RESPONSE TO THE OFFICE ACTION DATED 12/22/14

Examiner interview on 2/11/15

The applicant would like to thank the Examiner for his time and attention to the application and the telephonic interview that took place on February 11, 2015. The participants of the interview were C. Earl Woolfork, Megan Lyman, and Examiner Flanders. The content of the interview were a detailed discussion of the role and placement of differential encoding in the present invention, as well as the system architecture of the present invention. It was discussed that CDMA and differential encoding are used in different steps of the wireless headphone system, and different from the teachings of the prior art.

Claims

Claims 1-3, and 5-11 have been amended to recite the one to one relationship between each transmitter and its own receiver as is taught by the invention. Claim 12 is new and does not present any new matter. The amendments to the claims do not present new matter and are well supported by the disclosure, it is respectfully requested that they be entered at this time.

Rejection of Claims 1-11 under 35 USC § 103

The legal standards for obviousness are well known, and well documented, in this case. Those standards, as previously outlined and discussed in the prosecution history, are incorporated by reference so as to streamline the remarks presented at this time.

It is well known that DPSK is a differential encoding scheme[1] (pages 11 and 12 of the Action). The invention utilizes differential encoding[2] for, among other things, noise immunity[3] (e.g., inter-symbol interference noise reduction) as claimed (" … capture packets and a correct bit sequence within the packets aided by lowering signal detection error through reduced intersymbol interference coding … ").

The use of differential encoding in a mobile spread spectrum transmitter that communicates audio (e.g., music) directly (i.e., point-to-point) to a mobile spread spectrum receiver –for, in one embodiment, "lowering signal detection error through reduced intersymbol interference coding (i.e., differential encoding/decoding) of said original audio signal representation" – while utilizing CDMA in a particular distributed network architecture (i.e., mobile transmitter-to-mobile receiver) and suppressing interference from other device transmitted signals in the network (all of which is claimed), is not disclosed in the combination (as the above language from OA states) and is not obvious.

Reed-Solomon, as referenced by Lindemann and Roberts, is directed toward *detecting and correcting the errors within a received signal*. The Reed-Solomon reference in Lindemann and Roberts is not directed toward differential encoding/decoding (DPSK). Reed-Solomon is a Block Code, where *extra bits are added to the data* for detecting and correcting errors within the received signal[4]. Whereas differential encoding/decoding (in the present invention) *applies a known phase relationship to the audio representation data at the encoder*, then during decoding, a received piece of audio representation data is

---

[1] Ref: Exhibit I, Introduction to Spread Spectrum Communications, "In the case of DPSK, it is only necessary that the phase be the same from one signaling interval to the next to allow the comparison of signals in adjacent bit intervals."

[2] Ref: Specification Column 2, Lines 52-53 "For further noise immunity, a spread spectrum DPSK (differential phase shift key) transmitter or module is utilized.

[3] Ref: Exhibit II, Wireless Communications Systems, "…differentially encoded MPSK … is used to eliminate phase ambiguity in the carrier recovery process."

[4] Ref: Exhibit III Wireless Communications, pg. 340 "In block codes, parity bits are added to blocks or message bits to make code blocks" and pg. 345 "BCH cyclic codes are among the most important block codes … common class of nonbinary BCH codes is the family of codes known as Reed-Solomon codes."

used as a reference for the following piece of audio representation data[5] to aid in suppressing intersymbol interference (ISI).

It is argued on page 7 of the Action that Li, Lindemann and Lavelle present a centralized system, and that Altstatt can be used to teach a decentralized system to obviate the present invention. As discussed in the interview, one of skill could not replace the FM transmitter of Altstatt to use CDMA codes because codes in a centralized system (Li, Lindemann, and Lavelle) exhibit high interference in a decentralized system (as discussed previously in the Response to Office Action dated 10/11/13).[6] Thus, one of skill would have to develop new coding. The claimed unique user code is related to the spread spectrum code division multiple access portion of the invention. It aids in suppressing user-to-user interference as opposed to suppressing intersymbol interference within the audio representation data. The combination does not suggest the present invention's use of CDMA and differential encoding to create a wireless headphone receiver with an associated transmitter. The rejection should not stand.

As to the use of Reed-Solomon as referenced by the prior art of Lindemann and Roberts. It is important to note that Reed-Solomon, as taught in the prior art, is directed towards detecting and correcting the errors within a *received* signal. In the present invention the transmitter encodes and the receiver decodes the differential

---

[5] Ref: Exhibit I, Introduction to Spread Spectrum Communications, "In the case of DPSK, it is only necessary that the phase be the same from one signaling interval to the next to allow the comparison of signals in adjacent bit intervals."

[6] Ref: CDMA-Based MAC Protocol for Wireless Ad Hoc Networks, pg. 155 "A system is called time-synchronous (i.e. Centralized) if all signals originate from the same transmitter,..., a system is called time-asynchronous (i.e. Decentralized) if signals originate from multiple transmitters...In this case, the cross-correlation (i.e. interference) between codes cannot be neglected. In fact, codes that are orthogonal in synchronous systems exhibit high cross-correlation when not properly synchronized." Emphasis added.

coding to correct for interference created by phase issues presented by the potentially mobile environment of the present invention. This phase issue has also been presented previously in the prosecution history of this application. Lindemann and Roberts to not disclose or suggest Reed-Solomon for the remediation of intersymbol interference as taught by the present invention. The rejection should be removed.

The remarks presented herein demonstrate the novelty of the present invention separate from the teachings of the prior art. The applicant does not acquiesce to any rejections that have not been specifically addressed in this Response. Previous remarks regarding the novelty of the present invention are incorporated by reference. Applicant respectfully requests that the rejections be removed at this time, and the application be placed into allowance.

If there are any questions, concerns, or actions that can be taken to expedite the processing of this application, please do not hesitate to contact the Applicant's representative.

February 20, 2015

Respectfully Submitted,

Megan E. Lyman, Registration No. 57,054
1816 Silver Mist Ct.
Raleigh, NC 27613
melyman@lymanpatents.com
(919) 341-4023 (phone)
(919) 341-0271 (fax)

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.