (e.g., a user's computer) <b><i>to the audio device 304.</i></b>”)</li> <li>• [0315] (“The control interface 320 generally includes a buffer, register, pre-processor, transistor, resistor and/or other electronic circuit to <b><i>enable the processor 312 to receive commands from a user via the user controls 322.</i></b> In one embodiment, the control interface 320 is integrated with the processor 312.”)</li> <li>• [0316] (“In one embodiment, the <b><i>user controls 322 include a microphone that receives a voice command.</i></b>”)</li> <li>• [0317] (“In other embodiments, <b><i>user controls 322 are used to perform any one or a combination of various functions with respect to an audio data file.</i></b>”)</li> <li>• <i>See also</i> [0187], [0297]</li> </ul> <p><b>Wittenberg discloses a device receives results from the remote server</b> (e.g., “local device 160” receives “a command signal” from “remote processor 130,” <i>see</i> [1.g]) <b>in</b></p> |
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|                                                                         | <p><b>response to speech recognition processing of the voice command at the remote server</b> (e.g., “remote processor 130” includes a “a speech recognition processor [that] attempts to identify a voice command with the audio signal,” <i>see</i> [1.g]).</p> <p><b><u>E.g., Wittenberg:</u></b></p> <p><i>See</i> [1.g]. <b>Wittenberg</b> further discloses the “command signal” from the remote server are results of “attempts to identify a voice command with the audio signal” by “speech recognition processor” of remote processor 130. Wittenberg, 5:33-43, 6:30-45. As described in §IX.A.3, a POSITA would have been motivated to apply <b>Wittenberg’s</b> teachings of remote processing and instruction transmission to a local device to <b>Jannard’s</b> audio device. Johnson, ¶¶158-160.</p> <ul style="list-style-type: none"> <li>• 5:33-43 (“Upon reception of an audio signal, <i>the speech recognition processor attempts to identify a voice command within the audio signal</i>.... The speech recognition processing involves performing any of a variety of signal processing techniques for identifying spoken words or sets of words within an audio signal.”)</li> <li>• 6:30-45 (“In operation 260, if a voice command is successfully identified via the speech recognition processing...then the <i>remote processor transmits a command signal to local controllable device 120 (located at the local site) over communication link 150 in order to alter a state of the local controllable device 120</i>. The command signal is preferably a digital signal having a format that is recognizable to local controllable device 120....”)</li> </ul> |
| <p>[17] The wearable device of claim 1, wherein the wearable device</p> | <p><i>See</i> [1]. <b>Jannard discloses the wearable device further comprises a presentation device</b> (e.g., “audio output”) <b>operatively coupled to the wearable device for presenting one or more of text, images, webpages, location information, scheduling information, or audible outputs</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| <p>further comprises a presentation device operatively coupled to the wearable device for presenting one or more of text, images, webpages, location information, scheduling information, or audible outputs to complement detected voice commands at the wearable device and speech recognition results received at the wearable device from the remote server in response to analysis of the detected voice commands at the remote server.</p> | <p>(e.g., “audio output that is audible to the user”) to <b>complement detected voice commands at the wearable device</b> (to provide “audio indicators back to the user” when “microphone...receives a voice command”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p>See [1.f]-[1.g], [11]-[12], [16]. <b>Jannard</b> further teaches the audio device “can be used as an audio output device” and “provide an audio output that is audible to the user.” Jannard, [0100], [0278]. When the “microphone...receives a voice command” ([0316]) it is provided to the “source device,” such as a “server,” which includes a “speech recognition engine...that is properly trained to recognize the voice of the user.” Jannard, [0297]. When “the user speaks,” the device is “configured to issue audio indicators back to the user...to guide the user through such a voice command.” Jannard, [0296]. Johnson, ¶¶161-164.</p> <ul style="list-style-type: none"> <li>• [0100] (“<i>The audio device 10A can be used as an audio output device for any type of device which provides an audio output signal.</i>”)</li> <li>• [0278] (“The digital-to-audio converter 204 can be connected to the speakers 14,16 and thereby <i>provide an audio output that is audible to the user.</i>”)</li> <li>• [0296] (“<i>For example, when a user chooses the voice command option, the interface electronic 116 can reconfigure to send an AT command to the source device, such as a cellular phone, to accept voice commands directly from the transceiver 114.</i> Thus, as the user speaks, the audio signal is directed to the source device, which in turn is <i>configured to issue audio indicators back to the user</i>, through the speakers 14, 14A, 14B, 14C, 14D, 14E, 16, 16A, 16B, 16C, 16D, 16E, <i>to guide the user through such a voice command.</i>”)</li> <li>• [0297] (“For example, if a user chooses a <i>voice command option</i>, the user could issue commands such as, for example, but without limitation, “phonebook” or</li> </ul> |
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|                                                                                                 | <p>“call alpha.” With a source device such as a cellular phone, that has <i>a speech recognition engine and that is properly trained to recognize the voice of the user</i>, the user can automatically enter the phonebook mode or directly call the phonebook listing “alpha,” of course, as is apparent to one of ordinary skill in the art, such a voice command protocol could be used to issue other commands as well.”)</p> <ul style="list-style-type: none"> <li>• [0316] (“In one embodiment, the <i>user controls 322 include a microphone that receives a voice command.</i>”)</li> <li>• <i>See also</i> [0015], [0083], [0204], [0225], [0263], [0301]</li> </ul> <p><b>Wittenberg discloses speech recognition results received at the wearable device from the remote server</b> (“local device 160” receives “a command signal” from “remote processor 130,” <i>see</i> [1.g], [12]) <b>in response to analysis of the detected voice commands at the remote server</b> (<i>e.g.</i>, “remote processor 130” includes a “a speech recognition processor [that] attempts to identify a voice command with the audio signal,” <i>see</i> [16]).</p> <p><b><u>E.g., Wittenberg:</u></b></p> <p><i>See</i> [1.g], [16]. <b>Wittenberg</b> further discloses resulting control command instructions are transmitted to local device 160 in response to speech recognition processing at remote processor 130. Wittenberg, 4:6-35, 6:30-45. As described in §IX.A.3, a POSITA would have been motivated to apply <b>Wittenberg’s</b> teachings of remote processing and instruction transmission to a local device to <b>Jannard’s</b> audio device. Johnson, ¶¶165-168.</p> |
| <p>[18.pre] A wearable device, comprising:</p> <p>[18.a] a housing for the wearable device;</p> | <p><i>See</i> [1.pre]-[1.b]. Johnson, ¶¶169-171.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| [18.b] an ambient microphone mounted on or within the housing;                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| [18.c] a communication module communicatively coupled to the ambient microphone; | <p><b>Jannard discloses a communication module</b> (<i>e.g.</i>, “transceiver 114,” <i>see</i> [1.c]) <b>communicatively coupled to the ambient microphone</b> (<i>e.g.</i>, “transceiver 114 can be configured to operate in a full duplex mode in which...audio signals from the microphone...124D...are transmitted...to a cooperating wireless device”).</p> <p><b><u>E.g., Jannard:</u></b></p> <p><i>See</i> [1.c]-[1.d], [1.g]. <b>Jannard</b> further teaches “transceiver 114...configured to operate in a full duplex mode in which...audio signals from the microphone 75, 124, 124D, 124E are transmitted through the antenna 118, 118D, 118D’ to a cooperating wireless device.” Jannard, [0288]. Additionally, when <b>Jannard’s</b> audio device is implemented with a microphone bank, a POSITA would have understood, and at minimum found it obvious, that transceiver 114 is coupled to <b>Jannard’s</b> “banks of microphones,” <i>e.g.</i>, when processing voice commands to be sent to the server. <i>See</i> [1.c]-[1.d], [1.g]. Moreover, <b>Jannard</b> further teaches “data port 308” is for “wireless” communication over “communication link,” and illustrates data port 308 is communicatively coupled with user controls 322 (which includes the ambient microphones (<i>see</i> [1.f])). Johnson, ¶¶172-176.</p> <ul style="list-style-type: none"> <li>• [0288] (“[T]he <i>transceiver 114 can only...transmit signals, for example, from the microphone 75, 124, 124D, 124E to another device</i> through the antenna 118, 118D, 118D’. Alternatively the transceiver 114 can be configured to operate in a full duplex mode in which...simultaneously <i>audio signals from the</i></li> </ul> |

*microphone 75, 124, 124D, 124E are transmitted through the antenna 118, 118D, 118D' to a cooperating wireless device.”)*

- [0296] (“For example, *when a user chooses the voice command option*, the interface electronic 116 can reconfigure to *send an AT command to the source device, such as a cellular phone, to accept voice commands directly from the transceiver 114*. Thus, as the user speaks, the audio signal is directed to the source device....”)
- [0187] (“The microphone 124 is connected to the interface 116 through a microphone line 130. Thus, the *transceiver 114 can receive audio signals from the microphone 124* through the interface 116.”)
- [0296] (“For example, when a user chooses the voice command option, the interface electronic 116 can reconfigure to send an AT command to the source device...*to accept voice commands directly from the transceiver 114*”)
- Fig. 9A

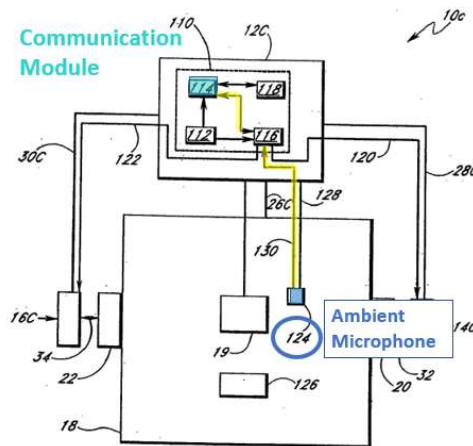
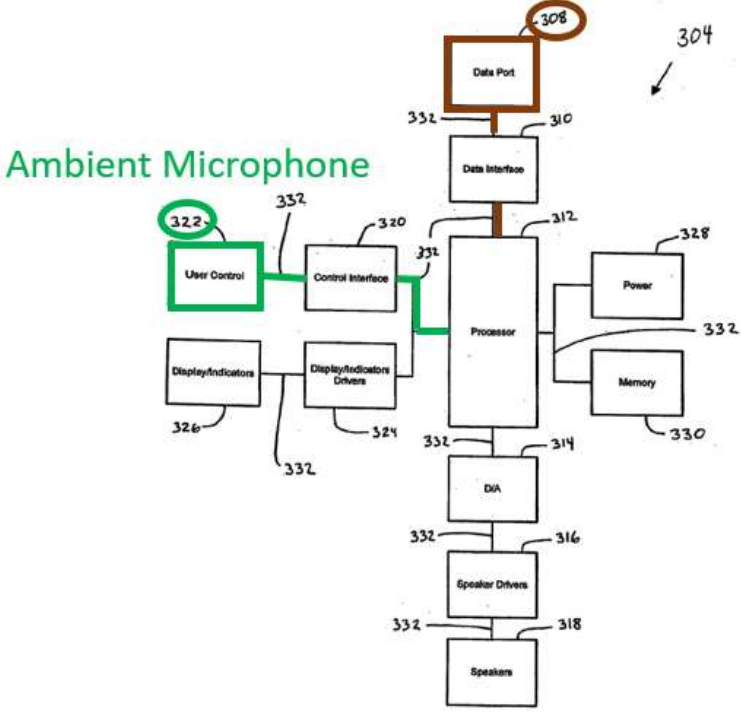


FIG. 9A

- Fig. 22

|                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                                                                                                                                                                                                     |  <p style="text-align: center;"><b>Figure 22</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>[18.d] one or more processors communicatively coupled to the ambient microphone;</p>                                                                                                             | <p>See [1.d], where the "logic circuit" corresponds to "one or more processors." Johnson, ¶177.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>[18.e] a computer readable medium communicatively coupled to the one or more processors and containing instructions which when executed by the one or more processors, cause the one or more</p> | <p><b>Jannard discloses a computer readable medium (e.g., "memory module 330") communicatively coupled to the one or more processors (e.g., "processor 312," see Fig. 22) and containing instructions which when executed by the one or more processors (e.g., "configured to operate," "providing added functionality"), cause the one or more processors to perform functions comprising initiating control of audio content (e.g., "processor 312 receive[s] commands from a user via the user controls 322" to "perform any one or a combination of various functions with respect to an audio data file") or initiating at least one operation of the wearable device (see [1.f]).</b></p> |

processors to perform functions comprising initiating control of audio content or initiating at least one operation of the wearable device; and

**E.g., Jannard:**

See [1.d]-[1.f], [6], [10]. **Jannard** further teaches the “memory...and the processor are configured to operate together” “for providing added functionality.” Jannard, [0135], [0289]. For example, the “processor 312...receive[s] commands from a user via the user controls 322” and “perform[s] any one or a combination of various functions with respect to an audio data file.” Jannard, [0315], [0317]. Johnson, ¶¶178-181.

A POSITA would have understood (or at least found it obvious) that memory module 330 stores instructions causing processor 312 to perform these operations in response to commands. See [1.e]. Johnson, ¶182.

- Fig. 22

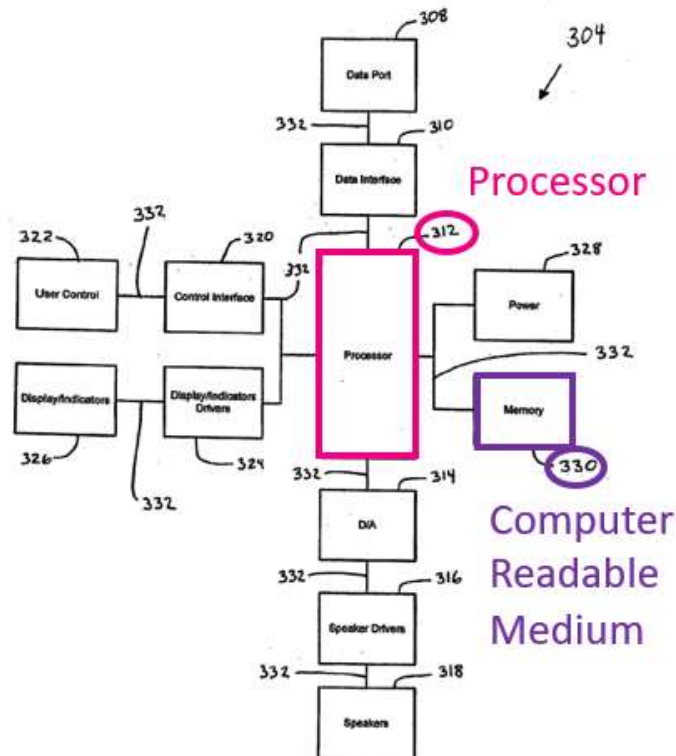


**Figure 22**

- [0135] (“The device 286 can be configured to store and playback any desired type of electronic audio and/or

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|                                                                                                                                                                                                                                                                                          | <p>video file. In the illustrated embodiment, the device 286 includes a memory, an amplifier, and a processor. <b><i>The memory, amplifier, and the processor are configured to operate together to function as an audio storage and playback system.</i></b>")</p> <ul style="list-style-type: none"><li>• [0289] ("Further, <b><i>the interface 116 can include a processor and a memory for providing added functionality.</i></b>")</li><li>• [0307] ("<b><i>Processor 312 controls the overall function and operation of audio device 304, and couples directly or indirectly to the various electronic components of the audio device 304, as described herein.</i></b> In one embodiment, processor 312 is a digital signal processor (DSP), firmware, microprocessor, microcontroller, field-programmable gate array (FPGA), and/or an application-specific integrated circuit (ASIC).")</li></ul> |
| [18.f] wherein the one or more processors is configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions | <p>See [1.g] where the "logic circuit" corresponds to "one or more processors." Johnson, ¶183.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| received from the remote server.                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| [19] The wearable device of claim 18, wherein the one or more processors initiates control of the media content in response to a voice command received and processed by a voice controlled user interface, wherein a remote server receives and analyzes the processed voice command and sends results back to the wearable device. | <i>See</i> [18]. <b>Jannard discloses the one or more processors initiates control of the media content in response to a voice command received and processed by a voice controlled user interface</b> ( <i>see</i> [1.g] and [6], where the "logic circuit" corresponds to "one or more processors"), <b>and Wittenberg discloses a remote server receives and analyzes the processed voice command and sends results back to the wearable device</b> ( <i>see</i> [16], [17]). Johnson, ¶¶184-186. |
| [20.pre] A wearable device, comprising:                                                                                                                                                                                                                                                                                              | <i>See</i> [1.pre]-[1.b]. Johnson, ¶¶187-188.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| [20.a] a wearable structure having at least an ambient microphone;                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| [20.b] a communication module communicatively                                                                                                                                                                                                                                                                                        | <i>See</i> [18.c]. Johnson, ¶189.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| coupled to the ambient microphone;                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| [20.c] one or more processors communicatively coupled to the ambient microphone;                                                                                                                                                                                                                                                                                          | <i>See</i> [1.d], where the "logic circuit" corresponds to "one or more processors." Johnson, ¶190.                                                                                                                                                                                                                                                                                                                                               |
| [20.d] a computer readable medium communicatively coupled to one or more processors and containing instructions which when executed by the one or more processors, cause the one or more processors to perform functions comprising initiating control of audio content accessed at the wearable device in response to detected voice commands in the captured audio; and | <b>Jannard discloses a computer readable medium communicatively coupled to one or more processors and containing instructions which when executed by the one or more processors, cause the one or more processors to perform functions comprising initiating control of audio content (<i>see</i> [18.e]) accessed at the wearable device in response to detected voice commands in the captured audio (<i>see</i> [16]). Johnson, ¶¶191-192.</b> |
| [20.e] wherein the one or more processors is                                                                                                                                                                                                                                                                                                                              | <i>See</i> [18.f]. Johnson, ¶193.                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| configured to cooperatively initiate control of media content of the wearable device in response to analysis of audio captured at the wearable device at the ambient microphone and analyzed at a remote server in response to instructions received from the remote server. |  |
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**B. Ground 2: Ground 1 in further view of Relan (Claim 12)**

**1. Overview of Relan**

**Relan** describes a wearable device capable of exchanging multimedia information, including information from a global positioning system, through a peer-to-peer network. Relan, Abstract, [0059], [0085]. **Relan** describes application to a “mobile handset” with a GPS receiver. Relan, [0295]; [0085]. Johnson, ¶194.

**Relan’s** device includes a “media exchange network 100” comprising “home/location network 107.” Relan, [0048]. Home/location network 107 includes the necessary components for “providing peer-to-peer networking capability.”

Relan, [0059]. **Relan** explains a “peer-to-peer network” “refer[s] to a communication network in which information is transferred or shared by one user with another, using the same program or type of program (i.e., peers).” *Id.* **Relan** teaches using “a global positioning system (GPS) receiver” to determine location, and using that location information as “security information” when forming a peer-to-peer connection to authenticate user requests. Relan, [0084]-[0085]. “Through the use of such a mechanism, the exchange of multimedia information may be limited to authenticated users, and may further be limited to those users attempting access from pre-determined geographic locations.” Relan, [0085]. Johnson, ¶195.

## 2. Motivation to Apply the Relan’s Teachings to Jannard and Wittenberg

**Jannard, Wittenberg** and **Relan** are analogous art, in the same field as the ’692, which includes wearable devices, and are reasonably pertinent to alleged problems addressed by the ’692 of combining the capacity of several devices into one wearable audio device. *E.g.*, ’692, 1:22-34; Jannard, Abstract, [0189]; Relan, Abstract, [0042]; *see* §IX.A.3. For example, **Relan** describes “supporting secure exchange of multimedia information” across devices (Relan, [0025]), which is pertinent to the problem addressed by the ’692 because—as references like **Jannard** disclose—input from multiple data sources, such as audio content playing devices

and headphone systems, are not readily compatible. '692, 1:30-35; Jannard, [0009]-[0010]. Johnson, ¶196.

A POSITA would have been motivated to apply **Relan's** teachings of using a peer-to-peer network to **Jannard's** wearable device (as modified by **Wittenberg**) to advantageously allow a user to obtain audio files from friends or family. **Relan**, Abstract, [0171]. Johnson, ¶197. A POSITA would have further been motivated to apply **Relan's** teachings of using location information to establish a “peer-to-peer” network to **Jannard's** audio device because using location information in establishing a network allows the network to confirm a user is in an appropriate location. **Relan**, [0054]; Johnson, ¶198. **Relan** teaches the physical location of the mobile terminal acts as an “element in the verification of authority” regarding content the user requests, furthering security of information. *Id.*, [0054]; [0084]. Further, mobile location authentication allows a user to move, rather than be stationed at a fixed location. *See, e.g.*, **Relan**, [0020]. Johnson, ¶¶197-198.

Moreover, **Jannard** already teaches a “global positioning system” and it would have been straightforward to allow audio device 10D connect to a peer-to-peer network requiring transmission of location information to authenticate the audio device 10D. In this regard, adding authentication is consistent with Jannard's goal

of increasing capabilities of a wearable audio device. *See, e.g.*, Jannard, [0009], [0010], Johnson, ¶199.

Thus, a POSITA would have found it routine, straightforward and advantageous to apply **Relan**'s teachings of creating a peer-to-peer network based on GPS location to **Jannard**'s teachings of a wearable device (as modified by **Wittenberg**) with wireless peer-to-peer networking capabilities, and would have known such a combination (yielding the claimed limitations) would predictably work and provide the expected functionality. Johnson, ¶200.

### 3. Claim Chart

|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| [12] The wearable device of claim 1, wherein the wearable device further comprises a GPS receiver and wherein the communication module forms a peer-to-peer network using location information from the GPS receiver. | <p><i>See</i> [1]. <b>Jannard discloses the wearable device further comprises a GPS receiver</b> (<i>e.g.</i>, “a GPS receiver”).</p> <p><u><b>E.g., Jannard:</b></u></p> <p><b>Jannard</b> teaches “a GPS receiver” included in “primary source 602.” Jannard, [0199]. Primary source 602 is an example of “source electronics,” which are integrated with the audio device. Jannard, [0174], [0212], Johnson, ¶¶201-203.</p> <ul style="list-style-type: none"><li>• [0199] (“[T]he primary source 602 includes a <b>GPS receiver</b> and a clock and calculates velocity by dividing a measurement of distance traveled (as provided by the GPS receiver) by a measurement of time elapsed (as provided by the clock).”)</li><li>• [0212] (“In one embodiment, the data port 608 is able to communicate with multiple source devices 602, 604....”)</li><li>• [0174] (“[T]he source device can be incorporated into the audio device 10C.”)</li></ul> |
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|  | <ul style="list-style-type: none"> <li>• [0267] (“A blind wearer of audio device can employ a distance sensor to determine distance to surrounding objects, for example, <i>or a GPS unit for direction-finding.</i>”)</li> </ul> <p><b>Relan</b> discloses a communication module (e.g., “media exchange network 100,” including “home/location network 107”) <b>forms a peer-to-peer network</b> (e.g., “peer-to-peer networking capability”) <b>using location information</b> (e.g., “us[ing] location information”) <b>from the GPS receiver</b> (e.g., “GPS receiver 130”).</p> <p><u><b>E.g., Relan:</b></u></p> <p><b>Relan</b> teaches a “mobile handset” comprising a “GPS receiver 130” with “media exchange network 100” based on “the exchange of multimedia information,” and including “home/location network 107” with “peer-to-peer networking capability.” Relan, [0049], [0054], [0059], [0085], [0295]. <b>Relan</b> further teaches using “information identifying the location” from the GPS receiver to authenticate the user when establishing the peer-to-peer connection. Relan, [0084]-[0085]. A POSITA would have been motivated to apply <b>Relan’s</b> teaching of using a peer-to-peer network and using GPS to authenticate a user when establishing a peer-to-peer network to <b>Jannard’s</b> audio device for the reasons described in §IX.B.2. Johnson, ¶¶204-206.</p> <ul style="list-style-type: none"> <li>• [0049] (“In an embodiment according to the present invention, the media exchange network 100 may also comprise a plurality of media peripheral devices 118 including a mobile multi-media gateway 111 that may have <i>a global positioning system (GPS) receiver 130...</i>”)</li> <li>• [0059] (“[T]he home/location network 107 may include...<i>peer-to-peer networking capability within the first home/location 103. ...The terms peer-to-peer and peer2peer may be used herein, interchangeably, to refer</i>”)</li> </ul> |
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|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><i>to a communication network in which information is transferred or shared by one user with another, using the same program or type of program (i.e., peers).”</i>)</p> <ul style="list-style-type: none"><li>• [0084] (“[A] request for the exchange of multimedia information...may employ <i>security-related information from a user for authenticating the request. Such security-related information may</i>, for example, <i>comprise...position or physical location information</i> about the geographic location of a mobile terminal or handset....”)</li><li>• [0085] (“[T]he position/location information may comprise, for example, <i>coordinate information from a global positioning system (GPS) receiver (or another positioning means) within or in communication with the mobile handset, and/or may comprise information identifying the location of the mobile handset within a wireless network infrastructure</i> such as, for example, the serving cell and/or sector of a cellular telephone network.”)</li></ul> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**C. Ground 3: Ground 1 in further view of Barnes (Claim 15)**

**1. Overview of Barnes**

**Barnes** discloses an e-commerce system using “voice command[s]” to make a “purchase” online. Barnes, [0124]. **Barnes** discloses a “portable device 101” that “is preferably handheld, but may also be worn around the neck, on the hip, attached to the arm of the user, or carried in any convenient manner.” Barnes, [0034]. The user “input[s] a command (by saying ‘purchase’) to purchase the product,” leading to the device implementing the “commercial transactions” in the “commerce module.” Barnes, [0124], [0128]. Johnson, ¶207.

## 2. Motivation to Apply Barnes' Teachings to Jannard and Wittenberg

**Jannard, Wittenberg**, and **Barnes** are analogous art, in the same field as the '692, which includes portable, voice-command responsive devices, and are reasonably pertinent to alleged problems addressed by the '692 of increasing the capabilities of an audio device. *E.g.*, '692, 1:22-34; Jannard, Abstract, [0189]; Barnes, [0033]-[0035]; *see* §IX.A.3. For example, **Barnes'** device is “a multi-function” audio-capable device combining various “conventional mobile phone and personal digital assistant (PDA) capabilities” ([0033]), which is pertinent to the problem addressed by the '692 of combining capacities into an audio device. '692, 1:35-40; Jannard, [0009]. Johnson, ¶208.

A POSITA would have been motivated to apply **Barnes'** teachings of “input [of] a command (by saying ‘purchase’) to purchase [a] product” to **Jannard's** multifaceted audio device (as modified by **Wittenberg**) because **Jannard** describes “internet browsing” capabilities responsive to “voice commands,” but does not enumerate all possible internet browsing applications that can be implemented with voice commands. Barnes, [0124]; Jannard, [0292], [0299], [0301]. A POSITA would have been motivated to look to analogous art—like **Barnes**—to identify applications of browsing using voice commands, like purchasing products. Johnson, ¶209. Moreover, causing **Jannard's** voice-commanded internet-browsing capable

device to perform product purchasing transactions would be a straightforward modification as online shopping was a well-established form of internet browsing. *See, e.g.*, Ex.1014, 1:21-22 (“With the advances in information communication technology, online shopping by means of Web pages on the Internet has now come into widespread use.”) For example, a POSITA would have understood, when applying **Barnes’s** teachings of online-shopping to **Jannard’s** device, voice commands used to perform internet browsing would include commands to purchase a product, and feedback from the webpage would be provided through **Jannard’s** text-to-speech functionality used during internet browsing. Jannard, [0299], [0316]; Johnson, ¶¶209-210.

Thus, a POSITA would have found it routine, straightforward and advantageous to apply **Barnes’** teachings of product purchases by voice command to **Jannard’s** teachings of a voice-command-responsive device (as modified by **Wittenberg**) with internet browsing capabilities, and would have known such a combination (yielding the claimed limitations) would predictably work and provide the expected functionality. Johnson, ¶211.

### 3. Claim Chart

|                                                 |                                                                                                                                                                                                                                        |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15. The wearable device of claim 1, wherein the | <i>See</i> [1]. <b>Jannard discloses the initiating of operations</b> ( <i>see</i> [1.f]) <b>comprises commercial transactional operations</b> ( <i>e.g.</i> , “advertising” from the “internet”).<br><br><b><u>E.g., Jannard:</u></b> |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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| initiating of operations comprises commercial transactional operations. | <p>See [1.f]. <b>Jannard</b> further teaches “internet browsing” through “source device B,” and “content source 302” providing “advertising.” Jannard, [0299], [0301]. Johnson, ¶¶212-215.</p> <ul style="list-style-type: none"><li>• [0299] (“The presently marketed BLACKBERRY™ devices can communicate with a variety of wireless networks for receiving email, phone calls, and/or <i>internet browsing</i>”)</li><li>• [0301] (“<i>The content source 302 is any of a variety of information sources</i>, including, but not limited to... <i>the Internet</i>, or the like. <i>The content provided by the content source 302</i> may be any of a variety of information, including but not limited to...<i>advertising</i>, etc.”)</li></ul> <p><b>Barnes discloses initiating commercial transactional operations</b> (e.g., “input[ting] a command (by saying ‘purchase’)” in order to carry out “commercial transactions”). Barnes [0124], [0128]. As discussed in §IX.C.2, a POSITA would have been motivated to apply <b>Barnes’</b> teachings of purchasing products using voice command to <b>Jannard’s</b> device. Johnson, ¶¶216-218.</p> <ul style="list-style-type: none"><li>• [0124] (“Alternately, the user can scan a product name or number and <i>input a command (by saying “purchase”) to purchase the product</i>. In response, the device 101 retrieves payment information, user information and an address (e.g., web address) of a vender...and transmits the product information, user information, and payment information to the vender <i>to purchase the product</i>.”)</li><li>• [0128] (“<i>The commerce module 135 facilitates commercial transactions and in particular, performs the steps of exchanging payment information, receiving acknowledgement of satisfactory completion of the transaction... and storing information resulting from the transaction....</i>”)</li></ul> |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## **X. SECONDARY CONSIDERATIONS**

There is no evidence in the '692's prosecution history or elsewhere supporting any secondary considerations arguments, or evidence of nexus to any challenged Claim. *See generally* '692FH; Johnson, ¶219. Indeed, as demonstrated by the prior art referenced herein, any purported solutions to problems or unexpected results in the '692 were already well known. *Id.* To the extent PO asserts the existence of any secondary considerations in its responses, Petitioners reserve the right to address any such evidence.

## **XI. CONCLUSION**

Substantial, new, and noncumulative technical teachings have been presented for '692 Claims 1-20, which are obvious for the reasons set forth above. Johnson, ¶¶220-226. There is a reasonable likelihood Petitioner will prevail as to the Claims. *Inter partes* review of Claims 1-20 is accordingly requested.

Respectfully submitted,

Dated: August 30, 2024

/James L. Davis, Jr./  
Name: James L. Davis, Jr.  
Registration No. 57,325  
Counsel for Petitioner

**CERTIFICATE OF COMPLIANCE**

Pursuant to §42.24(d), the undersigned certifies that the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 9,854,692 contains, as measured by the word-processing system used to prepare this paper, 13,922 words. This word count does not include the items excluded by §42.24 as not counting towards the word limit.

Respectfully submitted,

Dated: August 30, 2024

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**CERTIFICATE OF SERVICE**

I hereby certify that on August 30, 2024, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 9,854,692 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on PAIR:

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