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. JACK NORFLUS
Exhibit 2021

I. INTRODUCTION

1. I, Jack Norflus, 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. ("Patent Owner" or "Zaxcom") to provide opinions and conclusions regarding the unpatentability grounds asserted by RØDE Microphones, LLC and Freedman Electronics Pty Ltd (collectively "Petitioners").

2. This declaration ("Declaration"), including the accompanying exhibit, sets forth my opinions, conclusions, and other matters regarding the IPR Petitions filed by Petitioners with respect to the following U.S. Patent Nos: (1) 7,711,443; (2) 7,929, 902; and (3) 10,276,207, and Zaxcom's Preliminary Responses thereto.

II. QUALIFICATIONS

3. I have extensive experience in recording audio for use in long format documentaries, network news magazine programs, reality television, short news stories, documentaries, commercials and corporate videos. Specific areas of experience include location sound recording, live sound mixing for events and products, multi-track recording and mixing, and the capturing of high-quality audio in challenging environments. *See* Ex-2022.

4. I am currently an audio engineer for CBS News, responsible for producing high-caliber audio for live television broadcasts, taped interviews, news

segments and CBS News shows, including shows like 60 Minutes, CBS Sunday Morning, CBS Morning Show, CBS Evening News, and CBS reports. *See* Ex-2022.

5. In addition to my role at CBS News, I also work as a freelance audio engineer. I specialize in capturing high-quality sound for movies, advertisements, and documentaries. I have held audio engineering roles for other network, cable, and syndicated programs like ABC 20/20, ABC Good Morning America, ABC World News Tonight, NBC Dateline, NBC Nightly News, NBC Today Show, NBC Sports, ESPN Sports Network, HBO Home Box Office, MTV Music Television, THT Turn Network Television, WNET / WLIW Public Television, and Children Television Workshop – Sesame Street. My experience also includes audio engineering for foreign television programs such as ARD, a German public service broadcaster, BBC, a British public service broadcaster, NHK, a Japanese public service broadcaster, ORF, an Austrian public broadcaster, and RAI, an Italian public service broadcaster. *See* Ex-2022.

6. I am being compensated at the rate of $250 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.

7. I have no financial interest in Zaxcom or Petitioners.

III. MATERIALS REVIEWED AND CONSIDERED

8. My opinions contained in this Declaration are based on my own education, training, experience and knowledge. I may rely on my education, training, experience, and knowledge, in addition to any evidence specifically cited as supportive examples in particular sections of this Declaration, as additional support for my opinions.

9. 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.

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

IV. PERSON OF ORDINARY SKILL IN THE ART

11. In my opinion, a person having ordinary skill in the art ("POSA") of multi-track audio and wireless communication systems in the professional

performance industry would need functional real-world and hands-on experience setting up and recording audio. While a formal education (e.g., taking classes or a course) regarding multi-track audio and wireless communication systems would impart knowledge, it is highly important that a person obtain direct experience working with a seasoned and qualified technician to learn the practical skills and nuances needed to produce professional-grade multi-track recordings utilizing wireless communication systems. Without real-world, hands-on experience, a person would be lacking key components of understanding and technique related to recording audio, particularly in a professional setting.

V. MULTI-TRACK RECORDING

12. I would define multitrack recording as recording two or more sources of audio – where each source would be recorded to an individual isolated track – that are then combined into a single file. An isolated track of audio refers to a specific audio element that has been separated from the rest of the audio components in a recording. This can include dialogue, music, sound effects, or vocals. Isolating a track allows it to be edited, listened to, or manipulated independently without interference from other audio elements. Having isolated tracks for each source of audio allows an editor to properly mix those tracks

together in an acoustically controlled environment (e.g., an audio edit suite) where the editor can control the mix and provide the best sounding mix possible.

13. A POSA would have known around the time of July 14, 2005, that "a multitrack recording consists of multiple, separate streams of sound … During a typical music-recording session, individual instruments or voices will be recorded on separate tracks." Ex-2014, pg. 1. Multitrack music recording began in the mid-1950's and has become the industry standard for recording music. Multitrack recording for film and television began sometime later than that and has been the industry standard anytime more than a single source is being recorded.

14. It is my opinion that the collection of all event audio on a single track of audio without individual tracks of audio per performer/audio source directly contradicts the requirements and purposes for "multitrack recording," as putting more than one source of audio on any one track would classify that track as a "mix track." Such would not be considered a multitrack recording. Essentially, a multitrack recording will have multiple different sources of audio, each recorded discreetly to its own track.

15. Multitrack recording is meant to record multiple sound sources where each source is recorded to its own individual track. This way a sound editor can take those individual sources and have the greatest flexibility to combine, or mix, those sources together in a controlled environment (e.g., an edit suite). This would

give the best flexibility and control for mixing the individual sources, while also providing the best sounding results.

16. The creation of a multitrack file could never occur if there are no independent tracks for each of the performer's voices, as this is contrary to the definition of "multitrack" recording. If no independent, or isolated, tracks exist, then all one would have is a single "mix track."

17. It is my opinion that there would never be a reason to combine the local audio of a performer with that performer's remotely recorded/remote audio data for multitrack creation purposes. Since the local audio and remotely recorded/remote audio data come from the same source and represent the same audio, by definition, a combination of these two tracks would not even be considered a multitrack recording.

18. In the absence of any transmission errors, or other event that would disrupt or damage the remotely recorded/remote audio data, there would be no reason to combine the remotely recorded/remote audio and local audio of a performer, as the audio would be identical.

19. The audio track of a specific performer could not be repaired with the audio from another performer or any other source. The audio from a different performer would sound different due to the proximity effect. The proximity effect describes the following situation: when a microphone on one performer is in close

proximity to that person, it would have the full dynamic range of that person's voice. If the audio is taken from a different microphone at a different proximity, the dynamic range of their voice would be compromised. The audio would lose most of its low end and would sound "thinner." Additionally, the audio would include noise of the room/environment. For example, during a phone call, if a participant is conversing using the speaker phone and they speak close to the microphone, that person would sound fine to the other participant of the phone call. But as that person moves away from the microphone, while they can still be heard, the audio would be of lower quality.

20. Multitrack recording cannot be accomplished if a track of audio includes audio from the entire event, including audio from multiple performers or sources of audio because there would be no isolated audio tracks. Instead, the audio would be a mix track. With a mix track, an editor would no longer have access to each individual audio source, resulting in their inability to provide the cleanest best sounding mix possible.

21. If two different recordings record all the audio of the same event, and are combined to create a composite recording, this does not comply with the standards of multitrack recording. A recording representing the combination of all audio of an event onto a single track makes that a mix track – it is no longer an isolated track. When you do not have individual isolated tracks of each audio

source you no longer have a multitrack recording, and you lose all of the advantages of having a clean isolated audio track from a specific microphone to work with in post-production. When recording, it is best to have the cleanest, best sounding audio of a person's microphone with no other audio interfering with it – so the industry standard is to provide isolated tracks of each audio source via a multitrack recording. As such, having an audio file that includes background sound in addition to the performer's audio would not be appropriate for multitrack recording.

VI. APPROPRIATE PHYSICAL ATTRIBUTES OF RECORDING DEVICES TO BE USED IN PROFESSIONAL RECORDING

22. A recording unit (i.e., one that is contained within a backpack) that weighs 24 pounds would absolutely not be appropriate for use in recording audio in film or other professional recording circumstances. First, in professional production, there is the expectation of not "breaking the fourth wall." The fourth wall is the imaginary boundary between the audience and the talent. A 24-pound backpack would be impossible to conceal, therefore its lack of concealment would inform the audience that the talent is engaged in a recorded activity, thereby breaking the fourth wall. Furthermore, carrying a 24-pound load would make it difficult, if not impossible, for the talent to maintain the energy level to perform, especially when such a performance is physically demanding (e.g., stunt

performances). For example, an actor, like Tom Cruise, performing stunts and delivering lines while wearing a 24-pound backpack would be exceptionally demanding while also impeding the audience's perception of the performance.

23. Carrying a recording unit weighing 24 pounds would never be appropriate or acceptable for use by a performer in a professional recording context. I have recorded audio with famous actors, professional athletes, presidents, and heads of states in all sorts of situations while they were wearing various outfits ranging from business suits and evening gowns to bathing suits, and everything in between. These people are often involved in some sort of physical activity, such activities ranging from simple acts such as walking around a room, to strenuous activities like running a marathon. I even recorded people rock climbing and parachuting from a plane. In all my experiences, a 24-pound recording unit would never be acceptable. Furthermore, such a size and weight could be a safety hazard in many cases.

24. The recording units of 105-108 as depicted in Figure 1 of Strub (Ex-1003, Figs. 1), as well as the recording units depicted Figures 4, 6, 8A-C, and 9A-B (Ex-1003, 4, 6. 8A-C, 9A-B) would not be appropriate for use by performers in a professional recording context. When equipping a performer with a recording device, that recording device must be small enough and have a weight light enough to be discreetly hidden under whatever outfit they are wearing. There must be no

chance that the equipment would be visible to the audience – all while not causing any discomfort to the performer. Nothing in any of those aforementioned figures of Strub would be remotely acceptable for use in professional film or television production. I would not consider them body packs, as they are too large and too intrusive to be used for film and television production.

25. A local audio device in the form of a body pack must have particular physical characteristics to be used in a professional setting (i.e., movie takes, newscasting, etc.). The device would need to be small and discreet enough so that the device would not be visible to the camera or audience. The device should also not cause any discomfort to the performer, who would likely be wearing the device for an extended period of time, and who may be involved in some sort of movement or physical activity.

26. It is my opinion that a POSA would understand "body packs" in the industry of recording performances as devices that house a transmitter and are capable of being worn on a belt or in a pocket, such as those typically worn by news announcers, performers, and the like. It is film and television industry standard for a "body pack" transmitter to be placed discreetly on a performer so that the pack is not visible to the camera or audience. In my professional experience, I routinely place the body pack on a person so it is not visible –

whether that be on a belt, in a pocket, or underneath the clothes when their outfit gives me no other acceptable place to put it.

VII. GPS OR SATELLITE TIMECODE GENERATORS

27. It is my opinion that any GPS or satellite reception of time code is unreliable and not a viable solution for the transmission or reception of timecode. There are many instances where receiving a GPS signal would just not be possible. For example, subways or other underground locations. Additionally, many professional recording studios are built like a faraday cage to prevent external electromagnetic signals from affecting the equipment inside, thereby making it impossible for a GPS signal to penetrate the studio. Additionally, I have recorded audio in government buildings, like the White House and the Pentagon, and these buildings are shielded so that no signal can get in or out, thus making the reception of a GPS signal impossible.

28. The industry standard is to bring in your own master timecode generator and use that master timecode generator to lock time code to all devices with either a hardwired cable or with a local transmitter that would lock the units together. This, in my opinion, is the only acceptable and reliable way to communicate and lock timecode to various devices.

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 17, 2025, in New York City, New York.

By: _____

Jack Norflus