

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RØDE MICROPHONES, LLC AND
FREEDMAN ELECTRONICS PTY LTD,

Petitioners

v.

ZAXCOM, INC.,
Patent Owner.

Case IPR2025-00230
U.S. Patent 7,711,443

Case IPR2025-00231
U.S. Patent 7,929,902

Case IPR2025-00232
U.S. Patent 10,276,207

DECLARATION OF MR. JAMES M. DEFILIPPIS
Exhibit 2015

I. INTRODUCTION

1. I, James M. DeFilippis, have been retained as an independent expert in this inter partes review (IPR) by the Chipperson Law Group, P.C on behalf of Zaxcom, Inc. (“Zaxcom”) to provide opinions and conclusions regarding the unpatentability grounds asserted by RØDE Microphones, LLC and Freedman Electronics Pty Ltd (collectively “Petitioners”).

2. As discussed in further detail in this declaration (“Declaration”), it is my opinion that the Petitions filed by the Petitioners in cases IPR2025-00230, IPR2025-00231, and IPR2025-00232 (the “Freedman/Rode IPR Petitions”) have failed to prove that any of the challenged claims of U.S. Patent Nos. 7,711,443 (the “’443 Patent”), 7,929,902 (the “’902 Patent”), and 10,276,207 (the “’207 Patent”) (collectively, the “Challenged Patents”) are unpatentable. It is further my opinion that the challenged claims are in fact valid over the cited art.

3. This Declaration, including the accompanying exhibits, sets forth my opinions, conclusions, and other matters regarding the Freedman/Rode IPR Petitions and Patent Owner’s Preliminary Responses (“Preliminary Responses”) with respect to the ’902 Patent, the ’443 Patent, and the ’207 Patent.

II. QUALIFICATIONS

4. I am currently President and CGO of TMS Consulting, Inc.,

where I have worked since 2012. For TMS Consulting, Inc., I provide insight to the media and broadcast industry related to new technologies. I am currently active in the development of ATSC 3.0 standards, UHD TV, HDR, file-based workflow, high frame rate capture and production, and next generation audio codecs. I have authored articles in TV Technology discussing impact of new technologies to the TV broadcast industry. I am co-inventor of over 50 patents in the area of multi-primary color displays.

5. Prior to TMS Consulting Inc., I worked for the FOX technology Group from 1997 to 2012 as an Executive Vice President & Principle Engineer for Digital Television Technologies and Standards. I was a senior member of the FOX Technology group responsible for investigating, developing and deploying new technology for the FOX Television Group. I interfaced with senior thought leaders in each business unit to develop an implementation plan for new technologies as well as helped assess the impact to their core businesses. I put together a first-class media laboratory and hired key technologists to provide insights on new media technologies and their impact.

6. I have also worked in the broadcast/media space at various other companies since 1980, as indicated on my curriculum vitae. *See Ex-2016.*

7. I have an extensive background in new technologies for use in the broadcast/media space. My areas of experience include: digital distribution

(SVOD, OTT), mobile video, media file-based workflow, MPEG splicing, digital cable and IPTV standards (SCTE), UHD TV, 4k, HDR, HFR and Wide Color Gamut, Digital Broadcast Standards, live broadcast technology, audio/video production technology, video compression, advanced audio compression, satellite and fiber optic transmission, and media technical standards development. Additional areas of experience and expertise are listed in my curriculum vitae. *See* Ex-2016.

8. I hold two degrees from Columbia University in New York City: (1) a Bachelor of Science degree in Electrical Engineering; and (2) a Master of Science degree in Electrical Engineering. I hold a Professional Engineering License (PE) in New York. *See* Ex-2016.

9. I have achieved Cisco Certifications CCNA Course Part I and Part II and have completed UCLA Extension Courses in Java Programming and Android Programming. I also have an FCC First Class Radio Telephone license. *See* Ex-2016.

10. I am being compensated at the rate of \$350 per hour for my work on this declaration. My fee is not contingent on the outcome of any matter or on any of the technical positions I explain in this declaration.

11. I have no financial interest in Patent Owner or Petitioners.

III. UNDERSTANDING OF LEGAL PRINCIPLES

A. Prior Art

12. It is my understanding that for the claims of a patent to be valid and enforceable, they must be novel and non-obvious in view of any reference or disclosure relevant to the claims of the patent made to the public before the effective filing date of the respective patent application for the invention. It is also my understanding that such references or disclosures made to the public are referred to as “prior art.”

B. Analogous Art

13. It is my understanding that a reference is analogous art to the claimed invention only if it: (i) is from the same field of endeavor; or (2) is reasonably pertinent to the problem faced by the inventor. A reference is not "reasonably pertinent" to the problem unless it logically commended itself to an inventor's attention in considering his or her problem.

C. Standard Of Proof

14. It is my understanding that the party asserting unpatentability bears the burden to prove by a preponderance of the evidence that each challenged claim is unpatentable. It is also my understanding that this burden is met when the asserting party sufficiently shows that the assertion is more probable than not.

D. Person Of Ordinary Skill In The Art

15. It is my understanding that a person of ordinary skill in the art (“POSA”) with regards to the claimed inventions would have at least a bachelor’s degree in electrical engineering or a related or equivalent field, and two to five years of experience working with multi-track audio and wireless communications systems in the professional performance industry. However, additional years of education in the above-referenced fields may compensate for fewer years of experience, and vice versa.

16. It is my opinion that I would have qualified as a POSA at the time of the filing and prosecution of the Challenged Patents. *See* Ex-2016. I further believe that I have an acceptable level of experience, education, and knowledge to act as an expert in the art of the Challenged Patents.

17. My opinions are based on the perspective of a POSA at the time of the filing and prosecution of the Challenged Patents, or somewhat before such a time, consistent with *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005). I was asked to consider the type of problems encountered in the art, prior solutions available for such problems, how quickly innovations are made, the sophistication of the technology, and the educational level of active professionals in the field. Under that context, my opinions as disclosed in this Declaration are based on the materials I have reviewed and considered, as

discussed below. *See infra* § IV.

E. Claim Construction

18. It is my understanding that, absent of extenuating circumstances, patent claims are to be interpreted according to their ordinary and customary meaning, as would have been understood by a POSA and the prosecution history pertaining to the patent. It is also my understanding that sources, including, but not limited to, the words of the claims themselves, the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art, are to be used to determine what would be understood by a POSA.

F. Anticipation

19. Although not alleged in the Freedman/Rode IPR Petitions, it is my understanding that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. It is also my understanding that the identical invention must be shown in as complete detail as is contained in the claim and that there must be no difference between the claimed invention and the reference disclosure, as viewed by a POSA. It is also my understanding that for a claim to be anticipated, a single reference must identify all claim elements in the same

way it is in the claim.

G. Written Description Requirement

20. It is my understanding that when a disclosure describes a claimed invention in a manner that permits a POSA to reasonably conclude that the inventor possessed the claimed invention, the written description requirement is satisfied. It is also my understanding that to satisfy the written description requirement, all that is required is reasonable clarity. It is my understanding that an adequate description may be made in any way, through express, implicit, or even inherent disclosures in the application, including words, structures, figures, diagrams, and/or formulae.

H. Obviousness

21. It is my understanding that the question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; and (3) the level of skill in the art. It is also my understanding that a petitioner seeking to invalidate a patent as obvious must demonstrate that a POSA would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the POSA would have had a reasonable expectation of success in doing so. It is my understanding that the evidence presented in the Petition must also address

every element of every challenged claim. It is also my understanding that the Board has previously warned that failure to identify differences between the cited art and the claims is a basis for denying a petition.

IV. MATERIALS REVIEWED AND CONSIDERED

22. My opinions contained in this declaration are based on information including: (i) the documents and other evidence I have reviewed, including the Freedman/Rode IPR Petitions and all associated exhibits; (ii) Patent Owner's Preliminary Responses and all associated exhibits; (iii) other materials noted in this Declaration; and (iv) my own education, training, experience and knowledge. I may rely on any of these materials, experiences, and knowledge, in addition to the evidence specifically cited as supportive examples in particular sections of this Declaration, as additional support for my opinions.

23. I understand that the '902 Patent, '814 Patent, and U.S. Patent No. 9,336,307, which issued May 10, 2016 (the "'307 Patent"), were previously involved in the following IPRs filed by third party, Lectrosonics, Inc., respectively: *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129 (the "Prior '902 IPR"); *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01130 the "Prior '814 IPR"); and *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-00972 the "Prior '307

IPR”) (collectively, the “Lectrosonics IPRs”).

24. I may also provide testimony: (i) in rebuttal to Petitioners’ positions, including opinions of any of Petitioners’ experts and materials they discuss or rely upon; (ii) based on any Orders from the Board; (iii) based on documents or other discovery that Petitioners have not yet produced or that were produced too late to be considered before my Declaration was due; or (iv) based on witness testimony which has not been given or was given too late to be considered before my Declaration was due. I reserve the right to supplement or amend my opinions as further documentation and information is received.

25. I reserve the right to supplement or amend this Declaration if additional facts and information that affect my opinions become available.

V. BACKGROUND

A. Prior Art Audio Systems

26. It is my understanding that prior art audio systems for the recordation of performance audio included the use of a multi-track audio recorder manually connected to audio input devices, such as microphones. *See* Ex-1001, 1:34-35. In these systems, each performer on a sound stage would be recorded by one or more microphones that are directly wired to the multi-track recorder, which would then combine the single track of audio received from

each microphone to create one multi-track audio file. *See id.* at 1:36-40.

27. It is also my understanding that other prior art systems could include a multi-track audio recorder and an associated audio receiver that could receive audio wirelessly from one or more wireless transmitters. *See id.* at 1:49-51. The audio receiver would receive each performer's audio from the performer's respective body pack via an analog or digital wireless transmission, which would be transmitted to the audio recorder. *See id.* at 1:53-56. All wireless transmissions received from all body packs would then be combined to create one multi-track audio file. *See id.* at 1: 56-58.

28. These prior art systems had problems with wireless transmission errors, such as dropouts, which would result in defective and interrupted audio recordings. *See id.* at 1:59-60. While these prior art systems used redundant receivers to reduce the likelihood of missed audio transmissions, it was ineffective in preventing the loss of data due to a distortion of the received audio signal due to receipt of multiple wireless signals, also known as an interference. *See id.* at 2:1-3. If an interference were to occur during a live performance, audio created during such a performance would be lost, as the receiver would be prevented from receiving a clean audio signal. *See id.* at 2:3-6.

VI. THE SPECIFIC GROUNDS FOR INVALIDITY REGARDING

THE '902 PATENT

A. Claim Construction

1. “locally generated audio” (Claims 1-6, 9-10) and “local audio” (Claims 13, 16-20)

29. I have reviewed the claim constructions proposed by Patent Owner in the Preliminary Responses and agree with them. I agree that a POSA would understand that the claim element “locally generated audio” as recited in Claims 1-6 and 9-10, along with the element “local audio,” as recited Claims 13, 16-20, means “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio.”

30. The '902 Specification is entitled “Virtual Wireless **Multitrack** Recording System” (emphasis added), and it is my understanding that the multitrack capabilities of the systems described therein are described throughout the '902 Specification. *See* Ex-1001, Abstract (“Disclosed are systems and methods for wirelessly recording multi-track audio files without the data corruption or loss of data that typically occurs with wireless data transmission.”).

31. It is my understanding that multitrack recording is a technique that captures multiple audio sources (i.e., the voices of individual performers) independently onto separate tracks instead of mixing them together in real time,

thereby allowing audio engineers to independently edit each track during and after recording. This understanding is consistent with the following definition: “[a] multitrack recording consists of multiple, separate streams of sound without defined locations in a sound field. During a typical music-recording session, **individual instruments or voices will be recorded on separate tracks.**” Ex-2014, pg. 1 (Federal Agencies Digital Guidelines Initiative, Glossary) (emphasis added).

32. It is my opinion that when read in the context of the ’902 Specification, which specifically requires a multitrack recording system, and in the context of the claim language, it is clear that the claim element “locally generated audio,” as recited in Claims 1-6 and 9-10, and the claim element “local audio,” as recited in Claims 13, 16-20, means “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio,” as this definition allows each performer to create his or her own audio track to be subsequently used and independently edited in the resultant multitrack recording. Any definition of these terms that collects a single track of audio that includes all ambient or environmental audio generated by all individuals and/or audio sources being recorded is improper because multitrack recording requires at least two discrete, independent audio

tracks, typically one audio track per audio source (e.g., a performer) and anything less would be inconsistent with the '902 Specification as a whole, which states:

(i) “Disclosed are systems and methods for wirelessly recording **multi-track** audio files without the data corruption or loss of data that typically occurs with wireless data transmission ... each performer is equipped with a local audio device capable of locally recording **the respective performer's audio** while also transmitting it to a master recorder” (Ex-1001, Abstract) (emphasis added);

(ii) “One or more performers may each don a local audio device ... audio from multiple local audio devices may be transmitted to a **multi-track** recorder for recording of the audio event while each local audio device locally records **its performer's audio**” (Ex-1001, 13:47-48, 14:45-48) (emphasis added); and

(iii) “The audio received from each of the local audio devices (e.g., **the local audio device of each performer**) may be combined to create one or more **multi-track** audio files,” Ex-1001, 16:50-53 (emphasis added).

33. It is also my opinion that the language of Claims 1-6 and 9-10 also support this definition by requiring “at least one local audio device wearable by a creator of said locally generated audio.” Ex-1001, 23:40-41, 23:55-56. In other words, the person wearing the local audio device is the creator of the locally generated audio. Likewise, Claims 17-20 require “locally recording said **local audio** as local audio data ... wherein said local audio data of **each of said performers** is retrieved from said local audio devices subsequent to said audio event and is combined to create a single **multi-track** audio file.” Ex-1001, 27:11, 27:15-18 (emphasis added). It is my opinion that the creation of a multi-track file can only happen when independent tracks of each of the individual voices of the audio event exist.

34. Furthermore, it is my opinion that Claims 3-4, 8-9, 14-15, and 18-19 support this definition of local audio and locally generated audio by enumerating “adding said performer identifier to at least a portion of said local audio data,” and “deleting said performer identifier from at least a portion of said local audio data.” Ex-1001, 24:14-17, 24:38-41, 25:30-33, 25:53-56, 26:48-51, 26:66-27:2, 28:11-14, 28:29-32. The '902 Specification also indicates that “**performer identifiers** ... may be decoded from the audio data to allow the file manipulator to more quickly and easily manipulate the audio data” (emphasis

added). Ex-1001, 13:16-20.

35. As such, it is my opinion that the locally generated audio is primarily the audio of the performer wearing the local audio device through the use of the “at least one audio input port for receiving locally generated audio from an audio input device” that is typically close miked to the performer to capture only, or primarily, the audio of the performer wearing the local audio device so that this audio may be its own independent track of the multi-track audio file.

2. “local audio device wearable by a creator of said locally generated audio” (Claims 1-6, 9-10)

36. I agree that a POSA would understand the claim element “local audio device wearable by a creator of said locally generated audio,” as recited in Claims 1-6 and 9-10, means “a local audio device suitable to be worn by the performer who creates the audio that is recorded by that performer’s local audio device.” It is my opinion that a POSA at the time of the invention reading this claim term would understand that this definition must be consistent with the purpose of the ’902 Patent, which is a “[v]irtual wireless **multitrack** recording system.” Ex-1001, Title (emphasis added). A POSA would understand that any claim construction inconsistent with multitracking is inconsistent with the ’902 Specification as a whole.

37. While the '902 Specification does not explicitly state the term, “wearable,” the '902 Specification nevertheless supports this definition. The '902 Specification includes the term “worn,” and states that local audio devices “are worn by the performers of the audio event.” Ex-1001, 10:40-41. Further, the '902 Specification states, “[d]isclosed are systems and methods for wirelessly recording multi-track audio files ...each performer is equipped with a local audio device capable of locally recording the respective performer's audio.” Ex-1001, Abstract. It also states, “allowing a wireless recorder 108 ... to accurately combine multiple independent tracks of audio, wherein each independent track of audio is received from one of the performer's local audio device 102.” Ex-1001, 11:46-50. Claims 1-6 and 9-10 also require that the local audio device includes “at least one audio input port for receiving locally generated audio from an audio input device,” whereby the audio input device is described as, e.g., a microphone, and that the audio input device port is any commercially available audio input device port that is compatible with the audio input device. Ex-1001, 23:45-46, 24:60-61, 6:47-51. That is, the performer is equipped with a microphone that connects to an input port of the local audio device such that the local audio device captures the audio of the specific performer wearing the local audio device. “[L]ocal control unit 310 receives recordable audio from local audio input device 312, which may be worn by the

performer and connects to local audio device 102 at local audio input device port 314.” Ex-1001, 10:7-10. In view of such disclosures, it is my opinion that the ’902 Specification supports this definition of the claim element.

38. The ’902 Patent is a continuation in part of application No. 11/181,062, which was filed on July 14, 2005, and issued as Patent No. 7,711,443 (the ’443 Patent). My review of the prosecution history of the ’443 Patent makes it clear that “wearable” means “suitable to be worn by the performer” and excludes devices that are merely portable or able to be carried in a backpack. In the ’443 Patent’s Notice of Allowance, Examiner Elbin included a statement of reasons for allowance that distinguished between “portable” and “wearable”: “the closest prior art of record (Nagra-V) teaches a **portable** audio recorder ... The prior art fails to teach or suggest ... wherein the device is **‘wearable** by a creator of said locally generated audio.’” Ex-2017, pg. 2. The Nagra-V is portable, having dimensions of 11.4” x 8.6” x 4.5” with a weight of approximately 7.6 to 9 pounds, and sold with a soft carrying case NV-SCC. *See* Ex-2018, pg. 2. As such, it is my opinion that while the Nagra-V is fully capable of being carried in a backpack, the Examiner understood that the Nagra-V is not “wearable.”

3. “at least a portion of said local audio data ... is combined with said remote audio data” (Claims 13, 16) and “said local audio data for each of said performers is retrieved from said local audio devices and is combined to create a single multi-track audio file” (Claims 17-20)

39. I agree that a POSA would understand the claim element “at least a portion of said local audio data . . . is combined with said remote audio data,” (the “Local/Remote Combination Claim Term”), as recited in Claims 13 and 16-20, means “combining local audio data and remotely recorded/remote audio data to replace data lost due to a transmission error, where the local audio data is obtained from the local audio device of the performer that created and originally recorded the local audio data that is replacing the remotely recorded/remote audio data.”

40. That is, Zaxcom’s proposed definition should be construed to require that: 1) it be limited to dropout repair and not multitrack creation (as discussed below); and 2) dropout repair is performed using the local audio data of the same performer whose local audio was lost during transmission of the audio to the remote recorder.

41. Conversely, “said local audio data for each of said performers is retrieved from said local audio devices and is combined to create a single multi-track audio file” (the “Local/Local Combination Claim Term”) means “local audio data from each local audio device is combined with the local audio data of

other local audio devices to create a single multi-track data file.” It is my opinion that this term always refers to multitrack creation and is never used to refer to dropout repair.

42. Regarding requirement 1 of the Local/Remote Combination Claim Term, in the Lectrosonics IPR, the term “local audio data ... is combined with said remote audio data” was construed to encompass two embodiments, namely, “an embodiment of repairing a dropout (i.e., a loss of audio data during a wireless transmission is remedied through the replacement of data)” (the “Dropout Repair Embodiment”) and a “multi-track embodiment” “where separate audio tracks are combined to form a multitrack audio file.” (the “Multitrack Creation Embodiment”) *See* Ex-1017, pp. 9-10. However, it is my understanding that this construction is not binding on Zaxcom, nor is Zaxcom collaterally estopped from making arguments in contradiction of this construction. It is my opinion that the “at least a portion of said local audio data ... is combined with said remote audio data” is properly construed as being limited solely to the Dropout Repair Embodiment. The Local/Remote Combination Claim Term can never cover a Multitrack Creation Embodiment because multitrack creation requires the combination of local audio data with local audio data or local audio with local audio, and the '902 Specification makes clear, and a POSA would understand that, a multitrack file is never

created by combining local audio data with remote audio data because this type of combination has no practical purpose other than dropout repair.

43. It is my understanding that recorded/remote audio data is local audio or locally generated audio that is wirelessly received and recorded at a remote receiver/recorder as individual audio tracks and as a remote multi-track audio file. *See* Ex-1001, 16:46-58. That is, remotely recorded/remote audio data and a remote multi-track audio file never exist unless and until local audio or locally generated audio is received and recorded by a local audio device, and transmitted to, and recorded by, the remote receiver/recorder, which records each received file as an individual file and as part of a remote multi-track audio file. Ex-1001, 10:34-40. The remote receiver/recorder creates a multi-track file by combining the local audio or locally generated audio (not the local audio data) received from each performer (i.e., “Remote Multitrack Creation”). *See* Ex-1001, 11:45-50.

44. The '902 Specification also describes another method of creating a multi-track file in which the local audio data of each performer is removed from the local audio device and placed into a device such as multi-memory unit 800 to combine each performer's local audio data with the local audio data of other performers. *See* Ex-1001, 19:9-17. (“Local Multitrack Creation”). This Local Multitrack Creation is exactly what is referred to with the Local/Local

Combination Claim Term. In a Local Multitrack Creation version of the Multitrack Creation Embodiment, there is no “remote audio data” because the multi-track file is created by, for example, a multi-memory unit instead of a remote receiver/recorder. Because there is no “remote audio data,” there can be no combination of “local audio data” with “remote audio data” as required by the Local/Remote Combination Claim Term.

45. It is my understanding that Remote Multitrack Creation and Local Multitrack Creation are the only methods of multitrack creation taught by the ’902 Specification, and neither involves the combination of “local audio data” and “remote audio data.”

46. Not only does the ’902 Specification not disclose a method of creating a multitrack audio file by combining local audio data with remote audio data, but there is also no practical purpose to make such a combination and no POSA would ever do so. Since the remotely recorded/remote audio data and local audio data are both recordings of the exact same audio (i.e., local audio or locally generated audio), there is no reason to combine them, not unless the remote audio data has been damaged due to a dropout or wireless transmission error (i.e., a Dropout Embodiment). Common sense requires an understanding that there is no practical purpose or benefit obtained by combining identical audio data. The ’902 Specification does not describe a combination of “local

audio data” and “remote audio data” for any reason other than the repair or replacement of “remote audio data” that is lost or damaged due to, e.g., a wireless transmission error using “local audio data.” For at least these reasons, combining local audio data with remote audio data is never performed to create a multitrack audio file, and the Local/Remote Combination Claim Term should be construed as limited to a Dropout Embodiment only.

47. Regarding the second half of Zaxcom’s proposed claim construction for the Local/Remote Combination Claim Term, the local audio data used to repair the remotely recorded/remote audio data must be obtained from the local audio device of the performer that created and originally recorded the local audio data. The ’902 Specification makes it clear that the systems and methods therein are intended for use with multitrack receivers and recorders and multitrack systems generally. *See* Ex-1001, Title, Abstract, 12:27-28, 13:18-21, 15:50-53. Multitrack recording requires an independent track for each performer, which independent tracks can be independently edited and manipulated prior to or after inclusion in the multitrack file, which is a combination of all of the independent tracks. My understanding of the ’902 Specification informs me that an independent track of a respective performer’s audio can only be repaired with the local audio data recorded by the respective performer. *See* Ex-1001, 13:4-10 (“memories 332 may be removed from each

local audio device 102 such that locally recorded data may be retrieved and used to repair the corruption of the audio file). Embodiments and any construction of this claim term in which a recorder records all audio is combined from two or more recorders, who records all audio from an event on a single track of mixed audio that does not include individual, isolated tracks of audio per performer/audio source (e.g., speakers or performers) defeats the purpose of the multitrack recording as defined in the '902 Specification. A recording including all the audio of an event eliminates the ability of an audio engineer to independently edit each audio source, which is the essence of a multitrack system. *See* Ex-1001, 11:46-50 (“allowing a wireless recorder 108, or a wireless recorder/receiver combination, to accurately combine multiple independent tracks of audio, wherein each independent track of audio is received from one of the performer's local audio device 102.”).

48. It is my understanding that under the correct construction, a technology is within the claim scope when that which is combined comes from the same audio source, i.e., the same “performer” who generates audio and whose local audio device locally records this generated audio. It is also my understanding that a technology is outside the claim scope when that which is combined comes from different sources. In view of this, it is my opinion that the structure and grammar of the claim itself mandates Zaxcom’s “same source”

construction. Furthermore, it is my opinion that the claim language itself provides the context in which a claim term is used.

4. “master timecode generator” (Claims 1-3, 6, 9-10) and “master timecodes” (Claims 1-3, 6, 9-10, 13, 17-20)

49. I agree that a POSA would understand the claim element “master timecode generator,” as recited in Claims 1-3, 6, and 9-10, to mean “a producer of a master time reference signal that controls at least one other timecode generator.” Furthermore, I agree that a POSA would understand the claim element “master timecodes,” as recited in Claims 1-3, 6, 9-10, 13, and 17-20, to mean “a time reference signal used to synchronize at least one device.”

50. It is my opinion that this proposed construction is consistent with the meaning of the claim element itself. The claim term “master” means “[one] that has control over another or others.” Ex-2019, pg. 3 (The American Heritage Dictionary, Third Edition, Houghton Mifflin Company, 1993). Also, the plain meaning of these claim elements is confirmed by the ’902 Specification, which states “FIG. 5 depicts a process for modifying the speed of a local timecode generator as necessary to maintain its synchronization with a master timecode generator.” Ex-1001, 3:53-55. The end of the description of Figure 5’s process in the ’902 Specification also states “[i]n this manner, the speed of the local timecode generator and the sample rate of the ADC are increased to maintain

synchronization with the master timecode generator.” Ex-1001, 15:26-29.

Figure 6 describes the master timecode generator’s use of a master timecode, or time reference signal used to synchronize at least one device: “[a]t 604, a master unit ... transmits master timecodes to each local audio device, and ... each local audio device synchronizes (e.g., jam syncs) its respective on board local timecode generator with the master timecodes received from the master unit, thereby synchronizing all local audio device timecode generators with the master timecode generator.” Ex-1001, 16:30-37. That is, the master timecode generator actually controls the speed of the local timecode generator to ensure the two timecode generators are synchronized. The ’902 Specification further explains that the master timecodes synchronize the audio data recorded at various components of a recording system:

- (i) “Since the local audio device and recorder timestamps are synchronized, the replayed audio may be inserted in the proper time sequence with respect to the other recorded audio samples based upon the synchronized timestamp data. Synchronization is essential to ensure that each performer's audio is synchronized with all other performers’ audio and to ensure that the newly recorded replayed audio is in the correct sequence with respect to the

previously recorded live audio,” (Ex-1001, 5:7-14);

(ii) “When recording system 100 is operating in a synchronous mode, transmission of the master time reference signal ensures that all of the components of recording system 100 store all locally recorded audio with timestamps that are highly accurate as compared to the timestamps of all other local audio devices 102 and/or all other components of recording system 100. The timestamps are then used ... to ensure that the replayed audio from all local audio devices 102 is synchronized with previously recorded audio and with the audio replayed by all other local audio devices 102,” (Ex-1001, 6:27-37);

(vi) “[A] portion of the received data may be used to synchronize local timecode generator 304 to the master time code generator integral to one of the components of recording system 100 (e.g., RCU 104, recorder 108, etc.),” (Ex-1001, 10:57-60);

(v) “At 410, the local control unit reads the master timecode contained in the RX buffer and jam synchronizes the local timecode generator with the master timecode. The jam sync synchronizes the local audio device with the RCU while allowing

the local audio device to supply its own timecode. Local supply of synchronized timecodes ensures proper timing during periods in which the master timecodes cannot be read,” (Ex-1001, 14:9-16); and

(vi) “At 604, a master unit ... transmits master timecodes to each local audio device, and ... each local audio device synchronizes (e.g., jam syncs) its respective on board local timecode generator with the master timecodes received from the master unit, thereby synchronizing all local audio device timecode generators with the master timecode generator,” (Ex-1001, 16:30-37).

51. Accordingly, both the claim language itself and the '902 Specification support Zaxcom's proposed construction.

5. “multi-track audio file” (Claims 17-20)

52. I agree that a POSA would understand the claim element, “multi-track audio file,” as recited in Claims 17-20, means “a data file consisting of multiple, separate streams of sound with individual instruments or voices recorded on separate tracks.”

53. It is my opinion that a POSA would have known at the time of filing of the '902 Patent that multitrack recording is a recording that “consists of

multiple, separate streams of sound . . . individual instruments or voices will be recorded on separate tracks.” *See* Ex-2014, pg. 1.

54. The plain language of Claims 17-20 further supports this definition. Claim 17, which Claims 18-20 are dependent upon, state that the “local audio data for **each of said performers** is retrieved from said local audio devices subsequent to said audio event and **is combined to create a single multi-track audio file.**” Ex-1001, 27:15-18 (emphasis added). That is, the locally generated audio created by each performer and locally recorded by each respective local audio device is subsequently combined to create an audio file consisting of multiple, separate streams of sound as recorded by each local audio device of each performer.

55. It is also my opinion that the plain meaning of this claim element is also confirmed by the ’902 Specification, which explains that “[t]he audio received **from each of the local audio devices** (e.g., the local audio device of **each performer**) may be **combined to create one or more multi-track audio files.**” Ex-1001, 16:50-53 (emphasis added). The ’902 Specification also explains that “audio from multiple local audio devices may be transmitted to a **multi-track** recorder for recording of the audio event while each local 20 audio device locally records **its performer’s audio.**” Ex-1001, 14:45-58(emphasis

added).

56. It is my opinion that a POSA at the time of the invention reading this claim term in the context of the entire patent disclosure would understand that the definition must be consistent with the purpose of the '902 Patent, which is a “[v]irtual wireless **multitrack** recording system.” Ex-1001, Title (emphasis added). Any claim construction inconsistent with multitracking is inconsistent with the '902 Specification as a whole.

B. Petitioners Did Not Show That Any Of The Challenged Claims of the '902 Patent Would Have Been Obvious

57. It is my opinion that none of the challenged claims of the '902 Patent would have been obvious with respect to any of the proposed grounds of rejection set forth by Petitioners for at least the reasons set for below.

1. Petitioner Fails to Demonstrate That the Combination of Strub, Woo, Nagai, Gleissner, and Jones Renders Claims 1-6, 9-10, 13, 16 Obvious under § 103 (Petitioners' Grounds 1 and 2)

58. It my opinion that the combination of Strub, Woo, Nagai, Gleissner, and Jones does not teach Element 1[Pre], namely “[a] system for recording locally generated audio,” as required by Claims 1-6 and 9-10, nor does the combination teach Element 1[F], namely “at least one control unit electrically coupled to said local audio device receiver, said audio input device,

and said memory for creating local audio data from said locally generated audio and storing said local audio data in said memory,” as required by Claims 1-6.

59. As previously discussed, “locally generated audio,” is “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio” as is required for incorporation of such “locally generated audio” in a multitrack system such as described in the ’902 Specification. *Supra* § VI.A.1. The locally generated audio is primarily the audio of the performer wearing the local audio device through the use of the “at least one audio input port for receiving locally generated audio from an audio input device” that is typically close miked to the performer to capture only, or primarily, the audio of the performer wearing the local audio device so that this audio may be its own independent track of the multi-track audio file. *See* Ex-1001, Abstract, 12:27-28, 13:18-21, 15:50-53.

60. However, Strub and Woo teach the exact opposite of “locally generated audio,” as the audio of Strub and Woo would be best described as locally “received” or “heard” by a recorder (i.e., the person in Strub who records the audio) – not audio generated, or created, by the recorder. Ex-1003, 22:16-33 (describing the recordation of sound to be for sound coming from in front of the recorder). That is, the audio recorded by Strub’s recording units

105-108, 200, and 300, and Woo's recorders 14 is the sound heard by the recorder 14 from varying perspectives, which is a single track of mixed audio without individual, isolated tracks of local audio per performer/audio source. This received, "heard" audio is not suitable for multi-track recording because it does not include individual, isolated tracks of audio per performer that can be independently edited.

61. Strub's specification repeatedly discloses the receipt of audio by a recorder, rather than generation of audio by a performer:

(i) "It is believed preferable to bias the audio recording in favor of recording sound from in front of the recorder for several reasons: i) a person or persons with whom a recorder is having a conversation will typically be in front of the recorder; ii) a recorder will typically face the parties participating in a conversation that does not include, but is of interest to, the recorder; iii) a recorder will often face the source of other sounds in which the recorder has an interest; and iv) conversations that occur behind a recorder are typically either conversations which the recorder does not want to hear or are conversations which the parties to the conversation may not intend the recorder to hear," (Ex-1003, 20:21-32);

(ii) “Mounting at or just above chest level also enables the audio data acquisition device to pick up spatial imaging of the audio that is similar to that which is experienced by the recorder's ears (e.g., sound wave reflections from the recorder's chest),” (Ex-1003, 22:59-63); and

(iii) “The use of a directional microphone as described above has been found to enhance the ability to record the voices of other people, particularly when those people are relatively distant from the recorder,” (Ex-1003, 23:8-11).

62. Similarly, Woo does not disclose Elements 1[Pre] and 1[F], namely “locally generated audio,” because it does not teach “audio **created** by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio.” Rather, a recorder 14 who is not generating the audio, but is purported wearing the local audio device, is recording the audio generated by another entity, i.e., performer 12. This is consistent with the teachings of the specification of Woo, which states, “[t]he system 10 is used to record the live performance of a performer 12, e.g., a singer or actor. A recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own

vantage point.” Ex-1004, 5:1-5.

63. It is also my opinion that the combined event audio received by a Strub audio data acquisition device or Woo recorder cannot be used in a multitrack system as described in, and required by, the '902 Specification because it does not allow each performer to be recorded on his or her own individual, dedicated track. Neither Strub nor Woo discloses any form of independently recording an individual voice, nor does it disclose multi-track recording or a method of creating a multi-track audio file. As such, because neither Strub nor Woo disclose Element 1[Pre] of Claims 1-6 and 9-10 or Element 1[F] of Claims 1-6, and Petitioners do not assert that these elements are shown by its other cited references (Nagai, Gleissner, or Jones), Petitioners have failed to show that there is a reasonable likelihood that at least one of Claims 1-6 and 9-10 of the '902 Patent is unpatentable.

2. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, Gleissner, and Jones Teaches Element 1[B] (Claims 1-6 and 9-10).

64. It my opinion that the combination of Strub, Woo, Nagai, Gleissner and Jones do not teach Element 1[B], namely “a local audio device wearable by a creator of locally generated audio,” as required by Claims 1-6 and 9-10. Rather, in addition to not defining Element 1[B], it is my understanding that Petitioners failed to state any proof in support of their assertion that a Strub

recording unit having the features of Claims 1-6 and 9-10, which include a receiver, is wearable.

65. Strub discloses many variations of recording units – some with only basic recording capabilities (“Basic Strub Recording Unit”) and some with transmitter/receiver capabilities (“Advanced Strub Recording Unit”). It is my opinion that the Strub recording units shown in Fig. 1 of the specification of Strub does not include all of the components necessary to meet all of the elements of Claims 1-6 and 9-10. To the contrary, the support cited in the Petition for Strub’s wearability actually shows the opposite – that a Strub recording unit having all of the features required by Claims 1-6 and 9-10 would not be “wearable” but rather, might be “easily carried by the recorder.” Ex-1003, 66:32.

66. Strub’s recording units 105-108 are only described as Basic Strub Recording Units without any mention of an ability to transmit or receive data. Ex-1003, 8:13-29. Furthermore, Strub’s recording unit 200, as shown in Fig. 2 of the Strub specification, depicts a standard Strub recording unit capable of recording an event with no transmitter or receiver capabilities, thereby disclosing a Basic Strub Recording Unit. As seen in Fig. 2, recording unit 200 includes only system controller 201, data acquisition device 202, data storage

device 203, and control interface device 204 with no receiver or transmitter. Ex-1003, Fig. 2. In contrast, recording unit 300 includes the same components as recording unit 200 except that data acquisition device 202 morphs into two devices (video data acquisition device 302 and audio data acquisition device 303) and additional features are added including, but not limited to, transmitter 309, receiver 310, audio recording display device 307, and video recording display device 306. Ex-1003, 11:48-50, 12:13-16. As such, it is my understanding that recording unit 300 is an Advanced Strub Recording Unit. However, it is my opinion that nothing in the Strub specification indicates that recording unit 300 with these additional features is wearable.

67. In their invalidity analysis of Claim 1, Petitioners repeatedly equate the local audio device of Claim 1 to Strub's recording unit 300, presumably because this recording unit includes a receiver which is a required component of the local audio device of Claims 1-6, 9, and 10. *See inter alia* Petition, pp. 32-33; *see also* Ex-1001, 23:42. In analyzing Element 1[B], Petitioners only refer to Fig. 1 to prove wearability and assert that "Strub discloses at least one audio device—e.g., one of recording units 105-108, **200**, **and 300**—which are worn by a plurality of users as depicted in Ex-1003, **Fig. 1.**" Petition, pg. 32 (emphasis added). It is my opinion that this statement is

incorrect – the only recording units shown in Fig. 1 are recording units 105-108 – recording units 200 and 300 are NOT shown in Fig. 1. Fig. 1 does not support the notion of the wearability of Strub’s recording unit 300. The recording units 105-108 shown in Fig. 1 seem to have the limited capability of recording an event without any ability to receive or transmit data in any form. *See* Ex-1003, 8:10-29. As such, it is my opinion that Petitioners have failed to plead that Strub shows a recording unit that includes a receiver (as required by Claim 1) that is wearable.

68. Petitioners also cite the following other support for wearability: 4:21-31 (“a small, lightweight, wearable recording unit”), 14:59-15:11, 16:66-17:24, 38:65-39:11, 66:33-51, 67:54-68:10, 72:9-19. *See* Petition, pg. 32. However, it is my opinion that none of these citations support wearability of a Strub recording unit that meets all of the elements of the local audio device of Claim 1 (including the presence of a receiver).

69. For example, Strub at 4:21-31 refers to a recording unit that is capable of recording but makes no mention of an integral receiver and is therefore wholly inapplicable to wearability of a device that includes a receiver.

70. Similarly, it is my opinion that Strub at 14:59-15:11 and 16:66-17:24 of Strub discusses only that the visual acquisition device, and not the

recording unit as a whole, can be worn by the user, and these sections of Strub actually prove that the visual acquisition device portion of a Strub recording unit is not inherently wearable because it must be attached to a “wearable apparatus” such as a “helmet, headband, or head harness ... that is worn by the recorder” or “mating Velcro™ strips (or other suitable means of detachable attachment) can be used to attach the visual data acquisition device at various locations on headgear, and armband, a legband, or other wearable apparatus.” Ex-1003, 17:24. In other words, the “wearable apparatus” is wearable, but the visual data acquisition device is not, thereby necessitating its attachment to a “wearable apparatus.”

71. Strub at 38:65-39:11 only pertains to wearability of an “audio communication device” – not a recording unit, and such “audio communication devices” are never discussed elsewhere in the Petition. While 66:33-51 of the Strub specification does relate to wearability of a recording unit, it is my opinion that this portion of the specification only describes a bare bones recording unit 200 as it describes a “data acquisition device” which is only available in the basic Strub recording unit (e.g., recording unit 200). This is in contrast to the advanced Strub recording unit 300 (which has a receiver) that includes a video data acquisition device 302 and audio data acquisition device

303 rather than a data acquisition device such as data acquisition device 202.

See Ex-1003, Figs. 2 and 3, 66:33-51. Furthermore, the first paragraph in this section 10 entitled “Packaging of Recording Unit Components” further indicates that even a Basic Strub Recording Unit without a receiver may not be wearable.

Ex-1003, 66:27-32 (“[i]t is desirable to “package” the recording unit components in any manner that achieves some or all of the desired characteristics of a recording unit according to the invention, e.g., small size, low weight, unobtrusiveness, and capability of being mounted on a recorder (**or, at least, capability of being easily carried by the recorder**).” (emphasis added)). In other words, even the Strub specification questions whether a Basic Strub Recording Unit without a receiver is actually wearable.

72. The Strub Specification at 67:54-68:10 and 72:9-19 again refer to the wearability of a Basic Strub Recording Unit, recording unit 700, having only a data acquisition unit 701, a control interface unit 702, and a data storage and system control unit 703. Ex-1003, 68:11-14. Again, this is inapplicable to the wearability of a recording unit having a receiver and other features required by Claim 1. Accordingly, Petitioners have failed to plead any facts to show that Strub discloses a wearable device having all of the features required by Claim 1.

73. It is my opinion that Strub teaches the opposite of wearability.

Strub states that “Fig. 6 illustrates a recording unit according to the invention. Most of the components of the recording unit are enclosed within a backpack 601” and “a recording unit as shown in Fig. 6 ... weighs about 24 pounds.” Ex-1003, 67:30-33, 45-47. If Strub’s recording unit was “wearable,” it would not require a backpack to attach it to a recorder’s body. The Strub recording unit is not worn – it is carried within a backpack. One might send their child to school with a sandwich in the child’s backpack – this does not make the sandwich wearable. As previously discussed, a proper claim construction of Element 1[B] excludes portable devices. *See supra* § VI.A.2.

74. Furthermore, it is my opinion that neither Strub nor Woo discloses a local audio device that is “**suitable to be worn** by the performer who creates the audio that is recorded by that performer’s local audio device,” as required by the correct construction of Element 1[B]. *See supra* § VI.A.2 (emphasis added). The local audio device of the ’902 Patent are part of the recording system that “wirelessly records audio events such as performances, movie takes, etc.” Ex-1001, 4:12-13. The local audio devices of the ’902 Patent are described as “wireless transmitters [that] may take the form of body packs that are worn by each performer.” Ex-1001, 4:12-14, 1:51-52. However, Strub does not disclose a local audio device “suitable to be worn by” performers, as

the Strub recording unit is much too large, visible, and imposing to be worn by performers.

75. The use of the Strub recording unit to “facilitate later reminiscence,” does not require the same portability and discreteness as a device used for audio events in a professional context, such as those including performances or movie takes. *See* Ex-1001, 4:12-14 (“Recording system 100 wirelessly records audio events, such as **performances, movie takes**, etc. having one or more **performers**.”) (emphasis added). The professional context for which the local audio device of the ’902 Patent is used requires such audio devices to be of a size and shape that can be worn by performers having various strength levels without distracting the audience from the visual performance associated with such audio events. It is my opinion the Strub Recording Units prohibit such an application due to their unwieldy weight and shape. For example, the recording unit of Strub is described as a “recording unit [that] weighs about 24 pounds.” Ex-1003, 67:45-47. The description of this recording unit makes no reference to a receiver, as required by Claim 1. *See* Ex-1001, 23:42. A Strub recording unit having all of the features of the challenged claims of the ’902 Patent is likely to exceed 24 pounds.

76. While one might carry in excess of 24 pounds for recreational

filming, performers (e.g., those performing in motion pictures, concerts, news reporting, opera, etc.) are unable to carry such a weight while delivering such a performance, particularly without disturbing their hair, makeup, and costumes. I believe that the backpack embodiment of the Strub recording unit would impair the visual aspects of the performance of the performer by way of their bulky nature. Additionally, a 24-pound backpack, as described by Strub, is likely to create various noises due to friction between the backpack and performer or the performer's clothing, which would be picked up by the performer's microphone and local audio device and degrade the quality of the locally recorded audio or local audio and render it unusable for performance audio. Furthermore, if the performer requires a change of clothing or costume during a performance, the act of removing the backpack and putting it back on would be a hindrance.

77. Even in smaller configurations of the recording unit of Strub, depicted as a headband (Fig. 4) or a sling bag (Fig. 9A), it is my opinion that such "wearable" recording units are far too large and bulky to be discreetly used in professional performances without visually distracting the audience during such performances. In stark contrast, the size and shape of the audio devices of the '902 Patent may be "manufactured in the form of body-packs, such as those typically worn by news announcers, performers, and the like." Ex-1001, 8:65-

67. As both the visual and audio representation of the news announcers, performers, and the like are important to the recordation of the associated recorded events, it is my opinion that it would be counterintuitive to use the backpacks, headbands, or sling bags of Strub to record events.

78. It is my opinion that the discrete size and portability of the local audio device of the '902 Patent is crucial to its functionality as a device which records audio of “a local audio device suitable to be worn by the performer who creates the audio that is recorded by that performer’s local audio device.” *See supra* § VI.A.2. Whereas the local audio device in the '902 Specification records the audio created by the performer who is wearing the local audio device that records the audio, the recorders of Strub and Woo do not – rather, the Strub recorder records audio the recorder hears, i.e., audio created by everyone or everything in front of the recorder, and the Woo recorder records the event including its performers. *See supra* § VI.B.1.

79. As previously stated, it is my opinion that the claim element “local audio device wearable by a creator of said locally generated audio,” as recited in Claims 1-6 and 9-10 means “a local audio device suitable to be worn by the performer who creates the audio that is recorded by that performer’s local audio device.” Such a definition of this claim term is essential to allow the

systems and methods disclosed by the '902 Specification to operate as multi-track systems as also required by the '902 Specification which require individual, isolated tracks of audio for each source of audio (e.g., performers) for the reasons described above. *Supra* § VI.A.1-2. Neither Strub nor Woo makes such disclosures, as neither reference discloses a local audio device worn by the specific performer who creates locally generated audio, nor does Strub or Woo make reference to multi-track recording at all, or the creation of independent soundtracks for the audio created by each performer for use in a multi-track recording. *See* Ex-1003; *see also* Ex-1004.

80. It is my understanding that the local audio device in the '902 Specification records the audio created by the performer who is wearing the local audio device that records the audio. However, the recorder of Strub does not – rather, the Strub recorder records the audio the recorder hears, i.e., audio created by everyone or everything in front of the recorder. Ex-1003, 22:21-32. *See* Ex-1003, 8:8-16. (“Each of the recording units 105, 106, 107 and 108 ... enables the corresponding participant (recorder) to obtain a recording of the event.”).

81. That is, rather than the recorder generating the local audio that will be recorded by the Strub recording unit, the Strub recording unit records the

audio of those interacting with the recorder. This is illustrated by the Strub specification, which teaches how and why a recorder is to position the recording unit to face the source(s) of audio instead of attempting to capture audio generated by the recorder. Strub discloses the following:

“[i]t is believed preferable to bias the audio recording in favor of recording sound from in front of the recorder for several reasons: i) a person or persons with whom a recorder is having a conversation will typically be in front of the recorder; ii) a recorder will typically face the parties participating in a conversation that does not include, but is of interest to, the recorder; iii) a recorder will often face the source of other sounds in which the recorder has an interest; and iv) conversations that occur behind a recorder are typically either conversations which the recorder does not want to hear or are conversations which the parties to the conversation may not intend the recorder to hear.”

Ex-1003, 22:21-32.

82. As such, it is my understanding that the Strub recording unit records the audio of an event, which includes one recording of the mixed audio of multiple sources located in front of the Strub recording unit. This method of

recording negates the ability to create a multitrack recording because there are no independent tracks of each source of audio that may be independently manipulated during the creation of a multi-track audio file. As such, Strub does not disclose a “local audio device wearable by a creator of said locally generated audio” as required by Claim 1, as Strub does not disclose a local audio device suitable to be worn by the performer who creates the audio that is recorded by that performer’s local audio device.

83. Accordingly, it is my opinion that the claim element of “local audio device wearable by a creator of said locally generated audio” are wholly absent from Strub and Woo. Furthermore, no assertions have been made that Woo is wearable, nor has any support been provided by Petitioners that would show that the invention of Woo is wearable. As such, because neither Strub nor Woo disclose Element 1[B] of Claims 1-6 and 9-10, and Petitioners do not assert that these elements are shown by its other cited references (Nagai, Gleissner, or Jones), it is my opinion that Petitioners have failed to show that there is a reasonable likelihood that at least one of Claims 1-6 and 9-10 of the ’902 Patent is unpatentable.

3. Petitioners Fail to Demonstrate That the Combination of Strub, Woo, Nagai, Gleissner, and Jones Does Not Teach “a master timecode generator” (Claims 1-6 and 9-10) or “a plurality of master timecodes” (Claims 1-6, 9-10, and 13.

84. It is my opinion that neither Strub nor Woo discloses a system that includes Element 1[A], namely, “at least one master timecode generator for generating a plurality of master timecodes.”

85. The “master timecode generator” of the claims should be construed as “a producer of a master time reference signal that controls at least one other timecode generator,” and the claim element “master timecodes” should be construed as “a time reference signal used to synchronize at least one device.” *Supra* § VI.A.4.

86. Petitioners claim that the “master timecode generator” is a “GPS satellite or SMPTE timecode source. Ex-1003, 62:53-54, 63:50-60; 79:63-80:7, 75:25-57 (“SMPTE time code input”), 63:50-60.” Petition, pg. 31. Petitioners also state that “Strub also discloses synchronizing an internal clock with GPS or SMPTE timecodes (‘master timecodes’),” but provides no citation for this assertion.

87. None of these Strub citations disclose “a producer of a master time reference signal that controls at least one other timecode generator.” Rather, the specification of Strub at 62:53-54 states “[f]or example, when the

position sensing device is a GPS receiver, as described further below,” which seems to have no bearing on the 1[A] claim construction. The Strub specification at 63:50-60, which is listed twice, states:

Though the recording unit must not be constantly blocked from GPS satellites in order for the recording unit to receive such time signals, the recording unit need only be exposed to a GPS satellite for about a minute to enable the time signals to begin. Further, after that point, clock drift occurs slowly, even if the recording unit is blocked from the GPS satellites for a period of time. Additionally, a recording unit according to the invention typically also includes an internal clock, as described above, that, while not as accurate as the GPS time signals, can also be used to accurately time-stamp data.

Ex-1003, 63:50-60.

88. Furthermore, Strub states the following:

As described above, a recording unit according to the invention typically includes a clock that is used to time-stamp recording data as the recording data is acquired. However, the clocks of different recording units may not be adequately synchronized to enable use

of the time-stamps associated with the recordings obtained from different recording units to synchronize those recordings. (If recording units according to the invention each include a GPS receiver, such mis-synchronization will only exist to an appreciable degree if one or more recording units are shielded from a GPS transmitter system for an extended period of time, e.g., several hours.).

Ex-1003, 79:63-80:7. The language of the aforementioned cited sections discuss scenarios in which either GPS time signals **or** the internal clock are used for time data, but neither section discloses a master timecode generator that is “a producer of a master time reference signal that controls at least one other timecode generator.”

89. The Strub specification explicitly states that “the recording units may not include clocks for enabling time-stamping of the recordings.” *Id.* at 80:8-10. While Strub discloses that the GPS time signals time stamp the recording units, it is my understanding that those recording units do not include clocks that are to be synchronized with a master timecode. Rather, Strub’s disclosed use of a GPS time signal as a clock for recording units is very different than the claimed master timecode generator that controls other

timecode generators in the recording units. Significantly, Strub clearly states that a synchronization pulse is used for synchronization:

[I]t may be desirable to coordinate the recordings obtained by recording units so that frames of visual recording data obtained by different recording units are temporally synchronized (e.g., so that a frame begins at the same time for each recording unit). This can be done by transmitting a synchronization pulse from a “master” recording unit to each of the other recording units (“slave” recording units). Synchronizing analog visual data acquisition devices in this way is referred to as “genlocking.”).

Ex-1003, 38:30-39.

90. It is my opinion that Strub’s teachings are in sharp contrast with the ’902 Patent, which produces timecodes having sufficient data to synchronize audio segments. *See* Ex-1001, 5:7-14, 6:27-37, 10:20-32, 10:56-61, 14:9-17, 15:10-29, and 16:30-37. Strub needs to use a synchronization pulse because the output of the GPS receiver is insufficient to achieve synchronization.

91. At 75:25-57 of its specification, Strub does not disclose that the SMPTE time code input is used to control a timecode generator in a recording unit. Instead, Strub’s discussion of a SMPTE time code is limited. For example,

Strub states that the “SMPTE time code input can be used with professional camcorders or portable dockable videotape recorders (VTRs), such as the Sony BVV-5 dockable Beta-SP VTR, to enable synchronization with an external device.” Ex-1003 at 75:47-52. However, Strub does not give further detail identifying such “external device,” or its purposes, and merely states that “[s]uch portable video recorders can be used ... since the **communication** capabilities ...enable the portable video recorder and auxiliary device to coordinate operation. Ex-1003, 75:51-55 (emphasis added). Such a synchronization would not entail the SMPTE timecode source controlling at least one other timecode generator in the camcorder or videotape recorder, rather, connection of an SMPTE time code input thereto would merely allow the recorder to use the SMPTE time code as its time code source, rather than using its own internal clock. This is typically done by setting the camcorder to “External Timecode” or a similar option. As such, Strub would not have taught a master timecode generator (i.e., an SMPTE timecode source) for generating a plurality of master timecodes because the SMPTE timecode source is not “a producer of a master time reference signal that controls at least one other timecode generator” as required by Claims 1-6 and 9-10. *See supra* § VI.A.4.

92. Woo, the only other reference relied upon by Petitioners for these

requirements, does not compensate for the deficiencies of Strub. Woo's "master clock" is not a "master timecode generator for generating a plurality of master timecodes."

93. Rather, there is no teaching that Woo's master clock produces a time reference signal used to synchronize at least one device via the control of at least one other (slave) timecode generator. In fact, there is no mention of any such secondary timecode generator in Woo, let alone timecode generators that are controlled by Woo's master clock. *See e.g., Ex-1004, cols. 4-8.*

94. It is my understanding that Woo discloses only that "[t]he clock output 128 is conventionally formatted and structured, and is preferably compatible with present-day commercially-available equipment that have master clock input ports." *Id.* at 8:1-4. The mere disclosure of a master clock and master clock input ports on commercially-available equipment does not nearly meet the requirements of the claimed "master timecode generator" that is a producer of a master time reference signal that controls at least one other timecode generator and produces a time reference signal used to synchronize at least one device. Woo clearly states that the time output of a GPS receiver must be combined with a pulse to perform synchronization:

(i) "The conventional date and time sentence output of the GPS

navigation receiver is combined with a highly-accurate one pulse-per second ($\pm$ one microsecond) to form a time-keeping base for the time code output,” (Ex-1004, 4:16-20); and

(ii) “Time code information is generated for connections 20, 24 and 38 by combining a one-pulse-per-second output from the GPS DSP 52 with the conventional date and time information available from deciphering the navigation satellite transmissions,” (Ex-1004, 8:13-18).

95. It is my opinion that Woo’s teachings are in sharp contrast with the ’902 Patent, which discloses that the produced timecodes have sufficient data to synchronize audio segments. *See* Ex-1001. Woo needs to use a highly accurate pulse because the output of the GPS receiver is insufficient to achieve synchronization. Woo relies on a video sync generator to provide the accurate pulse to the time code, but each individual sync generator in Woo is not synchronous to each other. *See* Ex-1004 9:5-19. As such, the time codes are not synchronized to a common, master time code signal. *See id.*

96. It is my understanding that the GPS-based characteristics of the Woo timecodes would render the GPS satellite incapable of producing a continuous master time reference signal that is able to control at least one other

timecode generator, as it requires the transmission and reception of a series of signals for the synchronization to, and control by, a master time reference signal used to synchronize at least one device. *See* Ex-1004, 9:5-20. Furthermore, the use of GPS-based timecodes prevent synchronization to local audio devices in locations that are unable to receive satellite signals e.g., subways or other underground locations. In contrast, the wireless transmission of signals as described in the '902 Specification provides for accurate transmission of master timecodes in locations not accessible by satellite signals, unlike those described in Woo. Strub does not cure this deficiency, as Strub explicitly states that “the recording unit must not be constantly blocked from GPS satellites in order for the recording unit to receive such time signals.” Ex-1003, 63:50-52.

97. It is my opinion that Woo would not have taught the requirements of Element 1[A] when combined with Strub and therefore the combination does not render obvious Claims 1-6, 9-10, and 13.

98. As such, because neither Strub nor Woo disclose a “master timecode generator” as required by Claims 1-6 and 9-10 or “a plurality of master timecodes” as required by Claims 1-6, 9-10, and 13, and Petitioners do not assert that these elements are shown by its other cited references (Nagai, Gleissner, or Jones), Petitioners have failed to show there is a reasonable

likelihood that at least one of Claims 1-6, 9-10, and 13 of the '902 Patent is unpatentable.

4. Petitioners Fail to Demonstrate That the Combination of Strub, Woo, Nagai, and Gleissner Teaches Element 12[E] (Claims 13 and 16).

99. Petitioners discuss this claim term as 12[E], namely, “wherein at least a portion of said local audio data is retrieved during or subsequent to said audio event and is combined with said remote audio data,” and purports that both Strub and Woo disclose this claim element. *See* Petition pp. 55-56. In the support they cite for Strub’s disclosure of combining remote audio data with local audio data, Petitioners admit this combination is synonymous with replacement of remotely recorded/remote audio data with local audio data. “Strub discloses combining said remote audio data with said local audio data by **replacing** a portion of said remote audio data with said local audio data. *See id.* 37:18-40 (recorders “exchange recording data after the event is over”), 85:28-41; 87:61-63. In addition, Strub discloses ‘[t]he time-stamps can be used...to enable post-event synchronization of the display of recordings obtained by different recording units.’ Ex-1003, 13:50–67.” Petition, 55-56 (emphasis added). However, it is my understanding that none of the support cited by Petitioners supports Strub’s disclosure of a combination of audio data.

100. Rather, Strub's disclosure of the mere transmission of data from one location to another and its subsequent retrieval does not nearly satisfy the claim requirement that the local audio data is combined with the remotely recorded audio data. Indeed, in the description of the method in Strub, there is ambiguity as to what is recorded, either the local source of audio or the remote source of audio, based on the interest of the recorder (person).

101. Moreover, Strub discloses blending (e.g., mixing) data:

It may be possible and desirable to integrate audio recordings obtained by different audio data acquisition devices by blending the audio recording data acquired by those audio data acquisition devices. It may be particularly desirable and most feasible-to blend audio recordings obtained by multiple data acquisition devices that are part of the same recording unit. It may also be possible to blend audio recordings obtained by multiple data acquisition devices that are part of the different recording units. However, in the latter case, during some or all of an event recorders may be sufficiently far removed from each other that their recording units acquire audio recordings including audio content that is so different that the audio content cannot be blended in a meaningful way (Ex-1003, 92:24-

27); and

Audio recording data can be blended in any appropriate way. For example, an audio mixer can be used to select audio recording data from multiple audio recordings in accordance with specified characteristics, and the selected audio recording data used to generate an audio display. Or, for example, position information obtained during recording can be used to identify the location at which particular audio recording data was obtained and the audio recording data mixed as appropriate. Or, for example, as described above, position information obtained during recording can be used with a beam forming technique to isolate particular sounds in the audio. The audio recordings of sounds to be retained in the audio display are blended and displayed (Ex-1003, 92:38-50).

102. The disclosed “blending” (e.g., mixing) of data is very different from replacing time segments of remotely recorded audio data with corresponding time segments of locally recorded audio data, as required by the claims of the ’902 Patent.

103. As illustrated by Petitioners’ reference, it is my opinion that Strub at 37:18-40 merely describes that “it will often be the case that the recorders have

a sufficiently close relationship that the recorders can, and will, exchange recording data after the event is over, thus enabling each recorder to obtain, if desired, part or all of a recording obtained by another recording unit.” Ex-1003, 37:22-27. In other words, Strub discloses that recorders can exchange each other’s video files, but there is no reference in this section to any sort of combination of audio files at all, never mind replacement of one audio file’s data with another audio file’s data for the purpose of repairing a dropout.

104. Similarly, Strub at 85:28-41 and 87:61-63 read as follows:

In particular, since a recording unit according to the invention is intended to be operated with little or no attention from the recorder, it can be expected that, at many times during an event, the recording obtained by a particular recording unit will be deficient in some way. For example, content of interest may not be captured in the recording. Or, content of interest may not be captured as well as desired (e.g., visual content is not framed as desired or background noise obscures audio content of interest). When multiple recordings of an event are obtained, there is a reasonable likelihood that, at a time when the recording obtained by a particular recording unit is deficient in some way, another recording unit obtained a recording

that does not suffer from that deficiency (85:28-41); and

For example, marks can be used as a tool for enabling skimming of a recording, replay of a part or parts of a recording, or summarizing of a recording (87:60-63).

105. Again, it is my understanding that neither of these citations make any reference to any combination of data at all, never mind replacement of one audio file's data with another audio file's data for the purpose of repairing a dropout, and as such Petitioners have failed to show that Strub discloses the combine aspect of Element 12[E].

106. Furthermore, Petitioners' arguments regarding Woo are equally unavailing. Petitioners state the following without further explanation:

Woo teaches using software and timecode information to synchronize and 'blend' two different recordings from different microphones to generate a third, composite recording which is a combination of the first two. Ex-1004, 8:44-51 ('[S]tep 114 combines the first and second recordings, according to a synchronization between the first and second date and time code information. A step 116 generates a third recording from the date and time synchronized portions.'), 9:65-5, 10:1-5, 11:12-16 ('editing

means...for combining said first and second recording mediums according to said recorded formatted digital time codes to create a time-synchronized composite recording.’), 12:11-14. Woo provides alternative examples in which the combining is done either 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, ¶ 218.

Petition, pg. 56.

107. It is my understanding that Petitioners’ support describes Woo’s combination of two random recordings to create a third “composite recording,” and Petitioners fail to state how each of these recordings qualifies as either “local audio data” or “remote audio data.” Petitioners make no attempt to tie Woo’s disclosure to the actual claim language in any manner. It is my understanding that the ’902 Specification never discloses the combination of two recordings to create a third composite recording. To the contrary, when the ’902 Specification discloses a combination of local audio data with remote audio data, it is my understanding that it always refers to a Dropout Embodiment for the reasons previously discussed. *See supra* ¶ 45. None of the support cited by Petitioners

disclose Dropout Embodiment in either Strub or Woo. It is my understanding that the Board in the Prior '902 IPR also found that neither Strub, nor the combination of Strub and Woo, disclosed the Dropout Embodiment.

108. As such, because neither Strub nor Woo disclose Element 12[E] of Claims 13 and 16, and Petitioners do not assert that these elements are shown by its other cited references (Nagai or Gleissner), Petitioners have failed to show that they will succeed at trial with respect to at least these Claims 13 and 16 of the '902 Patent.

5. Petitioners Fail to Demonstrate That A POSA Would Be Motivated to Combine Strub, Woo, Nagai, Gleissner, or Jones to Create the Invention of Claims 1-6, 9-10, 13, or 16.

a) Petitioners Failed to Demonstrate That a POSA Would Have Been Motivated to Modify Strub With Woo, Nagai, Gleissner, or Jones to Achieve the Inventions Recited in Claims 1-6, 9-10, 13 or 16 With a Reasonable Expectation of Success.

109. It is my opinion that the Petitioners failed to provide any evidence whatsoever that combining the various portions of Strub, Woo, Nagai, Gleissner, and Jones would achieve the particular “system for recording locally generated audio comprising at least one master timecode generator for generating a plurality of master timecodes; and at least one local audio device wearable by a creator of said locally generated audio including at least one local audio device receiver for

receiving at least one of the group consisting of digital commands and said master timecodes,” (Ex-1001, 24:51-59) required by Claims 1-6 and 9-10 and “at least one control unit electrically coupled to said local audio device receiver, said audio input device, and said memory for creating local audio data from said locally generated audio and storing said local audio data in said memory” as additionally required by Claims 1-6, nor that it would solve the problem inventors sought to solve, namely, a solution for corruption of multi-track audio files caused by wireless interference, or dropouts.

110. The Petitioners did not suggest why a POSA would attempt to solve a dropout problem of a “Virtual Wireless Multitrack Recording System” (Ex-1001, Title), by combining two references Strub and Woo that do not utilize multi-track recording and are not capable of doing so because they do not capture, nor are they intended to capture, individual sources of audio as required by the claims. To the contrary, it is my understanding that both Strub and Woo capture audio and video recordings of an event wherein each recorder captures all of the audio sources in the event in a single audio track.

111. It is unclear how the teachings of Strub and Woo could be combined as suggested by the Petitioners to achieve the claimed invention with a reasonable expectation of success, because the references disclose methods that

substantially differ from each other and the claimed invention.

112. The claimed systems and methods of the '902 Patent include a master timecode generator that is “a producer of a master time reference signal that controls at least one other timecode generator,” and the master timecode generator creates “a time reference signal used to synchronize at least one device,” wherein this time reference signal is non-GPS-based, is used to coordinate the various tracks in a multi-track recording system.

113. In sharp contrast, Strub discloses a GPS time signal that is used as a clock to produce time stamps but is not in control of any other timecode generator and does not produce a time reference signal used to synchronize at least one device: “A GPS receiver can also be used to receive a signal representing the current time that can be used as a clock to generate time-stamps for the recording data.” Ex-1003, 63:40-49. Woo also differs substantially from both the claimed invention of the '902 Patent and Strub. It discloses a device having a “master clock 120 compris[ing] a GPS navigation satellite receiver 122 and a digital signal processor 124 for accumulating and averaging code epochs.” Ex-1004 at 8:60-63. Woo relies on a video sync generator to provide the accurate pulse to the time code, but each individual sync generator in Woo is not synchronous to each other so the time codes are not synchronized to a common,

master time code signal. *See* Ex-1004 9:5-19.

114. It is my opinion that a POSA would not have been motivated to combine Strub and Woo, since they use different approaches, and it is not clear that the outcome of this combination improves anything, never mind solving the problem of dropouts in multi-track recording systems as neither Strub nor Woo teach multi-track recording or capture individual sources of audio as required for multi-track recording.

115. Furthermore, it is my opinion that a POSA would not have been motivated to combine Strub and Woo because Strub already discloses a solution to post-production editing (i.e., participants share their locally recorded audio after a recorded event). Applying the Woo solution in post-production in Strub would have been unnecessary. A POSA would not have been motivated to apply a complex technical solution requiring multiple GPS receivers, video sync generators, delay circuitry, commands and requests, etc., to Strub's simple system, especially because doing so would dramatically increase the size, weight and battery requirements of the Strub recording units, making them even more unwieldy, cumbersome and impractical than they already were.

b) Strub and Woo are Non-Analogous Art

116. It is also my opinion that Strub and Woo are non-analogous art to

the claimed invention as Strub and Woo are not in the same field as the claimed invention and are not reasonably pertinent to the problem faced by the inventors of the '902 Patent. Neither Strub nor Woo relate to the field of multi-track recording, nor do the disclosures of Strub or Woo teach an invention capable of multi-track recording as the disclosures do not teach the recordation of individual sources of audio. Strub is not in the field of professional sound recording, but is in the field of low attention, social recording. *See infra* § VI.B.6. Woo teaches a “GPS receiver [that] comprises a data output port for communicating time code information formatted according to standards.” Ex-1004, Abstract. The '902 Patent does not mention any GPS satellite or receiver; it instead relates to using a master timecode generator to control other timecode generators in other recorders and “to accurately stamp its recorded audio ... [which] allows multiple individually recorded audio tracks to be combined into one or more multi-track audio files.” Ex-1001, 4:16-25. A POSA would not have looked to Strub or Woo to address the problem identified in the '902 Patent. Therefore, Strub and Woo are non-analogous art to the claimed invention.

6. Modifying Strub with Nagai or Gleissner Would Change the Principle Operation of Strub And Render it Unsuitable for Its Intended Purpose of Low Attention, Social Recording

117. It is my understanding that a petition fails to show that the disputed claims are obvious via a combination of prior art references if the

proposed modification of a reference (1) changes the principle operation of a reference and (2) renders the reference unsuitable for its intended purpose. Any such combination destroys obviousness under 35 USC § 103. It is also my understanding that regarding element (1), if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. Regarding element (2), if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

118. It is my opinion that the Petition fails to show that the disputed claims are obvious in view of Strub, Woo, Nagai, Gleissner, and Jones in consideration of the aforementioned test.

119. As far as which reference is being modified the Petition does not clearly articulate which reference is intended to be the primary reference, and it argues largely that both Strub and Woo disclose almost every aspect of the claims in question. Based upon the Petition's assertion that "Woo itself provides express motivations to use its synchronization methods in a wireless, multi-recorder system such as Strub's" (Petition, pg. 22), it would be reasonable for Zaxcom to assume the reference being modified is Strub, although the arguments herein

could equally be applied to Woo (if Woo is the primary reference) as will be discussed below.

120. It is my understanding that Strub's intended purpose is low attention, social recording that allows multiple recorders to record the same event so that multiple recordings can be created thereof from multiple viewpoints. *See* Ex-1003, Abstract ("The low attention recording enabled by the invention can be particularly advantageously employed in 'social recording,' i.e., recording in which multiple participants in an event are recording the event."); *see also* Ex-1004, 5:3-5 ("[a] recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point.").

121. It is my opinion that modifying Strub with Element 1[D], namely, "at least one audio input port for receiving locally generated audio from an audio input device" as suggested in the Petition at pages 38-39 would both change the principle operation of Strub and render it unsuitable for its intended purpose because such a modification would cause each Strub recorder to record only the performer's audio via the "at least one audio input port for receiving locally generated audio from an audio input device," and not the audio of all of the audio sources in a particular event. *See supra* § VI.B.1. In this scenario, each recorder's audio recordings would then be combined together into a single multitrack

recording, which would result in only one audio recording for any given event. Such an outcome both changes the principle operation of Strub and renders it unsuitable for its intended purpose because Strub no longer functions to perform “‘social recording,’ i.e., recording in which multiple participants in an event are recording the event.” *See* Ex-1003, Abstract; *see also* Ex-1004, 5:3-5 (“[a] recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point.”). It is my understanding that the modification of Strub with the teachings of Nagai and Gleissner would change the principle operation of Strub and render it unsuitable for its intended purpose. In view of the aforementioned, it is my opinion that there is no suggestion or motivation for a POSA to make the proposed combination.

7. Petitioners Failed to Demonstrate That Claims 17-20 Are Rendered Obvious under § 103 By the Combination of Strub and Woo (Proposed Ground 3).

a) Petitioners Failed to Demonstrate That a Combination of Strub and Woo Does Teach Elements 17[Pre], 17[A], and 17[B] (Claims 17-20).

122. It is my opinion that the Petition has failed to demonstrate that a combination of Strub and Woo teaches Elements 17[Pre], 17[A], and 17[B] and has therefore failed to state its case of obviousness with sufficient particularity.

123. The Petition does not define “local audio,” but it claims that both Strub and Woo disclose Elements 17[Pre], 17[A], and 17[B], namely: “[a] method of recording local audio, said method comprising the steps of;” “locally receiving said local audio generated by at least two performers during an audio event;” and “locally recording said local audio as local audio data.” *See* Petition, pg. 70. For each of these Elements 17[Pre], 17[A], and 17[B], the Petition merely states that “[t]his element is taught by Strub and Woo” and then references 1[Pre], 1[B], 1[D], and 1[E] of its Petition and Ex-1002, ¶¶ 286-288. The Petition fails to show how Strub and Woo disclose Elements 17[Pre], 17[A], and 17[B], which all require “local audio” yet none of the referenced arguments 1[Pre], 1[B], 1[D], and 1[E] make any reference to the term “local audio.”

124. Furthermore, it is my opinion that Strub and Woo fail to teach Elements 17[Pre], 17[A], and 17[B] because they do not disclose “local audio” which is “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio” as is required for incorporation of such “local audio” in a multitrack system such as described in the ’902 Specification and for the reasons previously described. *See supra* § VI.A.1-2, 4; *see also supra* § VI.B.1-2, 4. Further, as “local audio” is equivalent to the “locally generated audio” of Claims 1-6 and 9-10,

Claims 17-20, Strub and Woo do not disclose Elements 17[Pre] and 17[B] for the same reasons that Strub and Woo do not disclose Elements 1[Pre] and 1[F] as discussed above, wherein the “creating local audio data from said locally generated audio and storing said local audio data in said memory” of 1[F] is equivalent to “locally recording said local audio as local audio data in at least one memory” of 17[B]. *Supra* § VI.A.1; *see also supra* § VI.B.1.

b) Petitioners Failed to Demonstrate That a Combination of Strub and Woo Teaches 17[D] (Claims 17-20).

125. As discussed above, it is my opinion that this element of independent Claim 17 is not taught by the combination of Strub and/or Woo. *See supra* § VI.A.1, 3, 5; *see also supra* § VI.B.1, 4.

126. Although the Petition does not define “multi-track” or “multi-track audio file,” it claims that both Strub and Woo disclose Element 17[D], namely: “wherein said local audio data for each of said performers is retrieved from said local audio devices subsequent to said audio event and is combined to create a single multi-track audio file.” *See* Petition, pg. 71. As previously discussed, when properly construed, a “multi-track audio file” is “a data file consisting of multiple, separate streams of sound with individual instruments or voices recorded on separate tracks.” *Supra* § VI.A.5.

127. When arguing the presence of Element 17[D], the Petition states that “[t]his element is taught by Strub and Woo. *See supra* 12[E]. In addition, Woo teaches using software and timecode information to synchronize and ‘blend’ two different recordings from different microphones to generate a third, composite recording which is a combination of the first two. *See supra* 12[E]; Ex-1002, ¶ 290.” Petition, pg. 71. Any argument related to Element 12[E] is wholly inapplicable to Element 17[D] because Element 12[E] involves “local audio data ...combined with said remote audio data,” i.e., a Local/Remote Combination. *See supra* § VI.A.3. Conversely, Element 17[D] involves combining the “local audio data for each of said performers” with no reference to remote audio data, i.e., a Local/Local Combination. *See supra* § VI.A.3.

128. Petitioners’ arguments are further misplaced because a POSA would understand that a multi-track audio file is not created when two different recordings of the same event are combined to create a composite recording, wherein each of the original recordings includes all of the audio sources in the event. This does not result in the creation of a multitrack file, as such a file requires an independent track of audio for each audio source (i.e., performer). *See supra* § VI.B.1. Multi-track audio file generation is not disclosed in either Strub or Woo, nor is the creation of an audio file per performer. As such, it is my

opinion that the Petition fails to demonstrate that a combination of Strub and Woo teaches Element 17[D].

c) Petitioners Failed to Demonstrate That a Combination of Strub and Woo Teaches Element 17[C] (Claims 17-20).

129. As previously discussed, neither Strub nor Woo teach Element 17[C] of Claims 17-20, namely, “locally receiving or generating a plurality of master timecodes” for the same reasons Strub and Woo do not teach “a master timecode generator” or a “plurality of master timecodes.” *See supra* § VI.B.3. As such, it is my opinion that the Petition fails to demonstrate that a combination of Strub and Woo teaches Element 17[C].

d) Petitioners Fail to Demonstrate That a POSA Would Have Been Motivated To Modify Strub With Woo To Achieve The Particular Methods Recited In Claims 17-20 With A Reasonable Expectation Of Success

130. It is my opinion that a POSA would not have been motivated to combine Strub and Woo to achieve the methods recited in Claims 17-20 for the same reasons a POSA would not have been motivated to modify Strub with Woo to achieve the systems recited in Claims 1-6 and 9-10 and the methods of Claims 13 and 16. *See supra* § VI.B.5. As such, it is my opinion that the Petition fails to demonstrate that Claims 17-20 are obvious over a combination of Strub and Woo.

VII. THE SPECIFIC GROUNDS FOR INVALIDITY REGARDING

THE '443 PATENT

A. Claim Construction

1. “locally generated audio” (Claims 1-4, 7-9, 15, 17, 19-20, 22-27).

131. I have reviewed the claim constructions proposed by Patent Owner in the Preliminary Responses and agree with them. I agree that a POSA would understand that the claim element “locally generated audio” as recited in Claims 1-4, 7-9, 15, 17, 19-20, and 22-27, means “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio.”

132. The '443 Specification is entitled “Virtual Wireless **Multitrack** Recording System” (emphasis added), and it is my understanding that the multitrack capabilities described therein are described throughout the '443 Specification. *See* Ex-1001, Abstract (“Disclosed are systems and methods for wirelessly recording multi-track audio files without the data corruption or loss of data that typically occurs with wireless data transmission.”).

133. It is my understanding that multitrack recording is a technique that captures multiple audio sources (i.e., the voices of individual performers) independently onto separate tracks instead of mixing them together in real time, thereby allowing audio engineers to independently edit each track during and after recording. This understanding is consistent with the following definition: “[a]

multitrack recording consists of multiple, separate streams of sound without defined locations in a sound field. During a typical music-recording session, **individual instruments or voices will be recorded on separate tracks.**” *See* Ex-2014, pg. 1 (Federal Agencies Digital Guidelines Initiative, Glossary) (emphasis added).

134. It is my opinion that when read in the context of the ’443 Specification, which specifically requires a multitrack recording system, and in the context of the claim language, it is clear that the element “locally generated audio” as recited in Claims 1-4, 7-9, 15, 17, 19-20, and 22-27, means “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio,” as this definition enables each performer to create an individual audio track to be used and independently edited in the resulting multitrack recording. It is my opinion that a single track of audio that includes all ambient or environmental audio generated by all individuals and/or audio sources being recorded is improper because multitrack recording requires at least two discrete, independent audio tracks, typically one audio track per audio source (e.g., a performer) and anything less would be inconsistent as a whole to the ’443 Specification, which describes:

(i) “[S]ystems and methods for wirelessly recording **multi-track** audio files ... each performer is equipped with a local audio device capable of locally recording **the respective performer's audio**”

(Ex-1001, Abstract);

(ii) “[P]erformers may each don a local audio device ... audio from multiple local audio devices may be transmitted to a **multi-track** recorder for recording of the audio event while each local audio device locally records **its performer's audio**” (Ex-1001, 12:27-28, 13:18-21); and

(iii) “[A]udio received from each of the local audio devices (e.g., **the local audio device of each performer**) may be combined to create one or more **multi-track** audio files,” (Ex 1001, 15:19-21) (emphasis added).

135. It is also my opinion that the language of Claims 1-4, 7-9, 15, 17, 19-20, and 22-27 also support this definition by requiring “at least one local audio device wearable by a creator of said locally generated audio.” Ex-1001, 21:56-57. In other words, the locally generated audio is created by the person wearing the local audio device. Likewise, Claim 15 requires “creating local audio data from said locally generated audio ... wherein said local audio data is

combined electronically to create a single **multi-track** data file.” Ex-1001, 21:65-66, 23:33-35 (emphasis added). As such, it is my opinion that the creation of a multi-track file can only happen when independent tracks of each of the performer’s voices exist.

136. As such, it is my opinion that the locally generated audio is primarily the audio of the performer wearing the local audio device through the use of the “at least one audio input port for receiving locally generated audio from an audio input device” that is typically close miked to the performer to capture only, or primarily, the audio of the performer wearing the local audio device so that this audio may be its own independent track of the multi-track audio file.

2. “local audio device wearable by a creator of said locally generated audio” (Claims 1-4, 7-9, 15, 17, 19-20, 22-27).

137. I agree that a POSA would understand the claim element “local audio device wearable by a creator of said locally generated audio,” as recited in Claims 1-4, 7-9, 15, 17, 19-20, and 22-27, means “a local audio device suitable to be worn by the performer who creates the audio that is recorded by that performer’s local audio device.” It is my opinion that a POSA at the time of the invention reading this claim term would understand that this definition must be consistent with the purpose of the ’443 Patent, which is a “[v]irtual wireless

multitrack recording system.” Ex-1001, Title (emphasis added). A POSA would understand that any claim construction inconsistent with multitracking is inconsistent with the ’443 Specification as a whole.

138. While the ’443 Specification does not explicitly state the term, “wearable,” the ’443 Specification nevertheless supports this definition by using similar terms to describe. For example, the ’443 Specification states that local audio devices “are worn by the performers of the audio event.” Ex-1001, 9:23. Further, the ’443 Specification states, “[d]isclosed are systems and methods for wirelessly recording multi-track audio files ... each performer is equipped with a local audio device capable of locally recording the respective performer's audio.” Ex-1001, Abstract. The ’443 Specification also states, “allowing a wireless recorder 108 ... to accurately combine multiple independent tracks of audio, wherein each independent track of audio is received from one of the performer's local audio device 102.” Ex-1001, 10:29-34.

139. Claims 1-4, 7-9, 15, 17, 19-20, and 22-27 also require the local audio device to include “at least one audio input port for receiving locally generated audio from an audio input device,” where the audio input device is, for example, a microphone, and that the audio input device port is any commercially available audio input device port that is compatible with the audio

input device. Ex-1001, 21:60-61, 7:65-8:4, 8:59-62 (“[L]ocal control unit 310 receives recordable audio from local audio input device 312, which may be worn by the performer and connects to local audio device 102.”). That is, the performer is equipped with a microphone which connects to an input port of the performer’s local audio device to allow it to capture the audio of the specific performer wearing the local audio device. In view of such disclosures, it is my opinion that the ‘443 Specification supports this definition of the claim elements.

140. Furthermore, my review of the prosecution history of the ’443 Patent makes it clear that “wearable” means “suitable to be worn by the performer” and excludes devices that are merely portable or able to be carried in a backpack. In the ’443 Patent’s Notice of Allowance, Examiner Elbin included a statement of reasons for allowance that distinguished between “portable” and “wearable”: “the closest prior art of record (Nagra-V) teaches a portable audio recorder ... The prior art fails to teach or suggest ... wherein the device is ‘wearable by a creator of said locally generated audio.’” Ex-2017, pg. 2. The Nagra-V is portable, having dimensions of 11.4” x 8.6” x 4.5” with a weight of approximately 7.6 to 9 pounds, and sold with a soft carrying case NV-SCC. See Ex-2018, pg. 2. As such, it is my opinion that while the Nagra-V is fully capable

of being carried in a backpack, the Examiner understood that the Nagra-V is not “wearable.”

3. “multi-track data file” (Claim 15).

141. I agree that a POSA would understand the claim element “multi-track data file” means “a data file consisting of multiple, separate streams of sound with individual instruments or voices recorded on separate tracks,” at the time of the filing of the ’443 Patent. A POSA would have known at the time of filing of the ’443 Patent that such a data file is a multitrack recording that “consists of multiple, separate streams of sound . . . [and] individual instruments or voices will be recorded on separate tracks.” Ex-2014, pg. 1

142. It is my opinion that the plain language of the ’443 Specification supports this definition, which explains that “[t]he audio received **from each of the local audio devices** (e.g., the local audio device **of each performer**) may be **combined to create one or more multi-track audio files**.” Ex-1001, 15:18-21 (emphasis added). “[A]udio from multiple local audio devices may be transmitted to a **multi-track** recorder for recording of the audio event while each local audio device locally records **its performer’s audio**.” Ex-1001, 13:18-21 (emphasis added). That is, the locally generated audio created by each performer and locally recorded by each respective local audio device is

subsequently combined to create an audio file consisting of multiple, separate streams of sound as recorded by each local audio device of each performer.

143. It is also my opinion that the language of Claims 1 and 15 further supports this definition: “at least one local audio device **wearable by a creator of said locally generated audio** ... creating local audio data from said locally generated audio ... said local audio data is **combined electronically to create a single multi-track data file,**” wherein the “said local audio data” is “from said locally generated audio” of the “at least one local audio device **wearable by a creator** of said locally generated audio.” Ex-1001, 21:56-57 (emphasis added), 21:65-66, 23:33-35 (emphasis added). In other words, the locally generated audio created by each performer and locally recorded by the performer’s local audio device is combined to create a multitrack audio file consisting of multiple, separate streams of sound from the local audio device of each performer.

144. It is my understanding that a POSA would have understood this claim construction of “multi-track data file” is consistent with the multi-track purposes of the ’443 Specification and that any construction inconsistent with multitrack recording is inconsistent with the ’443 Specification.

4. “local audio data is combined electronically to create a single multi-track data file”

145. I agree that a POSA would understand the claim element, “local audio is combined electronically” (the “Local/Local Combination Claim Term”), as recited in Claims 1-4, 7-9, 15, 17, 19-20, and 22-27, to mean “local audio data from each local audio device is combined with the local audio data of other local audio devices to create a single multi-track data file.” This term refers to multitrack creation.

146. The '443 provides ample evidence the combination of local audio data with local data or local audio with local audio is required for multitrack creation. *See* Ex-1001, 4:28-37 (“Synchronization is essential to ensure that **each performer's audio** is synchronized with **all other performers' audio** ... Such synchronization must maintain a high accuracy for **each performer's timestamps** with respect to all **other performers' timestamps** ... when the multiple audio recordings are **combined** to create one single recording.) (emphasis added).

147. [Reserved]

148. Multitrack recording requires an independent track for each performer, which independent tracks can be independently edited and

manipulated prior to or after inclusion in the multitrack file, which is a combination of all of the independent tracks. It is my understanding that the '443 Specification describes a method of creating a multi-track file in which the local audio data of each performer is removed from the performer's local audio device and placed into a multi-memory unit 800 to combine each performer's local audio data with the local audio data of other performers. Ex-1001, 17:34-42 ("the memory of each local audio device such as local audio device 102 may be removed after completion of a performance, videotaping, etc. Each memory may then be inserted into a corresponding one of memory ports 802. Thereafter, all of the individual audio files may be combined to provide one or more comprehensive audio files. Or, alternatively, each audio file may be individually reformatted or otherwise manipulated prior to creation of one or more comprehensive audio files."). This is exactly what is referred to in the Local/Local Combination Claim Term. It is my opinion that Embodiments and any construction of this claim term in which a recorder records all audio is combined from two or more recorders, who records all audio from an event on a single track of mixed audio that does not include individual, isolated tracks of audio per performer/audio source (e.g., speakers or performers) are eliminated by the multitrack nature of the '902 Specification. A recording including all the audio of an event eliminates the ability of an audio engineer to independently

edit each audio source, which is the essence of a multitrack system. Ex-1001, 10:29-33 (“In this manner, all local audio devices 102 and recorder 30 108 sample at virtually identical sample rates allowing a wireless recorder 108, or a wireless recorder/receiver combination, to accurately combine multiple independent tracks of audio, wherein each independent track of audio is received from one of the performer's local audio device 102.”).

5. “master timecode generator” and “master timecodes” (Claims 1-4, 7-9, 15, 17, 19-20, 22-27).

149. I agree that a POSA would understand the claim elements “master timecode generator” and “master timecodes,” as recited in Claims 1-4, 7-9, 15, 17, 19-20, and 22-27 to mean “a producer of a master time reference signal that controls at least one other timecode generator” and “a time reference signal used to synchronize at least one device,” respectively.

150. It is my opinion that this proposed construction is consistent with the meaning of the claim element itself. The claim term “master” means “[one] that has control over another or others.” Ex-2019, pg. 3 (The American Heritage Dictionary, Third Edition, Houghton Mifflin Company, 1993). Additionally, the plain meaning of these claim elements is confirmed by the ’443 Specification. For example, Figure 5 of the ’443 Specification discloses modifying the speed

of a local timecode generator as necessary to maintain its synchronization with a master timecode generator. Ex-1001, Fig. 5, 2:58-61. The end of the description of Figure 5's process in the '443 Specification also states "[i]n this manner, the speed of the local timecode generator and the sample rate of the ADC are increased to maintain synchronization with the master timecode generator." Ex-1001, 13:66-14:2. Figure 6 describes the master timecode generator's use of a master timecode, or time reference signal used to synchronize at least one device: "[a]t 604, a master unit ... transmits master timecodes to each local audio device, and ... each local audio device synchronizes (e.g., jam syncs) its respective on board local timecode generator with the master timecodes received from the master unit, thereby synchronizing all local audio device timecode generators with the master timecode generator." Ex-1001, 15:4-11. In other words, the master timecode generator creates master timecodes that are used to control the speed of the local timecode generator to ensure the two timecode generators are synchronized. The '443 Specification further explains that the master timecodes synchronize the audio data recorded at various components of a recording system:

- (i) "Since the local audio device and recorder timestamps are synchronized, the replayed audio may be inserted in the proper

time sequence with respect to the other recorded audio samples based upon the synchronized timestamp data. Synchronization is essential to ensure that each performer's audio is synchronized with all other performers' audio and to ensure that the newly recorded replayed audio is in the correct sequence with respect to the previously recorded live audio,” (Ex-1001:4:25-32);

(ii) “When recording system 100 is operating in a synchronous mode, transmission of the master time reference signal ensures that all of the components of recording system 100 store all locally recorded audio with timestamps that are highly accurate as compared to the timestamps of all other local audio devices 102 and/or all other components of recording system 100. The timestamps are then used ... to ensure that the replayed audio from all local audio devices 102 is synchronized with previously recorded audio and with the audio replayed by all other local audio devices 102,” (Ex-1001, 5:42-52,);

(vi) “[A] portion of the received data may be used to synchronize local timecode generator 304 to the master time code generator integral to one of the components of recording system 100 (e.g.,

RCU 104, recorder 108, etc.,” (Ex-1001, 9:40-43);

(v) “At 410, the local control unit reads the master timecode contained in the RX buffer and jam synchronizes the local timecode generator with the master timecode. The jam sync synchronizes the local audio device with the RCU while allowing the local audio device to supply its own timecode. Local supply of synchronized timecodes ensures proper timing during periods in which the master timecodes cannot be read,” (Ex-1001, 12:55-63); and

(vi) “At 604, a master unit ... transmits master timecodes to each local audio device, and ... each local audio device synchronizes (e.g., jam syncs) its respective on board local timecode generator with the master timecodes received from the master unit, thereby synchronizing all local audio device timecode generators with the master timecode generator,” (Ex-1001, 15:4-11).

Accordingly, the language of both the claims and the ’443 Specification support Zaxcom’s proposed construction.

6. “body pack” (Claim 19).

151. I agree that a POSA would understand “body pack,” as recited in

Claim 19, to mean “a small box housing a transmitter.” This proposed construction is consistent with the industry standard and the language of the ’443 Specification. Within the industry, a “body pack” is described as “a transmitter you can wear on a belt clip or in your pocket.” Ex-2020, pg. 5. Also, “[t]ransmitters and antennas are built into wireless microphones, either within the handheld unit or within the bodypack.” *Id.* at 14. In other words, it would be understood by a POSA that body packs in the industry of recording performances are devices that house a transmitter that are capable of being worn on a belt or in a pocket, such as those typically worn by news announcers, performers, and the like.

152. The ’443 Specification also explains that the local audio devices of the ’443 Specification house a transmitter. For example, the ’443 Specification explains that “wireless **transmitters** may take the form of body packs that are worn by each performer.” Ex-1001, 1:40-42 (emphasis added). Additionally, the local audio devices of the ’443 Specification are described as “digital, wireless audio **transceivers**. Such audio devices may be manufactured in the form of body-packs, such as those typically worn by news announcers, performers, and the like.” Ex-1001, 7:46-52 (emphasis added). The ’443 Specification also discloses that “[l]ocal audio devices 102 may be bodypacks

such as the local audio device 102 depicted in FIG. 3B.” Ex-1001, 10:52-53.

153. Furthermore, it is my opinion that the local audio device 102 “housing a transmitter” should be understood to be a “small box,” as depicted in Figures 1 and 3B of the ’443 Specification, whereby the body packs of Claim 19 are depicted as “a small box.” *See* Ex-1001, Figs. 1 and 3B (depicting local audio devices 102 as small boxes). As such, a POSA would understand that a “body pack” is a “small box housing a transmitter.

B. Petitioners Did Not Show That Any of the Challenged Claims of the ’443 Patent Would Have Been Obvious.

154. It is my opinion that none of the challenged claims of the ’443 Patent would have been obvious with respect to any of the proposed grounds of rejection set forth by Petitioners for at least the reasons set for below.

1. Petitioners Do Not Demonstrate That a Combination of Strub, Woo, Nagai, Gleissner, Winningstad, and Dwyer Teaches Element 1[Pre] or Element 1[F] (Claims 1-4, 7-9, 15, 17, 19-20, 22-27).

155. It is my opinion that the combination of Strub, Woo, Nagai, Gleissner, Winningstad, and Dwyer does not teach Element 1[Pre], namely “[a] system for recording locally generated audio” and Element 1[F], namely, “at least one control unit in communication with said local audio device receiver, said audio input device, and said memory for creating local audio data from said

locally generated audio and storing said local audio data in said memory.”

Although Petitioners argue that these elements are taught by both Strub and Woo, Petitioners propose no definition of “locally generated audio.” Petition, pp. 33-37, 47-49.

156. As previously discussed, “locally generated audio,” is “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio,” as is required for the creation of a multitrack recording and the incorporation of such “locally generated audio” therein as described in the ’443 Specification. *See supra* § VII.A.1. The locally generated audio is the audio created by the performer who is wearing, and therefore is equipped, with the local audio device. The ’443 Specification teaches “at least one audio input port for receiving locally generated audio from an audio input device,” where the audio input device (e.g., a microphone) is typically close miked and worn by the performer. The audio input device is connected to the performer’s local audio device to capture only, or primarily, the audio created by the performer wearing the local audio device so that this audio may be its own independent track. This enables the combining of individual, isolated tracks of audio with the tracks of other performers’ audio to create a multi-track audio file. Ex-1001, Abstract,

12:27-27, 13:18-21, 15:19-21.

157. It is my opinion that Strub and Woo teach the exact opposite of “locally generated audio,” as the audio of Strub and Woo is locally “received” or “heard” by a recorder (i.e., the person in Strub who records the audio). This is not audio generated, or created, by the recorder. For example, Strub at 22:16-33 describes the recordation of sound to be for sound coming from in front of the recorder. *See* Ex-1003, 22:16-33. Similarly, Woo at 5:3-5 describes the recordation of sound of a performance from multiple vantage points. Ex-1004, 5:3-5. In other words, the audio recorded by Strub’s recording units 105-108, 200, and 300, and Woo’s recorders 14 is the sound *heard* by the recorder 14. This recorded sound is a single track of audio that does not include individual, isolated tracks of audio per performer or audio source (e.g., speakers or performers). This received, “heard” audio is not suitable for multi-track recording because it does not include individual, isolated tracks of audio for each performer that can be independently edited.

158. Strub’s specification details the receipt of a single track of combined audio, representing the audio of an event as a whole, by a recorder, rather than generation of audio by a specific performer that is recorded on their own dedicated track:

- (i) “[I]t is believed preferable to bias the audio recording in favor of recording sound from in front of the recorder for several reasons: i) a person or persons with whom a recorder is having a conversation will typically be in front of the recorder; ii) a recorder will typically face the parties participating in a conversation that does not include, but is of interest to, the recorder; iii) a recorder will often face the source of other sounds in which the recorder has an interest; and iv) conversations that occur behind a recorder are typically either conversations which the recorder does not want to hear or are conversations which the parties to the conversation may not intend the recorder to hear,” (Ex-1003, 22:21-32);
- (ii) “Mounting at or just above chest level also enables the audio data acquisition device to pick up spatial imaging of the audio that is similar to that which is experienced by the recorder's ears,” (Ex-1003, 22:59-63); and
- (iii) “[U]se of a directional microphone ... has been found to enhance the ability to record the voices of other people, particularly when those people are relatively distant from the recorder,” (Ex-1003, 23:8-11).

159. The recording device of Woo is not worn by the person who is creating the audio that is to be recorded (i.e., the performer). Instead, Woo's recorder (e.g., recorders 14 and 16) obtains recordings of the audio generated by the performer from independent vantage points: "[s]ystem 10 is used to record the live performance of a performer 12 ... recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point." Ex-1004, 5:1-5. In view of the aforementioned, a POSA would understand that Woo does not teach "locally generated audio" because Woo's audio is not "created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio." Instead, recorder 14 is not the one who is generating the audio. Recorder 14 is wearing the purported local audio device, but is recording the audio generated by another entity (i.e., performer 12).

160. The single tracks of audio received by a Strub or Woo recorder cannot be used for multitrack recording, as required by the '443 Specification, as such tracks of audio do not include individual, isolated tracks of audio per performer/audio source (e.g., speakers or performers) and therefore do not record each performer on an individual, dedicated audio track.

161. As such, it is my opinion that neither Strub nor Woo discloses

creating independent tracks of performer audio, multi-track recording, or creating a multi-track audio file. Because neither Strub nor Woo disclose Elements 1[Pre] or 1[F], and Petitioners do not assert that these elements are shown by Nagai, Gleissner, Winningstad, or Dwyer, Petitioners have failed to show that there is a reasonable likelihood that at least one of Claims 1-4, 7-9, 15, 17, 19-20, and 22-27 of the '443 Patent is unpatentable.

2. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, Gleissner, Winningstad, and Dwyer Teaches Element 1[B] (Claims 1-4, 7-9, 15, 17, 19-20, 22-27).

162. It is my opinion that Petitioners fail to state any proof in support of their assertion that a Strub recording unit having the features of the challenged claims of the '443 Patent, which include a receiver and a transmitter, is wearable. See Ex-1001, 21:56-59, 22:1-2.

163. Strub discloses many variations of recording units – some with basic recording capabilities (the “Basic Strub Recording Unit”) and some with recording and transmitter/receiver capabilities (the “Advanced Strub Recording Unit”). Strub’s recording units 105-108 are only described as Basic Strub Recording Units without any mention of an ability to transmit or receive data. Ex-1003, 8:13-29 (“Each of the recording units 105, 106, 107 and 108, in accordance with the invention, enables the corresponding participant (recorder)

to obtain a recording of the event in a manner that does not interfere with participation in, or observation of, the event, either by the recorder or other participants. (Generally, a "recorder" is any person having the capability of controlling a recording unit according to the invention.) Additionally, in the use of the invention shown in FIG. 1, since there are multiple recorders, the event can be simultaneously recorded from multiple points of view. Further, the invention enables the above-described recording from points of view that are "in" the event, since the recording is done by participants in the event. Thus, the invention can enable first person recording from multiple points of view simultaneously, while minimizing or eliminating the effect of the act of recording upon the conduct of the event.”). Strub’s recording unit 200 is also a Basic Strub Recording Unit as it only includes system controller 201, data acquisition device 202, data storage device 203, and control interface device 204, Strub is absent of any disclosure that recording unit 200 includes a transmitter or receiver. Ex-1003, Fig. 2. Conversely, Strub’s recording unit 300 is an Advanced Strub Recording Unit that specifically includes a transmitter 309 and receiver 310, and data acquisition is performed via two devices (video data acquisition device 302 and audio data acquisition device 303) instead of the one data acquisition device used in the Basic Strub Recording Unit 200. Ex-1003, 11:48-50, 12:13-16.

164. Petitioners equate the local audio device of Claims 1-4, 7-9, 15, 17, 19-20, and 22-27 to Strub's recording unit 300, likely because it includes a receiver, as required of Claims 1-4, 7-9, 15, 17, 19-20, and 22-27. Petition, pp. 38-39; Ex-1001, 21:58. However, Petitioners only refer to Fig. 1 to prove wearability of Element 1[B], i.e., "Strub discloses at least one audio device—*e.g.*, one of recording units 105-108, **200, and 300**, which are worn by a plurality of creators of locally generated audio—*e.g.*, people conversing at an event—as depicted in **Figure. 1.**" Petition, pg. 38 (emphasis added). Upon a plain viewing of Figure 1 of Strub, this statement is clearly incorrect as the only recording units shown in Fig. 1 are recording units 105-108. It is clear that recording units 200 and 300 are not shown in Fig. 1. Additionally, Petitioners have again made no showing that recording units 105-108 include a receiver. Ex-1003, 8:10-29.

165. It is my opinion that the citations on page 39 of the Petition actually proves that the Strub device is not wearable. For example, Strub at 4:21-31 refers to a Basic Strub Recording Unit and does not mention an integral receiver. Furthermore, Strub at 14:59-15:11 and 16:66-17:24 discuss the wearability of the visual acquisition device. These citations do not reference the recording unit as a whole, which actually proves that the visual acquisition

device portion of a Strub recording unit is not wearable. This is illustrated by the Strub specification because the visual acquisition device portion of the Strub recording unit must be attached to a “wearable apparatus” such as a “helmet, headband, or head harness ... that is worn by the recorder” or “mating VelcroTM strips ... can be used to attach the visual data acquisition device ... on headgear, and armband, a legband, or other wearable apparatus.” Ex-1003, 17:1, 7-24. In other words, while the “wearable apparatus” is wearable, the visual data acquisition device is not, hence the need to attach it to a “wearable apparatus,” such as the examples described by Strub. Additionally, Strub at 38:65-39:11 does not pertain to the wearability of the recording unit as a whole, rather, it only pertains to the wearability of an “audio communication device,” – not a recording unit. Furthermore, Strub at 66:33-51 does not describe wearability of a recording unit with a receiver because it describes a “data acquisition device” which is the acquisition device used in the Basic Strub Recording Unit, thereby failing to disclose a recording unit which includes a receiver or transmitter. Ex-1003, Figs. 2 and 3, 66:33-51. Strub at 66:33-51 makes clear that even this Basic Strub Recording Unit without a receiver may not be wearable, as Strub states that “it is desirable to ‘package’ the recording unit components in any manner that achieves some or all of the desired characteristics of a recording unit according to the invention, e.g., small size, low weight, unobtrusiveness,

and capability of being mounted on a recorder (**or, at least, capability of being easily carried by the recorder**).” Ex-1003, 66:27-32 (emphasis added). Even the Strub specification questions whether a Basic Strub Recording Unit without a receiver or transmitter is actually wearable and certainly does not address wearability when additional components are added thereto (e.g., a receiver and transmitter). Strub at 67:54-68:10 and 72:9-19 again refer to the wearability of a Basic Strub Recording Unit 700 with no receiver. Ex-1003, 68:11-14 (“As illustrated in FIG.7, the recording unit 700 includes three physically separate components: a data acquisition unit 701, a control interface unit 702, and a data storage and system control unit 703.”). Accordingly, it is my opinion that Petitioners have failed to plead any facts to show that the cited references, or any combinations thereof, disclose a wearable device having all of the features required by the challenged claims of the ’443 Patent.

166. Strub’s recording unit is not wearable, rather, it’s portable. If Strub’s recording unit was “wearable,” it would not require a backpack to attach it to a recorder’s body. Ex-1003, 67:30-33, 45-47 (“Fig. 6 illustrates a recording unit . . . Most of the components of the recording unit are enclosed within a backpack 601” and “a recording unit as shown in Fig. 6 . . . weighs about 24 pounds.”). The Strub recording unit is not worn – it is carried within a

backpack. One might send a child to school with a sandwich in the child's backpack – this does not make the sandwich wearable. A proper claim construction of Element 1[B] excludes portable devices. *See supra* § VII.A.2.

167. Strub also fails to disclose a local audio device that is “suitable to be worn by a performer,” as required by a proper construction of Element 1[B]. *Supra* § VII.A.2. The '443 Patent discloses a recording system that “wirelessly records audio events such as performances, movie takes, etc.,” and the local audio devices are “are worn by the performers of the audio event.” Ex-1001, 3:30-32, 9:22. In contrast, Strub's “local audio devices” are not “suitable to be worn by a performer,” as the Strub recording unit is much too large, visible, heavy, and imposing to be worn during the filming of performances.

168. The use of the Strub recording unit for “social recording” and to “facilitate later reminiscence,” as described in does not require the same portability and discreteness as a device used to record audio events in a professional context, such as performances or movie takes. Ex-1003, Abstract; Ex-1001, 3:30-32 (“Recording system 100 wirelessly records audio events, such as **performances, movie takes**, etc. having one or more **performers**.”) (emphasis added). This professional context as disclosed in the '443 Patent requires such local audio devices to be of a size, weight, and shape that can be

worn by performers without distracting the audience from the visual performance of the audio events. The weight, size, and shape of the Strub recording unit prohibits such application. Figure 6 of Strub teaches a “recording unit [that] weighs about 24 pounds,” and it is a recording unit without a receiver, contrary to the requirements of the challenged claims of the ’443 Patent. Ex-1003, 67:45-47; Ex-1001, 21:58. As such, it is my opinion that a Strub recording unit having all of the features of the challenged claims of the ’443 Patent will exceed 24 pounds. While one might carry in excess of 24 pounds for recreational filming, performers (e.g., those performing in motion pictures, concerts, news reporting, opera, etc.) are unable to carry such a weight while delivering a performance, particularly without disturbing their hair, makeup, and costumes.

169. Furthermore, Strub discloses that the “components of the recording unit are positioned **within a backpack** that is worn by the recorder,” but such an embodiment is not feasible in the performance industry, as it would impair the visual aspects of the performance (e.g., a motion picture, newscasting, opera, concert, etc.). Ex-1003, 16:51-54 (emphasis added), Fig. 1, Fig. 6, Figs. 8A-C. Rather, the teachings of the ’443 Specification require a local audio device that is “suitable to be worn by a performer,” including those

“manufactured in the form of body-packs, such as those typically worn by news announcers, performers, and the like.” Ex-1001, 7:50-52.

170. Additionally, whereas the local audio device taught by the ’443 Specification records the audio created by the performer who is wearing the local audio device, the recorders of Strub do not – the Strub recording units record audio that the recorder **hears**. *See supra* § VII.B.1. As such, Strub’s recording units record audio of an event, not of a performer’s, wherein the audio of the event is the mixed audio of multiple sources participating in the event occurring in front of the Strub recording units. Ex-1003, 8:8-16, 22:21-32. Such recordation as disclosed by Strub prevents the ability of Strub to create a multitrack recording because there are no independent tracks of each source of audio that may be independently manipulated or edited during or after creation of a multi-track audio file.

171. Accordingly, it is my opinion that the claim element of “local audio device wearable by a creator of said locally generated audio” are wholly absent from Strub. Furthermore, no assertions have been made that Woo, Nagai, Gleissner, Winningstad, and Dwyer compensate for the deficiencies of Strub. As such, because Strub does not disclose Element 1[B], it is my opinion that Petitioners have failed to show that they will succeed at trial with respect to

Claims 1-4, 7-9, 15, 17, 19-20, and 22-27, of the '443 Patent.

3. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, Gleissner, Winningstad, and Dwyer Teaches Element 1[A] (Claims 1-4, 7-9, 15, 17, 19-20, 22-27).

172. It is my opinion that neither Strub nor Woo discloses a system that includes “at least one master timecode generator for generating a plurality of master timecodes,” as required by Claims 1-4, 7-9, 15, 17, 19-20, and 22-27.

173. The “master timecode generator” of the claims should be construed as “a producer of a master time reference signal that controls at least one other timecode generator,” and the claim element “master timecodes” should be construed as “a time reference signal used to synchronize at least one device.” *Supra* § VII.A.4.

174. Petitioners cites to Strub at 62:53-54, 63:50-60; 79:63-80:7, 75:25-57 (“SMPTE time code input”), to claim that the “master timecode generator” of the claim is disclosed by the “GPS satellite or SMPTE timecode source” of Strub. Petition, pg. 37-38. However, it is my understanding that none of these citations disclose a “producer of a master time reference signal that controls at least one other timecode generator.” Rather, Strub at 62:53-54 states “[f]or example, when the position sensing device is a GPS receiver, as described further below,” which has no bearing on the construction of Element 1[A].

175. Petitioners cite to Strub at 63:50-60 twice, which states: Though the recording unit must not be constantly blocked from GPS satellites in order for the recording unit to receive such time signals, the recording unit need only be exposed to a GPS satellite for about a minute to enable the time signals to begin. Further, after that point, clock drift occurs slowly, even if the recording unit is blocked from the GPS satellites for a period of time. Additionally, a recording unit according to the invention typically also includes an internal clock, as described above, that, while not as accurate as the GPS time signals, can also be used to accurately time-stamp data.

Ex-1003, 63:50-60.

176. Petitioners also cite to Strub at 79:63-80:7, which states: [A] recording unit according to the invention typically includes a clock that is used to time-stamp recording data as the recording data is acquired. However, the clocks of different recording units may not be adequately synchronized to enable use of the time-stamps associated with the recordings obtained from different recording units to synchronize those recordings. (If recording units

according to the invention each include a GPS receiver, such mis-synchronization will only exist to an appreciable degree if one or more recording units are shielded from a GPS transmitter system for an extended period of time, e.g., several hours.)

Ex-1003, 79:63-80:7.

177. It is my opinion that Strub at 63:50-60 and 79:63-80:7 disclose situations in which either GPS time signals **or** the internal clock are used for time data, but neither section discloses a master timecode generator that is “a producer of a master time reference signal that **controls** at least one other timecode generator.”

178. Indeed, Strub explicitly discloses that “the recording units may not include clocks for enabling time-stamping of the recordings.” Ex-1003, 80:8-10. The recording units disclosed by Strub do not include clocks to be synchronized with a master timecode, even in the face of disclosure that the GPS time signals time stamp the recording units. Strub’s disclosed use of a GPS time signal as a clock for recording units is very different than the claimed master timecode generator that controls other timecode generators in the recording units.

179. Strub is in sharp contrast with the ’443 Specification as Strub

clearly states that a synchronization pulse is used for synchronization (Ex-1003, 38:30-39). The '443 Specification instead discloses that the produced timecodes have sufficient data to synchronize audio segments. Ex-1001, 4:25-33, 5:42-52, 9:1-12, 9:39-44, 12:56-64, 13:50-14:2, and 15:4-11. Strub needs to use a synchronization pulse because the output of the GPS receiver is insufficient to achieve synchronization.

180. Strub does not disclose that the SMPTE time code input is used to control a timecode generator in a recording unit. Instead, Strub discloses that the “SMPTE time code input can be used with professional camcorders or portable dockable videotape recorders (VTRs) ... to enable synchronization with an external device.” Ex-1003 at 75:47-52. Such synchronization would not entail the SMPTE timecode source controlling at least one other timecode generator in the camcorder or videotape recorder, rather, connection of an SMPTE time code input thereto would merely allow the recorder to use the SMPTE time code as its time code source, rather than using its own internal clock. This is typically done by setting the camcorder to “External Timecode” or a similar option. Accordingly, this section of Strub would not have taught a master timecode generator (i.e., an SMPTE timecode source) for generating a plurality of master timecodes because the SMPTE timecode source is not “a

producer of a master time reference signal that controls at least one other timecode generator” as required by Claim 1. *See supra* § VII.A.4. As such, it is my opinion that Petitioners’ reliance on Strub’s disclosure of an SMPTE time code input at 75:25-57 (Petition, p. 38) is misplaced.

181. Woo’s “master clock,” is not a “master timecode generator for generating a plurality of master timecodes.” There is no teaching that Woo’s master clock produces a time reference signal used to synchronize at least one device via the control of at least one other (slave) timecode generator as there is no mention of any such secondary timecode generator in Woo, let alone ones that are controlled by Woo’s master clock. *See e.g.*, Ex-1004, cols. 4-8.

182. The mere disclosure of a master clock and master clock input ports on commercially-available equipment does not nearly meet the requirements of the claimed “master timecode generator,” that is a producer of a master time reference signal that controls at least one other timecode generator and produces a time reference signal used to synchronize at least one device. Rather, Woo clearly states that the time output of a GPS receiver must be combined with a pulse to perform synchronization:

(i) "The conventional date and time sentence output of the GPS navigation receiver is combined with a highly-accurate one pulse-

per second ($\pm$ one microsecond) to form a time-keeping base for the time code output,” (Ex-1004, 4:16-20); and

(ii) “Time code information is generated for connections 20, 24 and 38 by combining a one-pulse-per-second output from the GPS DSP 52 with the conventional date and time information available from deciphering the navigation satellite transmissions,” (Ex-1004, 8:13-18).

183. It is my opinion that Woo is in sharp contrast with the ’443 Patent, which produces timecodes having sufficient data to synchronize audio segments. Ex-1001. Woo needs to use a highly accurate pulse because the output of the GPS receiver is insufficient to achieve synchronization. Woo relies on a video sync generator to provide the accurate pulse to the time code, but each individual sync generator in Woo is not synchronous to each other. *See* Ex-1004 9:5-19. As such, the time codes are not synchronized to a common, master time code signal. *See id.*

184. It is my understanding that the GPS-based characteristics of the Woo timecodes prevent the GPS satellite from producing a continuous master time reference signal that is capable of controlling at least one other timecode generator, as this requires transmission and reception of a series of signals for

the synchronization to, and control by, a master time reference signal used to synchronize at least one device. Ex-1004, 9:5-20. Furthermore, it is commonly understood that audio equipment is not capable of receiving GPS-based timecodes or other satellite signals in many filming locations, like subways or other underground locations. The wireless transmission of signals taught by the '443 Specification provides for accurate transmission of master timecodes in all locations including those not accessible by satellite signals. Strub does not compensate for the deficiency of Woo, as Strub explicitly states that "the recording unit must not be constantly blocked from GPS satellites in order for the recording unit to receive such time signals." Ex-1003, 63:50-52.

185. As such, it is my opinion that Woo would not have taught the requirements of Element 1[A] when combined with Strub. and therefore the combination does not render obvious independent Claim 1, or the claims dependent therefrom.

186. Neither Strub nor Woo disclose a "master timecode generator," or "a plurality of master timecodes," as required by Claims 1-4, 7-9, 15, 17, 19-20, and 22-27, and Petitioners do not assert that these elements are shown by Nagai, Gleissner, Winningstad, or Dwyer. As such, it is my understanding that Petitioners have failed to show that they will succeed at trial with respect to at

least one of the aforementioned claims of the '443 Patent.

4. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, Gleissner, Winningstad, and Dwyer Teaches Claim 15.

187. Petitioners purport that Strub “discloses or renders obvious combining the local audio data electronically to create a single multi-track data file,” and therefore Strub discloses Claim 15. Petition, pg. 64. Petitioners reference Strub’s recording units 105-108 and 300, stating that each of these recording units “receives and displays multiple tracks of local audio data received from the other recording units.” Petition, pg. 64. However, Petitioners again misrepresent Fig. 1 and the capabilities of Strub recording units 105-108 (*supra* § VII.B.2). Their citation to Strub at 66:7-25 is completely irrelevant and is directed to a discussion of how “additional devices can be easily added to the recording unit.” Ex-1003, 66:8. Similarly, Petitioners’ statement that “Strub’s recording units 105-108 ... receives and displays multiple tracks of local audio data received from the other recording units” is also false and none of the cites quoted by Petitioner support this factually untrue assertion. The only section of Strub that discusses recording units 105-108 is Strub at 8:7-29, which makes no claim to these units having these capabilities, and, as discussed above, the depiction of these units in Fig. 1 fails to show a display screen or any other type

of equipment capable of displaying any type of data. Additionally, Petitioners reference to Strub at 44:48-45:7 is irrelevant, as it only pertains to “a device capable of simultaneously displaying multiple **visual recordings** at one time.” Ex-1003, 42:51-52 (emphasis added). Strub at 44:48-45:7 does not discuss audio recordings.

188. Indeed, Strub discloses recording unit 300 having “an audio recording display device 307,” but Petitioner has failed to equate any of the cited language to any Claim 15 language or explain how display of audio or “local audio data” is possible or how the “blending,” has anything to do with combining local **audio** data to create a single multi-track data file. The display of multiple recordings does not require the generation of any type of file, which is a required element of Claim 15. Strub teaches an audio mixer but does not teach the ability to save simultaneously “displayed” audio tracks in a single file. Nor does Strub ever describe multi-track recording or creation of the types of files necessary to create a “single multi-track data file,” as required by Claim 15, which requires creation of “a data file consisting of multiple, separate streams of sound with individual instruments or voices recorded on separate tracks.” *Supra* § VII.A.3. Nothing in Strub indicates that the audio mixer disclosed therein must have the capability of including the ability to save the

displayed audio as a file suitable to create a multi-track file. In fact, the Strub “audio mixer” seems more akin to a “video mixer” that merely directs multiple video streams to a display screen, without any need to save it to a file. Further, even if Strub’s audio mixer had the ability to create a file, it would not be a multi-track file as required by Claim 15 because there are no individual sources of performer audio as needed to create such a multi-track recording.

189. It is my opinion that Petitioners failed to show that Claim 15 is obvious, as Petitioners have not only admitted that the multi-track data file creation is not taught by Strub, but has also failed to introduce a reference that can be combined with Strub to disclose multi-track data file creation or multi-track recording. It is my opinion that Petitioners have failed to show why a POSA would combine Strub with a reference when Strub is unrelated to multi-track recording. Furthermore, Petitioners have made no showing that recording units 300 are “wearable” as also required by Claim 15. *Supra* § VII.B.2. The wearability of recording unit 300 is much different than wearability of units 105-108, as the latter include many less components and less weight.

190. Petitioners also argue that “[t]o the extent Zaxcom contends that Strub does not disclose the additional elements of Claim 15, those elements are taught by Woo.” Petition, pp. 66. Woo does not teach “said local audio data is

combined electronically to create a single multi-track data file,” because it does not teach multi-track recording, creation of a multi-track file, nor “local audio data.” Woo makes no reference to multi-track recording or creation of any type of multi-track file, as required by Claim 15. *Supra* § VII.A.3. Furthermore, Woo does not disclose the creation of “local audio data” of Claim 15, which requires “creating local audio data from said locally generated audio” and “local audio device wearable by a creator of said locally generated audio.” Ex-1001, 21:65-66, 56-57. As discussed (*supra* § VII.B.2), the recording unit records the audio generated by another entity (i.e., performer 12), not that of the operator of the Woo recording units (e.g., recorders 14 and 16). As such, Woo does not compensate for the deficiencies of Strub because the operator of Woo’s recording unit (i.e., Woo’s recorder) does not generate locally generated audio nor can it create local audio data because Woo’s audio is not “**created** by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio.”

191. Petitioners state that because “Woo’s system uses software and timecode information to ‘blend’—i.e., combine—two different recorded tracks from different microphones to generate a ‘time-synchronized composite recording’—i.e., a single data file comprising a multi-track combination of the

first two recordings.” Petition, pg. 66. However, such arguments are incorrect because said “recorded tracks” are not of “local audio data,” Additionally, the composite recording is not a “single multi-track data file,” as required by Claim 15. Furthermore, Petitioners seem to conflate the “time-seamless blend” and “time-synchronized composite recordings” of Woo. Ex-1004, 10:4, 11:15, 12:14. Petitioners cite to Woo at 8:44-51 to support their arguments regarding “time-synchronized composite recording,” but that citation instead teaches “time-seamless blend.” “Time-synchronized composite recording” and “time-seamless blend” are not the same technologies – “time-synchronized composite recording” is for post recording edification, and the language of Claim 10 of Woo, which states, “an apparently time-seamless blend” teaches that the “time-seamless blend” relates to time code information but lacks precise synchronization. Ex-1004, 10:3-4.

192. Therefore, it is my opinion that because Strub and Woo do not disclose the elements of Claim 15. Because Petitioners also do not assert that these elements are shown by Nagai or Gleissner, it is my understanding that Petitioners have failed to show that there is a reasonable likelihood that Claim 15 is unpatentable.

5. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, Gleissner, Winningstad, and Dwyer Teaches Claim 19.

193. As previously discussed, “body pack” as properly construed, means “a small box housing a transmitter.” *Supra* § VII.A.5. Additionally, as Claim 19 is dependent upon Claim 1 of the ’443 Patent, the “at least one local audio device” of Claim 19 must also be “wearable.” *See* Ex-1001, 21:56.

194. Again, Petitioners do not provide their own construction of “body pack.” *See* Petition, pg. 68. The examples provided by Petitioners to show that Strub discloses a “body pack” are inconsistent with a proper construction of body pack, namely, “a small box housing a transmitter capable of being worn on a belt or in a pocket” (*supra* § VII.A.6) and the ’443 Specification. *See* Ex-1001, 7:46-52 (“Such audio devices may be manufactured in the form of body-packs, such as those typically worn by news announcers, performers, and the like.”); *see also* Ex-1001, 10:52-53 (“Local audio devices 102 may be bodypacks such as the local audio device 102 depicted in FIG. 3B.”). As previously discussed (*supra* § VIII.A.2), if a backpack is required to “wear” a device, this inherently means that the device itself is not wearable. In sharp contrast, the bodypack of Fig. 3B and the ’443 Specification is worn directly by a user without the need for a “backpack” or other “wearable apparatus.”

195. Furthermore, it is my opinion that Petitioners' various citations to Strub do not cure the aforementioned deficiencies. For example, Petitioners at page 68 cite to "Ex. 1003, 11:11-17 ('[T]he recording unit [is] mounted on (e.g., attached on, or worn by)...the recorder')," but incorrectly quotes the reference and inexplicably replaces "be adapted to be" with "[is]," which changes the entire context of what Strub teaches. Rather, upon reviewing Strub, the proper and full quotation makes it clear that the referenced Strub recording unit is not able to be worn on the recorder's body – it is meant to be held by a recorder unless it is **adapted** in some manner that makes it possible to mount it on the recorder. Petitioners' remaining citations all fail to show that Strub's "local audio device" is a bodypack, and further prove that the Strub "local audio device" is not even wearable (as also required by Claim 19) because these devices all require the use of some form of wearable apparatus to allow a user to wear the "local audio device," i.e., a "backpack," a "waist strap," a "harness," and the myriad of other wearable apparatus shown in the cited Strub figures, which are required because the "local audio device" itself is not wearable as required by Claim 19. Further, Petitioners still have not shown that the depictions of the alleged wearable recording unit in Figs. 1, 4, 6, 8A-9B depict recording units that are of the type that include all of the local audio device elements required by Claim 19 (e.g., a transmitter and a receiver).

196. In view of the foregoing, it is my opinion that Strub does not disclose “at least one local audio device is a body pack,” as it fails to disclose a local audio device with all of the elements required by Claim 19 in the form of a body pack. Additionally, as Petitioners do not assert that these elements are shown by Woo, Nagai, or Gleissner, and it is my understanding that they have failed to show that there is a reasonable likelihood Claim 19 is unpatentable.

6. Petitioners Fail to Demonstrate That A POSA Would be Motivated to Combine the Cited References to Create the Invention of the Challenged Claims.

197. It is my opinion that the Petitioners have failed to show why a POSA would attempt to solve a dropout problem of a “Virtual Wireless Multitrack Recording System” (Ex-1001, Title), by combining Strub, Woo, and Winningstad, as none teach multi-track recording capabilities nor the capturing of individual sources of audio as required for multi-track recording. To the contrary, Strub, Woo, and Winningstad capture single tracks of audio that do not include individual, isolated tracks of audio per performer/audio source (e.g., speakers or performers).

198. Furthermore, Petitioners merely makes conclusory statements that “each of the local audio devices of Strub, Woo, and Winningstad wirelessly receives master timecodes from a master timecode generator and uses the timing

information from the master timecodes to stamp the local audio.” Petition, pg. 71. It is unclear how the teachings of Strub, Woo, and Winningstad could be combined as suggested by the Petitioners to achieve the claimed invention with a reasonable expectation of success, because the references disclose substantially different methods from each other and the claimed invention.

199. As previously discussed, the ’443 Patent requires a master timecode generator that is “a producer of a master time reference signal that controls at least one other timecode generator,” and creates “a time reference signal used to synchronize at least one device,” wherein this time reference signal is non-GPS-based and is used to coordinate the various tracks of a multi-track recording system.

200. Strub and Winningstad disclose a GPS time signal that is used as a clock to produce time stamps but does not control another timecode generator nor does it produce a time reference signal used to synchronize at least one device. “A GPS receiver can also be used to receive a signal representing the current time that can be used as a clock to generate time-stamps for the recording data.” Ex-1003, 63:40-49; *see also* Ex-1008, 8:17-22 (“A [GPS] receiver 89 may be located in the DD device 26 that periodically updates the date and time encoder 88 ... The GPS date, time, and/or location information

can then be inserted into the audio data for authentication of the captured images.”). Quite differently, Woo’s device has a “master clock 120 compris[ing] a GPS navigation satellite receiver 122 and a digital signal processor 124 for accumulating and averaging code epochs.” Ex-1004 at 8:60-63. Woo relies on a video sync generator to provide the accurate pulse to the time code, but each individual sync generator in Woo is not synchronous to each other so the time codes are not synchronized to a common, master time code signal. *See* Ex-1004 9:5-19.

201. It is my opinion, in view of the foregoing, that a POSA would not have been motivated to combine Strub, Woo and/or Winningstad, since they use different approaches, and it is not clear that the outcome of this combination improves anything, never mind solving the problem of dropouts in multi-track recording systems as neither Strub, Woo, nor Winningstad teach multi-track recording or capture individual sources of audio as required for multi-track recording. It is my opinion that one would not be motivated to combine Strub and Woo because Strub already discloses a solution to post-production editing (i.e., participants share their locally recorded audio after a recorded event). *See* Ex-1003, 80:52-58. Therefore, applying the Woo solution in post-production in Strub would have been unnecessary. A POSA would not have been motivated to

change Strub's simple system used by recreational recorders with a complex technical solution requiring multiple GPS receivers, video sync generators, delay circuitry, commands and requests, etc., especially because doing so would dramatically increase the size, weight and battery requirements of the Strub recording units. Such an increase would make them even more unwieldy, cumbersome and impractical than they already are. Furthermore, Winningstad teaches away from post-production editing and therefore could not solve the problems solved by the inventions of the '443 Patent. Rather, Winningstad discloses that "[t]o ensure that the time and date encoder 88 in the DD device 26 is not tampered with, an internal password may be required to be entered ... in order to modify the clock settings provided by data and time encoder 88." Ex-1008, 8:12-16. As such, it is my opinion a POSA would not have been motivated to combine Strub and Winningstad, as Winningstad teaches away from post-production editing solutions and discloses a system which includes mechanisms to prevent the edification of recorded data. *See* Ex-1008, 2:31-32 ("The DAR System can also record the date and time of operator recordings thus reducing the possibility of **falsifying the date, time, and sequence of recorded events.**").

202. It is my understanding that the invention of Winningstad is

intended for circumstances such as when a “police officer 14 may activate the DAR system 12 to record events surrounding a routine vehicle stop of a suspected drunk driver.” Ex-1008, 4:5-7. Winningstad is absent of any disclosure that such recordings are for the purposes of a “Virtual Wireless Multitrack Recording System.” Ex-1001, Title. Therefore, it is my opinion that a POSA would not have been motivated to change Strub’s simple system used by recreational recorders with a complex technical mechanism requiring multiple GPS receivers, video sync generators, delay circuitry, commands and requests, etc., to make content that should not be edited, editable in post-production, especially because doing so would dramatically increase the size, weight and battery requirements of the Strub recording units, making them even more unwieldy, cumbersome and impractical than they already are.

203. It is also my opinion that Strub, Woo, and Winningstad are not in the same field as the claimed invention, and their disclosures are not reasonably pertinent to the problem faced by the ’443 Patent inventors. As such, it is my opinion that they are non-analogous art to the ’443 Patent. Strub, Woo, and Winningstad are not in the field of the claimed invention of the ’443 Patent, and their disclosures are not reasonably pertinent to the problem faced by the ’443 Patent inventors. Strub is not in the field of professional sound recording, but is

in the field of low attention, social recording. Woo discloses a “GPS receiver [that] comprises a data output port for communicating time code information formatted according to standards.” Ex-1004, Abstract. Winningstad is also not in the field of professional sound recording but is in the field of recording “video and audio events viewed and/or heard by the operator.” Ex-1008, Abstract.

204. It is my understanding that the claimed invention of the ’443 Patent does not mention any GPS satellite or receiver; it instead relates to using a master timecode generator to control other timecode generators in other recorders and “to accurately stamp its recorded audio ... [which] allows multiple individually recorded audio tracks to be combined into one or more multi-track audio files.” Ex-1001, 3:34-43 GPS signals are known to be incompatible with performance recording as many recording locations (e.g., subways or other underground locations) are not capable of receiving satellite signals. Therefore, it is my opinion that a POA would not have looked to Strub, Woo, or Winningstad to address the problem identified in the ’443 Patent.

7. Modifying Strub with Nagai or Gleissner Would Change The Principle Operation Of Strub And Render It Unsuitable For Its Intended Purpose Of Low Attention, Social Recording.

205. It is my understanding that a Petition fails to show obviousness

of challenged claims of the '443 Patent via a combination of the cited references if the proposed modification of a reference: (1) changes the principle operation of a reference; and (2) renders the reference unsuitable for its intended purpose. Regarding element (2), if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

206. It is my opinion that the Petition fails to show that Claims 1-4, 7-9, 15, 17, 19-20, and 22-27 are obvious in view of Strub, Woo, Nagai, Gleissner, Winningstad, and Dwyer, as the Petition fails the aforementioned test.

207. It is my opinion that the Petition fails to identify the primary reference, how it is modified, or what elements of the claims are missing from the primary reference. However, based upon the Petition's assertion that "Woo itself provides express motivations to use its synchronization methods in a wireless, multi-recorder system such as Strub's" (Petition, pg. 28), I will assume the reference being modified is Strub, although the arguments herein could equally be applied to Woo as the primary reference.

208. It is my understanding that Strub's intended purpose is low attention, social recording that allows multiple recorders to record the same

event from multiple viewpoints. Ex-1003, Abstract (“The low attention recording enabled by the invention can be particularly advantageously employed in ‘social recording,’ i.e., recording in which multiple participants in an event are recording the event.”); *see also* Ex-1004, 5:3-5 (“[a] recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point.”).

209. It is my opinion that modifying Strub with Element 1[D] as suggested in the Petition at pages 43-44 would both change the principle operation of Strub and render it unsuitable for its intended purpose. Such a modification would cause each Strub recorder to record only the performer’s audio via the “at least one audio input port for receiving locally generated audio from an audio input device.” In this scenario, to obtain complete event audio, each recorder’s audio recording (of the recorder’s personal audio) would be combined together into a single multitrack recording of the event – which would result in only one audio recording for any given event despite the number of recorders or possible viewpoints. Such an outcome both changes the principle operation of Strub and renders it unsuitable for its intended purpose because Strub no longer functions to perform “‘social recording,’ i.e., recording in which multiple participants in an event are recording the event” from multiple

viewpoints. Ex-1003, Abstract; *see also* Ex-1004, 5:3-5 (“[a] recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point.”). Because the modification of Strub with the teachings of Nagai and Gleissner would change the principle operation of Strub and render it unsuitable for its intended purpose, it is my opinion that there is no suggestion or motivation to make the proposed combination.

VIII. THE SPECIFIC GROUNDS FOR INVALIDITY REGARDING THE '207 PATENT

A. Claim Construction

1. “locally generated audio” (Claims 17-19, 21-23, 33-34, 59-60, and 66).

210. I have reviewed the claim constructions proposed by Patent Owner in the Preliminary Responses and agree with them. I agree that a POSA would understand that the claim element “locally generated audio” as recited in Claims 17-19, 21-23, 33-34, 59-60, and 66, means “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio.”

211. The '207 Specification is entitled “Virtual Wireless **Multitrack** Recording System” (emphasis added), and it is my understanding that the multitrack capabilities described therein are described throughout the '207

Specification. *See* Ex-1001, Abstract (“Systems and methods for wirelessly recording multi-track audio files ... the locally recorded audio may be used to repair or replace any audio lost or corrupted during transmission to the master recorder.”).

212. It is my understanding that multitrack recording is a technique that captures multiple audio sources (i.e., the voices of individual performers) independently onto separate tracks instead of mixing them together in real time, thereby allowing audio engineers to independently edit each track during and after recording. This understanding is consistent with the following definition: “[a] multitrack recording consists of multiple, separate streams of sound without defined locations in a sound field. During a typical music-recording session, **individual instruments or voices will be recorded on separate tracks.**” *See* Ex-2014, pg. 1 (Federal Agencies Digital Guidelines Initiative, Glossary) (emphasis added).

213. It is my opinion that when read in the context of the ’207 Specification, which specifically requires a multitrack recording system, and in the context of the claim language, it is clear that the element “locally generated audio” as recited in Claims 17-19, 21-23, 33-34, 59-60, and 66, means “audio created by the wearer of the local audio device receiving the locally generated

audio, such audio suitable for use as an independent track of audio,” as this definition allows each performer to create his or her own audio track to be subsequently used and independently edited in the resultant multitrack recording. Any definition of these terms that collects a single track of mixed audio that includes all ambient or environmental audio generated by all individuals and/or audio sources being recorded is improper because multitrack recording requires at least two discrete, independent, isolated audio tracks, typically one audio track per audio source (e.g., a performer) and anything less would be inconsistent with the ’207 Specification, which describes:

(i) “Systems and methods for wirelessly recording **multi-track** audio files ... each performer is equipped with a local audio device capable of locally recording **the respective performer's audio**”

(Ex-1001, Abstract) (emphasis added);

(ii) “[P]erformers may each don a local audio device ... audio from multiple local audio devices may be transmitted to a **multi-track** recorder for recording of the audio event while each local audio device locally records **its performer's audio**” (Ex-1001, 14:23-24, 15:21-24) (emphasis added); and

(iii) “[A]udio received from each of the local audio devices (e.g., **the local audio device of each performer**) may be combined to

create one or more **multi-track** audio files,” (Ex 1001, 17:30-33)

(emphasis added).

214. It is also my opinion that the language of the preamble of Claims 17 and 59 also support this construction, which require “at least one audio device wearable by a user for storing locally generated audio and transmitting the locally generated audio to a remote device,” and “[a]n audio device wearable by a user for storing locally generated audio and communicating the locally generated audio to a wireless transmitter,” respectively. Ex-1001, 44:56-58, 47:52-54. In other words, the locally generated audio is created by the person wearing the local audio device. The creation of a multi-track file can only happen when independent tracks of each of the performer’s voices exist.

215. As such, it is my opinion that the locally generated audio is primarily the audio of the performer wearing the local audio device that is typically close miked to the performer to capture only, or primarily, the audio of the performer wearing the local audio device so that this audio may be its own independent track of the multi-track audio file.

2. “local audio device wearable by a user for storing locally generated audio” (Claims 17-19, 21-23, 33-34, 59-60, and 66).

216. I agree that a POSA would understand “local audio device

wearable by a user for storing locally generated audio,” as recited in the preamble of Claims 17 and 59, to mean “a local audio device suitable to be worn by the performer who creates the audio that is recorded by that performer’s local audio device.” It is my opinion that a POSA at the time of the invention reading this claim term would understand that this definition must be consistent with the purpose of the ’207 Patent, which is a “[v]irtual wireless **multitrack** recording system.” Ex-1001, Title (emphasis added). A POSA would understand that any claim construction inconsistent with multitracking is inconsistent with the ’207 Specification as a whole.

217. The ’207 Specification nevertheless supports this definition of “wearable” by using similar terms to describe. For example, the ’207 Specification states that local audio devices “are worn by the performers of the audio event.” Ex-1001, 11:13-14. Further, the ’207 Specification states, “each performer is equipped with a local audio device capable of locally recording the respective performer's audio.” Ex-1001, Abstract. The ’207 Specification also states, “allowing a wireless recorder 108 ... to accurately combine multiple independent tracks of audio, wherein each independent track of audio is received from one of the performer's local audio device 102.” Ex-1001, 12:21-25.

218. Claims 17-19, 21-23, 33-34, 59-60, and 66 also require the local audio device to include “an audio input port configured to couple to an audio input device to receive the locally generated audio,” where the audio input device is, for example, a microphone, and that the audio input device port is any commercially available audio input device port that is compatible with the audio input device. Ex-1001, 44:63-64, 47:61-62, 6:39-43, Ex-1001, 10:46-49 (“[L]ocal control unit 310 receives recordable audio from local audio input device 312, which may be worn by the performer and connects to local audio device 102.”). That is, the performer is equipped with a microphone which connects to an input port of the performer’s local audio device to allow it to capture the audio of the specific performer wearing the local audio device. In view of such disclosures, it is my opinion that the ‘207 Specification supports this definition of the claim elements.

219. The ’207 Patent is a continuation of the U.S. patent application no. 14/808,589, filed July 24, which is a continuation of the U.S patent application no. 13/530,040, which is a continuation-in-part of the U.S. patent no. 12/838,164, which claims the benefit of and is a continuation-in-part of the U.S. patent application no. 11/404,735, filed April 14, 2006, which claims the benefit of and is a continuation-in-part of the U.S. patent application no.

11/181,062, filed July 14, 2005, and issued as U.S. Patent No. 7,711,443. Upon, my review of the prosecution history of the '443 Patent, which is the parent of the '207 Patent, makes it clear that “wearable” means “suitable to be worn by the performer” and excludes devices that are merely portable or able to be carried in a backpack. In the '443 Patent’s Notice of Allowance, Examiner Elbin included a statement of reasons for allowance that distinguished between “portable” and “wearable”: “the closest prior art of record (Nagra-V) teaches a portable audio recorder ... The prior art fails to teach or suggest ... wherein the device is ‘wearable by a creator of said locally generated audio.’” Ex-2017, pg. 2. The Nagra-V is portable, having dimensions of 11.4” x 8.6” x 4.5” with a weight of approximately 7.6 to 9 pounds, and sold with a soft carrying case NV-SCC. See Ex-2018, pg. 2.

**3. “master timecode generator” and “master timecodes”
(Claims 17-19, 21-23, 33-34, 59-60, and 66).**

220. [Reserved]

221. [Reserved]

222. [Reserved]

223. I agree that a POSA would understand the claim elements

“master timecode generator” and “master timecodes,” as recited in Claims 17-19, 21-23, 33-34, 59-60, and 66 to mean “a producer of a master time reference signal that controls at least one other timecode generator” and “a time reference signal used to synchronize at least one device,” respectively.

224. It is my opinion that this proposed construction is consistent with the meaning of the claim element itself. The claim term “master” means “[one] that has control over another or others.” Ex-2019, p. 3 (The American Heritage Dictionary, Third Edition, Houghton Mifflin Company, 1993). Figure 5 of the ’207 Specification discloses modifying the speed of a local timecode generator as necessary to maintain its synchronization with a master timecode generator. Ex-1001, Fig. 5, 3:16-19; Ex-1001, 16:4-7 (“[i]n this manner, the speed of the local timecode generator and the sample rate of the ADC are increased to maintain synchronization with the master timecode generator.”). Figure 6 describes the master timecode generator’s use of a master timecode, or time reference signal used to synchronize at least one device: “[a]t 604, a master unit ... transmits master timecodes to each local audio device, and ... each local audio device synchronizes (e.g., jam syncs) its respective on board local timecode generator with the master timecodes received from the master unit, thereby synchronizing all local audio device timecode generators with the

master timecode generator.” Ex-1001, 17:9-16. That is, the master timecode generator creates master timecodes that are used to control the speed of the local timecode generator to ensure the two timecode generators are synchronized. Ex-Ex-1001: 4:64-5:5, 6:19-29, 11:30-33, 14:52-59, and 17:9-16. Accordingly, the language of both the claims and the ’207 Specification support Zaxcom’s proposed construction.

4. “jam synchronize”/ “jam sync”

225. I agree that a POSA would understand “jam synchronize,” as recited in Claims 17-19, 21-23, 33-34, 59-60, and 66, to mean “aligning the internal clock of one device, program or application with the internal clock of another device, program or application.” Ex-2006, pg. 8. It is my opinion that upon application of this definition to Claims 17-19, 21-23, 33-34, 59-60, and 66, the claim element of “jam synchronize the local timecode generator to the master timecode generator,” means “aligning the internal clock of the local timecode generator with the internal clock of the master timecode generator.”

226. The ’207 Specification provides ample support for the claim construction of “aligning the internal clock of the local timecode generator with the internal clock of the master timecode generator.” For example, the ’207 Specification at 6:3-8 states that the master timecode “provides a time reference

for all local audio devices 102, which may use this information for a variety of purposes such as *jam synchronizing their respective local timecode generators 304* (FIG. 3A), adjusting the speed of the local timecode generators 304 (FIG. 3A), timestamping locally recorded audio, etc.” (emphasis added). Ex-1001, 6:3-8 (italics added, bold in original). “[T]he local control unit reads the master timecode contained in the RX buffer and jam synchronizes the local timecode generator with the master timecode. The jam sync synchronizes the local audio device with the RCU while allowing the local audio device to supply its own timecode.” *Id.* at 14:52-56. “[E]ach local audio device synchronizes (e.g., jam syncs) its respective on board *local timecode generator with the master timecodes received from the master unit*, thereby synchronizing all local audio device timecode generators with the master timecode generator.” Ex-1001, 17:10-16 (emphasis added). In other words, each local audio device generates its own local timecode via its local timecode generator but also receives a master timecode from master timecode generator of a master unit. When the local audio devices receive the master timecode, the local timecode generator is synchronized to the received master timecode. As such, A POSA would understand that the internal clock (e.g., the local timecode generator of the local audio device) aligns with the clock of the master unit (e.g., the master timecode generator).

227. In view of the foregoing, it is my opinion that the claim language of “receive a master timecode from a master timecode generator and jam synchronize the local timecode generator to the master timecode generator” means “aligning the internal clock of the local timecode generator with the internal clock of the master timecode generator,” and that a POSA would understand as such.

B. Petitioners Fail to Demonstrate That the Combination of Strub, Woo, Nagai, and Gleissner Renders Claims 17-19, 21-23, 33-34, 59-60, and 66 Obvious Under § 103 (Ground 1).

1. Challenged Claim 17 Does not Have “Essentially the Same Limitations” as Claim 37 of the ‘814 Patent.

228. It is my opinion that Claim 17 of the ’207 Patent does not have “essentially the same limitations as Claim 37 of the ’814 Patent” as alleged by the Petitioners. Petition, pg. 30. There is a clear distinction between Claim 17 of the ’207 Patent and Claim 37 of the ’814 Patent. For example, Claim 17 of the ’207 Patent discloses a device (Ex-1001, 44:56), while Claim 37 of the ’814 Patent discloses a system claim (Ex-1028, 27:55). Claim 17 of the ’207 Patent requires a “wireless transmitter” (*id.* at 44:62) while Claim 37 of the ’814 Patent does not. *See* Ex-1028, 23:18-41, 27:55-59. Claim 17 of the ’207 Patent requires “a control unit coupled to the wireless transmitter, the audio input port, the memory, and the local timecode generator, the control unit operable to: (i) receive a master timecode from a master timecode generator and jam

synchronize the local timecode generator to the master timecode generator using the master timecode, (ii) transmit the locally generated audio to the remote device via the wireless transmitter; and (iii) store the locally generated audio in the memory as audio data; and (iv) stamp at least a portion of the audio data with the local timecode.” Ex-1001, 45:1-11. However, Claim 37 of the ’814 Patent is absent of such requirements. Rather, the “at least one local control unit” of Claim 37 of the ’814 Patent requires that it is “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 from said locally generated audio and storing said stamped local audio data in said memory” (Ex-1028, 23:32-37), which is not required of the “at least one control unit” of Claim 17 of the ’207 Patent. Furthermore, the “stamped local audio data” is disclosed in Claim 37 of the ’814 Patent as “includ[ing] at least one local timestamp to reference at least a portion of said stamped local audio data to at least one of said local timecodes.” *Id.* at 23:38-41. However, Claim 17 does not disclose the same element. Claim 37 of the ’814 Patent further requires “at least one master timecode generator for generating a plurality of master timecodes,” and “at least one local audio device receiver for receiving at least one of the group consisting of digital commands, said master timecodes, and non-local audio data,” none of which are disclosed in the aforementioned manner in Claim

17 of the '207 Patent. Ex-1028, 20-21, 24-26.

229. As such, it is my understanding and opinion that challenged Claim 17 of the '207 Patent and Claim 37 of the '814 Patent distinct claims that do not have “essentially, the same limitations,” contrary to Petitioners’ assertions.

2. Petitioners Do Not Demonstrate That a Combination of Strub, Woo, Nagai, and Gleissner Teaches Elements 17[Pre], 17[G], 17[H], 59[Pre], 59[F], and 59[G] (Claims 17-19, 21-23, 33-34, 59-60, and 66)

230. It is my opinion that the combination of Strub, Woo, Nagai, and Gleissner does not teach 17[Pre], 17[G], 17[H], 59[Pre], 59[F], and 59[G], which all involve “locally generated audio,” nor are they taught by both Strub and Woo. Petition, pp. 30-37, 53-55, 70-71. Petitioners again do not propose a definition of “locally generated audio.”

231. As previously discussed, “locally generated audio,” is “audio created by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio,” as is required for incorporation of such “locally generated audio” in a multitrack recording as described in the '207 Specification. *See supra* § VIII.A.1. The locally generated audio is the audio created by the performer wearing the local

audio device. The '207 Specification teaches the use of “at least one audio input port for receiving locally generated audio from an audio input device,” where the audio input device (e.g., a microphone) is worn by the performer and connected to the performer’s local audio device to capture only, or primarily, the audio created by the performer wearing the local audio device, so that this audio may be recorded as its own individual, isolated track. This individual track of audio is then combined with other performers’ individual tracks of audio to create a multi-track audio file. Ex-1001, Abstract, 14:23-24, 17:5-8, 18:31-32.

232. It is my opinion that Strub and Woo teach the exact opposite of “locally generated audio,” as the audio of Strub and Woo is locally “received” or “heard” by a recorder (i.e., the person in Strub who records the audio) – not audio generated, or created, by the recorder. Ex-1003, 22:16-33 (describing the recordation of sound to be for sound coming from in front of the recorder); *see also* Ex-1004, 5:3-5 (describing the recordation of sound of a performance from multiple vantage points). The audio recorded by Strub’s recording units 105-108, 200, and 300, and Woo’s recorders 14 is the sound *heard* by the recorder 14, which is a single track of mixed audio that does not include individual, isolated tracks of audio per performer/audio source (e.g., speakers or

performers). This received, “heard” audio is not suitable for multi-track recording because it does not include individual, isolated tracks of audio for each performer that can be independently edited.

233. Instead, it is my understanding that Strub details the receipt of a single track of combined audio by a recorder, rather than generation of audio by a performer that is recorded on a dedicated track:

- (i) “[I]t is believed preferable to bias the audio recording in favor of recording sound from in front of the recorder for several reasons: i) a person or persons with whom a recorder is having a conversation will typically be in front of the recorder; ii) a recorder will typically face the parties participating in a conversation that does not include, but is of interest to, the recorder; iii) a recorder will often face the source of other sounds in which the recorder has an interest; and iv) conversations that occur behind a recorder are typically either conversations which the recorder does not want to hear or are conversations which the parties to the conversation may not intend the recorder to hear,” (Ex-1003, 22:21-32);
- (ii) “Mounting at or just above chest level also enables the audio data acquisition device to pick up spatial imaging of the audio that

is similar to that which is experienced by the recorder's ears,” (Ex-1003, 22:59-63); and

(iii) “[U]se of a directional microphone ... has been found to enhance the ability to record the voices of other people, particularly when those people are relatively distant from the recorder,” (Ex-1003, 23:8-11).

234. The person in Woo who is creating the audio that is to be recorded (i.e., the performer) does not wear any type of recording device. Rather, Woo’s recorder (e.g., recorders 14 and 16) obtains recordings of the audio generated by the performer from independent vantage points: “[s]ystem 10 is used to record the live performance of a performer 12 ... recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point.” Ex-1004, 5:1-5. That is, Woo does not teach “locally generated audio” because Woo’s audio is not “**created** by the wearer of the local audio device receiving the locally generated audio, such audio suitable for use as an independent track of audio.” Rather, recorder 14, who is not generating the audio but is wearing the purported local audio device, is recording the audio generated by another entity (i.e., performer 12).

235. Furthermore, it is my opinion that the single track of audio that does not include individual, isolated tracks of audio per performer/audio source (e.g., speakers or performers) received by a Strub or Woo recorder cannot be used for multitrack recording as required by the '207 Specification because it does not record each performer on an individual, dedicated audio track. Neither Strub nor Woo discloses creating independent tracks of performer audio, multi-track recording, or creating a multi-track audio file. As such, it is my opinion that Strub and Woo do not disclose Elements 17[Pre], 17[G], 17[H], 59[Pre], 59[F], or 59[G], and as Petitioners do not assert that these elements are shown by any of the other cited references, Petitioners have failed to show that there is a reasonable likelihood that at least one of Claims 17-19, 21-23, 33-34, 59-60, and 66 is unpatentable.

3. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, and Gleissner Teaches Element 17[Pre] or 59[Pre] (Claims 17-19, 21-23, 33-34, 59-60, and 66).

236. It is my opinion that the combination of Strub, Woo, Nagai, and Gleissner would not have taught “audio device wearable by a user for storing locally generated audio,” as disclosed in the preambles of Claims 17 and 59. While Petitioners argue otherwise, they do so in the absence of a claim construction of “audio device wearable by a user for storing locally generated audio,” but nonetheless, state Elements 17[Pre] and 59[Pre] are taught by Strub

and Woo. Petition, pp. 30-37, 70.

237. It is my opinion that Petitioners fail to state any proof in support of their assertion that a Strub recording unit having the features of Claims 17-19, 21-23, 33-34, 59-60, and 66, which include a transmitter, is wearable. Ex-1001, 44:62, 47:53-54.

238. Strub discloses different variations of recording units – some with basic recording capabilities (the “Basic Strub Recording Unit”) and some with recording and transmitter/receiver capabilities (the “Advanced Strub Recording Unit”). Strub’s recording units 105-108 are only described as Basic Strub Recording Units without any mention of an ability to transmit or receive data. Ex-1003, 8:13-29. Similarly, Strub’s recording unit 200 is also a Basic Strub Recording Unit as it only includes system controller 201, data acquisition device 202, data storage device 203, and control interface device 204 – no transmitter/receiver. Ex-1003, Fig. 2. In contrast, Strub’s recording unit 300 is an Advanced Strub Recording Unit that specifically includes a transmitter 309 and receiver 310. Further, in this Advanced Strub Recording Unit, data acquisition is performed via two devices (video data acquisition device 302 and audio data acquisition device 303) instead of the one data acquisition device used in the Basic Strub Recording Unit 200. Ex-

1003, 11:48-50, 12:13-16.

239. Petitioners repeatedly equate the local audio device of Claims 17-19, 21-23, 33-34, 59-60, and 66 to Strub's recording unit 300, presumably because it includes a transmitter, as required for the local audio device of the Claims 17-19, 21-23, 33-34, 59-60, and 66. Petition, pp. 30-37; Ex-1001, 44:62, 47:53-54. However, in analyzing Element 17[Pre] and 59[Pre], Petitioners only refer to Fig. 1 to prove wearability, i.e., "Strub discloses at least one audio device—*e.g.*, one of recording units 105-108, **200, and 300**—which are worn by a plurality of users as depicted in Ex-1003, **Fig. 1.**" Petition, pg. 31 (emphasis added). This statement is blatantly incorrect – the only recording units shown in Fig. 1 are recording units 105-108 – recording units 200 and 300 are NOT shown in Fig. 1. Further, Petitioners have made no showing that recording units 105-108 include a transmitter. Ex-1003, 8:10-29.

240. The other support cited by Petitioners on page 33 of the Petition further fails to show that Strub teaches Elements 17[Pre] and 59[Pre] and actually proves that the Strub device is not wearable. Strub at 4:21-31 refers to a Basic Strub Recording Unit and does not mention an integral transmitter. Strub at 14:59-15:11 and 16:66-17:24 discuss the wearability of the visual acquisition

device – not the recording unit as a whole – and actually proves that the visual acquisition device portion of a Strub recording unit is not wearable because it must be attached to a “wearable apparatus” such as a “helmet, headband, or head harness ... that is worn by the recorder” or “mating Velcro™ strips ... can be used to attach the visual data acquisition device ... on headgear, and armband, a legband, or other wearable apparatus.” Ex-1003, 17:1, 7-24. That is, the “wearable apparatus” is wearable, but the visual data acquisition device is not, hence the need to attach it to a “wearable apparatus.”

241. Strub at 38:65-39:11 only pertains to wearability of an “audio communication device” – not a recording unit. At 66:33-51, Strub does not describe wearability of a recording unit with a transmitter because it describes a “data acquisition device.” The acquisition device used in the Basic Strub Recording Unit. Ex-1003, Figs. 2 and 3, 66:33-51. And, the lead in to Strub at 66:33-51 makes clear that even this Basic Strub Recording Unit without a transmitter may not be wearable: “it is desirable to ‘package’ the recording unit components in any manner that achieves some or all of the desired characteristics of a recording unit according to the invention, e.g., small size, low weight, unobtrusiveness, and capability of being mounted on a recorder (**or, at least, capability of being easily carried by the recorder**).” Ex-1003, 66:27-

32 (emphasis added). Even the Strub specification questions whether a Basic Strub Recording Unit without a transmitter is actually wearable and certainly does not address wearability when additional components are added thereto (e.g., a transmitter).

242. Strub at 67:54-68:10 and 72:9-19 again refer to the wearability of a Basic Strub Recording Unit 700 with no transmitter. Ex-1003, 68:11-14. Accordingly, Petitioners have failed to plead any facts to show that the combination of the Cited References discloses a wearable device having all of the features required by the challenged claims of the '207 Patent. Regardless of whether 17[Pre] and 59[Pre] are determined to be limiting, it is my understanding that Petitioners have failed to meet the particularity requirements of 35 § U.S.C. 312(a)(3), which requires Petitioners to prove that a Strub recording unit with a transmitter is wearable – it does not require Zaxcom to prove that it is not wearable. It is my opinion that Petitioners have failed to meet this burden. It is my opinion that Strub's recording unit is portable – not wearable. "Fig. 6 illustrates a recording unit . . . Most of the components of the recording unit are enclosed within a backpack 601" and "a recording unit as shown in Fig. 6 . . . weighs about 24 pounds." Ex-1003, 67:30-33, 45-47. If Strub's recording unit was "wearable," it would not

require a backpack to attach it to a recorder's body. The Strub recording unit is not worn – it is **carried** within a backpack. One might send a child to school with a sandwich in the child's backpack – this does not make the sandwich wearable. As previously discussed, a proper claim construction of Element 17[Pre] and Element 59 [Pre] excludes portable devices. *See supra* § VIII.A.2.

243. It is also my opinion that neither Strub nor Woo disclose a local audio device that is “suitable to be worn by a performer,” as required by a proper construction of Element 17[Pre] and Element 59[Pre]. The '207 Patent describes a recording system that “wirelessly records audio events such as performances, movie takes, etc.,” and the local audio devices are “are worn by the performers of the audio event.” Ex-1001, 4:1-2, 11:13-14.

244. Upon my review of Strub, it is evident that Strub's “local audio devices” are not “suitable to be worn by a performer,” as the Strub recording unit is much too large, visible, heavy, and imposing to be worn during the filming of performances. The use of the Strub recording unit for “social recording” (Ex-1003, Abstract), and to “facilitate later reminiscence” (Ex-1003, 2:63), does not require the same portability and discreteness as a device used to record audio events in a professional context, such as performances or movie takes. Ex-1001, 4:1-2 (“Recording system 100 wirelessly records audio events,

such as **performances, movie takes**, etc. having one or more **performers.**”). (emphasis added). This professional context requires such local audio devices to be of a size, weight, and shape that can be worn by performers without distracting the audience from the visual performance of the audio events. The weight, size, and shape of the Strub recording unit prohibits such application. Figure 6 of Strub teaches a “recording unit [that] weighs about 24 pounds,” and it is a Basic Strub Recording Unit without a transmitter, contrary to the requirements of the challenged claims of the ’207 Patent. Ex-1003, 67:45-47; Ex-1001, 44:62, 47. Accordingly, a Strub recording unit having all of the features of the challenged claims of the ’207 Patent will exceed 24 pounds. While one might carry in excess of 24 pounds for recreational filming, performers (e.g., those performing in motion pictures, concerts, news reporting, opera, etc.) are unable to carry such a weight while delivering a performance, particularly without disturbing their hair, makeup, and costumes.

245. Furthermore, Strub’s disclosure that the “components of the recording unit are positioned **within a backpack** that is worn by the recorder” is not feasible in the performance industry, as it would impair the visual aspects of the performance (e.g., a motion picture, newscasting, opera, concert, etc.). Ex-1003, 16:51-54 (emphasis added), Fig. 1, Fig. 6, Figs. 8A-C. To the contrary,

the teachings of the '207 Specification require a local audio device that is “suitable to be worn by a performer,” including those “manufactured in the form of body-packs, such as those typically worn by news announcers, performers, and the like.” Ex-1001, 8:62-64. Such bodypacks may be worn on a belt or otherwise hidden on the performer (e.g., in a pocket). Ex-2020, pg. 5.

246. It is my understanding that the local audio device taught by the '207 Specification records the audio created by the performer who is wearing the local audio device, the recorders of Strub and Woo do not – the Strub recorder records audio the recorder **hears** and the Woo recorder records the event and its performers. *See supra* § VIII.B.1. As such, it is my opinion that Strub and Woo both record event audio, not performer audio, wherein the event audio is the mixed audio of multiple sources participating in the event occurring in front of the Strub or Woo recorder. Ex-1003, 8:8-16, 22:21-32; Ex-1004, 5:1-5. This negates the ability of Strub or Woo to create a multitrack recording because there are no independent tracks of each source of audio that may be independently manipulated during or after creation of a multi-track audio file.

247. In view of the foregoing, it is my opinion that neither Strub nor Woo disclose Elements 17[Pre] and 59[Pre], and as Petitioners do not assert that these elements are shown by Nagai, or Gleissner, Petitioners have failed to

show that there is a reasonable likelihood that at least one of the challenged claims of the '207 Patent is unpatentable.

4. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, and Gleissner Teaches “receive a master timecode from a master timecode generator and jam synchronize the local timecode generator to the master timecode generator” (Claims 17-19, 21-23, 33-34, 59-60, and 66).

248. It is my opinion that neither Strub nor Woo discloses Elements 17[F] and 59[E], namely “receive a master timecode from a master timecode generator and jam synchronize the local timecode generator to the master timecode generator.”

249. Petitioners’ claim that “Strub discloses receiving a master timecode ... and jam synchronizing the local timecode generator – the internal clock – to the master time code generator using the master timecode,” is inadequately supported, and, as such, should be wholly disregarded. Petition, pg. 51. For example, Petitioners support their assertion that a “master timecode generator,” is a “GPS satellite or SMPTE timecode source” by citing to Strub, stating that at “62:53-54 (position sensing device 311 can be a GPS receiver), 63:50-60 (“[T]he recording unit need only be exposed to a GPS satellite for about a minute to enable the time signals to begin. Further, after that point, clock drift occurs slowly, even if the recording unit is blocked from the GPS satellites for a period of time. Additionally, a recording unit according to the invention typically also includes

an internal clock, as described above, that, while not as accurate as the GPS time signals, can also be used to accurately time-stamp data.’); 79:63-80:7 (‘[The] recording unit...includes a clock that is used to time-stamp recording data as the recording data is acquired.’ However, adequate synchronization requires that each recording unit ‘include a GPS receiver’ and not be ‘shielded from a GPS transmitter system for an extended period of time....’), 75:25-57 (‘SMPTE time code input ... to enable synchronization with an external device’), Fig. 3 (position sensing device 311),” however, none of these citations disclose “a producer of a master time reference signal that controls at least one other timecode generator.”

Supra § VIII.A.3.

250. Strub at 62:53-54 states “[f]or example, when the position sensing device is a GPS receiver, as described further below,” which has no bearing on the construction of Elements 17[F] and 59[E]. Strub at 63:50-60, states:

Though the recording unit must not be constantly blocked from GPS satellites in order for the recording unit to receive such time signals, the recording unit need only be exposed to a GPS satellite for about a minute to enable the time signals to begin. Further, after that point, clock drift occurs slowly, even if the recording unit is blocked from the GPS satellites for a period of time. Additionally, a recording unit according to the invention typically also includes

an internal clock, as described above, that, while not as accurate as the GPS time signals, can also be used to accurately time-stamp data.

Ex-1003, 63:50-60.

251. Strub at 79:63-80:7 discloses:

[A] recording unit according to the invention typically includes a clock that is used to time-stamp recording data as the recording data is acquired. However, the clocks of different recording units may not be adequately synchronized to enable use of the time-stamps associated with the recordings obtained from different recording units to synchronize those recordings. (If recording units according to the invention each include a GPS receiver, such mis-synchronization will only exist to an appreciable degree if one or more recording units are shielded from a GPS transmitter system for an extended period of time, e.g., several hours.)

Ex-1003, 79:63-80:7.

252. The language of these aforementioned sections discusses circumstances in which either GPS time signals **or** the internal clock are used for time data, but neither section discloses a master timecode generator that is “a

producer of a master time reference signal that **controls** at least one other timecode generator.” It is my opinion that Petitioners have failed to reference language in Strub which indicates that the GPS signal or SMPTE timecode signal interacts in any way with the internal clock of the Strub recording units.

Ex-1003, 79:63-80:7.

253. Strub at 75:25-57 discloses:

Some portable video recorders include an external communication port that enables communication with an external device. For example, some camcorders made by Sony Corporation (e.g., CCD-TR101) include such an external communication port that enables communication with an external device in accordance with a communication protocol known as LANC (also referred to as Control-L). Some camcorders sold by Ricoh (e.g., R-18H), Nikon and Canon (e.g., ES-900) also enable communication with an external device in accordance with the LANC protocol. Some camcorders made by Panasonic (e.g., AG-196U) include an external communication port that enables communication with an external device in accordance with a different, though comparable, communication protocol (referred to as a "5-pin editing terminal").

Some camcorders made by JVC (e.g., GR-DVL9000) include an external communication port that enables communication with an external device in accordance with still another comparable communication protocol referred to as JLIP. Additionally, the IEEE 1394 (e.g., Firewire or iLink) communication protocol can be used with some camcorders (e.g., Sony DCR-PC1, Sony DCR DVR 900, Panasonic AG-EZ30U) to enable communication to an external device. Additionally, SMPTE time code input can be used with professional camcorders or portable dockable videotape recorders (VTRs), such as the Sony BVV-5 dockable Beta-SP VTR, to enable synchronization with an external device. Such portable video recorders can be used to construct a hybrid recording unit according to the invention, since the communication capabilities of the portable video recorder enable the portable video recorder and auxiliary device to coordinate operation as needed to provide the additional functionality of the auxiliary device.

Ex-1003, 75:25-57.

254. The aforementioned disclosures of Strub does not give further detail identifying such “external device,” or its purposes, and merely states that

“[s]uch portable video recorders can be used ... since the **communication** capabilities ...enable the portable video recorder and auxiliary device to coordinate operation. Ex-1003, 75:51-55 (emphasis added). It is my opinion that the language of these aforementioned sections discusses scenarios in which either GPS time signals **or** the internal clock are used for time data, but neither section discloses a master timecode generator that is “a producer of a master time reference signal that **controls** at least one other timecode generator,” as required by a proper construction of Elements 17[F] and 59[E]. While Petitioners argue that a “POSA would have understood that Strub’s use of a GPS signal or SMPTE timecode input to synchronize the internal clock comprises facilitates jam synchronizing the internal time clock to a master timecode generator,” Petitioners have failed to reference language in Strub which indicates that the GPS signal or SMPTE timecode signal interacts in any way with the internal clock of the Strub recording units.

255. Strub explicitly states that “the recording units may not include clocks for enabling time-stamping of the recordings.” Ex-1003, 80:8-10. It is my understanding that the disclosed recording units of Strub that are time-stamped by GPS time signals do not include clocks to be synchronized with a master timecode. Strub’s disclosed use of a GPS time signal as a clock for

recording units is very different than the claimed master timecode generator that controls other timecode generators in the recording units.

256. Strub clearly states that a synchronization pulse is used for synchronization (Ex-1003, 38:30-39), which is in sharp contrast with the '207 Specification, which discloses the production of timecodes having sufficient data to synchronize audio segments. Ex-1001, 4:65-5:5., 6:19-29, 10:62-11:4, 11:29-35, 14:52-56, 15:54-16:7, and 17:9-16. Contrary to the invention disclosed in the '207 Patent, Strub needs to use a synchronization pulse because the output of the GPS receiver is insufficient to achieve synchronization.

257. While Petitioners' rely on Strub's disclosure of an SMPTE time code input at 75:25-57 (Petition, p. 52) this reliance is misplaced because Strub does not disclose that the SMPTE time code input is used to control a timecode generator in a recording unit. Rather, Strub states that the "SMPTE time code input can be used with professional camcorders or portable dockable videotape recorders (VTRs) ... to enable synchronization with an external device." Ex-1003 at 75:47-52.

258. Such a synchronization would not entail the SMPTE timecode source controlling at least one other timecode generator in the camcorder or videotape recorder, rather, connection of an SMPTE time code input thereto

would merely allow the recorder to use the SMPTE time code as its time code source, rather than using its own internal clock. This is typically done by setting the camcorder to “External Timecode” or a similar option. Accordingly, this section of Strub would not have taught a master timecode generator (i.e., an SMPTE timecode source) for generating a plurality of master timecodes because the SMPTE timecode source is not “a producer of a master time reference signal that controls at least one other timecode generator” as required by Claims 17 and 59. *See supra* § VIII.A.3. In view of the aforementioned, Strub could not possibly disclose a means to “jam synchronize the local timecode generator to the master timecode generator using the master timecode,” as required by the challenged claims of the ’207 Patent, as Strub fails to disclose two distinct timecode sources whereby one timecode generator aligns with another timecode generator. Rather, while Strub discloses the use of a GPS time signals **or** the internal clock as producers of time data, Strub is absent of any language that would indicate the internal clock is aligned with the GPS time signal.

259. It is my opinion that Woo does not compensate for the deficiencies of Strub as Woo’s “master clock” is not a “master timecode generator for generating a plurality of master timecodes.” Rather, there is no

teaching that Woo's master clock produces a time reference signal used to synchronize at least one device via the control of at least one other (slave) timecode generator. Indeed, there is no mention of any such secondary timecode generator in Woo, let alone that they are controlled by Woo's master clock. *See e.g.*, Ex-1004, cols. 4-8.

260. At 8:1-4, Woo discloses that "[t]he clock output 128 is conventionally formatted and structured, and is preferably compatible with present-day commercially-available equipment that have master clock input ports." *Id.* at 8:1-4. The mere disclosure of a master clock and master clock input ports on commercially-available equipment does not nearly meet the requirements of the claimed "master timecode generator" that is a producer of a master time reference signal that controls at least one other timecode generator and produces a time reference signal used to synchronize at least one device. Woo clearly states that the time output of a GPS receiver must be combined with a pulse to perform synchronization.

(i) "The conventional date and time sentence output of the GPS navigation receiver is combined with a highly-accurate one pulse-per second ($\pm$ one microsecond) to form a time-keeping base for the time code output," (Ex-1004, 4:16-20); and

(ii) “Time code information is generated for connections 20, 24 and 38 by combining a one-pulse-per-second output from the GPS DSP 52 with the conventional date and time information available from deciphering the navigation satellite transmissions,” (Ex-1004, 8:13-18).

261. This is in sharp contrast with the '207 Patent, which produces timecodes having sufficient data to synchronize audio segments. *See* Ex-1001. Instead, Woo needs to use a highly accurate pulse because the output of the GPS receiver is insufficient to achieve synchronization. Woo relies on a video sync generator to provide the accurate pulse to the time code, but each individual sync generator in Woo is not synchronous to each other. *See* Ex-1004 9:5-19. As such, the time codes are not synchronized to a common, master time code signal. *See id.*

262. It is my understanding that the GPS-based characteristics of the Woo timecodes prevent the GPS satellite from producing a continuous master time reference signal that is capable of controlling at least one other timecode generator, as this requires transmission and reception of a series of signals for the synchronization to, and control by, a master time reference signal used to synchronize at least one device. Ex-1004, 9:5-20. Furthermore, it is common

knowledge that audio equipment is not capable of receiving GPS-based timecodes or other satellite signals in many filming locations e.g., subways or other underground locations.

263. In contrast, the wireless transmission of signals taught by the '207 Specification provides for accurate transmission of master timecodes in all locations including those not accessible by satellite signals. Strub does not cure the deficiency of Woo, as Strub explicitly states that “the recording unit must not be constantly blocked from GPS satellites in order for the recording unit to receive such time signals.” Ex-1003, 63:50-52.

264. As such, it is my opinion that neither Strub nor Woo disclose a “master timecode generator” nor “master timecode,” and as Petitioners do not assert that these elements are shown by Nagai or Gleissner, Petitioners have failed to show there is a reasonable likelihood that at least one of the challenged claims of the '207 Patent is unpatentable.

5. Petitioners Fail to Demonstrate That a Combination of Strub, Woo, Nagai, and/or Gleissner Teaches a “control unit operable to ... jam synchronize the local timecode generator to the master timecode generator using the master timecode” (All Challenged Claims).

265. It is my opinion that Petitioners have failed to show how both Strub and Woo teach Elements 17[F] and 59[E], as neither Strub nor Woo

teaches a “master timecode generator” or a “master timecode” for the reasons discussed. *Supra* § VIII.B.4. Therefore, it is my opinion that Petitioners failed to show that Strub teaches the ability to “jam synchronize.”

6. Petitioners Fail to Demonstrate That A POSA Would Be Motivated to Combine the Cited References to Create the Invention of the Challenged Claims of the '207 Patent With a Reasonable Expectation of Success.

266. It is my opinion that Petitioners have failed to show why a POSA would attempt to solve a dropout problem of a “Virtual Wireless Multitrack Recording System” (Ex-1001, Title), by combining Strub and Woo. Neither teach multi-track recording capabilities nor the capturing of individual sources of audio as required for multi-track recording. Rather, both Strub and Woo capture single tracks of audio that do not include individual, isolated tracks of audio per performer/audio source (e.g., speakers or performers).

267. Furthermore, it is my understanding that Petitioners’ motivation to combine Strub and Woo is rooted in forbidden hindsight analysis and merely makes conclusory statements that “each of the local audio devices of Strub and Woo wirelessly receives master timecodes from a master timecode generator and uses the timing information from the master timecodes to stamp the local audio.” Petition, pg. 24. It is unclear how the teachings of Strub and Woo could be combined as suggested by the Petitioners to achieve the claimed invention

with a reasonable expectation of success, because the references disclose methods that substantially differ from each other and the claimed invention.

268. As previously discussed, the '207 Patent includes a master timecode generator that is “a producer of a master time reference signal that controls at least one other timecode generator,” and creates “a time reference signal used to synchronize at least one device,” wherein this time reference signal is non-GPS-based and is used to coordinate the various tracks of a multi-track recording system.

269. In sharp contrast, it is my understanding that Strub discloses a GPS time signal that is used as a clock to produce time stamps but does not control another timecode generator and does not produce a time reference signal used to synchronize at least one device. “A GPS receiver can also be used to receive a signal representing the current time that can be used as a clock to generate time-stamps for the recording data.” Ex-1003, 63:40-49. On the other hand, Woo discloses a device having a “master clock 120 compris[ing] a GPS navigation satellite receiver 122 and a digital signal processor 124 for accumulating and averaging code epochs.” Ex-1004 at 8:60-63. Woo relies on a video sync generator to provide the accurate pulse to the time code, but each individual sync generator in Woo is not synchronous to each other so the time

codes are not synchronized to a common, master time code signal. *See* Ex-1004 9:5-19.

270. In view of the foregoing, it is my opinion that a POSA would not have been motivated to combine Strub and Woo, since they use different approaches, and it is not clear that the outcome of this combination improves anything, never mind solving the problem of dropouts in multi-track recording systems as neither Strub nor Woo teach multi-track recording or capture individual sources of audio as required for multi-track recording.

271. Additionally, a POSA would not have been motivated to combine Strub and Woo, as Strub already discloses a solution to post-production editing (i.e., participants share their locally recorded audio after a recorded event). In view of this existing solution, applying the Woo solution in post-production in Strub would have been unnecessary. A POSA would not have been motivated to change Strub's simple system used by recreational recorders with a complex technical solution requiring multiple GPS receivers, delay circuitry, commands and requests, etc., especially because doing so would dramatically increase the size, weight and battery requirements of the bodypacks, making the Strub body pack even more unwieldy, cumbersome and impractical than it already was.

272. It is also my opinion that Strub and Woo are not in the same field as the claimed invention, and their disclosures are not reasonably pertinent to the problem faced by the '207 Patent inventors, thereby making them non-analogous art to the '207 Patent.

273. It is my opinion that Strub and Woo are not in the field of multi-track recording, nor are they capable of multi-track recording as they do not record individual sources of audio. Strub is not in the field of professional sound recording, but is in the field of low attention, social recording. Woo discloses a “GPS receiver [that] comprises a data output port for communicating time code information formatted according to standards.” Ex-1004, Abstract. The claimed invention does not mention any GPS satellite or receiver; it instead relates to using a master timecode generator to control other timecode generators in other recorders and “to accurately stamp its recorded audio ... [which] allows multiple individually recorded audio tracks to be combined into one or more multi-track audio files.” Ex-1001, 4:5-14. GPS signals are known to be incompatible with performance recording as many recording locations (e.g., subways or other underground locations) are not capable of receiving satellite signals. As such, it is my opinion that a POSA would not have looked to Strub or Woo to address the problem identified in the '207 Patent.

7. Modifying Strub With Nagai Or Gleissner Would Change the Principle Operation of Strub and Render It Unsuitable for its Intended Purpose of Low Attention, Social Recording.

274. It is my understanding that a Petition fails to show obviousness of challenged claims of the '207 Patent via a combination of the cited references if the proposed modification of a reference: (1) changes the principle operation of a reference; and (2) renders the reference unsuitable for its intended purpose. Regarding element (2), if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

275. It is my opinion that fail to show how 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” (Petition, pg. 45), as the Petition fails to identify the primary reference, how it is modified, or what elements of the claims are missing from the primary reference. Based upon the Petition’s assertion that “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” (Petition, pg. 45), I will assume the reference being modified is Strub or Woo.

276. It is my understanding that Strub’s intended purpose is low

attention, social recording that allows multiple recorders to record the same event from multiple viewpoints. Ex-1003, Abstract (“The low attention recording enabled by the invention can be particularly advantageously employed in ‘social recording,’ i.e., recording in which multiple participants in an event are recording the event.”); *see also* Ex-1004, 5:3-5 (“[a] recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point.”).

277. Modifying Strub with Element 17[B] as suggested in the Petition at pages 43-45 would cause each Strub recorder to record only the recorder’s audio via the “at least one audio input port for receiving locally generated audio from an audio input device.” In this scenario, to obtain complete event audio, each recorder’s audio recording (of the recorder’s personal audio) would be combined together into a single multitrack recording of the event – which would result in only one audio recording for any given event despite the number of recorders or possible viewpoints. Such an outcome both changes the principle operation of Strub and renders it unsuitable for its intended purpose because Strub no longer functions to perform “‘social recording,’ i.e., recording in which multiple participants in an event are recording the event” from multiple viewpoints. Ex-1003, Abstract.

278. Similarly, the recorder of Woo is intended to capture the audio of a performance from a specific vantage point alongside other recorders from different vantage points. Ex-1004, 5:3-5 (“[a] recorder 14 captures the performance from its vantage point while another recorder 16 independently captures the same performance from its own vantage point.”). Since the modification of Strub and/or Woo with the teachings of Nagai and Gleissner would change the principle operation of Strub and render it unsuitable for its intended purpose, there is no suggestion or motivation to make the proposed combination.

279. As such, it is my opinion that Petitioners fail to show that Strub and/or Woo may be modified by Nagai and Gleissner without changing the principle operation of the primary reference (e.g., Strub and/or Woo). As such, a POSA would not have been motivated to combine Nagai and Gleissner with Strub and/or Woo and therefore have failed to show that there is a reasonable likelihood that at least one of the challenged claims of the ’207 Patent is unpatentable.

I hereby declare under penalty of perjury that all statements made herein of my own knowledge are true, and that all statements made on information and belief

are believed to be true. I understand that willfully false statements and the like are punishable by fine, imprisonment, or both under 18 U.S.C. § 1001.

Executed on March 18, 2025, in Los Angeles, California.

By: James DeFilippis
James DeFilippis