

Petition for *Inter Partes* Review of U.S. Patent No. 12,051,444

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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RØDE MICROPHONES, LLC AND  
FREEDMAN ELECTRONICS PTY LTD,  
Petitioners

v.

ZAXCOM, INC.,  
Patent Owner.

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IPR2025-00557

Patent 12,051,444

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**PETITION FOR INTER PARTES REVIEW**

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| U.S. Patent 9,336,207.....                   | 83, 84         |

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| <b>Exhibit No.</b> | <b>Description</b>                                                      |
|--------------------|-------------------------------------------------------------------------|
| <b>1001</b>        | United States Patent No. 12,051,444                                     |
| <b>1002</b>        | Declaration of Professor Chris Kyriakakis                               |
| <b>1003</b>        | United States Patent No. 6,825,875 (“Strub”)                            |
| <b>1004</b>        | United States Patent No. 5,479,351 (“Woo”)                              |
| <b>1005</b>        | United States Publication No. 2002/0159179 (“Nagai”)                    |
| <b>1006</b>        | United States Patent Publication No. 2004/0028241 (“Gleissner”)         |
| <b>1007</b>        | U.S. Patent Pub. No. 2004/0267387 (“Samadani”)                          |
| <b>1008</b>        | [Reserved]                                                              |
| <b>1009</b>        | [Reserved]                                                              |
| <b>1010</b>        | [Reserved]                                                              |
| <b>1011</b>        | April 12, 2024 Email Serving Complaint to Freedman Electronics Pty Ltd. |
| <b>1012</b>        | [Reserved]                                                              |
| <b>1013</b>        | [Reserved]                                                              |
| <b>1014</b>        | IPR2018-00972 Paper 41 November 7, 2019 Final Written Decision          |
| <b>1015</b>        | United States Patent 9,336,307                                          |
| <b>1016</b>        | IPR2018-00972 Petition for Inter Partes Review                          |

| <b>Exhibit No.</b> | <b>Description</b>                                                                                                                  |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>1017</b>        | IPR2018-01129 Paper 33 January 24, 2020 Final Written Decision                                                                      |
| <b>1018</b>        | IPR2018-01130 Paper 32 January 24, 2020 Final Written Decision                                                                      |
| <b>1019</b>        | IPR2018-00972 Zaxcom, Inc's Patent Owner Response                                                                                   |
| <b>1020</b>        | IPR2018-01129 Zaxcom, Inc's Patent Owner Response                                                                                   |
| <b>1021</b>        | IPR2018-01130 Zaxcom, Inc's Patent Owner Response                                                                                   |
| <b>1022</b>        | IDS Form from United States Patent No. 10,276,207<br>File History (filed March 11, 2019)                                            |
| <b>1023</b>        | United States Patent No 489,570                                                                                                     |
| <b>1024</b>        | Apple Be Damned: The Humble Headphone Jack Has Survived For<br>More Than A Century by Jonathan Ore. Published September 10, 2016.   |
| <b>1025</b>        | IEC Standard 61076-2-103:2004                                                                                                       |
| <b>1026</b>        | Wayback Machine Archived Copy of Sanken Catalogue                                                                                   |
| <b>1027</b>        | Wayback Machine archived copy of Sanken Webpage                                                                                     |
| <b>1028</b>        | United States Patent 8,385,814                                                                                                      |
| <b>1029</b>        | [Reserved]                                                                                                                          |
| <b>1030</b>        | United States Patent 7,929,902                                                                                                      |
| <b>1031</b>        | November 13, 2024 Doc. 98 Order Revising Schedule in <i>Zaxcom, Inc. v. Rode Microphones, LLC and Freedman Electronics PTY Ltd.</i> |
| <b>1032</b>        | [Reserved]                                                                                                                          |
| <b>1033</b>        | [Reserved]                                                                                                                          |
| <b>1034</b>        | [Reserved]                                                                                                                          |

| <b>Exhibit No.</b> | <b>Description</b>                                                    |
|--------------------|-----------------------------------------------------------------------|
| <b>1035</b>        | [Reserved]                                                            |
| <b>1036</b>        | [Reserved]                                                            |
| <b>1037</b>        | Ratcliff, TIMECODE, A User's Guide (2015)                             |
| <b>1038</b>        | U.S. Patent No. 12,051,444 Pros. History, July 11, 2023 Office Action |
| <b>1039</b>        | SMPTE Standard, SMPTE 12M-1999                                        |
| <b>1040</b>        | U.S. Patent No. 7,148,844                                             |

**MANDATORY NOTICES UNDER 37 C.F.R. §42.8**

Pursuant to 37 C.F.R. §42.8, Petitioner states as follows:

**A. Real Parties-in-Interest (37 C.F.R. §42.8(b)(1))**

The real parties-in-interest are RØDE Microphones, LLC and Freedman Electronics Pty Ltd.

**B. Related Matters (37 C.F.R. §42.8(b)(2))****1. U.S. District Court for the District of Delaware**

The following pending district court litigation may affect or be affected by this proceeding: *Zaxcom, Inc. v. RODE Microphones, LLC, et al.*, No. 1:23-cv-01245-JFM (D. Del.), filed October 31, 2023 (the “Delaware Litigation”). Petitioner RØDE Microphones, LLC was served with the original Complaint on December 4, 2023. Petitioner Freedman Electronics Pty Ltd was served with the original Complaint on April 12, 2004. See Exhibit 1011. On November 14, 2024, Zaxcom filed an Amended Complaint which alleges, among other things, that Petitioner has infringed certain claims of U.S. Patent 12,051,444 (the “’444 Patent”) and six other patents: U.S. Patent Nos. 7,711,443 (the “’443 Patent”), 7,929,902 (the “’902 Patent”), 8,385,814 (the “’814 Patent”), 9,336,307 (the “’307 Patent”), 10,276,207 (the “’207 Patent”), and 11,610,605 (the “’605 Patent”) (collectively, the “Delaware Patents-in-Suit”). The Delaware Patents-in-Suit are all related to each other through a chain of continuation and continuation-in-part applications.

## **2. Patent Trial and Appeal Board—Co-Pending Matters**

The following pending IPRs may affect or be affected by this proceeding:

- *RØDE Microphones, LLC, et al. v. Zaxcom, Inc.*, IPR2025-00230 (“the ’230 IPR”), which involves the ’443 Patent;
- *RØDE Microphones, LLC, et al. v. Zaxcom, Inc.*, IPR2025-00231 (“the ’231 IPR”), which involves the ’902 Patent;
- *RØDE Microphones, LLC, et al. v. Zaxcom, Inc.*, IPR2025-00232 (“the ’232 IPR”), which involves the ’207 Patent;

(collectively, the “Co-Pending RØDE IPRs”).

Since the presently challenged claims of the ’444 Patent share many elements with the claims of the related ’443, ’902, and ’207 Patents that are being challenged in the Co-Pending RØDE IPRs, since the prior-art references relied on in this Petition were also relied on in the Co-Pending RØDE IPRs, and since all four of the ’443, ’902, ’207, and ’444 Patents are involved in the Delaware Litigation, decisions in the Co-Pending RØDE IPRs may affect and/or be affected by decisions in this proceeding.

## **3. Patent Trial and Appeal Board—Past Matters**

The related ’902, ’814, and ’307 Patents were previously involved in the following IPRs filed by third-party Lectrosonics:

- '902 Patent: *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129 (“the ’1129 IPR”);
- '814 Patent: *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01130 (“the ’1130 IPR”); and
- '307 Patent: *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-00972 (“the ’972 IPR”)

(collectively, “the Lectrosonics IPRs”).

Since the challenged claims of the '444 Patent are similar to claims that the PTAB previously found unpatentable in the Lectrosonics IPRs, and since the Lectrosonics IPRs involved several of the same prior-art references relied on here, the Lectrosonics IPRs may affect the decision in this proceeding.

**C. Lead and Backup Counsel and Service Information (37 C.F.R. §§42.8(b)(3) and (b)(4))**

| Lead Counsel                                                                                                                                                                        | Backup Counsel                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jeffrey B. Plies, Reg. No. 46,999<br>Dechert LLP<br>300 West 6th Street, Suite 1850<br>Austin, Texas 78701<br>jeffrey.plies@dechert.com<br>Tel (512) 394-3012<br>Fax (512) 394-3001 | Michael A. Fisher, Reg. No. 42,536<br>Dechert LLP<br>Cira Centre<br>2929 Arch Street<br>Philadelphia, PA 19104-2808<br>michael.fisher@dechert.com<br>Tel (215) 994-2079<br>Fax (215) 655-2279 |

Please send all correspondence to lead counsel at the address above.

Petitioner consents to service by e-mail sent to all of the following addresses:

- [jeffrey.plies@dechert.com](mailto:jeffrey.plies@dechert.com),
- [michael.fisher@dechert.com](mailto:michael.fisher@dechert.com),
- [megan.gentleman@dechert.com](mailto:megan.gentleman@dechert.com), and
- [all-rode-dechert@dechert.com](mailto:all-rode-dechert@dechert.com).

**I. INTRODUCTION**

RØDE Microphones, LLC and Freedman Electronics Pty Ltd (collectively “Petitioner”) requests IPR and cancellation of Claims 1-7, 9, 10, 12-20, 22-24, 26, and 27 (the “Challenged Claims”) of the ’444 Patent (Ex. 1001). IPR of the Challenged Claims should be instituted and the claims found unpatentable.

**II. CERTIFICATION OF GROUNDS FOR STANDING UNDER 37 C.F.R. § 42.104(a)**

Petitioner certifies that the ’444 Patent is available for IPR and Petitioner is not barred or estopped from requesting IPR of the Challenged Claims.

**III. IDENTIFICATION OF RELIEF REQUESTED AND GROUNDS FOR CHALLENGE UNDER 37 C.F.R. §§ 42.22(a)(1) AND 42.104(b)**

Petitioner requests review and cancellation of the Challenged Claims on the following grounds:

| Ground | Claims                             | Basis           | Prior Art                                                                                                                  |
|--------|------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------|
| 1      | 1-7, 9-10, 13-15, 17-20, 22-23, 27 | 35 U.S.C. § 103 | U.S. Patent 6,825,875 (“Strub”) (Ex. 1003) and U.S. Patent 5,479,351 (“Woo”) (Ex. 1004)                                    |
| 2      | 12, 26                             | 35 U.S.C. § 103 | Strub, Woo, U.S. Patent Pub. 2002/0159179 (“Nagai”) (Ex. 1005), and U.S. Patent Pub. 2004/0028241 (“Gleissner”) (Ex. 1006) |

|   |        |                 |                                                                       |
|---|--------|-----------------|-----------------------------------------------------------------------|
| 3 | 16, 24 | 35 U.S.C. § 103 | Strub, Woo, and U.S. Patent Pub. 2004/0267387 (“Samadani”) (Ex. 1007) |
|---|--------|-----------------|-----------------------------------------------------------------------|

For purposes of the Delaware Litigation, Petitioner reserves the right to argue that one or more terms in the claims of the ’444 Patent are indefinite or require construction. Furthermore, Petitioner’s application of the respective claim terms is based on Zaxcom’s application of the claims against the products accused in its infringement contentions in the Delaware Litigation, as the claims must be applied in the same manner.

#### **IV. BACKGROUND OF THE TECHNOLOGY**

The ’444 Patent describes a system that includes a wearable local device for recording locally generated audio and transmitting the audio to a remote device. Ex. 1001, 1:40-2:5. The local device receives a master timecode from a master timecode generator, stamps local audio data with a timestamp to create time-referenced local audio data, and stores/records the time-referenced local audio data in local memory. *Id.* 3:62-66, 4:48-5:6, 10:41-65, 43:22-56.

This purported innovation was not new, but existed in the prior art. As non-limiting examples, Strub, Woo, and Samadani each teach local devices which record locally generated audio, transmit the audio to a remote device, receive a master timecode from a master timecode generator, and stamp the recorded audio data with

a timestamp referencing at least a portion of the local audio data to the master timecode. *See, e.g.*, Ex. 1003, 8:10-29, 8:50-53, 11:32-50, 12:13-21, 12:31-43 (transmitting recorded local audio data to remote devices), 25:35-49, 37:18-40, 38:1-4, 38:29-39 (“synchronization pulse” received from “‘master’ recording unit”), 62:26-63:49 (using a GPS time to “generate time-stamps for the recording data.”), Figs. 1-3; Ex. 1004, Abstract, 1:60-2:9, 2:39-48, 3:3-24, 4:3-32, 5:3-5 (recorders capture performance), 5:37-49 (recordings communicated to editing station), 5:5-67 (recording “date and time tag[]” with master timecodes), 7:26-50, 8:32-44, 8:60-9:4, 9:40-43, 9:56-63, 10:15-64, Figs. 1, 3-6; Ex. 1007, [0036]-[0038] (audio recorded in local recorder and transmitted to central processing station 303; “reference signal generator [generates] a time stamp”), [0042], [0044]-[0047], [0048] (“[R]eference signal receiver 525a...receives a main reference signal and generates a reference signal that is stored as reference data....”), Claims 9, 10, 15, 19, 32, Figs. 3, 5; Ex. 1002, ¶ 37.

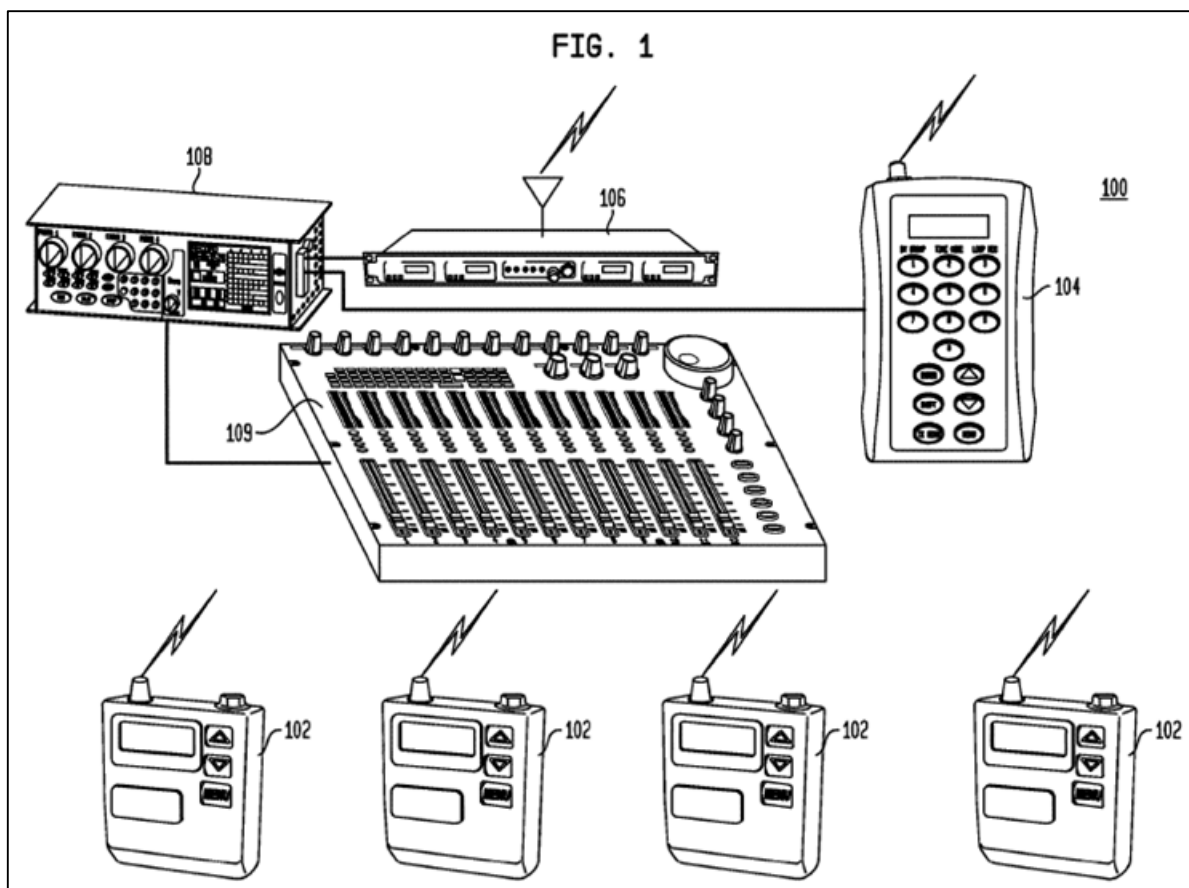
## **V. PERSON OF ORDINARY SKILL IN THE ART**

A person of ordinary skill in the art (“POSA”) as of the claimed priority date would have had at least a Bachelor’s degree in electrical engineering or a related or equivalent field, and two or more years of experience working with audio systems. However, additional years of education in the above-referenced fields may compensate for fewer years of experience. Ex. 1002, ¶ 38.

## VI. THE '444 PATENT

### A. Summary of the Specification

The '444 Patent describes a recording system 100 which wirelessly records audio performances. Ex. 1001, 3:64-66, Fig. 1. The system 100 includes wearable, local audio devices 102, a remote receiver 106, a remote recorder 108 connected to the receiver 106, a mixer 109, and a remote control unit 104 capable of transmitting a time reference signal, digital commands, and/or audio to the other components, as depicted in Fig. 1:



*See id.* 4:23-29, 30:7-25, 43:22-32, 43:65-67, 44:12-13, Fig. 3B. The local audio devices 102 record audio from the performers and transmit audio wirelessly to the remote receiver 106, *id.* 4:36-42, where it is also recorded by recorder 108. *Id.* 4:36-38.

The components of the system are synchronized to allow each component to timestamp its recorded audio. *Id.* 3:62-4:8. The timestamps allow the system to combine individual audio tracks into multi-track audio files, correct for lost audio data, and/or synchronize tracks in post-processing. *Id.* 4:8-22, 4:48-5:6.

To synchronize its devices, the system can include a master timecode generator to generate master timecodes and send them wirelessly to the local audio devices 102. *Id.* 11:23-40, 17:9-11, Fig. 6 (step 604). Each local audio device 102 can also have its own local timecode generator 304, as illustrated in Fig. 3A:



The local audio devices 102 can use the master timecodes to timestamp the locally recorded audio. *Id.* 4:48-5:6, 5:65-6:4, 10:53-58; *see also* Ex. 1002, ¶ 48.

## B. Claims

The '444 Patent has 29 claims, of which Claims 1-7, 9-10, 12-20, 22-24, 26, and 27 are challenged in this Petition. Claims 1 and 13 are independent. Each Challenged Claim refers to a wearable local audio device which receives a master timecode, creates time-referenced local audio data from locally generated audio and the master timecode or a local timecode, and stores the time-referenced local audio

data in a local memory, wherein the audio data is transmitted to a remote receiver substantially simultaneously with the receiving of local audio data or creating or the storing of the time-referenced local audio data. *See* Ex. 1001, Claims 1, 13. The '444 Patent admits that all or most of these features—which are described in the patent's **“Background”** section—were known in the prior art.<sup>1</sup> *Id.* 1:40-42 (**“recording...audio received from...wireless devices”**), 1:54-56 (“In many...systems...audio is **timestamped with a time reference signal....**”), 1:63-2:5 (audio recorder/receiver **“receive audio wirelessly from one or more wireless transmitters**[, which are] **body packs that are worn by each performer....**”).<sup>2</sup>

The challenged dependent claims similarly add features that are admitted to be prior art:

| Claim(s) | Feature                                                        | Location in '444 Background                                        |
|----------|----------------------------------------------------------------|--------------------------------------------------------------------|
| 2, 14    | “wherein the local audio device is in the form of a body pack” | 1:65-2:5 (“[W]ireless transmitters may take the form of body packs |

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<sup>1</sup> *See Nichia Corp. v. Emcore Corp.*, Case IPR2012-00005, Paper 68 at 20 (P.T.A.B. Feb. 11, 2014) (“The Admitted Prior Art includes the background section...of the...patent....”); *In re Metz*, 173 F.3d 433, at \*1 (Fed. Cir. 1998); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1303 (Fed. Cir. 2016); *In re Battiston*, 139 Fed.Appx. 281, 282 (Fed. Cir. 2005).

<sup>2</sup> Emphasis added throughout unless otherwise indicated.

|       |                                                                                                                                                                          |                                                                                                                                                                                                                                                                              |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       |                                                                                                                                                                          | that are worn by each performer....”)                                                                                                                                                                                                                                        |
| 4, 17 | “wherein the at least one master timecode [and the at least one local timecode] include[s] hour data, minute data, second data, SMPTE timecode, or combinations thereof” | 1:54-59 (“In many such systems, the received audio and/or the multitrack audio is timestamped with a time reference signal such as a...SMPTE...timecode signal containing information regarding the hour, minute, second,...”)                                               |
| 5, 18 | “wherein the remote receiver is configured to communicate with a recording device”                                                                                       | 1:63-2:5 (“audio recorder and.... receiver...receive audio wirelessly from one or more wireless transmitters....”)                                                                                                                                                           |
| 6, 19 | “wherein the recording device is a multi-track recorder, a personal computer, a cellular phone, or a camera”                                                             | 1:63 (“[S]uch systems include a multi-track audio recorder....”); 1:48-54 (“multi-track audio recorder”)                                                                                                                                                                     |
| 9, 22 | “wherein the time-referenced local audio data is configured to facilitate synchronization of the time-referenced local audio data and the remotely recorded audio data”  | 1:52-62 (“The multi-track recorder combines the single track of audio received from each microphone to create one multi-track audio file. ...[T]he received audio...is timestamped with a...SMPTE... timecode signal [which] allows audio to be more easily matched ....”) ) |
| 25    | “create time-referenced remote audio data from the audio data received from the local audio device”                                                                      | <i>Id.</i> at 1:52-62                                                                                                                                                                                                                                                        |
| 25    | “store the time-referenced remote audio data in the at least one remote memory.”                                                                                         | <i>Id.</i> at 1:52-62; 1:41-42 (“recording ...audio received from one or more wireless devices”), 1:63-2:5 (“The audio recorder then combines the wireless transmissions received from all body packs to create one multi-track audio file.”)                                |

|        |                                                                       |                                                                                                                                                                                                         |
|--------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12, 26 | “at least one audio input configured to receive the local audio data” | 1:48-52 (“Some such systems include a multitrack audio recorder wired to one or more microphones.”; “[Audio] recorded by one or more microphones that are directly wired to the multi-track recorder.”) |
|--------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### C. Lectrosonics IPRs

#### 1. Collateral Estoppel Based on the PTAB’s Previous Findings

In the Lectrosonics IPRs, the PTAB made numerous findings regarding the disclosure of claim elements by Strub, Woo, Nagai, and Gleissner and the obviousness of combining them. Zaxcom is collaterally estopped from disputing these findings.

Collateral estoppel, a/k/a issue preclusion, precludes a party from relitigating an issue if: “(1) the issue is identical to one decided in the first action; (2) the issue was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) [the party against whom collateral estoppel is being asserted] had a full and fair opportunity to litigate the issue in the first action.” *Google LLC v. Hammond Dev. Int’l, Inc.*, 54 F.4th 1377, 1381 (Fed. Cir. 2022) (citing *In re Freeman*, 30 F.3d 1459, 1465 (Fed. Cir. 1994)). “It is well established that collateral estoppel applies to IPR proceedings.” *Id.* (citing *Papst Licensing GMBH & Co. KG v. Samsung Elecs., Am., Inc.*, 924 F.3d 1243, 1251 (Fed.

Cir. 2019)). Furthermore, “[i]t is well established that patent claims need not be identical for collateral estoppel to apply [provided] that the *issues of patentability* [are] identical....[C]ollateral estoppel may apply even if the patent claims ‘use slightly different language to describe substantially the same invention,’ so long as ‘the differences between the unadjudicated patent claims and adjudicated patent claims do not materially alter the question of invalidity.’” *Id.*; *see also Google LLC v. Parus Holdings, Inc.*, IPR2022-00279, Paper 16 at 17-21 (P.T.A.B. Sept. 18, 2023) (collateral estoppel where non-identical claim limitations were sufficiently similar that the *issues* were identical); *Papst*, 924 F.3d at 1250-53 (Fed. Cir. 2019) (issue preclusion based on prior PTAB decision); *see also United States v. Utah Constr. & Mining Co.*, 384 U.S. 394, 421-22 (1966) (collateral estoppel can arise from an administrative decision).

In the ’972 IPR, the PTAB found Claims 12-14 of the ’307 Patent anticipated by Strub. Ex. 1014 at 25-26. In doing so, the Board necessarily found all elements of those claims present in Strub, including the following:

- locally receiving local audio generated by at least one performer during an audio event;
- locally recording the local audio as local audio data in at least one memory of at least one local audio device wearable by a creator of said local audio;

- locally receiving or generating master time data including hour, minute, and/or second data;
- wirelessly transmitting the locally generated audio to a remote recorder; and
- remotely recording the locally generated audio by the remote recorder as remotely recorded audio data.

*See* Ex. 1015 Claims 12-14; *see also* Ex. 1014 at 21 (finding Strub discloses “a local audio device that records local audio and transmits the local audio to other remote devices”), 22 (“Strub’s device is ‘wearable.’”);

The PTAB found Claim 1 of the ’307 Patent obvious over Strub with Nagai or Gleissner, Ex. 1014 at 19, 25, thus necessarily finding that Strub, Nagai and/or Gleissner teach “at least one local audio device...including...at least one audio input port for receiving said locally generated audio from an audio input device,” and that it would have been obvious to combine Strub with Nagai or Gleissner. *Id.* 4-5, 16-19.

In the ’1129 and ’1130 IPRs, the Board made similar findings regarding (1) the presence of the above-referenced limitations in Strub, Nagai, and Gleissner, and (2) the obviousness of combining those references. *See, e.g.*, Ex. 1017 at 25 (Strub’s device “wearable by a creator of said locally generated audio”), 35 (finding ’902 Claims 7-8 and 11 obvious over Strub, Nagai or Gleissner, and Woo), 40 (Strub

teaches a local audio device that records local audio and transmits it to a remote device), 41 ('902 Claims 12, 14, and 15 anticipated by Strub); Ex. 1018 at 21 (Strub's device "wearable by a creator of said locally generated audio"), 32 (finding numerous '814 Claims obvious over Strub, Nagai or Gleissner, and Woo). The Board also found that Strub discloses "at least one control unit electrically coupled to said local audio device receiver, said audio input device, said memory, and said local timecode generator for creating stamped local audio data and storing said stamped local audio data in said memory," that Woo discloses a "master timecode generator for generating a plurality of master timecodes," and that a POSA would have been motivated to use Woo's synchronization in Strub's system. Ex. 1017 at 25-31; Ex. 1018 at 22-28.

Zaxcom appealed the Board's decisions in all three Lectrosonics IPRs. The Federal Circuit affirmed each in its entirety. *Zaxcom, Inc. v. Lectrosonics, Inc.*, Nos. 2020-1350, 2020-1405, 2022 WL 499843, at \*1-2 (Fed. Cir. Feb. 18, 2022); *Zaxcom, Inc. v. Lectrosonics, Inc.*, Nos. 2020-1921, 2020-1922, 2020-1943, 2020-1944, 2022 WL 499848, at \*1-2 (Fed. Cir. Feb. 18, 2022).

Zaxcom is estopped from disputing: (1) the disclosure of the above limitations—or any materially identical limitations – by the cited references, and (2) the obviousness of combining Strub, Woo, Nagai, and Gleissner. These issues are identical to those actually litigated and decided in the Lectrosonics IPRs, the

resolution of which was essential to their Final Written Decisions, and Zaxcom had a full and fair opportunity to be heard. *See Google v. Hammond*, 54 F.4th at 1381.

2. **Collateral Estoppel Based on PTAB’s Findings Regarding Zaxcom’s Purported Objective Indicia of Nonobviousness**

In the Lectrosonics IPRs, Zaxcom alleged various evidence of objective indicia of nonobviousness. *See* Ex. 1019 at 52-59; Ex. 1020 at 54-66; Ex. 1021 at 34-59. The PTAB found that Zaxcom’s purported objective indicia related to the replacement of remotely recorded audio data with local audio data—a/k/a “dropout repair”—and had no nexus with claims lacking that feature. *See* Ex. 1014 at 23-25; Ex. 1017 at 31-35; Ex. 1018 at 28-31. Here, *none* of the Challenged Claims include dropout repair or replacing remotely recorded audio data with local audio data. Thus, they have no nexus with Zaxcom’s purported objective indicia. Zaxcom is estopped from contesting this finding for the same reasons set forth above.

## **VII. CLAIM CONSTRUCTION**

Petitioner does not currently seek construction of any terms.

## **VIII. OVERVIEW OF THE PRIOR ART**

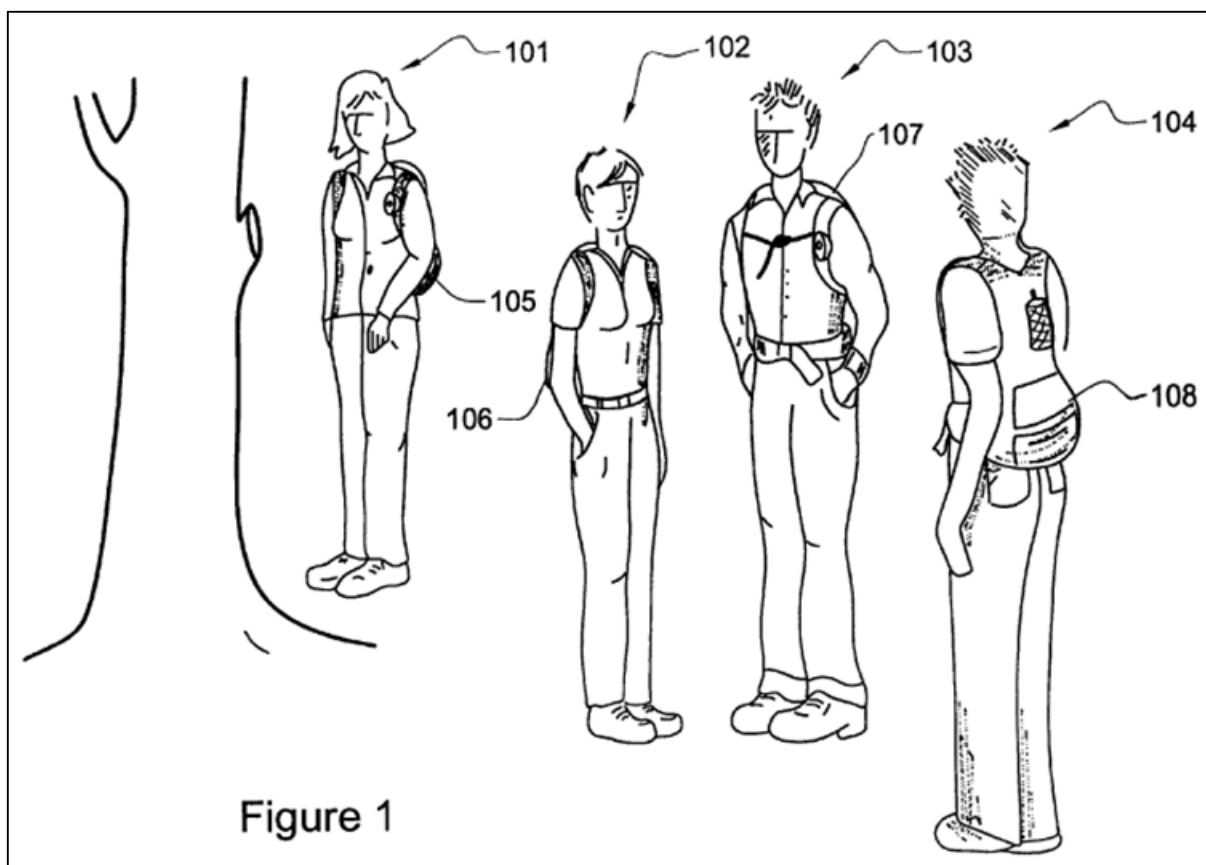
Petitioner asserts three grounds for invalidity based on the following six prior art references:

A. **Strub**

Strub is prior art under at least pre-AIA 35 U.S.C. §§ 102(a) and (e). It discloses a system comprising wearable recording units, each storing locally

generated audio/video and wirelessly transmitting it to one or more of the other wearable devices. *See, e.g.*, Ex. 1003, 4:28-30 (“wearable recording unit”), 8:7-19, 8:50-53, 12:13-21, 12:31-39 (“transmitter 309 transmits signals...representing recording data [to] other recording units...”), 14:59-15:11, 21:65-22:7, 35:54-65, 37:11-40, Figs. 1, 4, 6, 8A-9B.

Figure 1 illustrates examples of Strub’s audio/video recording units 105-108:



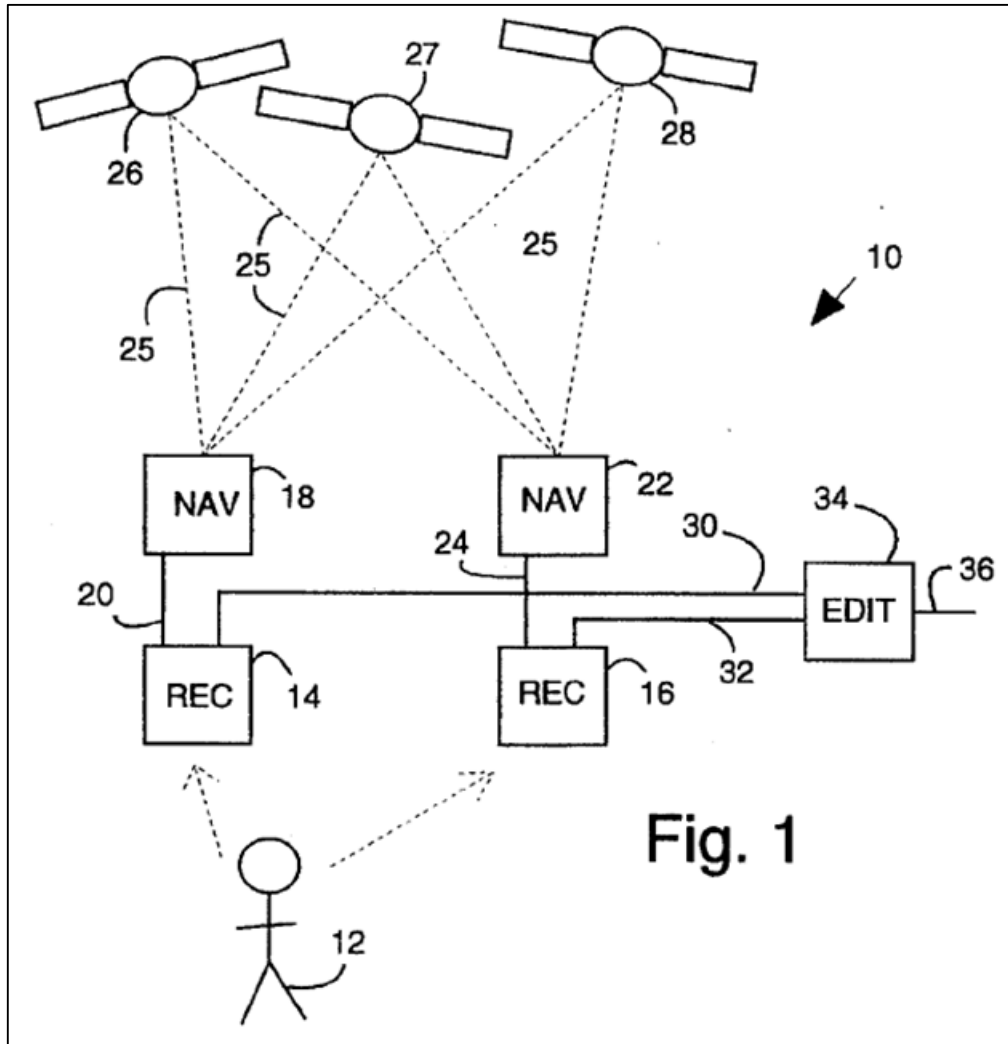
*See also id.* 8:7-13, 67:30-53, Figs. 4, 6, 8A-9B.

Strub discloses examples of master timecode generators—*e.g.*, a “‘master’ recording unit” that “transmit[s] a synchronization pulse...to each of the other

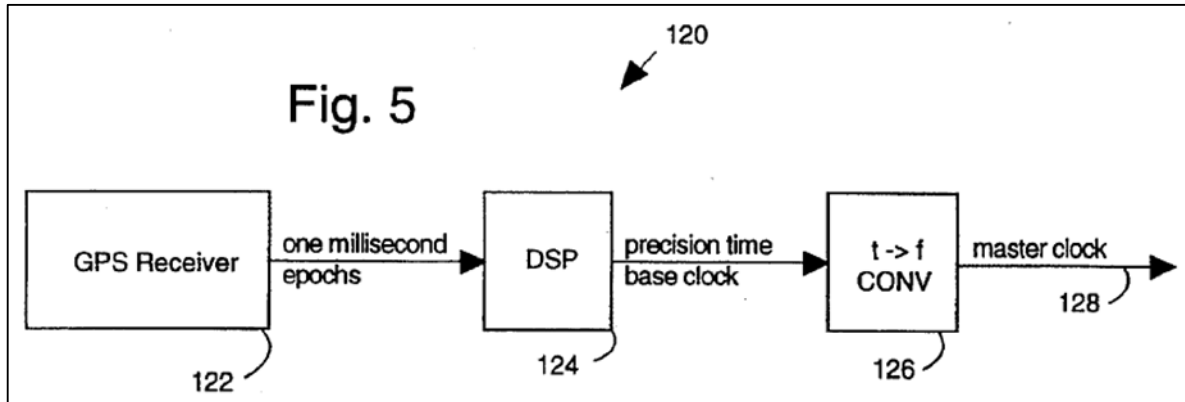
recording units,” *id.* 38:29-39, a GPS satellite “used as a clock to generate time-stamps,” *id.* 62:26-63:49, and a SMPTE timecode source, *id.* 75:25-57; *see also id.* 63:50-60.

**B. Woo**

Woo is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e). It discloses a system in which one or more recorders 14 and 16 record locally generated audio and transmit it to a remote device—editing station 34—which creates its own recording of the audio. *See* Ex. 1004, 5:3-5 (recorders 14 and 16 “independently capture[] the same performance....”), 5:37-49 (“communication of the respective recordings...to the editing station 34”), 8:32-44, 9:40-43, 9:56-63, Figs. 1, 4. Fig. 1 depicts Woo’s system:

**Fig. 1**

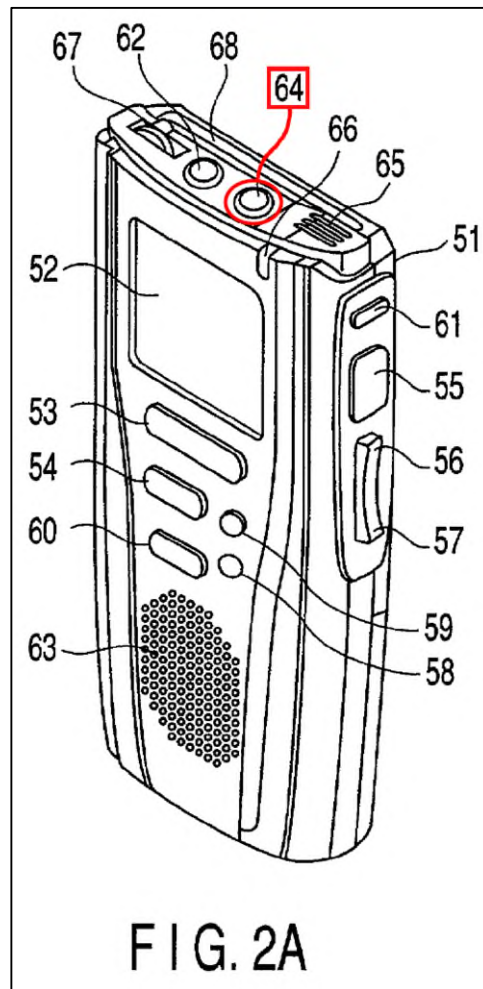
Each of Woo's local audio devices includes a local timecode generator and a GPS-based master timecode generator. *Id.* Abstract ("A GPS receiver...for communicating time code information...."), 7:26-50, 8:60-9:4, Figs. 1, 3, 5, 6. Fig. 5 illustrates using GPS signals to provide master timecodes—master clock output 128:



See also Ex. 1002, ¶ 75.

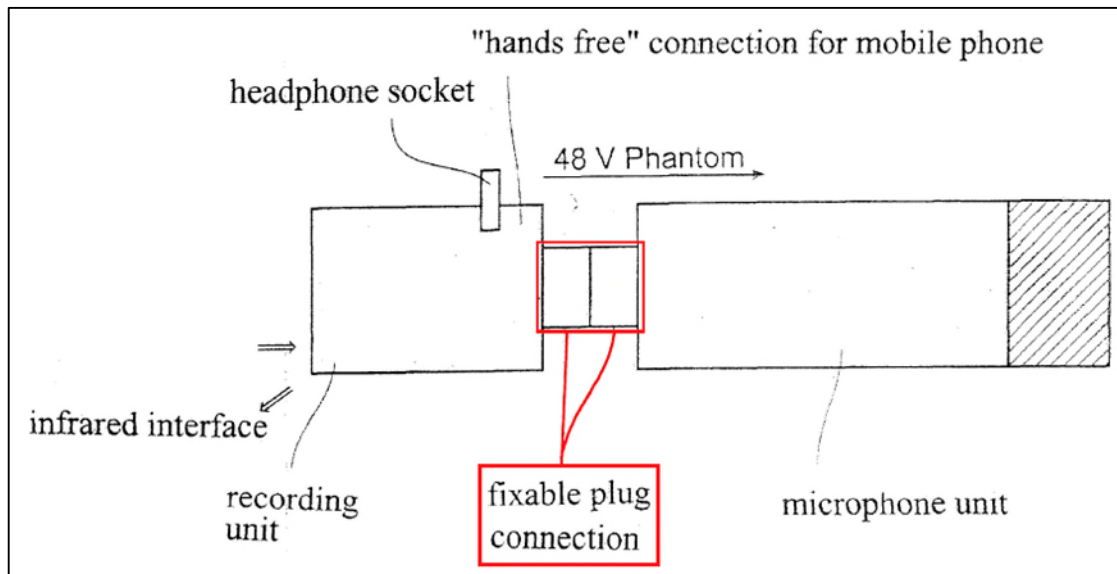
### C. Nagai

Nagai is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e). It describes a voice recording apparatus with a memory card for storing voice data. Ex. 1005, Abstract, [0105]-[0106], [0115], Figs. 1, 4. Nagai's voice recorder has an audio input—microphone jack 2/64—configured to couple to an audio input device—*e.g.*, a microphone—to receive locally generated voice signals. *Id.*, [0100], [0109]-[0110], [0139], Fig. 1, 2A. Nagai's audio input—"mike [sic] jack" 64—is illustrated in Fig. 2A (annotated below):



**D. Gleissner**

Gleissner is prior art under at least pre-AIA 35 U.S.C. §§ 102(a), (b), and (e). It discloses a portable audio data recorder which stores locally generated audio in a memory. Ex. 1006, Abstract, [0025], [0031]. Gleissner's audio data recorder has an audio input—an XLR connector—to couple to an audio input device—a microphone—to receive locally generated audio. *Id.* [0013] (“XLR plug connection...[for] the microphone unit”), [0024], [0032]. Gleissner's audio input—the XLR connector—is depicted in Fig. 1 (annotated):



See also Ex. 1002, ¶ 83.

#### E. Samadani

Samadani is prior art under at least pre-AIA 35 U.S.C. §§ 102(a) and (e). It discloses local audio devices—*e.g.*, audio recorders/editors 301a/301b—for storing locally generated audio and transmitting it to a remote device—*e.g.*, central processing station 303—which comprises a receiver and a recorder. Ex. 1007, Abstract (“[C]apturing media” from “plural audio sources”; “producing audio data...and storing an audio record”), [0035] (“The media recorder/editors 301a and 301b are connected to a central processing station 303”), Fig. 3; *see also id.* [0045]-[0046], Figs. 5, 6.

An embodiment of Samadani’s system is depicted in Fig. 3:

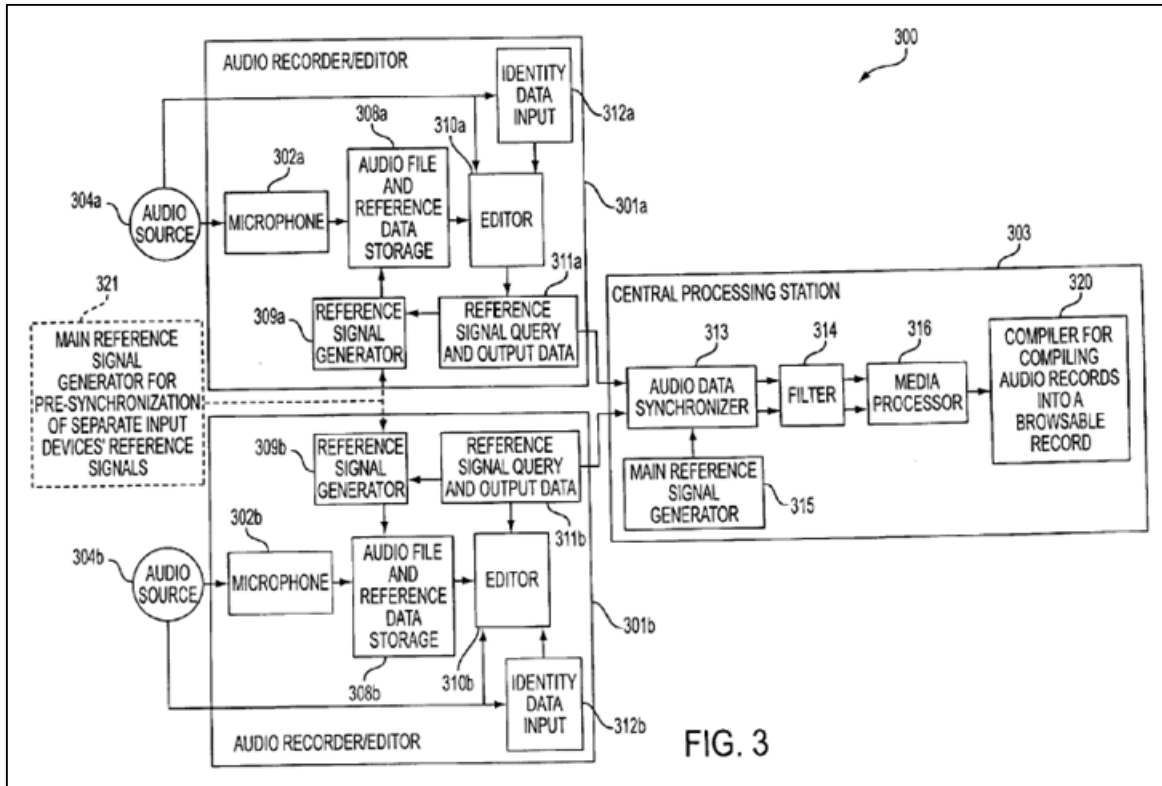


FIG. 3

Samadani's local audio device has a wireless transmitter—*e.g.*, reference signal query and output data component 311a/311b—which transmits the locally generated audio to the remote receiver/recorder. *Id.* [0036], Fig. 3, [0045] (“audio/visual recorders...connected via a wire or wirelessly to the processing stations”). Processing station 303 includes a remote recorder—*e.g.*, compiler 320—which stores the audio data. *Id.* [0038]; *see also id.* [0028], [0053], Figs. 1, 5.

Samadani's local audio device—*e.g.*, “media recorder/editor 301”—stores the local audio data in memory—*e.g.*, audio file and reference data storage 308a, 308b—“along with a reference data from one or more reference signal generators 309.” Samadani [0035], [0037], [0040], Figs. 3, 4.

Samadani's local device—audio/visual recorder 501a/501b—receives master timecodes—*e.g.*, reference signals containing time information—from a master timecode generator—*e.g.*, reference signal generator 509, which can be a GPS-based timing source. *Id.* [0047], [0048], Fig. 5; *see also id.* [0038]-[0039], Fig. 3 (main reference signal generator 321). Samadani teaches the use of master timecodes—*e.g.*, the reference signals from reference signal generator 321—to synchronize a local timecode generator—*e.g.*, reference signal generators 309a/309b—prior to recording. *Id.* [0039], [0040], [0042], [0047], Figs. 3-5. Samadani's stored local audio data includes time stamps—*e.g.*, a reference signal. *Id.* [0040] (“reference signal...stored as reference data in the audio file....”), [0037], [0048]; *see also* Ex. 1002, ¶ 89.

**F. Prosecution of the '444 Patent and the Lectrosonics IPRs**

Strub, Woo, Nagai, and Gleissner were not considered in the prosecution of the '444 Patent. However, Strub, Woo, Nagai, and Gleissner were considered in the Lectrosonics IPRs, in which the Board found claims similar to the Challenged Claims unpatentable over Strub alone and over the combinations of Strub with Woo, Nagai, and/or Gleissner. *Supra* § VI.C.

Samadani was not considered in the prosecution of the '444 Patent or in the Lectrosonics IPRs.

## IX. SPECIFIC GROUNDS FOR INVALIDITY

### A. Ground 1: Claims 1-7, 9-10, 13-15, 17-20, 22-23, and 27 are Rendered Obvious Under § 103 By the Combination of Strub and Woo

#### 1. A POSA Would have Been Motivated to Combine Strub and Woo

In the Lectrosonics IPRs, the PTAB found that a POSA would have motivated to combine Strub and Woo, and that the combination would have been obvious. *See supra* VI.C. Zaxcom is collaterally estopped from disputing those findings. *Id.*

The teachings of Strub and Woo provide substantial motivation to combine them. The systems in Strub and Woo are the same type of apparatus for the same purpose—receiving and recording local audio in a local device, wirelessly transmitting the same audio to a remote device, and recording the audio in the remote device. *See, e.g.*, Ex. 1003, 8:50-53, 12:13–21, 12:31–39, 21:65-22:7, 35:54–65, 37:11–40, Figs. 1, 4, 6, 8A-9B; Ex. 1004, 5:3-5, 5:37-49, Fig. 1. In addition, Strub and Woo’s local audio devices wirelessly receive master timecodes from a master timecode generator and use timing information from the master timecodes to stamp the local audio. *See, e.g.*, Ex. 1003, 13:50-58, 63:50-60, 79:54-80:9; Ex. 1004, Abstract, 1:60-2:9, 2:39-48, 3:3-24, 3:37-67, 4:3-32, 4:62-64, 5:37-45, 7:26-50, 8:32-44, 8:60-9:4, 9:40-43, 9:56-63, Figs. 3-6.

Woo provides express motivations to use its synchronization methods in a wireless, multi-recorder system such as Strub’s. For example, Woo’s master clock

(1) provides accurate synchronization across recorders, (2) can generate coordinated timecodes at independent sites, (3) is simple to connect to the recorders, and (4) provides standardized, SMPTE-compatible timecodes. Ex. 1004, 4:3-44; *see also* Ex. 1017 at 29. In addition, modifying Strub's recording unit to use conventional SMPTE-formatted timecodes from Woo's master clock would involve merely combining familiar elements according to known methods to improve Strub's system and yield predictable results. Ex. 1002, ¶ 93.

Moreover, "any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007). Motivation to combine is particularly strong where "there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions." *Id.* at 421. This is especially true where the cited references teach (1) "all the limitations of [the challenged] claims," and (2) the same "known problem" addressed by the challenged patent. *Ball Aerosol and Specialty Container, Inc. v. Ltd. Brands, Inc.*, 555 F.3d 984, 993 (Fed. Cir. 2009).

The '444 Patent sought to solve the problem of matching timing between recordings produced by wireless devices, Ex. 1001, 1:40-2:5, by generating master timecodes with a master timecode generator, providing those timecodes to a local recording device, and using the timing information in those timecodes to time-stamp

the locally recorded audio data. *Id.* 3:11-14, 3:66-4:22, 4:48-5:6, 5:65-6:4, 10:49-11:1, 11:26-32, 14:52-60, 15:32-36, 16:44-47, 17:9-22, Figs. 3A, 4A, 4B, 5, 6. Strub and Woo recognized and solved that same problem. *See* Ex. 1003, 13:50-58 (using clock “to time-stamp the recording data obtained by the recording unit.”), 62:26-63:49, 63:50-60, 75:25-57, 79:54-80:9; Ex. 1004, Abstract, 1:60-2:9, 2:39-48, 3:3-24, 3:37-67 (synchronizing local timecode generator to a master timecode generator), 4:13-19, 5:5-10, 5:21-29, 5:37-45 (recordings “date and time tagged”), 7:26-50, 8:60-9:4, 9:33-39, 9:45-55, 10:15-11:1, Figs. 1, 3-6; *see also* 1002, ¶ 94.

In addition, “when a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.” *KSR*, 550 U.S. at 417. Every element of Challenged Claims 1-7, 9-10, 13-15, 17-20, 22-23, and 27 appears in Strub and/or Woo. *See infra* § IX.A.2. Those elements comprise standard, off-the-shelf, audio-recording components that would be familiar to any POSA. Ex. 1002, ¶ 95. There is nothing unpredictable about the claimed use of those components in a wireless audio-recording system. *Id.*; *see KSR*, 550 U.S. at 417 (improvement should be “more than the predictable use of prior art elements according to their established functions.”). Furthermore, the technology and operation of such components was well-understood in the relevant time period such

that the combination of Strub and Woo would have had a high likelihood of success.

Ex. 1002, ¶ 96.

Since Strub and Woo teach the same kind of device used for the same purpose, since they identified the same problem identified in the '444 Patent and solved it in the same way, since the combination of elements in the Challenged Claims is merely “the predictable use of prior art elements according to their established functions,” and since the combination of Strub and Woo would have had a high likelihood of success, a POSA would have been motivated to combine Strub and Woo.

2. **The Combination of Strub and Woo Meets All Elements of Challenged Claims 1-7, 9-10, 13-15, 17-20, 22-23, and 27**

As discussed below, the Preambles and every element of Claims 1-7, 9-10, 13-15, 17-20, 22-23, and 27 are taught by Strub and/or Woo. To the extent Patent Owner alleges that Strub or Woo fails to teach any claim element, that element is provided by the other reference. Further, to the extent the teachings of Strub and Woo are substantively different for any given claim element, it would have been at least obvious to try the other reference's implementation of that element, given the overall similarity in their purpose, design, and operation.

a. **Claim 1.**

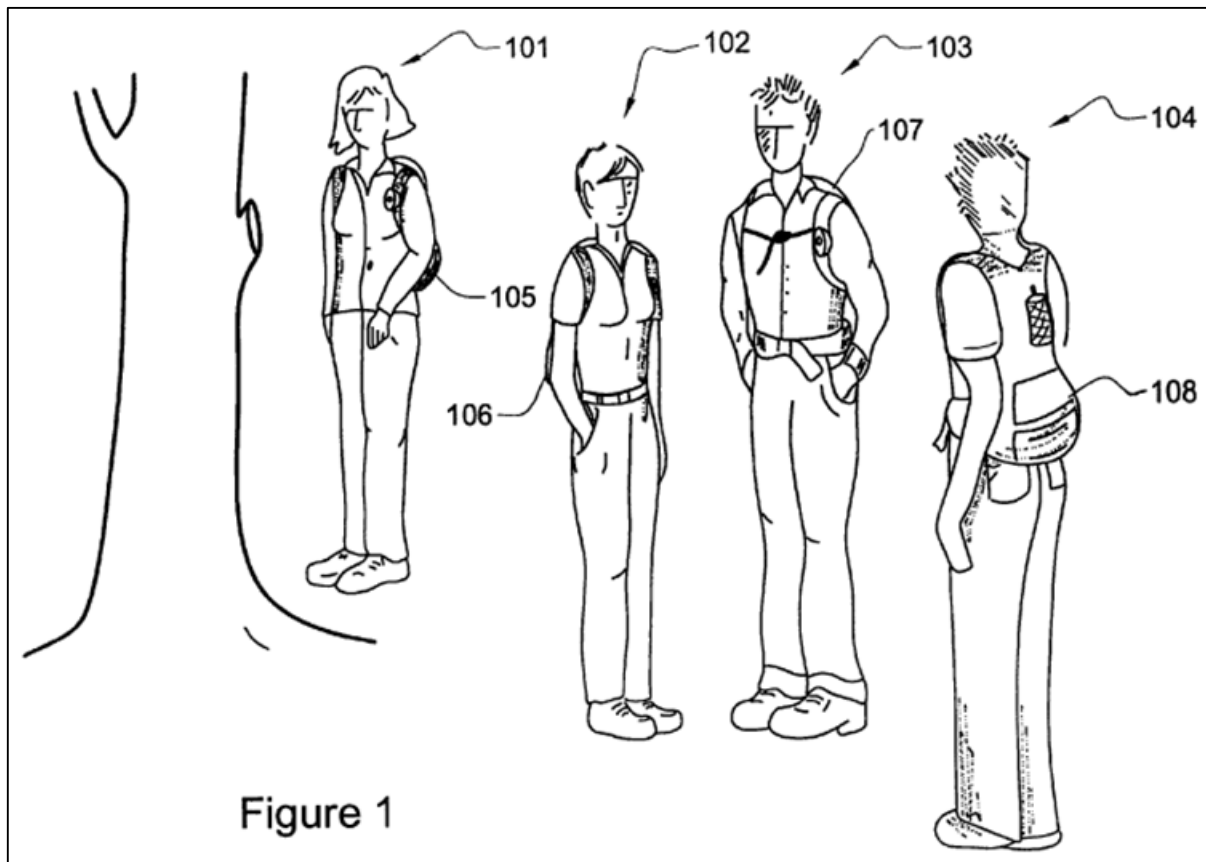
Challenged Claim 1 has mostly the same limitations as '814 Patent Claim 1, which was found unpatentable in the Lectrosonics '1130 IPR, except that:

Challenged Claim 1 additionally recites: (1) substantially simultaneously transmitting audio data to a remote device, and (2) timestamps referencing local data to at least one of master timecodes (as opposed to '814 Claim 1's local timecodes). Ex. 1001, Claim 1; Ex. 1028, Claim 1, IPR Certificate at 1:6-7. However, transmitting audio data to a remote device and receiving master time data are present in Claims 12 and 13 of the related '307 Patent, which were found unpatentable in the Lectrosonics '972 IPR. Ex. 1015, Claims 12, 13, IPR Certificate at 1:5.

(1) **1[Pre]: “A system for locally recording locally generated audio as time-referenced local audio data and for substantially simultaneously transmitting audio data to a remote device, the system comprising:”**

Regardless of whether the preamble of Claim 1 is limiting, Strub teaches it. The Lectrosonics IPR Board found Strub discloses “a local audio device that records local audio and transmits the local audio to other remote devices” and “creating stamped local audio data and storing said stamped local audio data in said memory.” *Supra* § VI.C. Zaxcom is collaterally estopped from disputing those findings. *Id.*

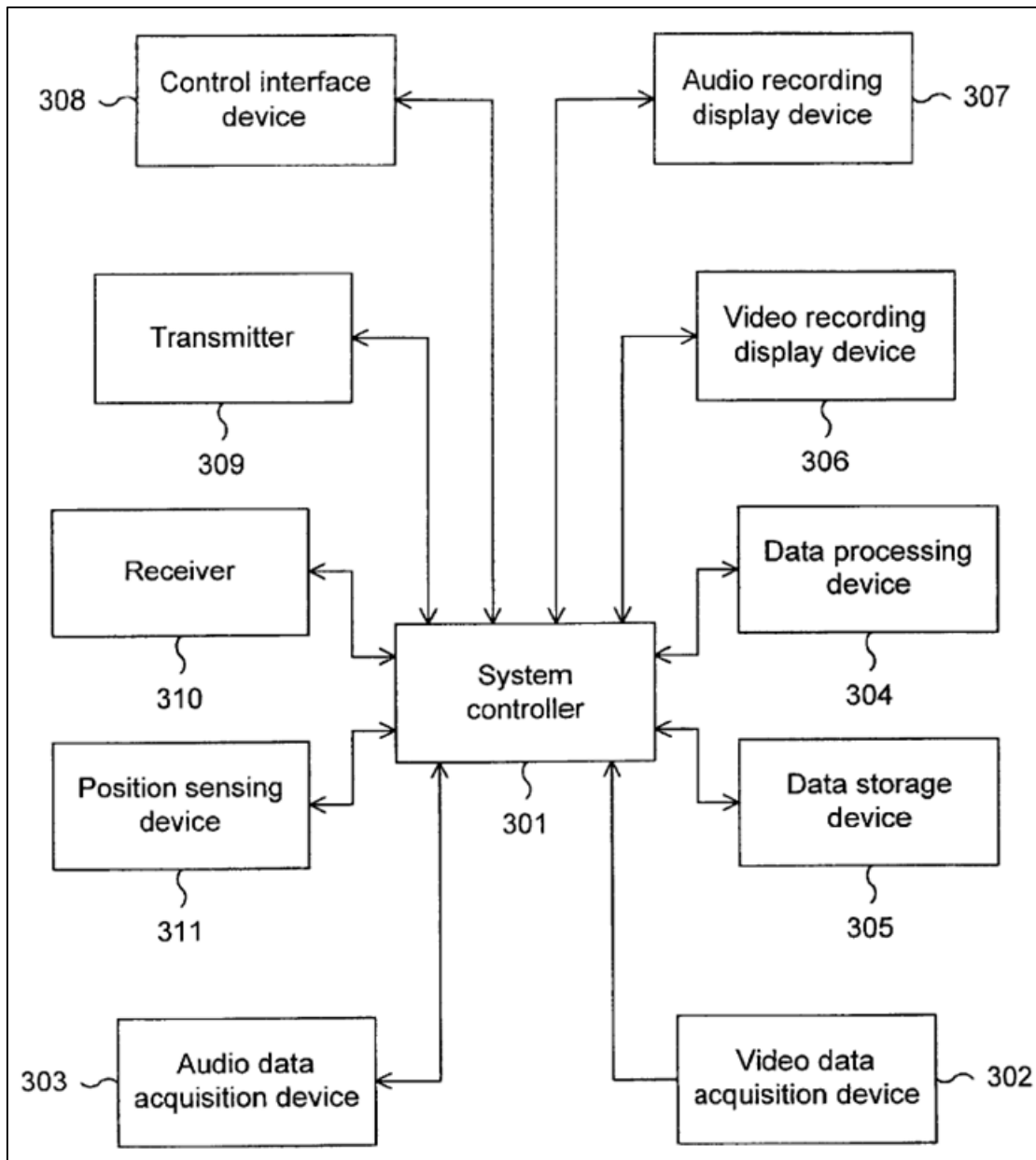
Strub's recording units 105-108, 200, and 300 are worn by a plurality of users:



Ex. 1003, Fig. 1.

Each recording unit stores locally generated audio and transmits the audio to a remote device—*e.g.*, a different recording unit—which also records it. *See id.* 8:10-29, 8:50-53, 11:32-50, 12:13-21, 12:31-43 (“[T]ransmitter 309 transmits... recording data acquired by the recording unit 300 [to] other recording units.”), 25:35-49, 35:54-65, 37:18-40, 38:1-4, Figs. 1-3; *see generally id.* 35:53-38:39.

Fig. 3 depicts the internal components of Strub’s local and remote audio devices:

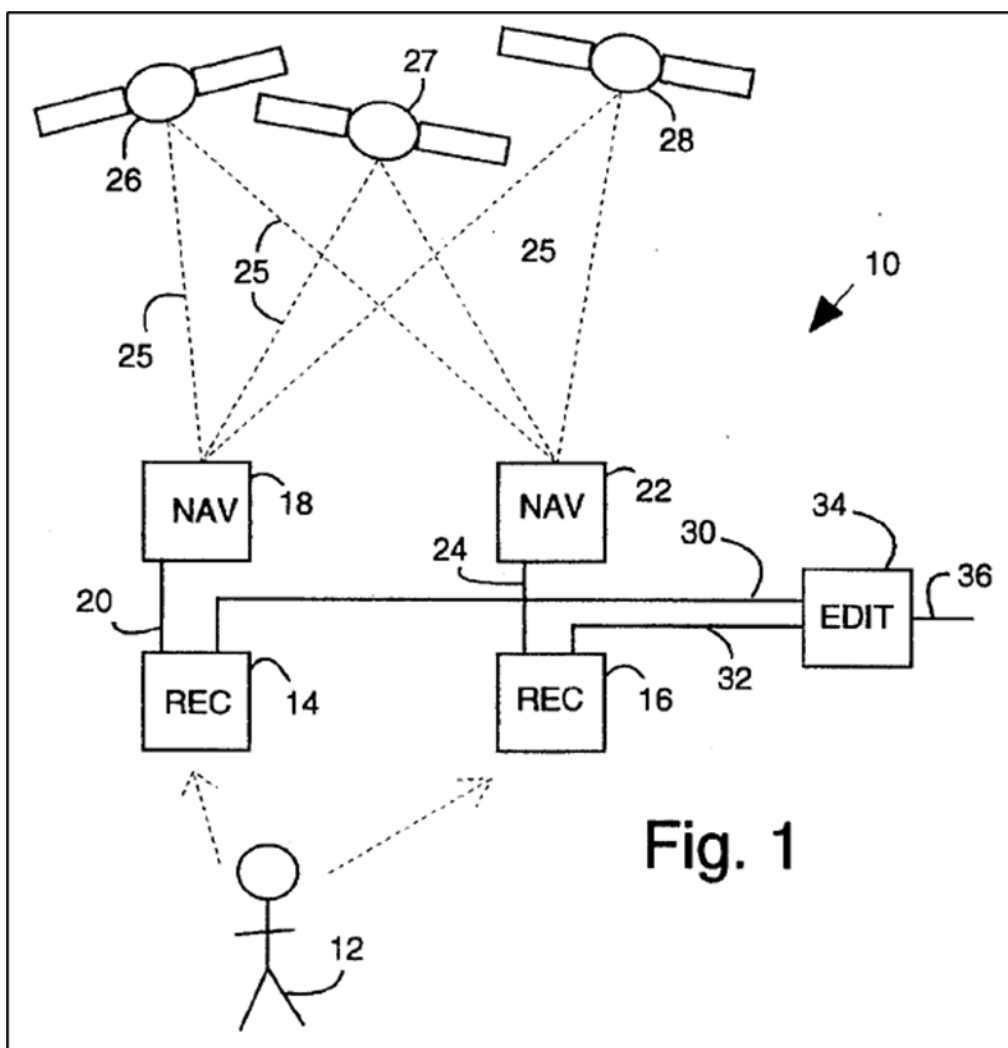


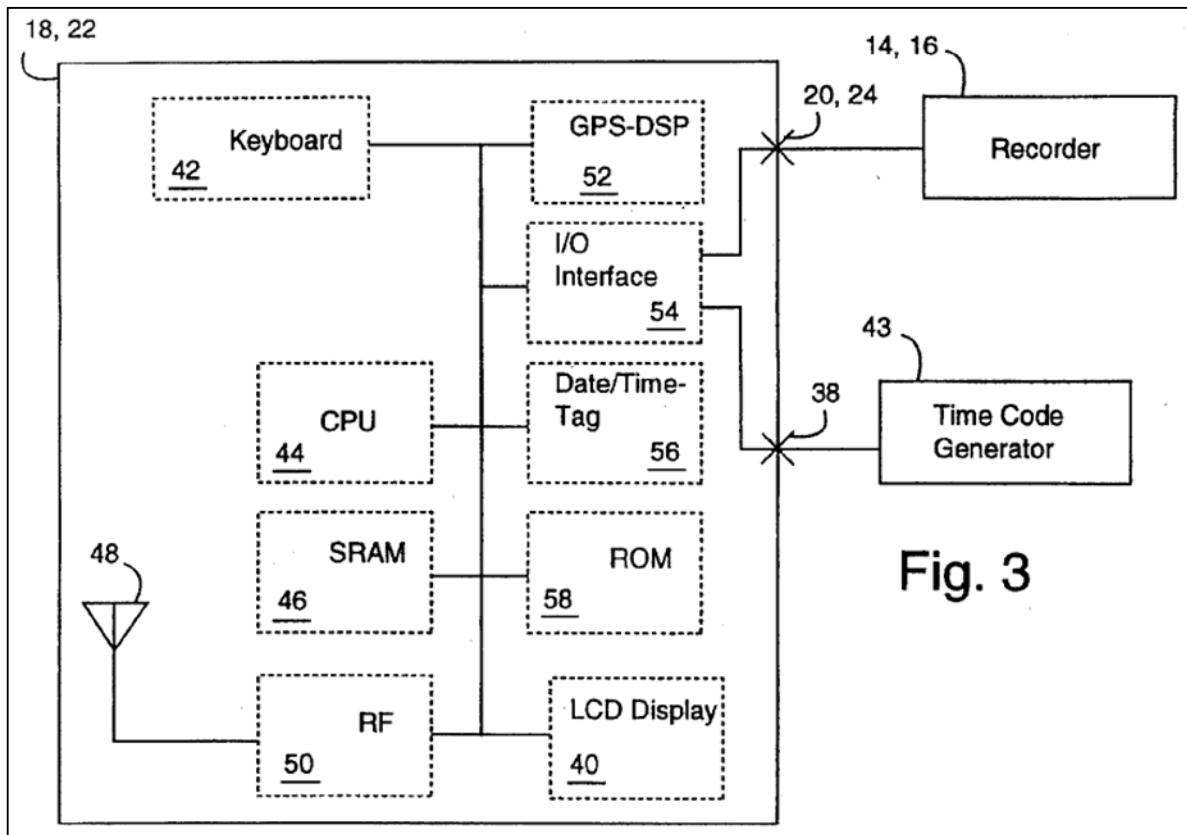
The system controller 301 in Strub's local audio device "can include a clock that is used to time-stamp the recording data obtained by the recording unit." Ex. 1003, 13:50-58, 63:56-60. The time-stamping is performed using timecodes. *Id.* 6:65-7:24 (establishing "temporal correspondence" by storing a "time code on the videotape"); 78:3-40; 29:42-62, 77:24-28 ("writ[ing] a time code to the...data

storage...indicating the time the recording data was obtained.”); 84:20-25. A POSA would understand that applying time stamps or timecodes to the local audio data time-references the local audio data. Ex. 1002, ¶ 102.

The transmission is sent to Strub’s remote device while the recording is “being obtained” by the local device—*i.e.*, storage and transmission occur substantially simultaneously. Ex. 1003, 10:25-49 (“recordings...shared between or among recording units **during the event** so that recorders can observe **recordings that...are being, obtained by other recording units.**”), 4:54-57, 35:61-36:2 (“[A] recording unit [can] display and/or store, **during the event**, a recording being obtained by another recording unit.”), 38:8 (“Recording data can be **transmitted as acquired.**”), 38:20-24, 44:48-45:8 (“display device...**simultaneously** displaying multiple visual recordings at one time” including “recordings **being obtained by more than one recording unit,**”); 85:18-23.

Woo also teaches the preamble. Woo’s system includes at least one local audio device—*e.g.*, recorder 14/16 and GPS receiver 18/22—which records locally generated audio and transmits it to a remote recorder—editing station 34—which also records it, as depicted in Figs. 1 and 3:





See also Ex. 1004, 5:3-5 (recorders 14/16 “capture[] [a] performance”), 5:37-49 (recordings simultaneously communicated to editing station 34), 8:32-44, 9:40-43, 9:56-63, Figs. 1, 3, 4.

Woo’s local audio device includes “a date and time tag unit 56 and a read only memory (ROM) 58.” *Id.* 7:59-60, Fig. 3. “ROM 58...includes an application program for generating SMPTE time codes....” *Id.* 8:21-22. Woo’s local audio device can also employ “commercially-available time code generator 43” to generate time codes. *Id.* 7:28-29, Fig. 3. Based on the timecodes, the date and time tag unit 56 provides time stamps—“date and/or time tag[s]”—for time-referencing the local

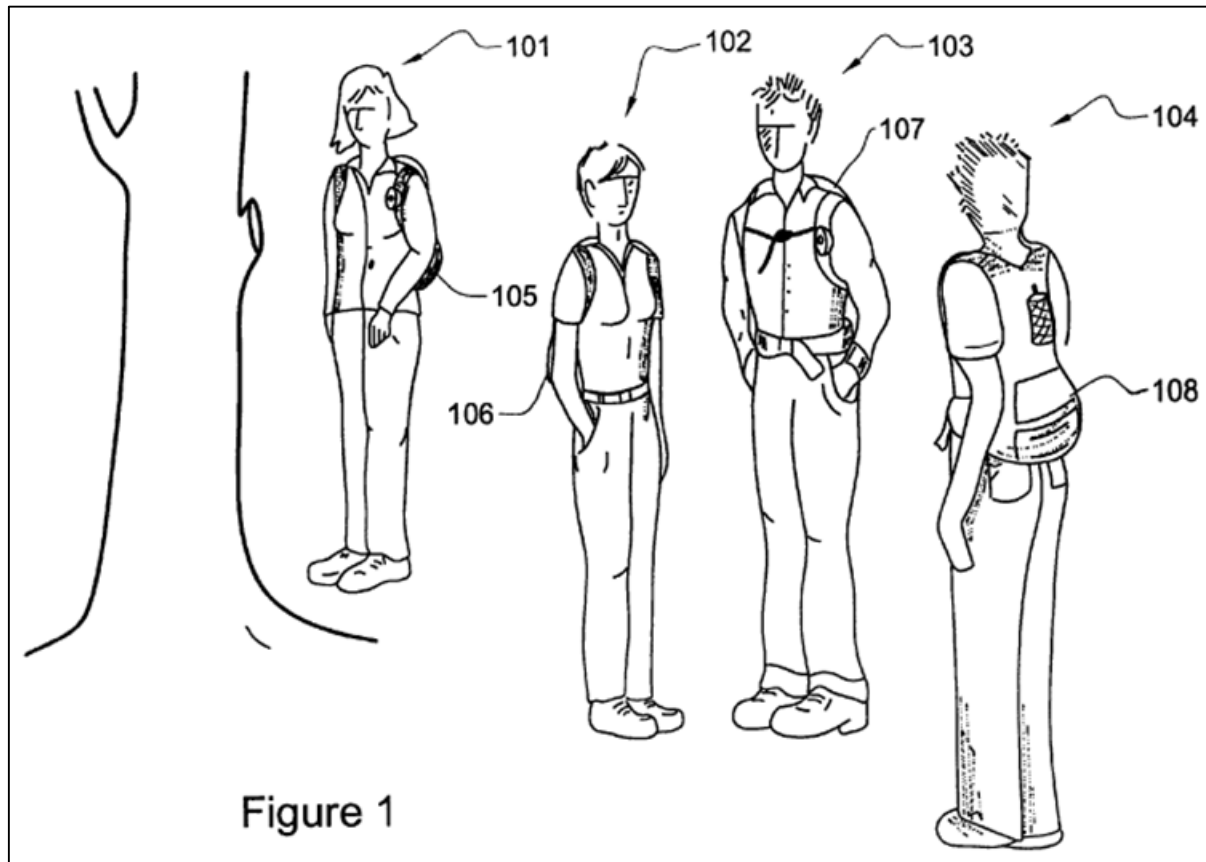
audio data, which is stored in a memory in the recorder 14/16. *Id.* 8:11-21 (“Time code information is generated [using] date and time information...from...[GPS] navigation satellite transmissions.”), 8:25-44 (tagging a recording with GPS date/time information), Figs. 3, 4; *see also id.* 1:60-2:1 (time codes stored with recorded content), 5:37-45 (recorders 14/16 date/time tagging recordings and each “transmit[ing] their respective recordings...to an editing station 34”); Ex. 1002, ¶ 106.

Woo teaches that the transmission of the audio data to the remote device can be done in real time—*i.e.*, at the same time that the audio is being locally stored. Ex. 1004, 8:51-54 (“*[T]he combining and generating* [by an editing station 34] *may be done in real-time* with the performance.”), 10:7-10; *see also* Ex. 1002, ¶ 107.

(2) **1[A]: “a remote receiver, the remote receiver configured to create at least one master timecode and to receive audio data; ”**

The Lectrosonics IPR Board found that: (1) Strub teaches (a) “a local audio device that...transmits...audio to other remote devices”—*i.e.*, there is necessarily a remote receiver that receives audio data from local audio devices—and (b) generating—*i.e.*, creating—master time data; (2) Woo discloses a “master timecode generator for generating a plurality of master timecodes”; and (3) a POSA would have been motivated to use Woo’s synchronization techniques in Strub’s system—findings Zaxcom is collaterally estopped from disputing. *Supra* § VI.C. In any

event, Strub teaches this element.



Each of Strub's recording units 105-108 transmits locally generated audio data to other different recording units, each of the other units thus comprising a remote receiver for receiving audio data. *See* Ex. 1003, 8:10-29, 8:50-53, 12:31-43 (“[T]ransmitter 309 transmits...recording data acquired by the recording unit 300, so that such recording data can be used by other recording units.... The receiver 310 receives recording data signals representing recording data acquired by one or more other recording units ....”), 25:35-49, 35:54-36:9, 37:18-40, FIGs 1-3.

Additionally, Strub teaches using one of these recording units as a “‘master’ recording unit” that “transmit[s] a synchronization pulse...to each of the other recording units”—*i.e.*, the local audio devices—to allow them to synchronize their recordings. *Id.* 38:29-39. Strub’s synchronization pulses comprise master timecodes. Ex. 1002, ¶ 112.

A POSA would have considered it obvious for Strub’s remote receiver—the one receiving audio—to be the one to generate the master timecodes/synchronization pulses. More particularly, Strub teaches embodiments in which the remote receiver receives audio data from multiple other recording units—*i.e.*, local audio devices. *Id.* 12:39-41 (“The receiver 310 receives...recording data acquired by one ***or more other recording units***...”), 35:57-61, 37:32-36 (“[A] recording unit...may be implemented so that recording data from ***multiple recording units*** can be recorded simultaneously....”). Strub further teaches using timecodes to synchronize recordings between recording units. *See, e.g., id.*, 7:11-24, 75:47-51, 78:7-40, Ex. 1002, ¶ 112. Since Strub’s remote receiver is the unit receiving audio from multiple sources, a POSA would have recognized the desirability/practicality of having the remote receiver generate master timecodes for all the units so that all the received audio is synchronized to its own clock or time reference. At minimum, it would have been obvious to try using the remote receiver, rather than one of the other three recording units, as master timecode generator, as there is a limited number of

choices. Ex. 1003, FIG. 1. Furthermore, since the generation and transmission of master timecodes was well-understood, using the remote receiver as the master timecode generator would have had a high likelihood of success. Ex. 1002, ¶ 112.

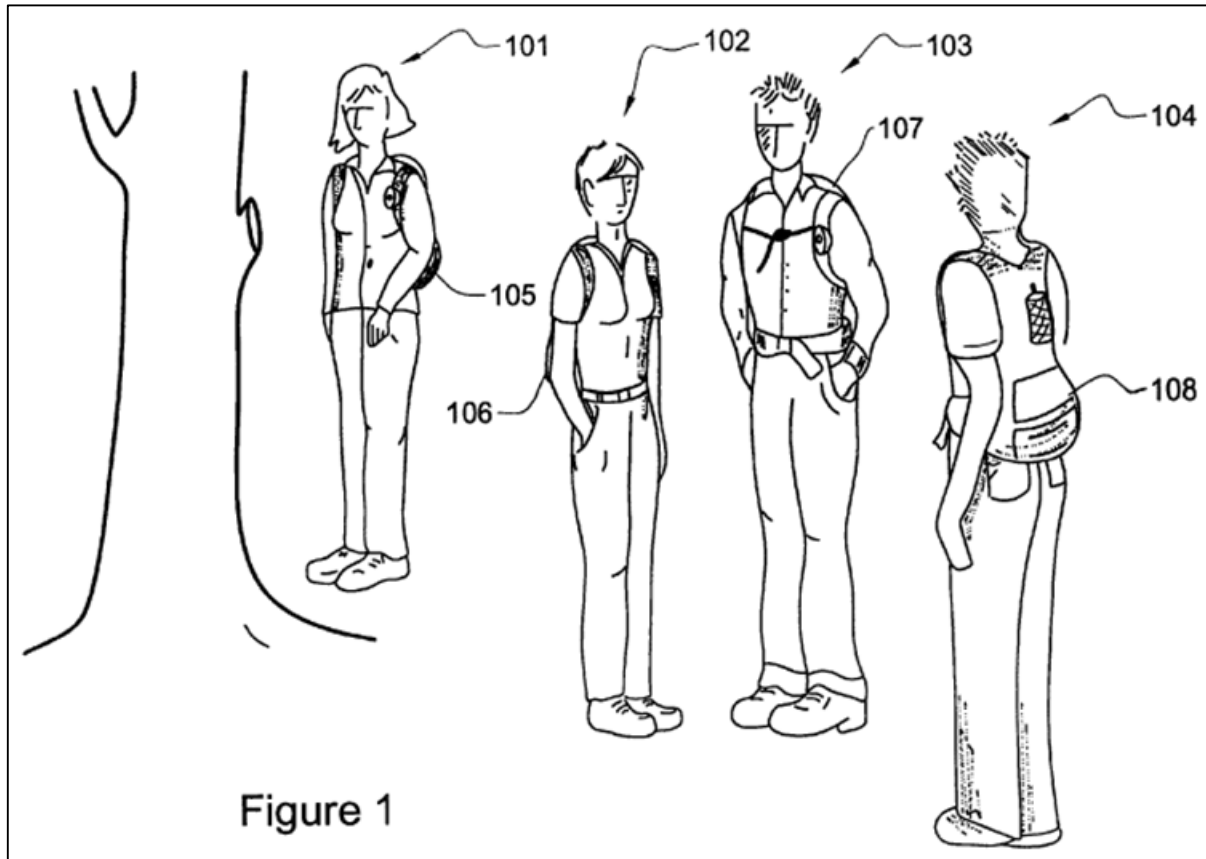
Alternatively, the remote recording unit (“remote receiver”) can also create master timecodes with a “position sensing device” comprising a “GPS receiver” that uses “current time” from GPS satellites. Ex. 1003, FIG 3, 12:4-10, 62:53-55, 63:41-60. The remote recording unit can also be a camcorder having an “SMPTE time code input.” *Id.* Abstract, 5:23-29, 75:7-57. To reduce cost and complexity a POSA would have been motivated to include the GPS receiver and/or SMPTE receiver/input in just one of the recording units (i.e., the remote receiver) and have that recording unit create and send the master timecodes to the other recording units. Ex. 1002, ¶ 113.

(3) **1[B]: “a local audio device capable of communicating with the remote receiver and configured to receive locally generated audio”**

The Lectrosonics IPR Board found that Strub teaches “a local audio device that records local audio and transmits the local audio to other remote devices,” the local audio device including an “at least one audio input port for receiving said locally generated audio from an audio input device.” *Supra* § VI.C. Zaxcom is collaterally estopped from disputing that finding. *Id.*

Strub discloses at least one local audio device—*e.g.*, one of recording units

105-108:

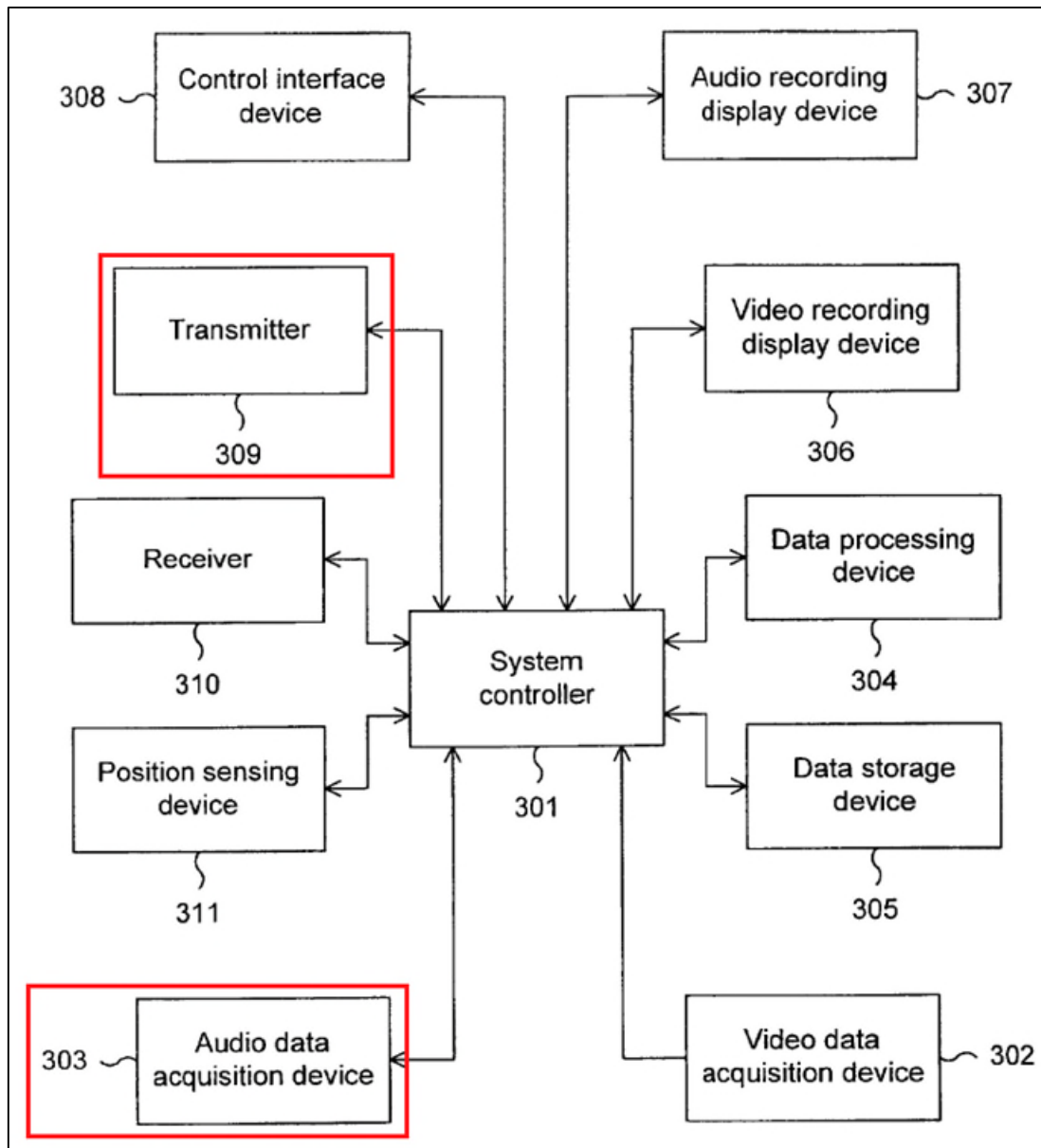


See also Ex. 1003, Figs. 2, 3 (recording units 200, and 300).

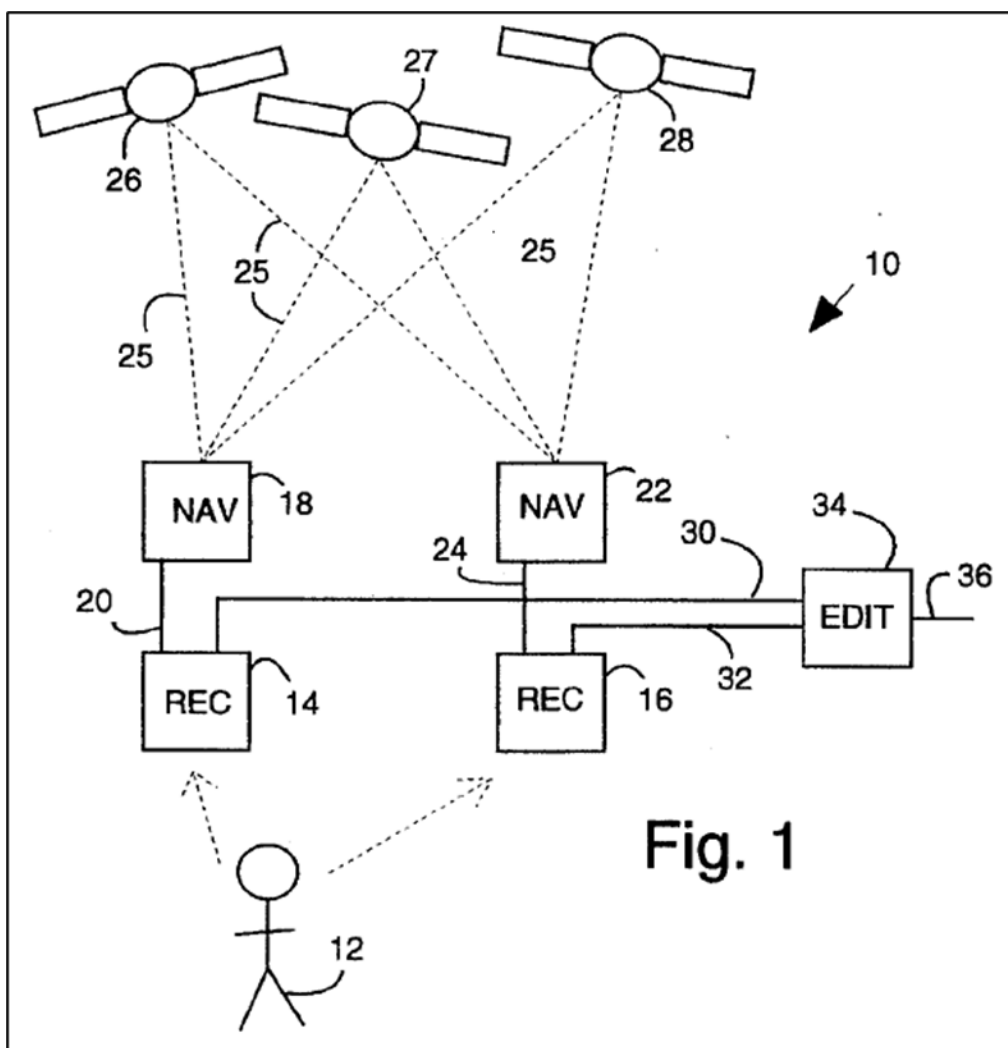
Each of Strub's recording units receives locally generated audio through a microphone and communicates the locally generated audio to a remote receiver—*e.g.*, a different one of recording units. See *id.* 8:10-29, 8:50-53, 11:32-50, 12:13-21, 12:31-43 (“[T]ransmitter 309 transmits...recording data acquired by the recording unit 300...[to] be used by other recording units.”), 21:65-22:2 (microphones as audio data acquisition device); 22:64-23:31, 25:25-49, 35:54-65,

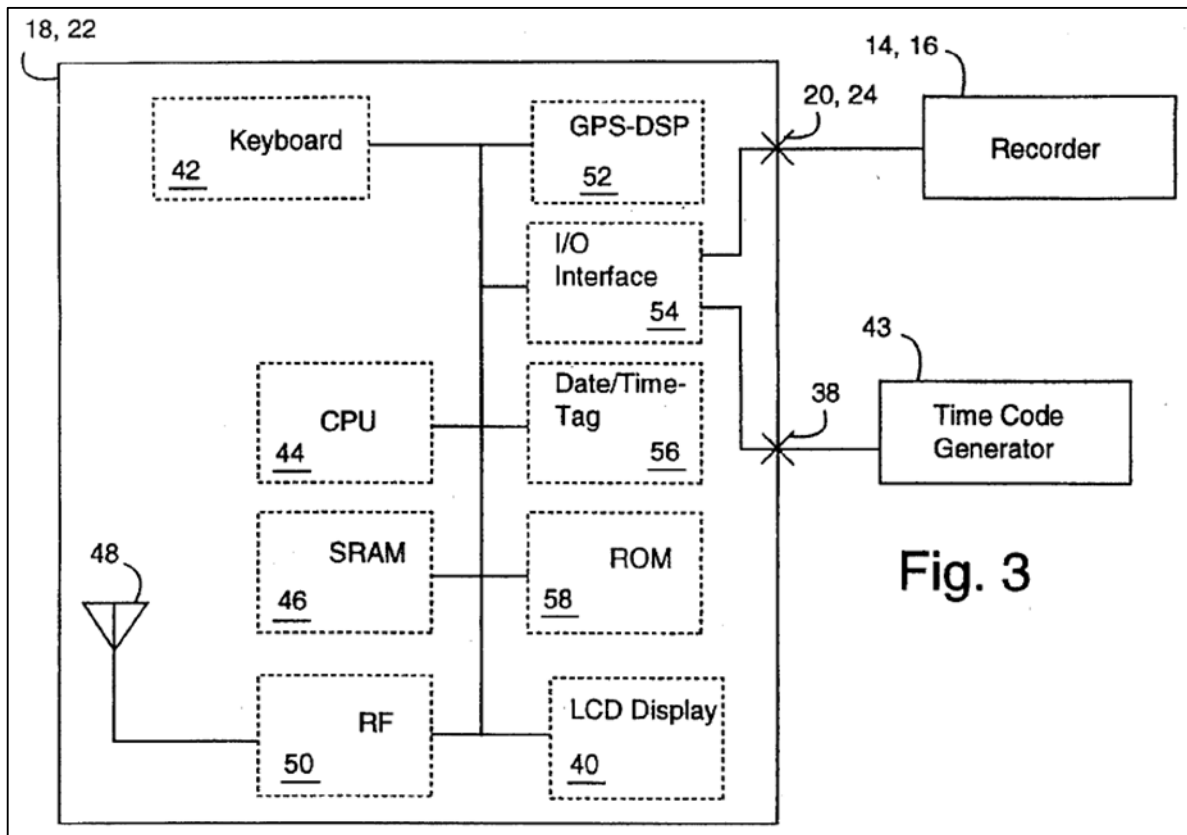
37:18–40, 38:1–4, 60:3-5 (microphone), Figs. 1-3; *see generally id.* 35:53-38:39 (“Communication Between Recording Units”).

The internal components of Strub’s local audio device, including the audio data acquisition device 303 (*e.g.*, a microphone) for receiving the locally generated audio and the transmitter 309 for communicating with the remote receiver, are depicted in Fig. 3:



Woo also teaches this limitation. Woo's system includes at least one local audio device—*e.g.*, an arrangement comprising recorder 14/16 and GPS receiver 18/22—which receives locally generated audio and communicates the audio to the remote receiver and recorder—editing station 34, as depicted in Figs. 1 and 3:



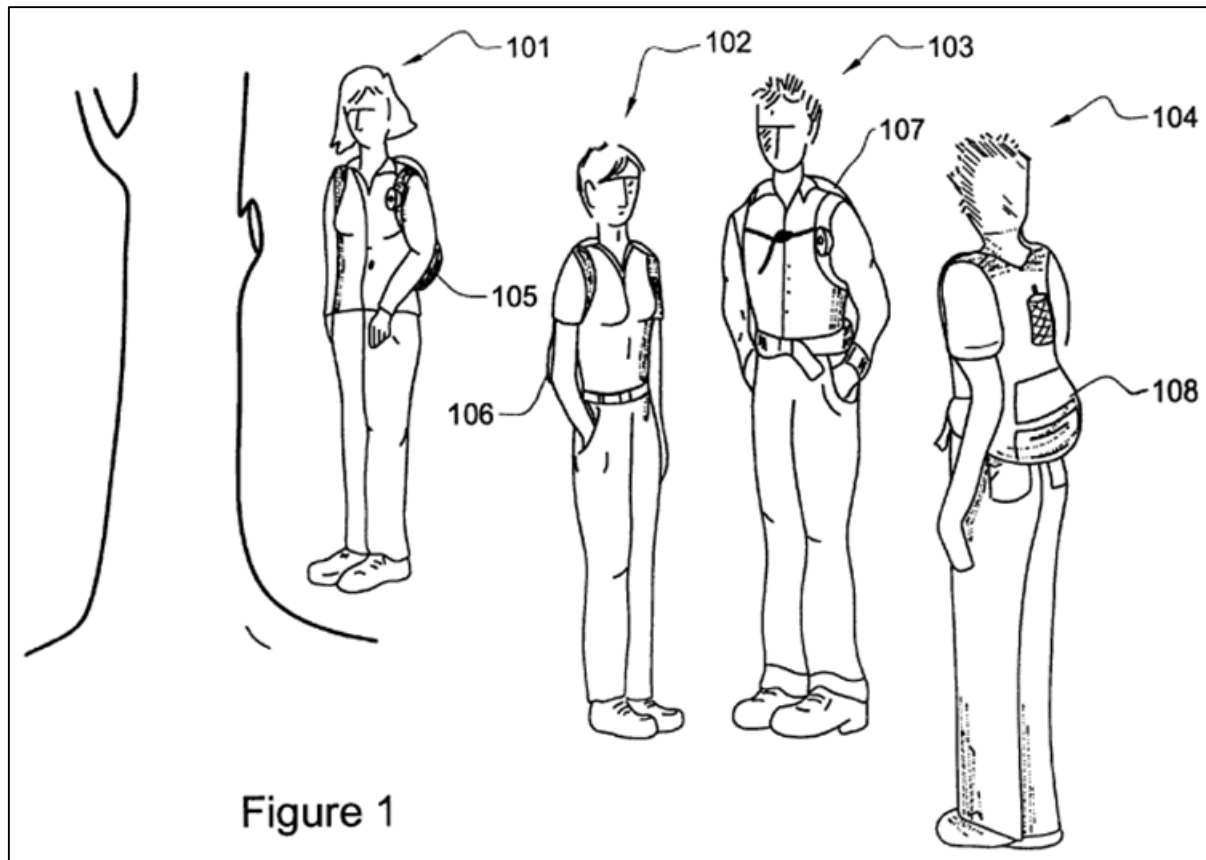


See also Ex. 1004, 5:3-5 (recorders 14 and 16 capture a performance), 5:37-49 (“[Fig. 1] connections 30 and 32 represent the communication of the respective recordings by wire [or] radio link...to the editing station 34.”), 8:32-44, 9:40-43, 9:56-63, Figs. 1, 3, 4. See also Ex. 1002, ¶ 119.

(4) **1[C]: “the at least one local audio device wearable by a creator of the locally generated audio,”**

The Lectrosonics IPR Board found that Strub’s local audio device is “wearable by a creator of said locally generated audio.” *Supra* § VI.C. Zaxcom is collaterally estopped from disputing that finding. *Id.*

For example, Strub expressly states that each of its local audio devices—recording units 105-108, 200, and 300—is wearable by a creator of the locally generated audio—participants 101-104. *See, e.g.*, Ex. 1003, Fig. 1:

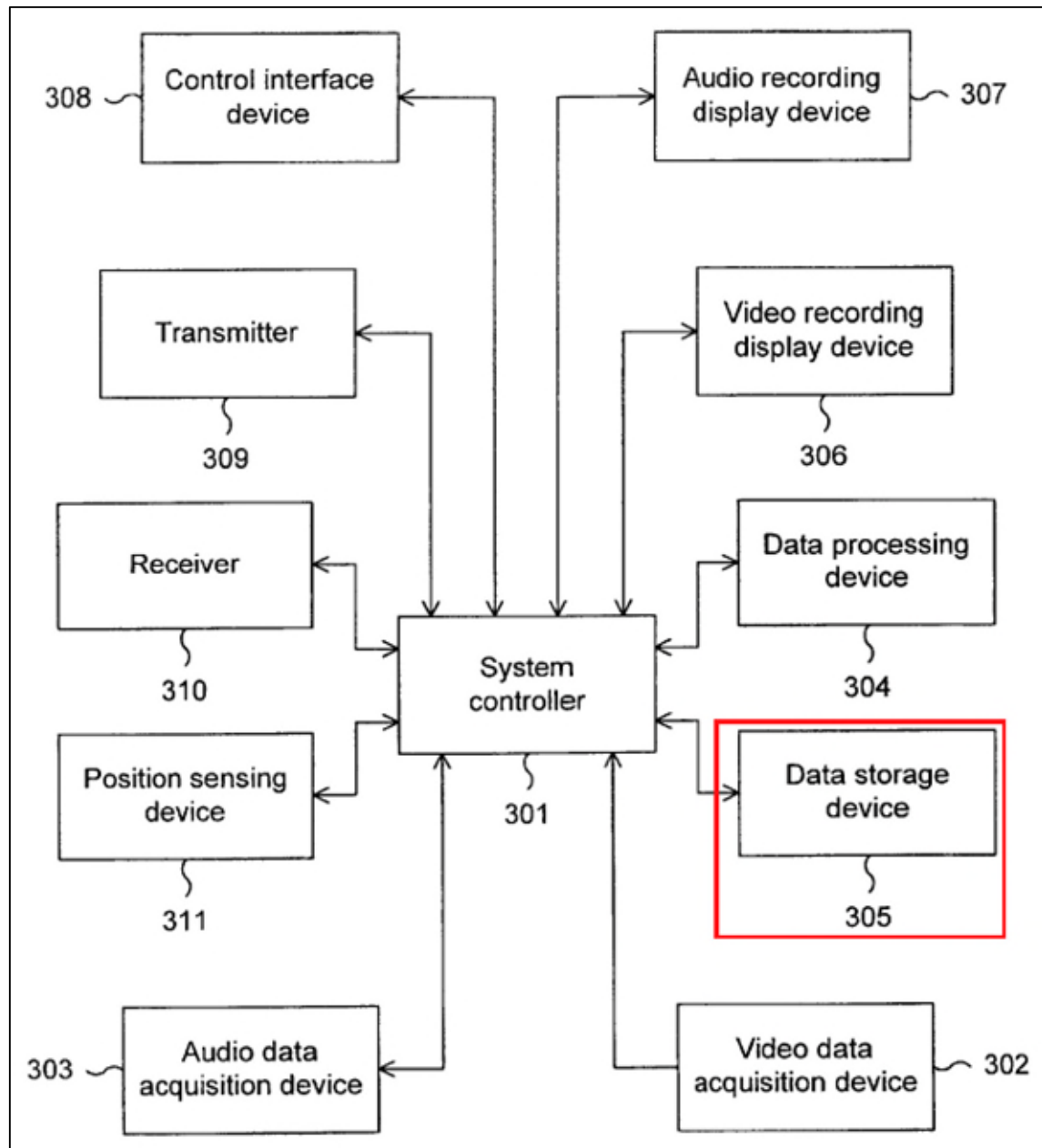


*Id.* 4:21-31 (“a small, lightweight, wearable recording unit”), 8:7-12, 14:59-15:11 (“for the recorder to wear”), 16:66-17:24, 38:65-39:11, 66:33-51, 67:54-68:10, 72:9-19; *see also* Figs. 4, 6, 8A-9B; Ex. 1002, ¶¶ 121-22.

(5) **1[D]: “the at least one local audio device including: at least one local memory;”**

The Lectrosonics IPR Board found that Strub teaches that the local audio device has a memory. Zaxcom is collaterally estopped from disputing that finding. *Supra* § VI.C.

Strub’s local audio device includes at least one local memory—*e.g.*, data storage device 305:

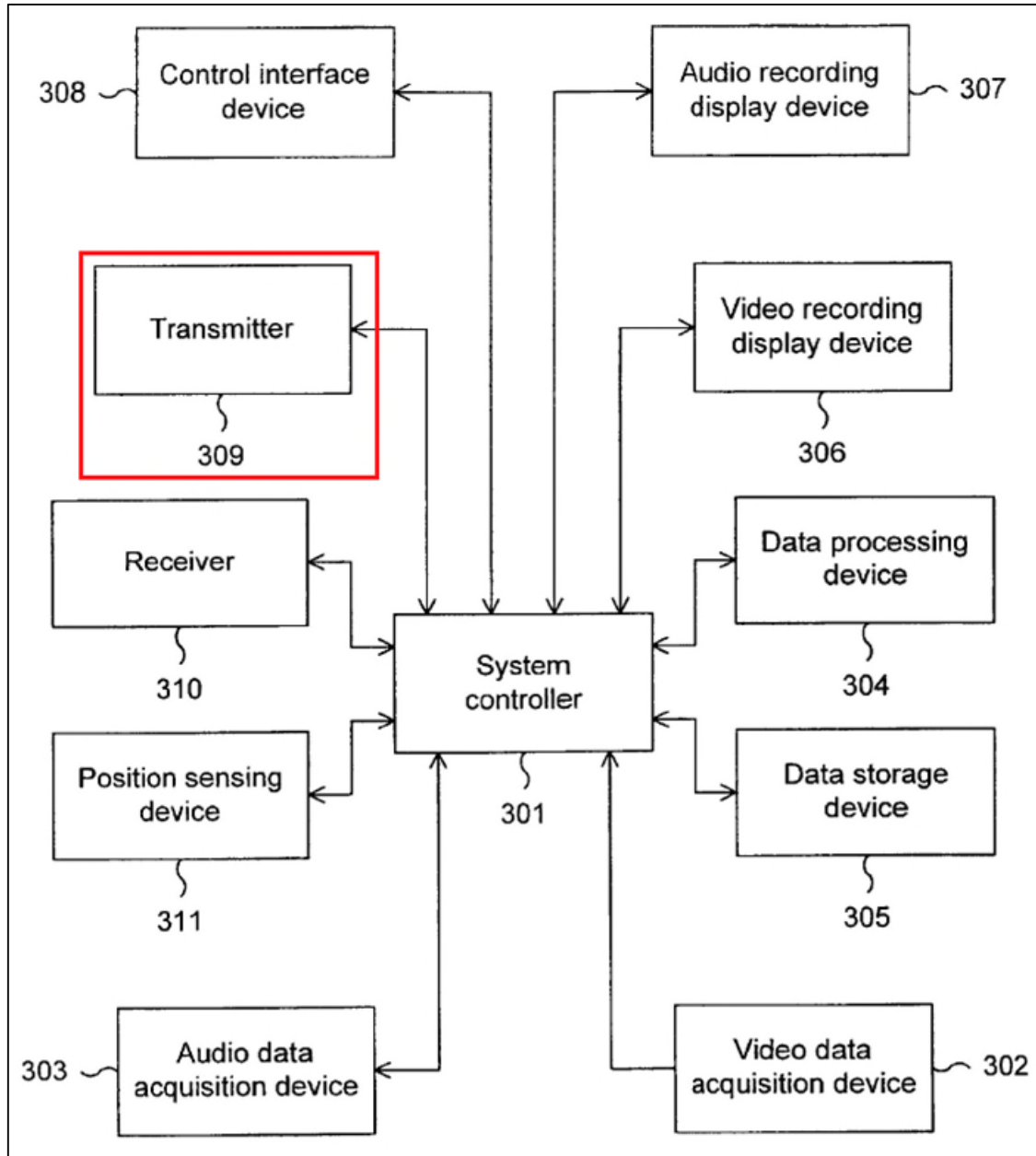


Ex. 1003, Fig. 3 (annotated), 12:13-21. Data storage device 305 may include a hard disk, removable media (*e.g.*, recordable DVD), or solid state or flash memory. *Id.*, 27:36-51, 33:20-35:50, 76:6-34, 94:15-20, Fig. 3; Ex. 1002, ¶¶ 124-25.

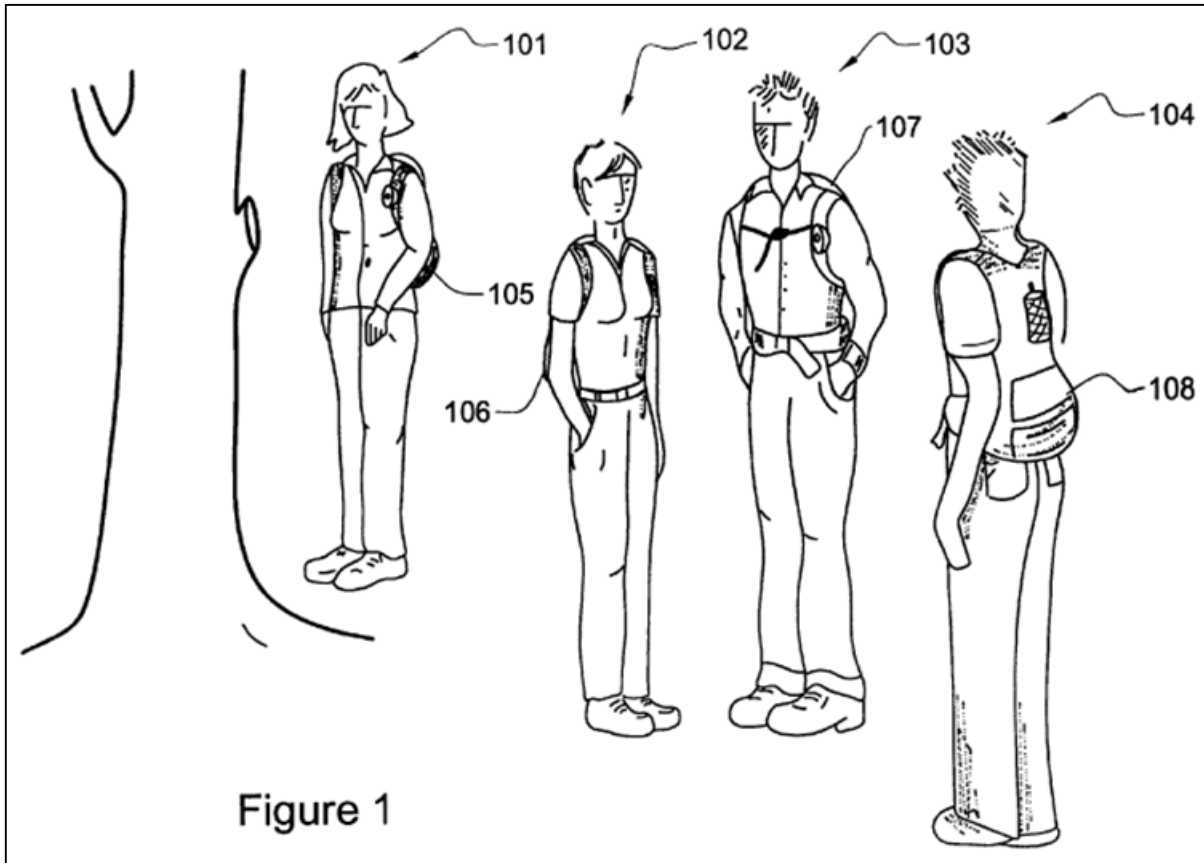
(6) **1[E]: “at least one local transmitter;”**

The Lectrosonics IPR Board found that Strub teaches that the local audio device wirelessly transmits the locally generated audio to a remote recorder. Zaxcom is collaterally estopped from disputing that finding. *Supra* § VI.C.

Strub’s recording unit includes a local transmitter 309 for wirelessly transmitting audio to the other recording units:

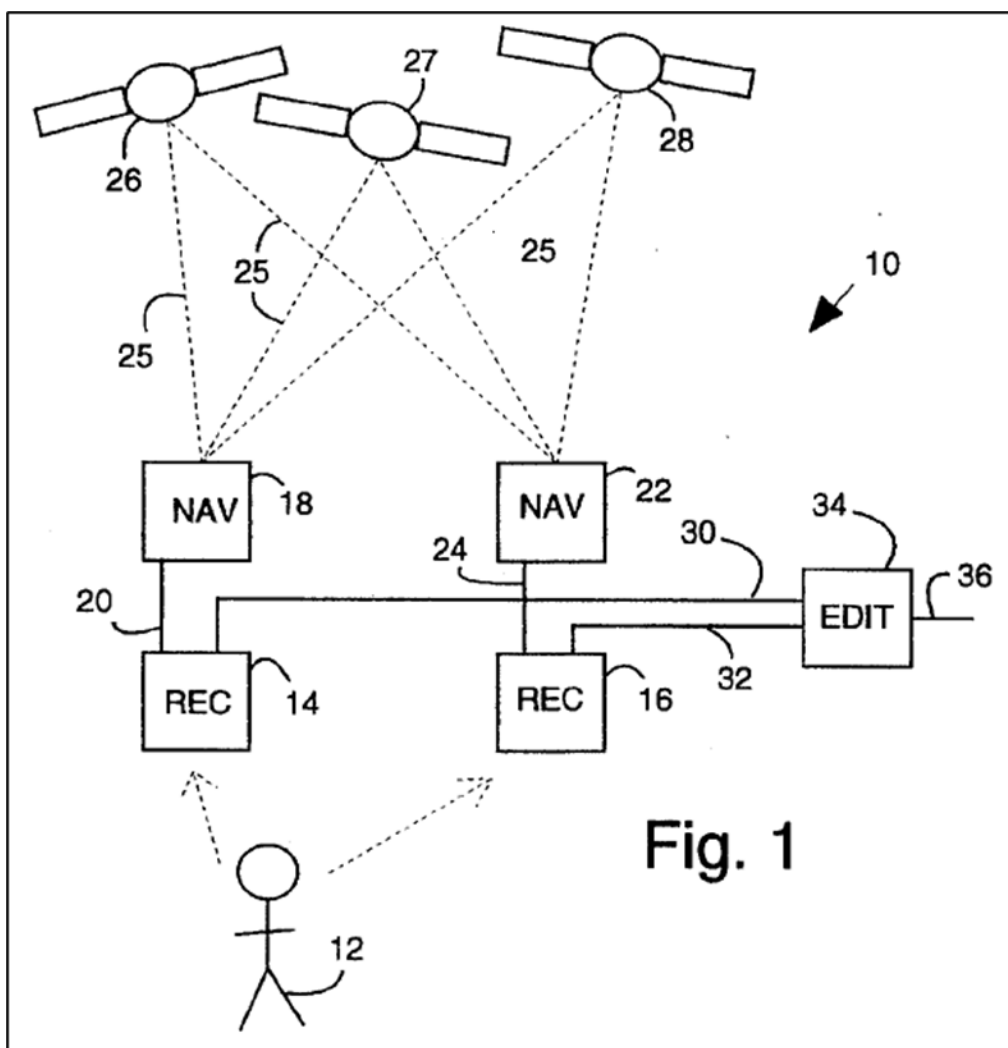


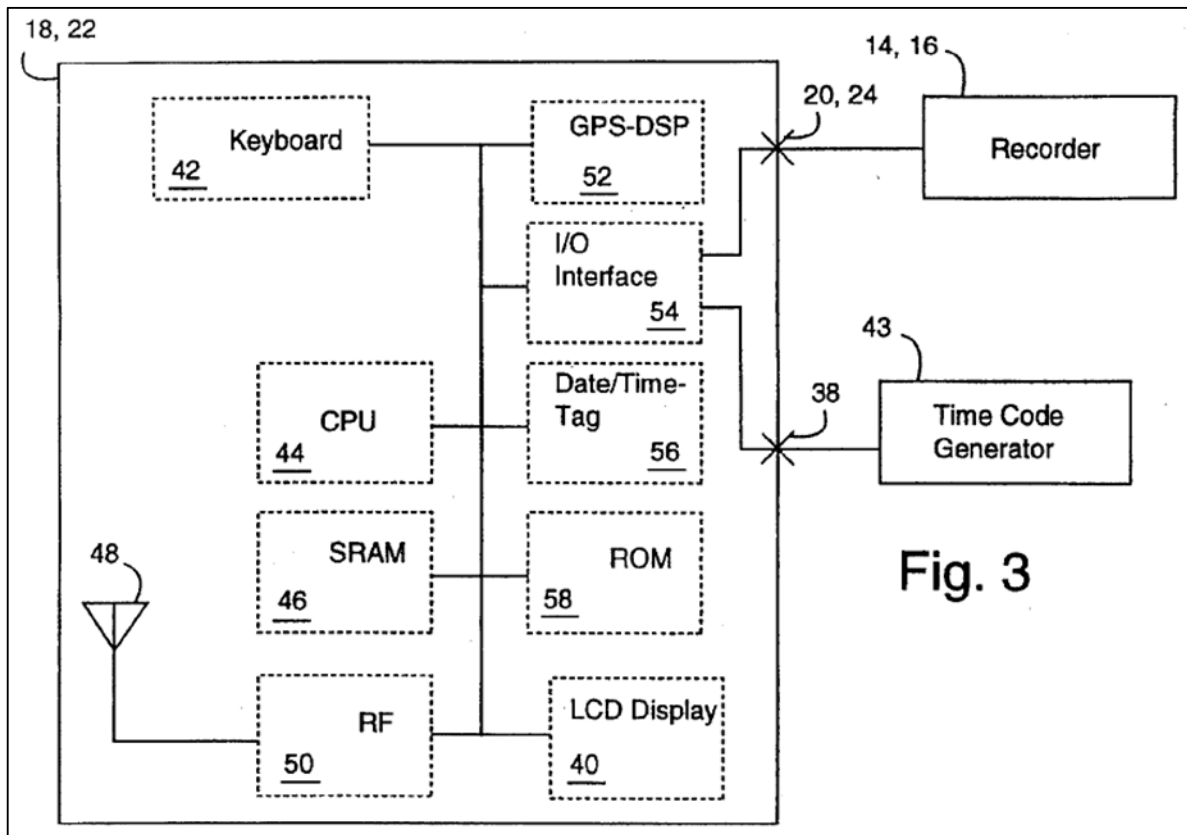
Ex. 1003, Fig. 3 (annotated).



*Id.* Fig 1. See also *id.* 12:31-46, 35:51-36:29 (“transmitter that enables...the recording data ... to be broadcast from the recording unit”).

Woo’s local audio device—*e.g.*, an arrangement comprising recorder 14/16 and GPS receiver 18/22—transmits locally generated audio (in one example, wirelessly) to the remote recorder—editing station 34:





Ex. 1004, Figs. 1, 3; *id.* 5:37-49 (“[Fig. 1] connections 30 and 32 represent the communication of the respective recordings by...radio link...to the editing station 34.”), 8:32-44, 9:40-43, 9:56-63, Fig. 4. A POSA would have understood that Woo’s “radio link” necessarily would have required at least one local transmitter in the recorder 14/16. Ex. 1002, ¶¶ 129-30.

(7) **1[F]: “at least one local receiver; and”**

The Lectrosonics IPR Board found that Strub discloses a “local audio device receiver,” which Zaxcom is collaterally estopped from disputing. *Supra* § VI.C.

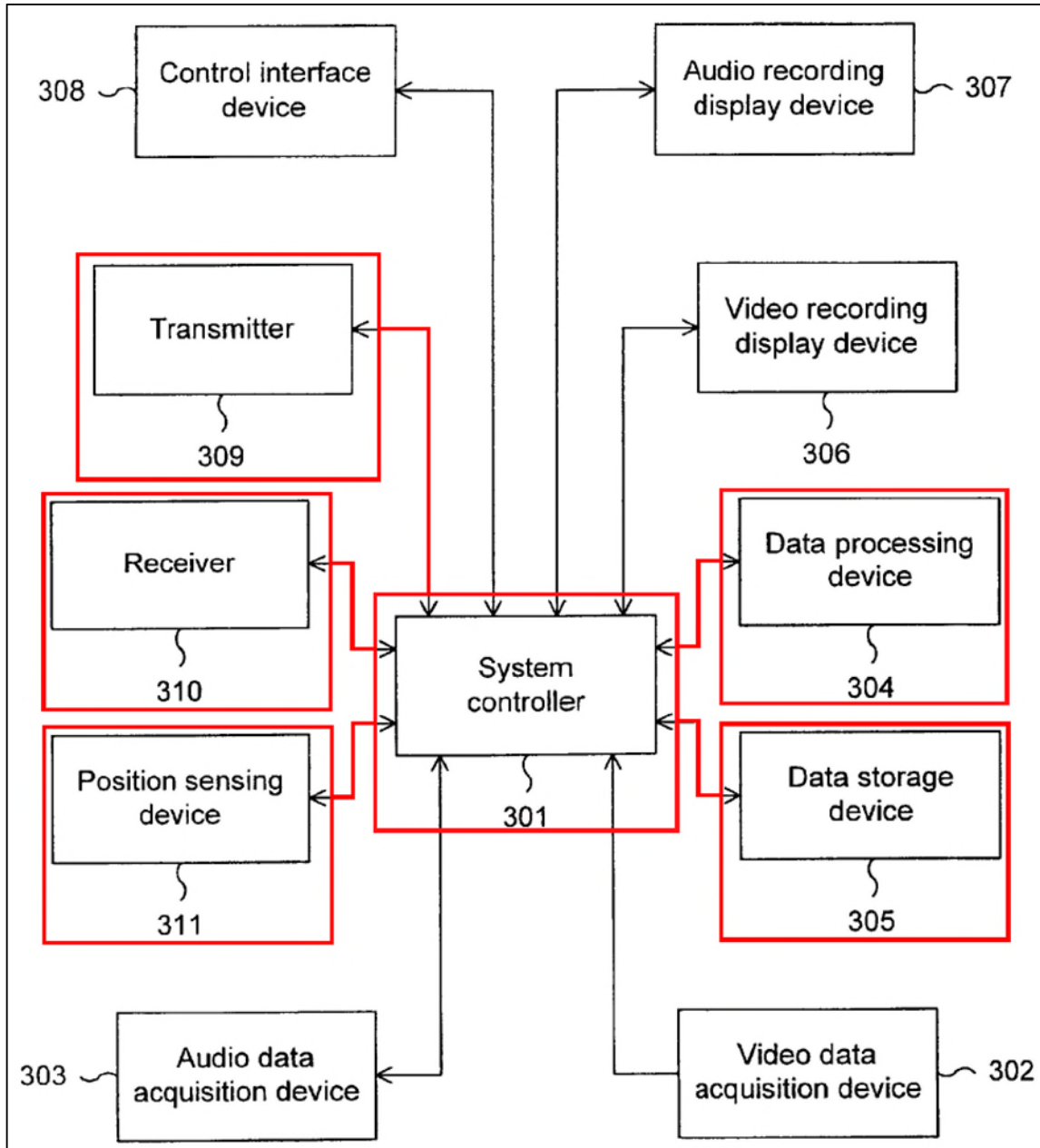
In particular, position sensing device 311 in Strub’s local audio device comprises a “GPS receiver.” Ex. 1003, 62:26-63:49, Fig. 3. In addition, each of Strub’s local audio devices includes local receiver 310, which “receives...recording data acquired by...other recording units.” *Id.* 12:4-10, 12:39-43, 35:57-62, Fig. 3; *see generally id.* 35:53-38:39 (“Communication Between Recording Units”). Strub also describes “transmitting a synchronization pulse from a ‘master’ recording unit to each of the other recording units.” *Id.* 38:29-39. In view of Strub’s description of using the transmitters and receivers of the respective recording units to allow them to communicate with each other, *id.*, 35:53-38:39, a POSA would understand that recording units receive the synchronization pulses through their receivers 310.

Woo’s local audio device also has a GPS receiver which receives time information from GPS satellites 26-28. Ex. 1004, Abstract, 4:13-19 (“GPS navigation receiver...for communicating [SMPTE] time codes”), 4:45-48, 5:5-10 (“satellite receiver[s] 18[/22] provide[.]...date and time information to...recorder[s] 14[/16]”), 5:21-29 (“time clock information” from satellites), 5:54-67, 7:18-25, 7:26-47, 7:48-8:59, 8:60-9:19, 9:33-39, 9:45-55, 10:15-64, Figs. 2-6 (“GPS Receiver” 122/142); Ex. 1002, ¶ 133.

(8) **1[G]: “at least one local processing unit, the at least one local processing unit operatively coupled to the at least one local memory, and, optionally, the at least one local transmitter and, optionally, the at least one local receiver”**

The Lectrosonics IPR Board found that Strub teaches “at least one control unit electrically coupled to said local audio device receiver... [and] said memory,” so Zaxcom is collaterally estopped from disputing that finding. *Supra* § VI.C.

Strub’s local audio devices—recording units 105-108—include a local processing unit—*e.g.*, system controller 301 and/or data processing device 304—operatively coupled to the local memory (data storage device 305), the local transmitter 309, and the local receivers (receiver 310; GPS-based position sensing device 311):



Ex. 1003, Fig. 3 (annotated); *id.* 12:4-13, 13:36-14:13 (operation of “system controller”).

(9) **1[H]: “wherein the at least one local memory stores instructions that, when executed by the at least one local processing unit, configures the local audio device to: receive the at least one master timecode from the remote receiver via the at least one local receiver; ”**

Strub’s local memory—data storage device 305—stores instructions—*e.g.*, one or more computer programs. Ex. 1003, 14:4-13 (“computer programs [for the system controller]...are stored on a data storage device of the recording unit....”). A POSA would understand that the instructions are executed by, and control, the at least one local processing unit—*e.g.*, system controller 301 and/or data processing device 304. Ex. 1002, ¶ 137. In addition, the system controller “controls the operation of other components of the recording unit and mediates interaction among those components to effect performance of the functions of the recording unit.” Ex. 1003, 13:37-41. Thus, a POSA would understand that the instructions, when executed by the at least one local processing unit, configure Strub’s local audio device to perform the functions in Strub, including receiving the synchronization pulses—*i.e.*, master timecodes, *see supra* 1[A]—from the remote receiver—*e.g.*, the master recording unit. *Id.* 38:29-39 (synchronizing recordings “by transmitting a synchronization pulse from a ‘master’ recording unit to each of the other recording units....”). More particularly, since the system controller 301 is the only component connected to the receiver 310, *id.* Fig. 3, and since the system controller “controls the operation of other components of the recording unit,” *id.* 13:37-41, a POSA

would understand that the system controller 301 configures receiver 310 to receive the master timecodes for recording device 300. Ex. 1002, ¶ 137.

Furthermore, Strub’s “system controller can include a clock.” Ex. 1003, 13:52-53. A POSA would understand that, to synchronize the clock, the system controller in the local audio device would receive the master timecodes—*e.g.*, synchronization pulses—from the remote receiver via the local receiver 310. Ex. 1002, ¶ 138.

(10) **1[I]: “create time-referenced local audio data from the locally generated audio and the at least one master timecode;”**

The Lectrosonics IPR Board found that Strub teaches “creating stamped local audio data,” a finding Zaxcom is collaterally estopped from disputing. *Supra* § VI.C.

For example, Strub’s local audio device receives at least one synchronization pulse—*i.e.*, master timecode—from the remote receiver. *See supra* 1[A]. Strub’s synchronization pulses would synchronize the local clock in the local audio device. Ex. 1002, ¶ 140. Strub’s local audio device uses its synchronized local clock to “time-stamp”—*i.e.*, time-reference—the local audio data, creating time-referenced local audio data. Ex. 1003, 13:52-58 (“[T]he system controller can include a clock that is used to time-stamp the recording data obtained by the recording unit....”). Since the time references are created using a local clock synchronized from the

master timecode, the time-referenced local audio data has been created from the locally generated audio and the at least one master timecode.

In addition, Strub discloses creating time-referenced local audio data by adding GPS time stamps, which are also master timecodes, to the locally generated audio. *Id.* 63:12-49 (using “GPS time signal” to “generate time-stamps for the recording data”); *see also id.* 6:65-7:24; 29:42-62, 77:24-28; 78:7-40; 84:20-25; Ex. 1002, ¶ 141.

Woo also teaches this element. Woo’s local audio device includes “a date and time tag unit 56,” Ex. 1004, 7:59, Fig. 3, that provides time stamps, which comprise master timecodes and are used to stamp at least a portion of the local audio data. *Id.*, 8:11-21, 8:25-44, Figs. 3, 4; *see also id.* 1:60-2:1, 5:37-45. The time stamps/timecodes can be based on GPS signals from GPS receivers 18/22 or provided by “commercially-available time code generator 43.” *Id.* 4:13-19 (SMPTE timecodes based on GPS timing signals), 4:45-48 (GPS), 5:5-13, 7:26-29, 7:29-35 (timecodes from “commercially-available time code generator 43”), 7:49-53 (time code generator “can be used as a master clock.”), 8:25-36 (tagging recording with date/time information from satellite receiver), 9:33-39, 10:44-60, Figs. 2-4; Ex. 1002, ¶ 142.

(11) **1[J]: “store the time-referenced local audio data in the at least one local memory; and ”**

The Lectrosonics IPR Board found that Strub teaches storing the locally generated audio as audio data in the memory of the local audio device. Zaxcom is collaterally estopped from disputing that finding. *Supra* § VI.C.

System controller 301 in Strub’s local audio device stores the audio as time-referenced local audio data in the local memory—*i.e.*, data storage device 305—by storing the local audio data together with the corresponding time-stamps. Ex. 1003, 12:10-21 (“[A]udio recording data...can be stored directly in the data storage device 305.”), 6:65-7:24 (establishing “temporal correspondence” by storing a “time code on the videotape”), 29:42-62 (recording time codes with the audio/video data), 77:24-28 (“writ[ing] a time code to the linear data storage medium...indicating the time at which corresponding recording data was obtained.”), 78:7-40 (storing timecodes on videotape), 13:50-58 (“time-stamp the recording data”), 63:41-60, Fig. 3.

Woo’s system stores the locally generated audio in the local memory as “time-tagged”—*i.e.*, time-referenced—local audio data. Ex. 1004, 4:62-64, 5:1-5 (recorders 14/16 “capture” performance), 5:37-45 (“recordings” stored within recorders 14/16); *supra* 1[Pre] (audio data time-tagged by Woo’s date/time-tag unit 56); Ex. 1002, ¶ 145.

(12) **1[K]: “wherein the audio data is transmitted to the remote receiver substantially simultaneously with the receiving of the local audio data by the local audio device, the creating of the time-referenced local audio data, or the storing of the time-referenced local audio data in the at least one local memory.”**

Strub’s local audio device—*e.g.*, recording unit 300—receives the local audio data, creates and stores the time-referenced local audio data in the local memory—data storage device 305—and transmits the audio to a remote device—one or more of the other recording units, *e.g.*, 105-108. *See supra* 1[Pre], Elements 1[A], 1[B], 1[E], 1[I], 1[J]. The transmission is sent to the remote device at the same time that the recording is “being obtained” by the local device—*i.e.*, substantially simultaneously with the local device’s receiving the audio “during the event.” *See supra* 1[Pre], Ex. 1003, 35:61-65.

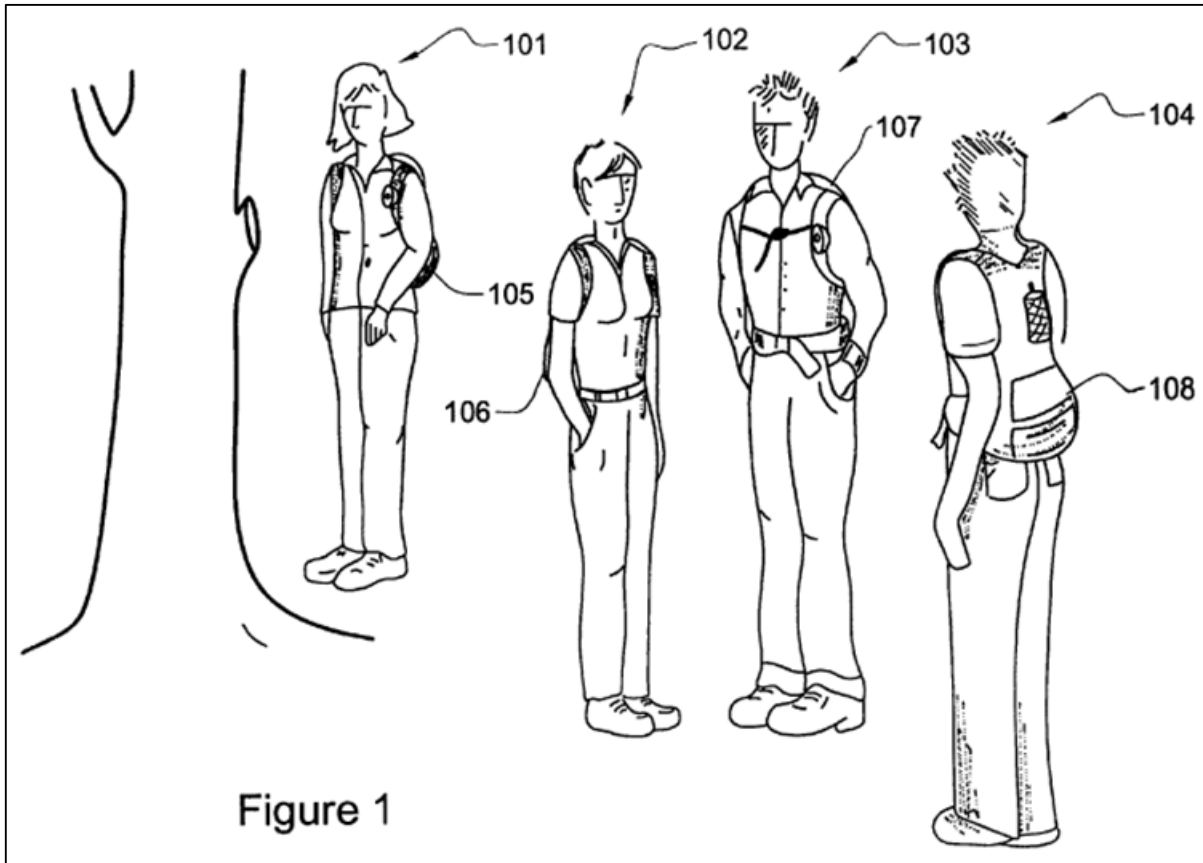
Woo also teaches this element. Woo’s local audio device—comprising recorder 14/16 and GPS receiver 18/22—receives the local audio data, creates and stores the time-referenced local audio data in the local memory, and transmits the locally generated audio to the remote receiver—editing station 34. *See supra* 1[Pre], Elements 1[A], 1[B], 1[E], 1[I], 1[J]. Woo teaches that the transmission can be done in real time—*i.e.*, at the same time as the receiving of the local audio data and creation and storage of the time-referenced local audio data in the local memory. *See supra* 1[Pre]; *see also* Ex. 1004, 8:51-54 (combining/generating in “*real-time*” with performance), 10:7-10; Ex. 1002, ¶ 147.

b. **Claim 2: “A system according to claim 1, wherein the local audio device is in the form of a body pack”**

Strub’s local audio device can be a body pack—*e.g.*, a backpack or pack worn on the recorder’s body. Ex. 1003, 11:11-17 (“[T]he recording unit [is] mounted on (*e.g.*, attached on, or worn by)...the recorder”), 16:49-65 (backpack), 22:3-7, 66:52-56, 70:52-67, 71:53-66 (attached to body with waist strap), 73:24-50 (harness, backpack), Figs. 1, 4, 6, 8A-9B (depicting body packs); Ex. 1002, ¶ 148.

c. **Claim 3: “A system according to claim 1, wherein the local audio device is in the form of a body pack typically worn by news announcers and performers.”**

This element is disclosed by Strub, which teaches a body pack. *Supra*, claim 2. Additionally, to the extent Claim 3 is definite, Strub teaches that the recording unit (local audio device) is in a form typically worn by a “performer,” *i.e.*, a “participant” in an event. *See* Ex. 1003, 8:7-29 (recording units are for “people ... participating in ... an event”), 11:1-9 (“... the recorder’s participation in the event ...”), Abstract, 1:24-35. For instance, the person wearing Strub’s recording unit can record the event while also singing “Happy Birthday” as a participant. *Id.* 52:19-24. *See also id.* 67:59-68:2 (“recording while engaging in an athletic activity...”), 2:55-65, 47:33-39.



To the extent Claim 3 is definite, Strub's recording unit also can be in a form typically suitable for news announcers. For instance, Strub teaches that it should be "wearable," "small," "lightweight," "inconspicuous," "unobtrusive," "operate[s] easily," facilitates "low-attention recording," and does "not physically interfere (e.g., obstruct vision or movement) with the recorder's participation in the event." *Id.* 4:20-31, 9:4-33, 11:1-24, 23:58-67, 34:12-15. These are physical characteristics that make the form of Strub's wearable body pack typically suitable for news announcers; therefore, a POSA would understand that Strub either teaches this element or renders it obvious. See Ex. 1002, ¶ 150.

- d. **Claim 4: “A system according to claim 1, wherein the at least one master timecode includes hour data, minute data, second data, SMPTE timecode, or combinations thereof.”**

The Lectrosonics IPR Board found that Strub teaches master time data including hour, minute, and/or second data. Zaxcom is collaterally estopped from disputing that finding. *Supra* § VI.C.

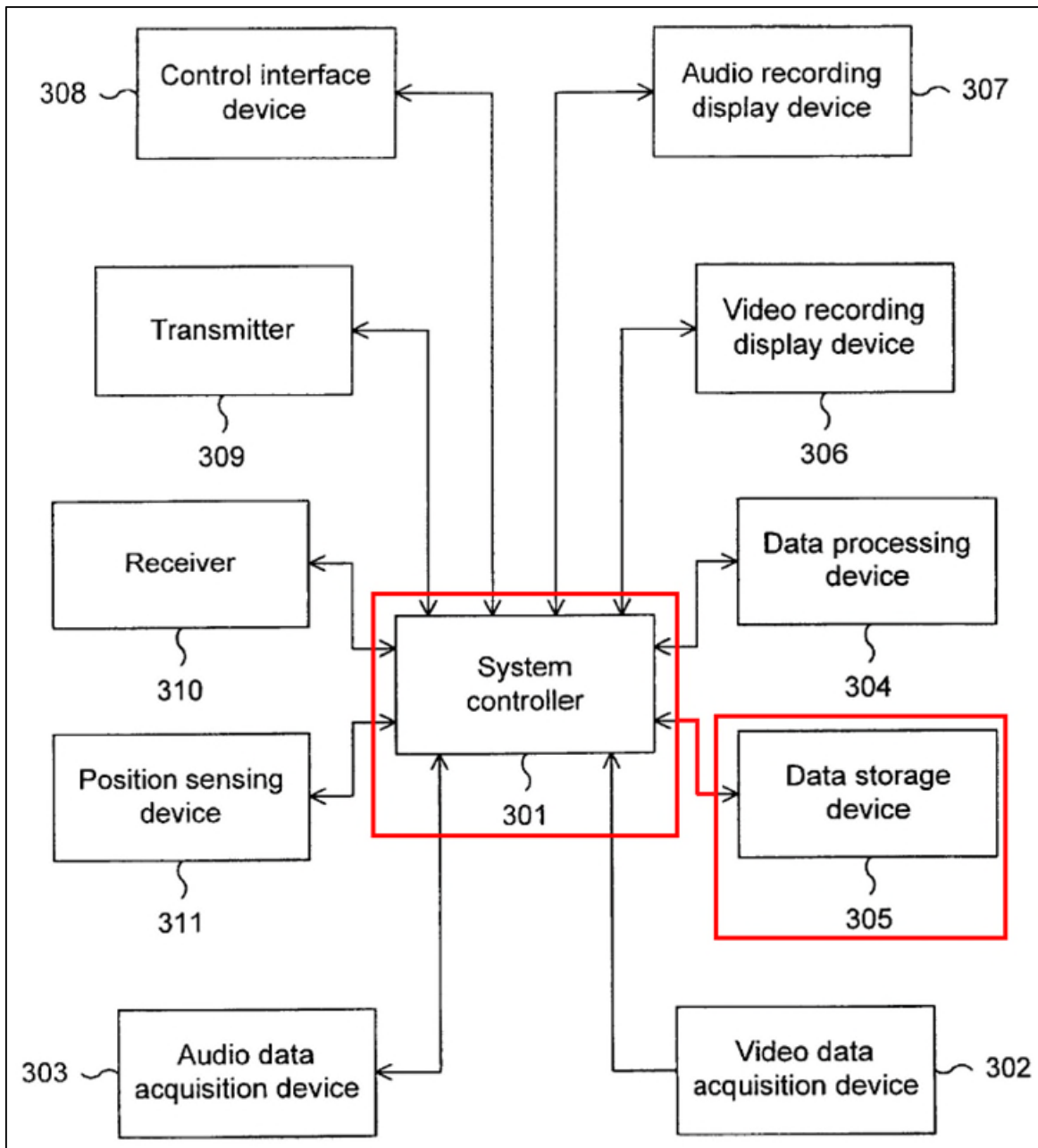
Strub teaches master timecodes from a SMPTE timecode source. Ex. 1003, 75:47-51. A POSA would know that SMPTE timecodes contain hour, minute, and second data. Ex. 1002, ¶ 152 (citing Ex. 1037, 30-35; Ex. 1039, 2-3, 6, 13); *see also* Ex. 1004, 3:20-22 (“Twenty-six [bits of a SMPTE timecode] used to store time information”). Strub also teaches the use of GPS time signals as master timecodes. *See supra* Elements 1[A], 1[H], 1[I]. Strub explains that the “GPS time signals” “represent[] the current time,” Ex. 1003, 63:41-49, which a POSA would understand includes second data—*e.g.*, the number of seconds since the beginning of the current GPS week. Ex. 1040, 1:47-60 (“GPS time is stated in terms of a time of week (TOW) and a week number. TOW ranges from 0 to 604800, corresponding to the number of seconds in a week.”); Ex. 1002, ¶ 152.

Woo’s timecode generator 43 and CPU 44 running the timecode-generation program stored in ROM 58 both generate SMPTE timecodes which include hour, minute, and second data. *See supra* Element 1[Pre]; Ex. 1004, 1:21-40 (time code

clock provides data “in hours, minutes, seconds and frames”), 2:3-9, 2:42 (time codes include “time bits”), 3:20-22 (“Twenty-six [bits of a SMPTE timecode] used to store time information.”); Ex. 1002, ¶ 153.

- e. **Claim 5: “A system according to claim 1, wherein the remote receiver is configured to communicate with a recording device.”**

Strub’s remote receiver—*e.g.*, the master recording unit 300, *see supra* Element 1[A]—is configured to communicate with a recording device, including its own internal recording device—data storage device 305—through its system controller 301, as illustrated in Figure 3:



See Ex. 1003, 12:10-21 (“[T]he system controller 301 controls the operation of, and mediates interaction among, the other components of the recording unit 300,” including data storage device 305); see also *id.* 6:14-15 (recording unit has “non-volatile data storage device on which recording data is stored”), 6:16-53, 7:14

(videotape recording device), 11:37-53 (recording unit 200 stores audio/video in data storage device 203), 13:36-14:7, 27:36-28:14 (hard disk or non-volatile data storage), 29:19-23, 33:20-56, Fig. 2 (system controller 201 configured to communicate with data storage device 203).

Alternatively, a POSA would have considered it obvious to take Strub's recording unit (data storage device 305) out of the remote receiver (local recording unit 300), provide it with its own enclosure, and have the remote receiver communicate with it using an external interface. For instance, Strub teaches that the recording unit 300 can be used with "existing camcorders" connected via "an external communication port." *Id.* 5:23-48, 48:45-47, 70:6-57. More generally, Strub teaches connecting "additional devices" to a recording unit via wires and ports or wirelessly. *Id.* 66:7-25, 67:30-44, 70:40-43. Furthermore, taking Strub's recording unit out of the remote receiver, putting it in its own enclosure, and having the remote receiver communicate with it using an external interface would involve merely a simple rearrangement of parts and thus would have had a high likelihood of success. Ex. 1002, ¶ 155.

Woo's remote receiver—editing station 34—can be a "telecine suite or an audio [p]layback suite." Ex. 1004, 5:36-42. A POSA would understand that an "audio playback suite"—a well-known term in the recording industry—comprises post-processing and recording equipment, and that the respective devices in the suite

communicate with each other. Ex. 1002, ¶ 156. Furthermore, a POSA would have considered it a routine design choice whether to include the recording device within Woo's editing station 34 or as an external recording device with which the remote receiver separately communicates, with each having a high likelihood of success. *Id.* .

- f. **Claim 6: “A system according to claim 5, wherein the recording device is a multi-track recorder, a personal computer, a cellular phone, or a camera.”**

Strub's recording device is a camera—*e.g.*, a camcorder, video cassette recorder, or portable dockable videotape recorder. *See supra* Claim 5; Ex. 1003, 5:23-48, 48:45-47, 66:7-25, 67:30-44, 70:6-57, 70:40-43, 75:25-57.

- g. **Claim 7: “A system according to claim 1, wherein the remote receiver is a master timecode generator.”**

Claim 7 does not narrow Claim 1, which already requires the remote receiver to create at least one master timecode. In any event, Claim 7 is disclosed by each of Strub and Woo for the reasons set out *supra* Element 1[A]; Ex. 1002, ¶ 158.

- h. **Claim 9: “A system according to claim 1, wherein the time-referenced local audio data is configured to facilitate synchronization of the time-referenced local audio data and the remotely recorded audio data.”**

Strub's time-stamped—*i.e.*, time-referenced—local audio data, *supra* Element 1[I], is configured to facilitate synchronization of the time-referenced local audio data and the remotely recorded audio data. The system controller 301 in

Strub's local audio device "time-stamp[s] the recording data obtained by the recording unit. (The time-stamps can be used...to enable post-event synchronization of the display of recordings obtained by different recording units.)" Ex. 1003, 13:50-58; *see also id.* 79:54-80:9 ("temporally synchronize multiple recordings of the same event that were simultaneously obtained by different recording units"), 84:5-25 (using "time codes" to "enabl[e] the delays between recording units to be calculated."), 38:29-39. A POSA would understand that Strub's references to synchronizing "recordings obtained by different recording units" include both the local recordings created by the respective recording units and the remote recordings received by recording units acting as remote receivers. Ex. 1002, ¶ 159.

Woo's time-stamped—*i.e.*, time-referenced—local audio data, *supra* Element 1[I], is configured to facilitate synchronization of the time-referenced local audio data captured by the local audio devices and the remotely recorded audio data stored at the editing station 34. For example, Woo's "time code information is input to independent...recorders...to create tracks on each recording for re-synchronizing...in post-performance editing." Ex. 1004, Abstract; *see also id.* 1:60-2:9 (time codes "useful in the editing process...."), 2:39-48, 4:3-32, 4:62-64 ("time-keeping system for synchronizing" recordings). In addition, Woo teaches using software and timecode information (*i.e.*, "first and second date and time code information") to synchronize and "blend" two different recordings from different

microphones to generate a third, composite recording “from the date and time synchronized portions.” *Id.* 8:44-52, 11:12-16 (same), 9:65-10:5, 12:11-14. Woo provides alternative examples in which the combining is done in post-processing or in real time. *See id.*, 8:51-54, 10:7-10, 10:12-14. Moreover, Woo teaches synchronizing clocks of recording units so that recordings can later be combined by aligning time stamps. *See id.*, 3:38-67. *See also* Ex. 1002, ¶ 160.

i. **Claim 10: “A system according to claim 1 further comprising: a remote control unit.”**

Strub’s system comprises a remote control unit—a “control interface device” or “control interface unit 702”—which can be “implemented to enable wireless communication...between the control interface device...and the remainder of the recording unit[s].” Ex. 1003, 47:41-48, 68:11-18, Fig. 7. “[T]he control interface device enables the recorder to control operation of the recording unit.” *Id.*, 47:49-53; *see also id.* 45:52-46:5, 47:50-63, 48:4-17, 49:4-14, 49:22-31, 49:46-55, 57:25-32. Strub teaches that the control interface device is remote and separate from the recording unit. *Id.* 47:25-32, 46:18-24, 46:54-56, 47:2-9. For example, a “transmitting recording unit” can send signals to one or more “receiving recording unit[s]” to cause the receiving recording units to “emi[t] an audible tone, display...a visual cue (*e.g.*, lighting of an LED indicator) and/or produc[e] a haptic sensation...” *Id.* 40:45-60; *see also* Ex. 1002, ¶ 161.

j. **Claim 13.**

Claim 13 has mostly the same limitations as '814 Patent Claim 37, which was found unpatentable in the Lectrosonics '1130 IPR, except Claim 13 adds substantially simultaneously transmitting audio data to a remote device. Ex. 1001, Claim 13; Ex. 1028, Claim 37, IPR Certificate at 1:6-7. However, transmitting audio data to a remote device was present in Claim 13 of the '307 Patent, which was found unpatentable in the Lectrosonics '972 IPR. Ex. 1015, Claims 12, 13, IPR Certificate at 1:5.

(1) **13[Pre]: “A system for locally recording locally generated audio as time-referenced local audio data and for substantially simultaneously transmitting audio data to a remote device, the system comprising: ”**

Regardless of whether the preamble of Claim 1 is limiting, it is taught by Strub and Woo. *See supra* 1[Pre].

(2) **13[A]: “a remote receiver, the remote receiver configured to create at least one master timecode and to receive audio data; ”**

Taught by Strub and/or Woo. *Supra* 1[A].

(3) **13[B]: “a local audio device capable of communicating with the remote receiver and configured to receive locally generated audio; ”**

Taught by Strub and Woo. *Supra* 1[B].

(4) **13[C]: “the at least one local audio device wearable by a creator of the locally generated audio, ”**

Taught by Strub. *Supra* 1[C].

(5) **13[D]: “the at least one local audio device including: at least one local memory; ”**

Taught by Strub. *Supra* 1[D].

(6) **13[E]: “at least one local transmitter; ”**

Taught by Strub and Woo. *Supra* 1[E].

(7) **13[F]: “at least one local receiver; and ”**

Taught by Strub and Woo. *Supra* 1[F].

(8) **13[G]: “at least one local processing unit, the at least one local processing unit operatively coupled to the at least one local memory, and, optionally, the at least one local transmitter and, optionally, the at least one local receiver, ”**

Taught by Strub. *Supra* 1[G].

(9) **13[H]: “wherein the at least one local memory stores instructions that, when executed by the at least one local processing unit, configures the local audio device to: receive the at least one master timecode from the remote receiver via the at least one local receiver; ”**

Taught by Strub. *Supra* 1[H].

(10) **13[I]: “synchronize a local timecode with the at least one master timecode; ”**

The Lectrosonics IPR Board found that Woo discloses synchronizing a local clock with a master time clock and that a POSA would have been motivated to use Woo’s synchronization techniques in Strub’s system—findings Zaxcom is collaterally estopped from disputing. *Supra* § VI.C.

Strub discloses that master timecodes comprising a “synchronization pulse” are used to synchronize other “devices.” Ex. 1003, 38:29-39. A POSA would

understand that synchronizing “devices” entails synchronizing the devices’ clocks, and thus that the master timecode is used to synchronize the other recorders’ local clocks so that the local timecodes generated by those clocks are synchronized with the master timecode. At minimum this would have been an obvious way to accomplish such synchronization and, since clock synchronization and timecode generation were well-understood, would have had a high likelihood of success. Ex. 1002, ¶ 173.

Alternatively, Strub discloses using GPS time as master timecodes. *Supra*, element 1[A]. Strub also has a local clock for generating local timecodes and timestamping audio. Ex. 1003, 13:52-54, 63:56-60, 79:54-80:9, FIG. 3. Strub states that “the recording unit need only be exposed to a GPS satellite for about a minute to enable time signals to begin ... after that point, clock drift occurs slowly, even if the recording unit is blocked from the GPS satellites for a period of time.” *Id.* 63:50-60. To a POSA, this means that the GPS master timecodes, when they can be received, are used to synchronize the local clock and thereby the local timecodes. When the GPS signals are blocked, the local clock and timecodes drift until the GPS signal can be reacquired and the local clock synchronized again. Ex. 1002, ¶ 174.

Furthermore, a POSA would have considered it a routine and obvious design choice whether to use Strub’s GPS or SMPTE master timecodes or Strub’s synchronization pulses—which also comprise master timecodes, *see supra* 1[A]—

to synchronize the local timecode generator and thus the local timecodes. *See e.g.*, Ex. 1003, 75:25-57 (“SMPTE time code input ... to enable synchronization with an external device”); Since timecode-generator synchronization was well understood, any of those choices would have had a high likelihood of success. Ex. 1002, ¶ 175.

Woo also teaches this element. Woo discloses receiving a master timecode from a master timecode generator—*e.g.*, GPS satellites 26-28—and synchronizing the local timecode generator 43 to the satellite(s) using the master timecode. Ex. 1004, 3:37-45 (describing synchronization process), 4:13-19 (“a GPS navigation receiver...for communicating time codes in SMPTE format”; combining GPS date/time “with a highly-accurate one pulse-per-second...to form a time-keeping base for the time code output.”), 4:45-48, 5:5-10 (using “highly-accurate date and time information” from “[a] navigation satellite receiver”), 5:21-29 (“navigation satellite receivers 18 and 22” receiving GPS satellite data; “Each satellite 26-28 has an atomic clock synchronized system-wide to provide highly accurate time clock information.”), 5:54-67, 7:18-25, 7:26-47 (“commercially-available time code generator 43...will jam [synchronize] to both the output connection 38 and normal SMPTE/EBU time code”), 7:49-8:59, 8:60-9:4, 9:5-19, 9:33-39, 9:45-55, 10:15-64, Figs. 2-4; Ex. 1002, ¶ 176.

(11) **13[J]: “create time-referenced local audio data from the at least one local timecode;”**

The Lectrosonics IPR Board found that Strub teaches a “local timecode generator for creating stamped local audio data and storing said stamped local audio data in said memory.” Zaxcom is collaterally estopped from disputing that finding. *Supra* § VI.C.

System controller 301 in Strub’s local audio device creates time-referenced local audio data by time-stamping the locally generated audio with local timecodes generated by a local clock. Ex. 1003, 13:50-58 (“[T]he system controller can include a clock that is used to time-stamp the recording data obtained by the recording unit.”), 63:56-60 (“internal clock...to accurately time-stamp data”), 6:65-7:24, 29:42-62, 77:24-28, 78:7-40; 84:20-25; Ex. 1002, ¶ 178.

(12) **13[K]: “store the time-referenced local audio data in the at least one local memory; and ”**

Taught by Strub and Woo. *Supra* 1[J].

(13) **13[L]: “wherein the audio data is transmitted to the remote receiver substantially simultaneously with the receiving of the local audio data by the local audio device, the creating of the time-referenced local audio data, or the storing of the time-referenced local audio data in the at least one local memory.”**

Taught by Strub and Woo. *Supra* 1[K].

k. **Claim 14: “A system according to claim 13, wherein the local audio device is in the form of a body pack.”**

Taught by Strub. *Supra* Claim 2.

- l. **Claim 15: “A system according to claim 13, wherein the local audio device is in the form of a body pack typically worn by news announcers and performers.”**

Taught by Strub. *Supra* Claim 3.

- m. **Claim 17: “A system according to claim 13, wherein the at least one master timecode and the at least one local timecode include hour data, minute data, second data, SMPTE timecode, or combinations thereof.”**

Taught by Strub and Woo. *Supra* Claim 4.

- n. **Claim 18: “A system according to claim 13, wherein the remote receiver is configured to communicate with a recording device.”**

Taught by Strub and Woo. *Supra* Claim 5.

- o. **Claim 19: “A system according to claim 18, wherein the recording device is a multi-track recorder, a personal computer, a cellular phone, or a camera.”**

Taught by Strub. *Supra* Claim 6.

- p. **Claim 20: “A system according to claim 13, wherein the remote receiver is a master timecode generator.”**

Taught by Strub and Woo. *Supra* Claim 7.

- q. **Claim 22: “A system according to claim 13, wherein the time-referenced local audio data is configured to facilitate synchronization of the time-referenced local audio data and the remotely recorded audio data.”**

Taught by Strub and Woo. *Supra* Claim 9.

- r. **Claim 23: “A system according to claim 13 further comprising: a remote control unit.”**

Taught by Strub. *Supra* Claim 10.

- s. **Claim 27: “A system according to claim 13, wherein the synchronize a local timecode with the at least one master timecode is done by synchronizing a local timecode generator to the master timecode, or synchronizing a local timecode to the master timecode.”**

Each of Strub and Woo teaches both synchronizing a local timecode generator to the master timecode and synchronizing a local timecode to the master timecode. *See supra* 13[I].

**B. Ground 2: Claims 12 and 26 are Rendered Obvious Under § 103 By the Combination of Strub, Woo, Nagai, and Gleissner**

**1. A POSA Would have Been Motivated to Combine Strub, Woo, Nagai, and Gleissner**

A POSA would have been motivated to combine Strub and Woo, *supra* § IX.A.1, and to combine Nagai and/or Gleissner with Strub and Woo. Indeed, in the Lectrosonics IPRs, the PTAB found that a POSA would have considered it obvious to combine these. *See supra* VI.C. Zaxcom is collaterally estopped from disputing those findings. *Id.*

There was substantial motivation to combine Strub, Woo, Nagai, and Gleissner. For example, Nagai and Gleissner teach audio recording systems having an audio input—a “mike jack” or XLR plug connector—configured to couple to an audio input device for receiving locally generated audio. Ex. 1005, [0100], [0109]-[0110], [0139], Fig. 1, 2A; Ex. 1006, [0013], [0024], [0032], Fig. 1. Audio plugs and jacks such as those in Nagai have existed essentially unchanged since the 19<sup>th</sup>

century. *See, e.g.*, Ex. 1023; Ex. 1024. XLR connectors such as those referenced in Gleissner were so common as of the '444 Patent's priority date that they had been standardized. Ex. 1025 at 1 (standard date March 2004). A POSA would have considered it obvious to use those well-known, standard connectors in Strub's local audio device because of their popularity, especially since Strub recommends specific commercially-available microphones—*e.g.*, a Sanken CSS-5—which plugged into a standard XLR jack. Ex. 1003, 25:35-49; Ex. 1026 at 6, 14 (XLR-5 "IN/OUT" connection), *passim* (XLR-connected microphones); Ex. 1027, at 7 (XLR-5 "IN/OUT" connection), *passim* (XLR-connected microphones); Ex. 1002, ¶ 191.

Furthermore, every element of Challenged Claims 12 and 26 appears in Strub, Woo, Nagai, and/or Gleissner. *See infra* § IX.B.2. Those elements comprise well-known, off-the-shelf audio-recording and components that would be familiar to any POSA and predictable to use in a wireless audio-recording system. Ex. 1002, ¶ 192. Furthermore, such components were well-understood in the relevant time such that their combination would have had a high likelihood of success. *Id.*

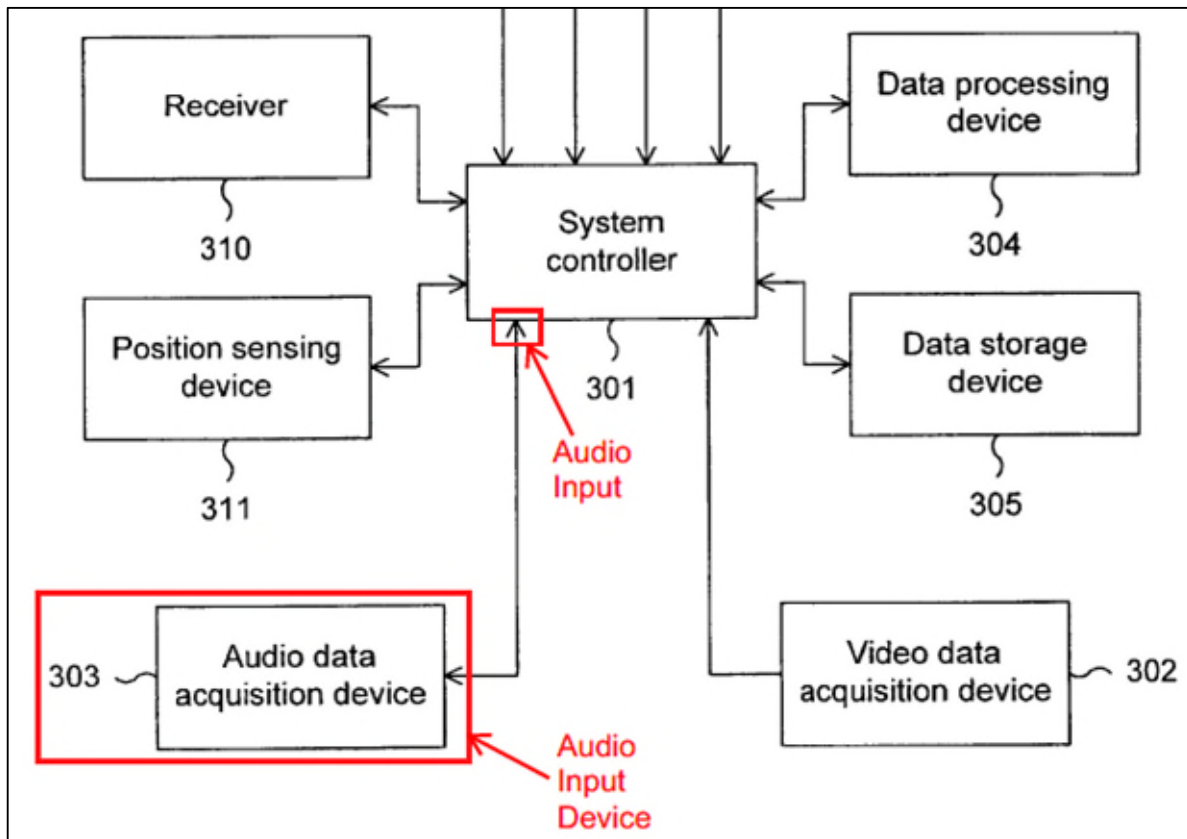
Since Nagai's and Gleissner's microphone jacks and plugs were old elements performing familiar functions, the recitation of these elements in the Challenged Claims is merely "the predictable use of prior art elements according to their established functions," and the combination of Strub, Woo, Nagai, and Gleissner would have had a high likelihood of success.

2. **The Combination of Strub, Woo, Nagai, and Gleissner Meets All Elements of Challenged Claims 12 and 26**
  - a. **Claims 12 and 26: “A system according to claim [1/13], the local audio device further comprising: at least one audio input configured to receive the local audio data.”**

The Lectrosonics IPR Board found that each of Strub, Nagai, and Gleissner teaches an “audio input port for receiving said locally generated audio from an audio input device,” and that it would have been obvious to combine Strub with Nagai or Gleissner. *Supra* § VI.C. Zaxcom is collaterally estopped from disputing those findings. *Id.*

Strub’s audio data acquisition device 303 is an audio input device, a microphone. Ex. 1003, 21:65-22:2 (“microphone” a “suitable audio data acquisition device”); 22:64-23:31 (microphone audio input devices), 25:25-49, 60:3-5 (“conventional microphone”). Strub’s exemplary microphones include digital microphones. *Id.* 21:65-22:2. A POSA would understand that a digital microphone outputs audio data. Ex. 1002, ¶ 195.

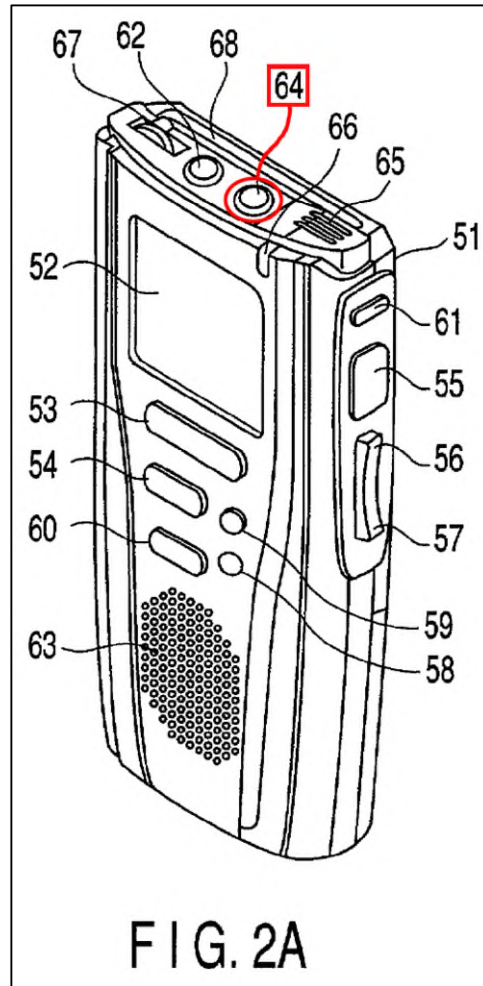
The system controller 301 in Strub’s local audio recording unit 300 has a local audio input—its connection to audio input device 303 (*e.g.*, a microphone)—configured to receive the local audio data from the audio input device 303:



Ex. 1003, Fig. 3 (excerpted, annotated); *id.* 21:65-25:49, 68:63-69:67 (audio from “lavalier microphone”); *see also id.* 64:50-65:3 (wired or wireless connections known in the art, which would include a standard microphone jack). Furthermore, Strub states it is “advantageous” to have the audio acquisition device “detachably attached.” *Id.* 69:23-26. A POSA would understand Strub’s statement about detachability as meaning that the microphone is not soldered/hard-wired but connected through an audio input such as a microphone jack/plug.

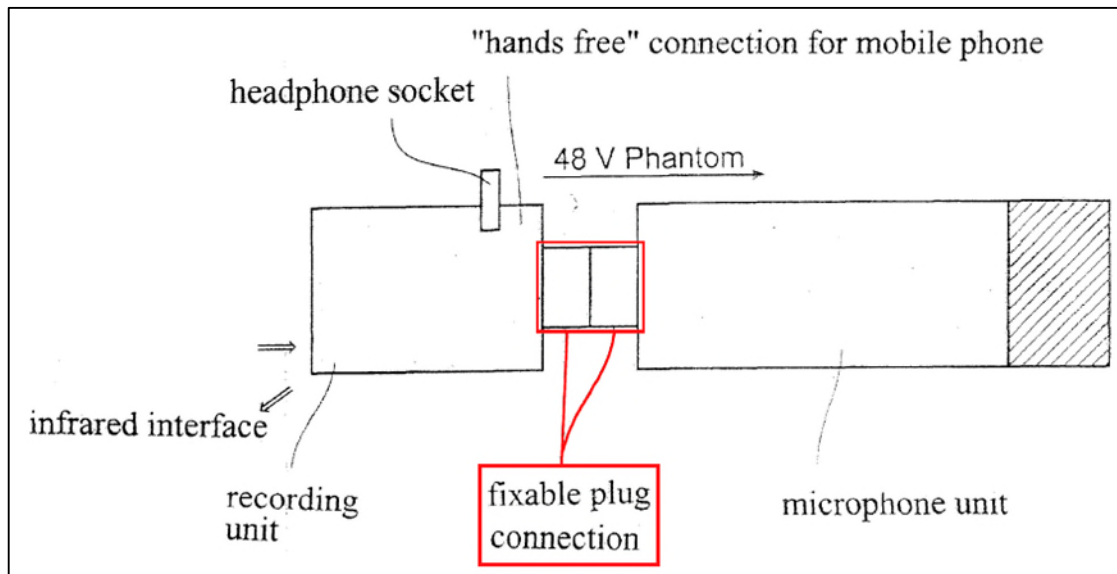
The additional elements of Claims 12 and 26 are also taught by Nagai and Gleissner. Nagai’s audio recorder has an audio input—“mike [sic] jack” 2 or 64—

for coupling to an audio input device—an external microphone—to receive the local audio data:



Ex. 1005, Fig. 2A (annotated); *id.* [0100], [0109], and [0139], Fig. 1.

Gleissner's audio recorder has a conventional audio input—an XLR plug connector—to couple to an audio input device—a microphone—to receive the local audio data:



Ex. 1006, Fig. 1 (annotated), [0013] (“[T]he recording unit can be coupled together with [a] microphone[] [using] an XLR connector....”), [0024], [0032]. Gleissner provides explicit motivation for using a standard microphone connector: “This has the advantage that the recording unit can be coupled together with practically any desired microphones, because an XLR connector is generally formed as the preferred embodiment in the case of microphones.” *Id.* [0013].

Woo refers to using a recorder 14 to “record the live performance of a performer 12, *e.g.*, a singer or actor.” Ex. 1004, 5:1-5. Recorder 14 necessarily would have had an audio input to couple to a microphone to receive sound from the performer. *See* Ex. 1002, ¶ 202.

Furthermore, a POSA would have been motivated to include Nagai’s microphone jack or Gleissner’s microphone plug connection in Strub’s and/or Woo’s local audio device because there were many commercially available types

and brands of microphones as of the priority date of the '444 Patent, *see* Ex. 1003, 21:65-22:2, 22:64-23:31, 24:61-64, 25:35-49, 29:35-37, 31:37-45, 32:17-26, 68:63-69:18, 84:52-62, and the operator would choose one according to the application. Ex. 1002, ¶ 203. A POSA would have understood the advantages of using Nagai's or Gleissner's standard microphone jacks/plugs to allow different kinds of microphones to be easily swapped in and out of Strub's and Woo's audio recording systems according to the application, and thus would have considered the combination obvious. *Id.*

**C. Ground 3: Claims 16 and 24 are Rendered Obvious Under § 103 By the Combination of Strub, Woo, and Samadani**

**1. A POSA Would have Been Motivated to Combine Strub, Woo, and Samadani**

A POSA would have been motivated to combine Strub and Woo, *supra* § IX.A.1, and to combine Samadani with Strub and/or Woo. The teachings of Strub, Woo, and Samadani provide substantial motivation to combine them. For example, the systems in Strub, Woo, and Samadani are the same type of apparatus having the same purpose. Each is for receiving and recording local audio in a local device, transmitting the same audio to a remote device, and recording the audio in the remote device. *See, e.g., id.* (Strub and Woo); Ex. 1007, Abstract, [0028], [0035], [0037]-[0038], [0042], [0044], [0048], [0053], Figs. 3-7. In addition, each of Strub's, Woo's, and Samadani's local audio devices wirelessly receives master timecodes

from a master timecode generator and uses the timing information to stamp the local audio. *See, e.g., supra* § IX.A.1 (Strub and Woo); Ex. 1007, [0038]-[0040], [0042], [0047]-[0048], Figs. 3 (items 321, 309a/309b), 4 (item 446), 5 (items 509, 525a/525b), Claims 10, 15, 19, 32, 35.

Woo itself provides motivations to use its synchronization methods in wireless recording systems. *See supra* § IX.A.1. In addition, modifying Samadani's recording unit to include a conventional SMPTE timecode input port for receiving SMPTE-formatted master timecodes from Woo's master clock would involve merely combining familiar elements according to known methods to improve Samadani's system and yield predictable results. Ex. 1002, ¶ 205.

Moreover, Strub, Woo, and Samadani came up with the same problem and solution identified in the '444 Patent: matching the timing between multiple wireless device recordings by generating master timecodes with a master timecode generator, providing those timecodes to a local recording device, and using the timecode's timing information to time-stamp the locally recorded audio data. *Supra* § IX.A.1 (discussing Strub and Woo); Ex. 1007, Ex. 1007, [0038]-[0040], [0042], [0047], [0048], Figs. 3 (items 321, 309a/309b), 4 (item 446), 5 (items 509, 525a/525b), Claims 10, 15, 19, 32, 35. *See* Ex. 1002, ¶ 206; *KSR*, 550 U.S. at 417, 420-21; *Ball*, 555 F.3d at 993.

Furthermore, all elements of Challenged Claims 16 and 24 appear in Strub, Woo, and/or Samadani, *infra* § IX.C.2, and comprise well-known, off-the-shelf audio-recording and components whose claimed use is predictable. Ex. 1002, ¶ 207. Furthermore, the technology and operation of such components was well-understood in the relevant time such that the combination of Strub, Woo, and Samadani would have had a high likelihood of success. *Id.*

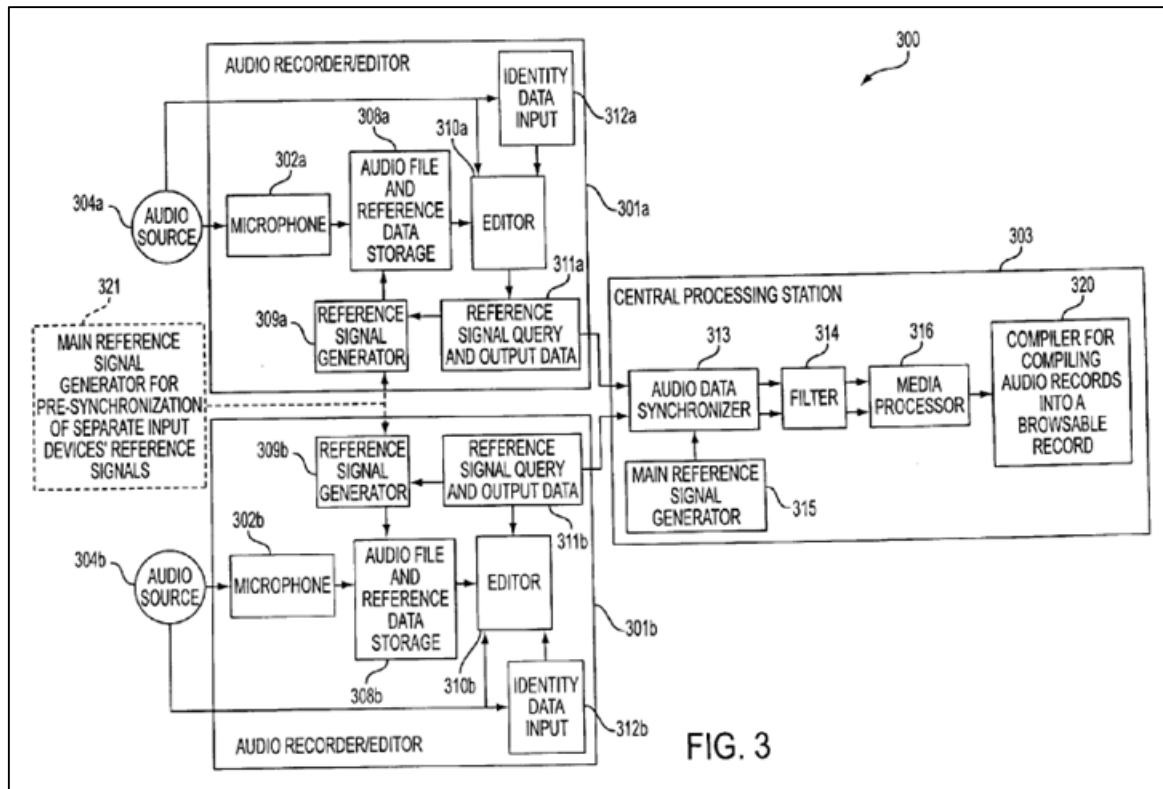
Since Strub, Woo, and Samadani teach the same kind of device used to solve the same problem identified in the '444 Patent, the combination of elements in the Challenged Claims is nothing more than “the predictable use of prior art elements according to their established functions,” and the combination would have had a high likelihood of success, a POSA would have been motivated to combine Strub, Woo, and Samadani. *See id.* ¶ 208.

2. **The Combination of Strub, Woo, and Samadani Meets All Elements of Challenged Claims 16 and 24**
  - a. **Claims 16 and 24: “A system according to claim [15/23], wherein the remote control unit is a personal computer.”**

Samadani teaches one or more local audio devices—*e.g.*, audio recorders/editors 301a/301b—which transmit locally generated audio to a remote receiver—*e.g.*, a central processing station 303. Ex. 1007, [0035]-[0036] (“media recorder/editors 301a and 301b [connected] to...central processing station 303....”),

Fig. 3, [0045] (“audio/visual recorders 501a and 501b...connected via a wire or wirelessly to the processing stations.”), [0046], Figs. 5, 6.

An embodiment of Samadani’s system is depicted in Fig. 3:



Samadani’s local audio devices—*e.g.*, audio recorders/editors 301a/301b—and remote receiver—*e.g.*, central processing station 303—“can be...personal computer[s].” *Id.* [0035], [0044] (“An audio/visual recorder can be a personal computer...”); *see also id.* [0015] (“[C]entral-processing-station/editor 106...can be a personal computer...”), [0022], [0046] (“[C]entral processing station 505...can be a personal computer...”). Samadani’s central processing station has a graphical user

interface (“GUI”) with various buttons and other graphical elements to allow the user to control the central processing station. *Id.* [0056]-[0057], [0059]-[0072].

A POSA would have been motivated to use, and known there was a high likelihood of success in using, Samadani’s personal computer, including its GUI, as Strub’s remote control unit in order to benefit from (1) the convenience and flexibility of a GUI for configuring and controlling Strub’s recording units, and (2) the cost savings in engineering and components associated with using standard hardware and software such as a personal computer with a GUI. Ex. 1002, ¶ 212.

**D. No Relevant Secondary Considerations or Objective Indicia**

Petitioner is not aware of any secondary considerations or objective indicia of nonobviousness which would impact the obviousness analysis of Grounds 1-3. Zaxcom is estopped from relying on (1) any of the evidence of objective indicia on which it relied in the Lectrosonics IPRs, or (2) any substantially similar evidence. *See supra*, § VI.C.2.

**X. DISCRETIONARY DENIAL IS NOT WARRANTED**

**A. Section 325 (d)**

Institution denial based on 35 U.S.C. §325(d) is unwarranted because the arguments and evidence presented here were not previously and/or properly considered. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) (precedential) (“*Advanced*

*Bionics*”), *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17-18 (PTAB Dec. 15, 2017) (precedential as to §III.C.5, first paragraph).

1. **Advanced Bionics—Part One**

Although Strub, Woo, Nagai and Gleissner were before the Examiner during prosecution of one or more patents in the priority chain of the ’444 Patent (*e.g.*, the ’207 Patent), there is no evidence that any was considered meaningfully, let alone in the combinations asserted in this Petition. *St. Jude Med., LLC v. Snyders Heart Valve LLC*, IPR2018-00105, Paper 15 at 12 (PTAB May 3, 2018) (instituting where “evidence of record does not demonstrate that the Examiner considered the references in the combinations relied upon by Petitioner or addressed arguments similar to those Petitioner now presents”). Furthermore, Strub, Woo, Nagai, and Gleissner are not “substantially the same” as the prior art substantively considered by the Examiner. *Advanced Bionics*, Paper 6 at 13-19. Samadani neither was before the Examiner nor is “substantially the same” as the prior art considered by the Examiner. *Id.* The only references that the Examiner considered substantively were U.S. Patent Pub. No. 2004/0237115 (“Horiuchi”) and U.S. Patent 4,872,195 (“Leonard”). See Ex. 1038 at 3-6. The Examiner never asserted, *e.g.*, that either of those references discloses recording locally generated audio as time-referenced local audio data and substantially simultaneously transmitting audio data to a remote device, creating time-referenced local audio data from locally generated audio and

at least one master timecode, synchronizing a local timecode with at least one master timecode, or creating time-referenced local audio data from at least one local timecode, as in Strub and Woo, or a local audio device wearable by a creator of said locally generated audio, as in Strub. *Id.*; *see also supra* Ground 1, Elements 1[Pre], 1[C], 1[I], 13[I], 13[J]. Nor are any of those limitations present in Horiuchi or Leonard.

## 2. **Advanced Bionics—Part Two**

Although Strub, Woo, Nagai, and Gleissner were before the examiner during prosecution of the related '207 Patent, the only place in the '207 prosecution history where Strub, Woo, Nagai, and Gleissner appear is in an IDS. Ex. 1022 at 1, 2. Although the Examiner signed the IDSs and added the footnote "ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH," *id.*, there is no evidence that Strub, Woo, Nagai, or Gleissner received meaningful consideration; none appear in an Office Action or any other substantive discussion in the prosecution file. The lack of any evidence that the Examiner meaningfully considered Strub, Woo, Nagai, or Gleissner, or was even aware of Samadani, favors institution. *Microsoft Corp. v. SurfCast, Inc.*, IPR2022-00590, Paper 9 at 15 (PTAB Oct. 7, 2022) (instituting where cited art "was not extensively evaluated during examination and was not the basis for a rejection"); *Amazon.com, Inc. v. M2M Sols. LLC*, IPR2019-01205, Paper 14 at 16 (PTAB Jan. 27, 2020) ("a reference that 'was

neither applied against the claims nor discussed by the Examiner’ does not weigh in favor of exercising the Board’s discretion under § 325(d) to deny a petition”).

Strub, Woo, Nagai, and Gleissner were considered by the PTAB in the Lectrosonics IPRs, but in those earlier proceedings the Board found claims similar to the present Challenged Claims unpatentable over those references. *See Supra* § VI.C. In contrast, the only claims **not** found unpatentable in the Lectrosonics IPRs included the limitation “replacing...[remote/remotely recorded] audio data with...local audio data.” Ex. 1014, 64 (Claims 1-14 unpatentable over Strub, Nagai, and Gleissner, replaced by substitute Claims 15-28); Ex. 1015, IPR Certificate, 1:30-31, 2:27-30; Ex. 1017, 73 (Claims 7-8, 11-12, and 14-15 unpatentable over Strub, Nagai, Gleissner, and Woo, replaced by substitute Claims 21-26); Ex. 1030, IPR Certificate, 1:41-43, 2:32-33; Ex. 1018, 6 n.6, 63 (Claims 1-4, 9-10, 12, 15, 31, 36, 37, and 41-44 unpatentable over Strub, Nagai, Gleissner, and Woo, Claim 45 (reciting storage of timecode-associated data in file header) unpatentable over those references plus U.S. Pat. 6,571,211 (replaced by substitute Claims 50-65); Ex. 1028 IPR Certificate, 1:41-43). That limitation does not appear in any Challenged Claim in the present case.

Thus, since the USPTO’s only substantive consideration of any of the presently presented prior art resulted in unpatentability and cancelation of claims

similar to the Challenged Claims, this factor weighs strongly against discretionary denial.

**B. Section 314(a)**

Under the Director’s Interim Procedure for Discretionary Denials (June 21, 2022) (“IP”), “the PTAB will not deny institution based on *Fintiv* if there is compelling evidence of unpatentability” (IP, 5), which this Petition provides. The *Fintiv* factors favor institution based on efficiency, fairness, and patent quality. *Apple v. Fintiv*, IPR2020-00019, Paper 11 at 5 (Mar. 20, 2020) (“*Fintiv*”) (precedential).

**1. Stay Potential**

Petitioner intends to seek a stay of the district court litigation, but without “specific evidence” how the court will rule, this factor is neutral. *Sand Revolution II v. Cont’l Intermodal Grp.–Trucking*, IPR2019-01393, Paper 24 at 7 (PTAB June 16, 2020) (informative).

**2. Trial Timing and Diligence**

Institution approximately six months from Petition filing would result in a FWD by August 2026. The district court in the Delaware Litigation has not set a trial date, but the final summary judgment and Daubert briefs are not due until April 10, 2026. Ex. 1031, 3. Thus, it is extremely unlikely that trial will start in or before August 2026.

Furthermore, Petitioner plans to seek a stay of the Delaware Litigation during the pendency of this IPR, which is likely to be granted, pushing the trial date back even further after the FWD, as the District of Delaware has historically granted requests to stay pending IPR that were filed after the institution decision. *See Ethicon LLC v. Intuitive Surgical, Inc.*, No. 17-871-LPS, 2019 WL 1276029, at \*1-3 (D. Del. Mar. 20, 2019); *Bio-Rad Labs. Inc. v. 10X Genomics, Inc.*, No. 18-1679-RGA, 2020 WL 2849989, at \*1-2 (D. Del. June 2, 2020); *NEC Corp. v. Peloton Interactive, Inc.*, No. 22-987-CJB, 2024 WL 1533952, at \*1-3 (D. Del. Apr. 9, 2024). Thus, Factor 2 weighs against discretionary denial. *Fintiv*, Paper 11 at 9.

### 3. **Litigation Investment**

In the Delaware Litigation, fact discovery does not end until August 2025, Markman briefing and expert discovery have not even begun, Ex. 1031 at 2-3, a trial date has not been set, *id.* at 3, and no substantive orders have been issued related to the patents-in-suit. This factor weighs against discretionary denial. *Fintiv*, at 9-10.

### 4. **Issue Overlap**

Although all of the Challenged Claims are currently being asserted in the Delaware Litigation, that is at least partly because Zaxcom is asserting 132 claims and has refused to further narrow its list of claims at this time. The Court recently issued a revised scheduling order which requires Zaxcom to reduce its asserted claims before the *Markman* proceeding and after the *Markman* ruling. Ex. 1031 at

2-3. In addition, Petitioner has filed IPR Petitions on the '443, '902 and '207 Patents. Collectively, the four related IPR Petitions challenge a total of 62 claims, far too many to present to a jury, and there are three other patents-in-suit not subject to the aforementioned IPR Petitions. Thus, it is highly likely that many of the Challenged Claims will not be asserted in the Delaware Litigation. This weighs against discretionary denial, because “[t]he IPR trial will impact the integrity of the patent system positively by considering material issues not raised in the District Court Action.” *Apple Inc. v. Seven Networks, LLC*, IPR2020-00156, Paper 10 at 17, 19 (P.T.A.B. June 15, 2020); *Fintiv*, Paper 11 at 12-13.

5. **Litigation Parties**

This Petition involves the same parties as the Delaware Litigation, so this factor may “depend[] on which tribunal was likely to address the challenged patent first,” which is the PTAB (*supra* § X.B.2). *Google v. Parus Holdings*, IPR2020-00846, Paper 9 at 20-21 (PTAB Oct. 21, 2020). In this instance, the PTAB will address the challenged patent first since the FWD will issue before the Delaware trial. Ex. 1031, 3.

6. **Merits**

The “strong showing on the merits” presented here weighs against denial. *Seven Networks*, at 20.

## **XI. CONCLUSION**

For the foregoing reasons, Petitioner requests institution of IPR and cancellation of all the Challenged Claims.

## **XII. PAYMENT OF FEES**

Petitioner submits concurrently herewith the required fees under 37 C.F.R. §§ 42.15(a) and 42.103(a). The Office is authorized to charge any shortfall or other fees due during this proceeding to Deposit Account No. 50-2778.

Dated: February 7, 2025

/ Michael A. Fisher /

Jeffrey B. Plies, reg. no. 46,999

Michael A. Fisher, reg. no. 42,536

DECHERT LLP

*Counsel for Petitioner*

**WORD COUNT CERTIFICATION**

Pursuant to 37 C.F.R. § 42.24(d), I certify that this Petition contains 13,955 words (excluding the title page, table of contents, table of authorities, table of exhibits, mandatory notices, this certificate, the claim listing, and the certificate of service), as determined by Microsoft Word.

Dated: February 7, 2025

/ Michael A. Fisher /

Michael A. Fisher, Reg. No. 42,536

DECHERT LLP

*Counsel for Petitioner*

**CHALLENGED CLAIM LISTING**

| <b>Claim 1</b>                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1[Pre]:</b> A system for locally recording locally generated audio as time-referenced local audio data and for substantially simultaneously transmitting audio data to a remote device, the system comprising:                                                                                                           |
| <b>1[A]:</b> a remote receiver, the remote receiver configured to create at least one master timecode and to receive audio data;                                                                                                                                                                                            |
| <b>1[B]:</b> a local audio device capable of communicating with the remote receiver and configured to receive locally generated audio                                                                                                                                                                                       |
| <b>1[C]:</b> the at least one local audio device wearable by a creator of the locally generated audio,                                                                                                                                                                                                                      |
| <b>1[D]:</b> the at least one local audio device including: at least one local memory;                                                                                                                                                                                                                                      |
| <b>1[E]:</b> at least one local transmitter;                                                                                                                                                                                                                                                                                |
| <b>1[F]:</b> at least one local receiver; and                                                                                                                                                                                                                                                                               |
| <b>1[G]:</b> at least one local processing unit, the at least one local processing unit operatively coupled to the at least one local memory, and, optionally, the at least one local transmitter and, optionally, the at least one local receiver                                                                          |
| <b>1[H]:</b> wherein the at least one local memory stores instructions that, when executed by the at least one local processing unit, configures the local audio device to: receive the at least one master timecode from the remote receiver via the at least one local receiver;                                          |
| <b>1[I]:</b> create time-referenced local audio data from the locally generated audio and the at least one master timecode;                                                                                                                                                                                                 |
| <b>1[J]:</b> store the time-referenced local audio data in the at least one local memory; and                                                                                                                                                                                                                               |
| <b>1[K]:</b> wherein the audio data is transmitted to the remote receiver substantially simultaneously with the receiving of the local audio data by the local audio device, the creating of the time-referenced local audio data, or the storing of the time-referenced local audio data in the at least one local memory. |

**Claim 2**

A system according to claim 1, wherein the local audio device is in the form of a body pack.

**Claim 3**

A system according to claim 1, wherein the local audio device is in the form of a body pack typically worn by news announcers and performers.

**Claim 4**

A system according to claim 1, wherein the at least one master timecode includes hour data, minute data, second data, SMPTE timecode, or combinations thereof.

**Claim 5**

A system according to claim 1, wherein the remote receiver is configured to communicate with a recording device.

**Claim 6**

A system according to claim 5, wherein the recording device is a multi-track recorder, a personal computer, a cellular phone, or a camera.

**Claim 7**

A system according to claim 1, wherein the remote receiver is a master timecode generator.

**Claim 9**

A system according to claim 1, wherein the time-referenced local audio data is configured to facilitate synchronization of the time-referenced local audio data and the remotely recorded audio data.

**Claim 10**

A system according to claim 1 further comprising: a remote control unit.

**Claim 12**

A system according to claim 1, the local audio device further comprising: at least one audio input configured to receive the local audio data.

**Claim 13**

**13[Pre]:** A system for locally recording locally generated audio as time-referenced local audio data and for substantially simultaneously transmitting audio data to a remote device, the system comprising:

**13[A]:** a remote receiver, the remote receiver configured to create at least one master timecode and to receive audio data;

**13[B]:** a local audio device capable of communicating with the remote receiver and configured to receive locally generated audio

**13[C]:** the at least one local audio device wearable by a creator of the locally generated audio,

**13[D]:** the at least one local audio device including: at least one local memory;

**13[E]:** at least one local transmitter;

**13[F]:** at least one local receiver; and

**13[G]:** at least one local processing unit, the at least one local processing unit operatively coupled to the at least one local memory, and, optionally, the at least one local transmitter and, optionally, the at least one local receiver,

**13[H]:** wherein the at least one local memory stores instructions that, when executed by the at least one local processing unit, configures the local audio device to: receive the at least one master timecode from the remote receiver via the at least one local receiver;

**13[I]:** synchronize a local timecode with the at least one master timecode;

**13[J]:** create time-referenced local audio data from the at least one local timecode;

**13[K]:** store the time-referenced local audio data in the at least one local memory; and

**13[L]:** wherein the audio data is transmitted to the remote receiver substantially simultaneously with the receiving of the local audio data by the local audio device, the creating of the time-referenced local audio data, or the storing of the time-referenced local audio data in the at least one local memory.

**Claim 14**

A system according to claim 13, wherein the local audio device is in the form of a body pack.

**Claim 15**

A system according to claim 13, wherein the local audio device is in the form of a body pack typically worn by news announcers and performers.

**Claim 16**

A system according to claim 15, wherein the remote control unit is a personal computer.

**Claim 17**

A system according to claim 13, wherein the at least one master timecode and the at least one local timecode include hour data, minute data, second data, SMPTE timecode, or combinations thereof.

**Claim 18**

A system according to claim 13, wherein the remote receiver is configured to communicate with a recording device.

**Claim 19**

A system according to claim 18, wherein the recording device is a multi-track recorder, a personal computer, a cellular phone, or a camera.

**Claim 20**

A system according to claim 13, wherein the remote receiver is a master timecode generator.

**Claim 22**

A system according to claim 13, wherein the time-referenced local audio data is configured to facilitate synchronization of the time-referenced local audio data and the remotely recorded audio data.

**Claim 23**

A system according to claim 13 further comprising: a remote control unit.

**Claim 24**

A system according to claim 23, wherein the remote control unit is a personal computer.

**Claim 26**

A system according to claim 13, the local audio device further comprising: at least one audio input configured to receive the local audio data.

**Claim 27**

A system according to claim 13, wherein the synchronize a local timecode with the at least one master timecode is done by synchronizing a local timecode generator to the master timecode, or synchronizing a local timecode to the master timecode.

**CERTIFICATE OF SERVICE**

I certify that today in:

*RØDE Microphones, LLC., et al. v, Zaxcom, Inc.*, IPR2025-00557 (U.S. Patent 12,051,444)

I caused to be served a copy of:

Petition

Power of Attorney

Exhibits 1001-1007, 1011, 1014-1028, 1030, 1031, and 1037-1040

upon:

ZAXCOM INC., c/o:

Rita Chipperson - [rcc@chippersonlaw.com](mailto:rcc@chippersonlaw.com)

Janice Kwon - [jk@chippersonlaw.com](mailto:jk@chippersonlaw.com)

Morgan Golightly - [mdg@chippersonlaw.com](mailto:mdg@chippersonlaw.com)

Gerard O'Rourke - [gorourke@okorlaw.com](mailto:gorourke@okorlaw.com)

Sean O'Kelly - [sokelly@okorlaw.com](mailto:sokelly@okorlaw.com)

Laura Carrig - [lcarrig@okorlaw.com](mailto:lcarrig@okorlaw.com)

via:

Electronic Mail

Patent Owner agreed to have the above-listed counsel accept electronic service of the Petition on November 20, 2024. *See* 37 CFR § 42.105(b) (“Upon agreement of the parties, service may be made electronically....”).

Dated: February 7, 2025

By: / Michael A. Fisher /  
Michael A. Fisher, Reg. No. 42,536  
Dechert LLP  
Cira Centre  
2929 Arch Street  
Philadelphia, PA19104-2808  
Tel: 215-994-2079  
Fax: 215-655-2279  
michael.fisher@dechert.com