



[54] FREQUENCY HOPPING COMMUNICATION METHOD AND APPARATUS FOR MODIFYING FREQUENCY HOPPING SEQUENCE IN ACCORDANCE WITH COUNTED ERRORS

[75] Inventors: Alon Gendel, Raanana; Yossi Waisblum, Kfar Saba, both of Israel

[73] Assignee: Butterfly VSLI Ltd., Kfar Saba, Israel

[21] Appl. No.: 09/054,875

[22] Filed: Apr. 3, 1998

[51] Int. Cl.<sup>7</sup> ..... H04L 27/30; H04B 15/00; H04K 1/00; H04J 1/00

[52] U.S. Cl. .... 375/132; 375/131; 375/133; 375/134; 375/135; 375/136; 375/137; 370/343; 370/344; 370/480

[58] Field of Search ..... 375/132, 136, 375/131, 133, 134, 135, 137; 370/344, 343, 480

[56] References Cited

U.S. PATENT DOCUMENTS

5,394,433	2/1995	Bantz et al.	375/132
5,528,623	6/1996	Foster, Jr.	375/133
5,737,359	4/1998	Koivu	375/133
5,757,789	5/1998	Dent	370/337
5,758,290	5/1998	Nealon et al.	455/464
5,870,391	2/1999	Nago	370/330
5,937,002	8/1999	Andersson et al.	375/131

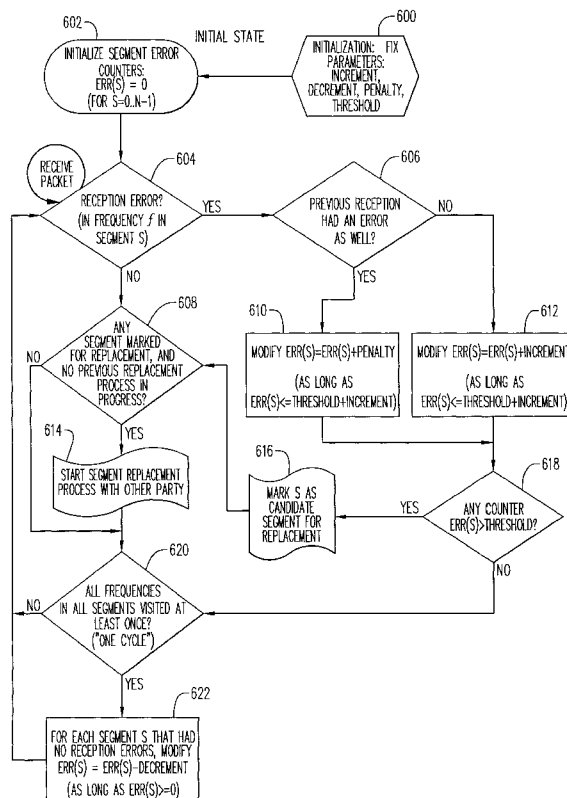
5,987,032 11/1999 Nadgouda et al. .... 370/437

Primary Examiner—Stephen Chin  
Assistant Examiner—Michael W. Maddox  
Attorney, Agent, or Firm—Ohlandt, Greeley, Ruggiero & Perle, L.L.P.

[57] ABSTRACT

The present invention is an apparatus and method thereof for performing frequency hopping (FH) communication with another party over an available spectrum of frequencies. The spectrum is arranged into a plurality of segments, with each segment corresponding to a subset of the frequencies, preferably a contiguous subset of the frequencies. The FH communication apparatus includes a communication device for communicating with another party. The communication device receives data over a sequence of hopping frequencies from the other party, with each of the hopping frequencies being part of a used segment from the plurality of segments. A storage device stores an error value for each used segment. A processing unit identifies a reception error in the received data and an erred segment in which the reception error occurred. The processing unit modifies the error value associated with the erred segment accordingly. The processing unit replaces the erred segment with an unused segment from the plurality of segments to attempt communication over a less error prone segment, when the error value for the erred segment has reached at least a predetermined threshold. The processing unit notifies the other party of the unused segment, which has been newly selected, via the communication device.

16 Claims, 11 Drawing Sheets



Marvell Semiconductor, Inc.  
MediaTek Inc.  
MediaTek USA, Inc.

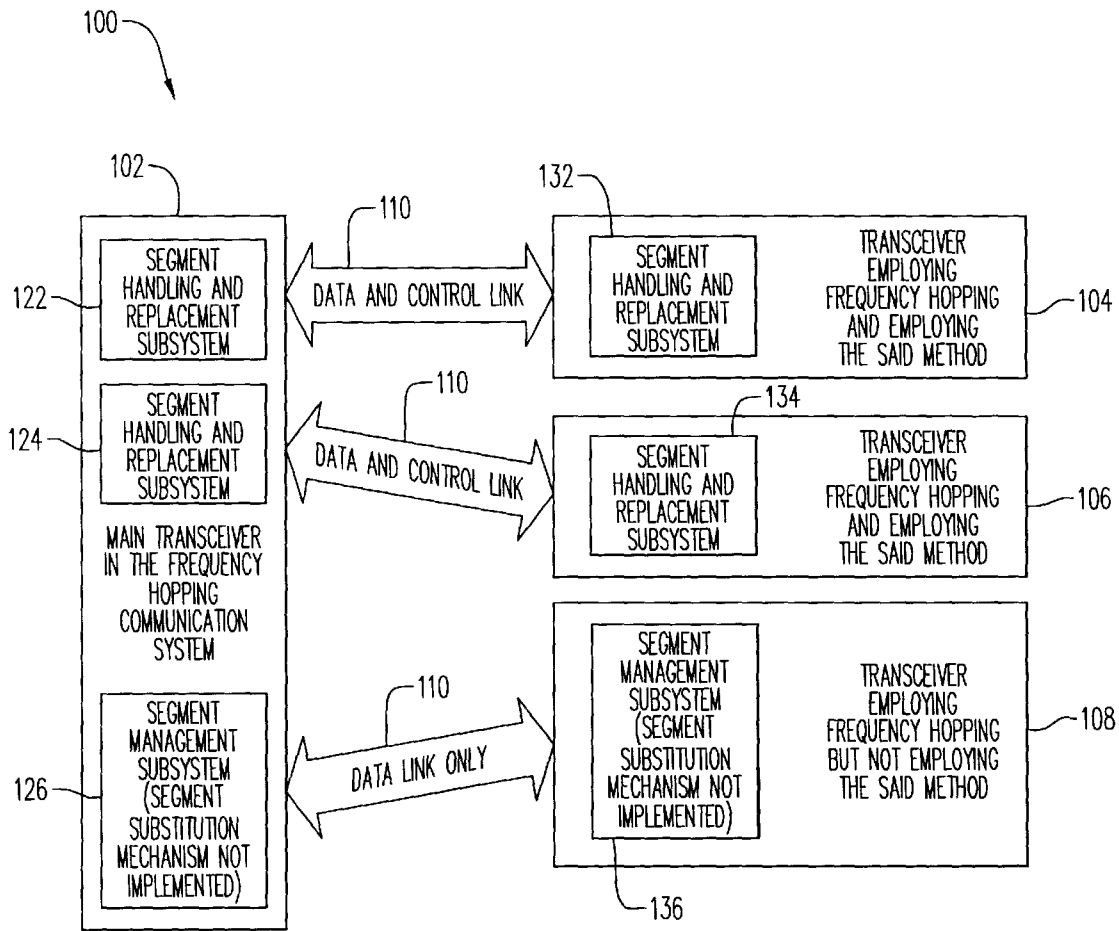
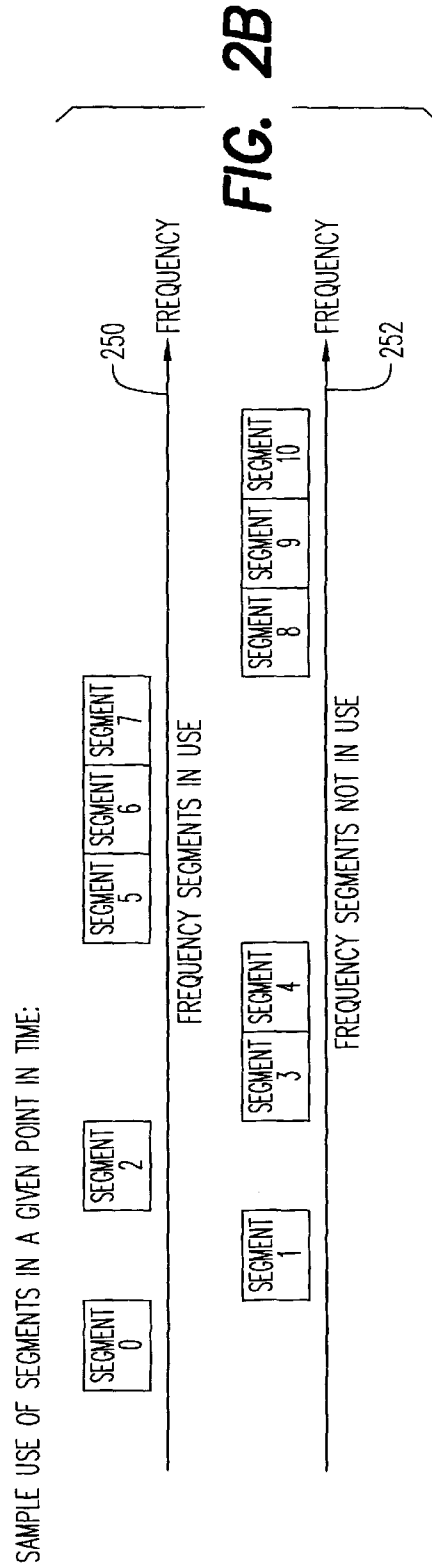
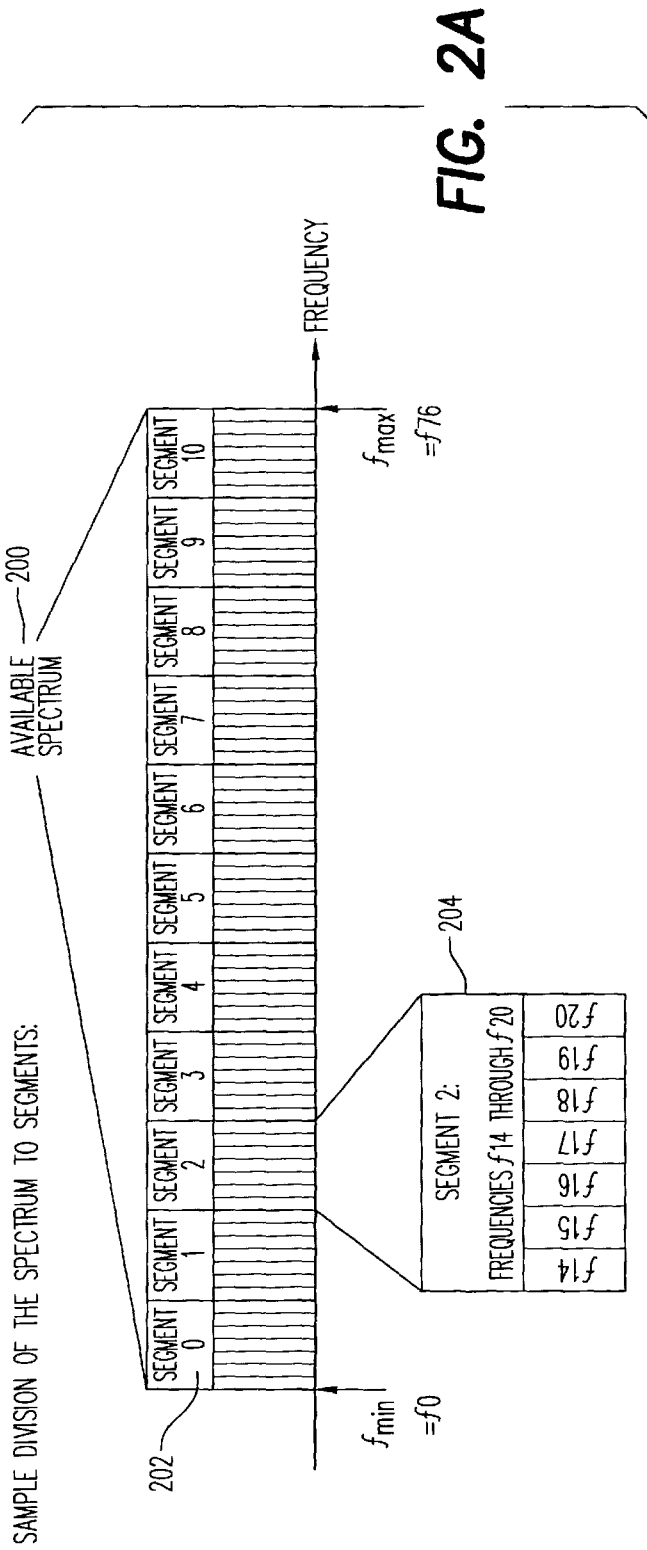


FIG. 1



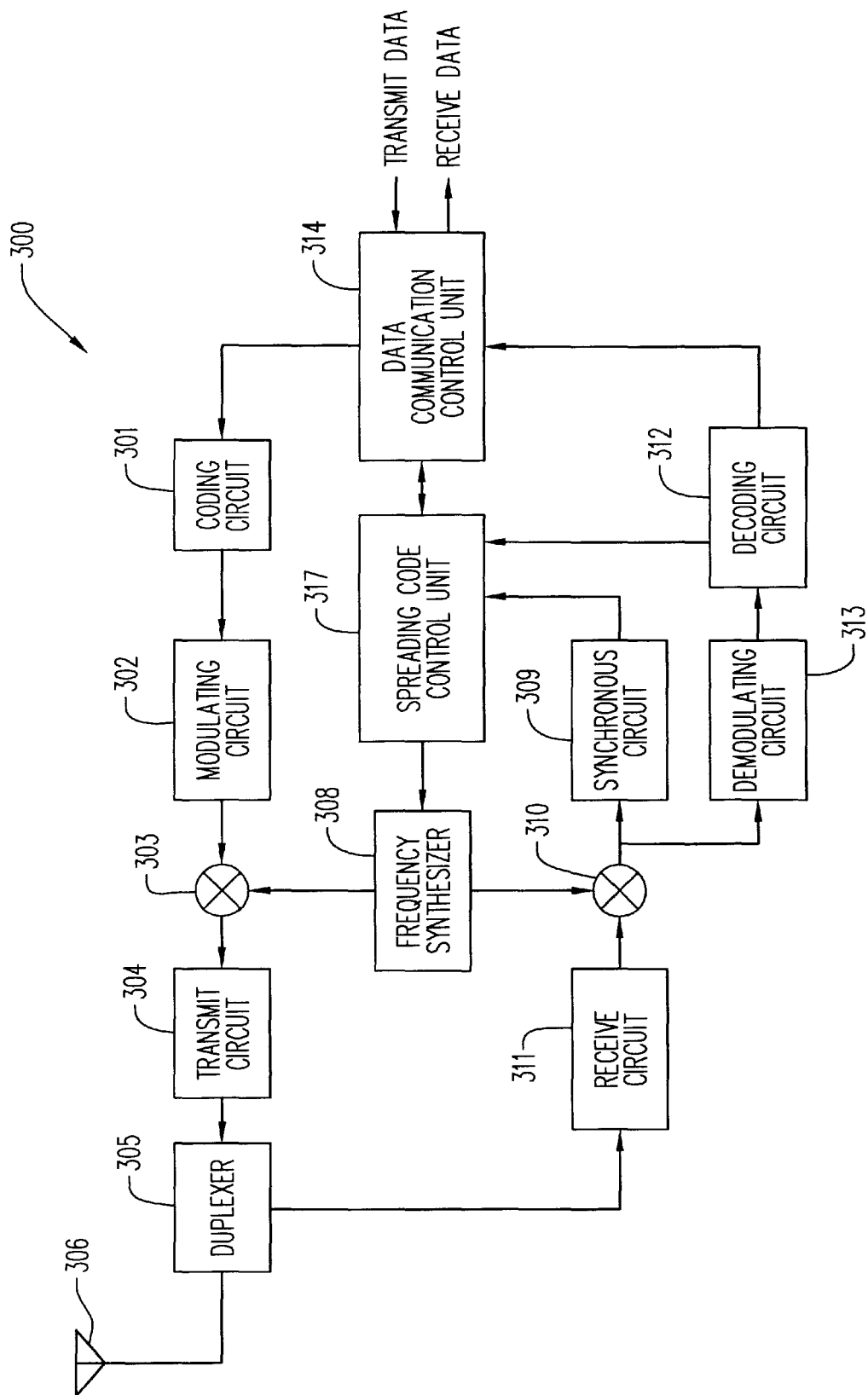


FIG. 3

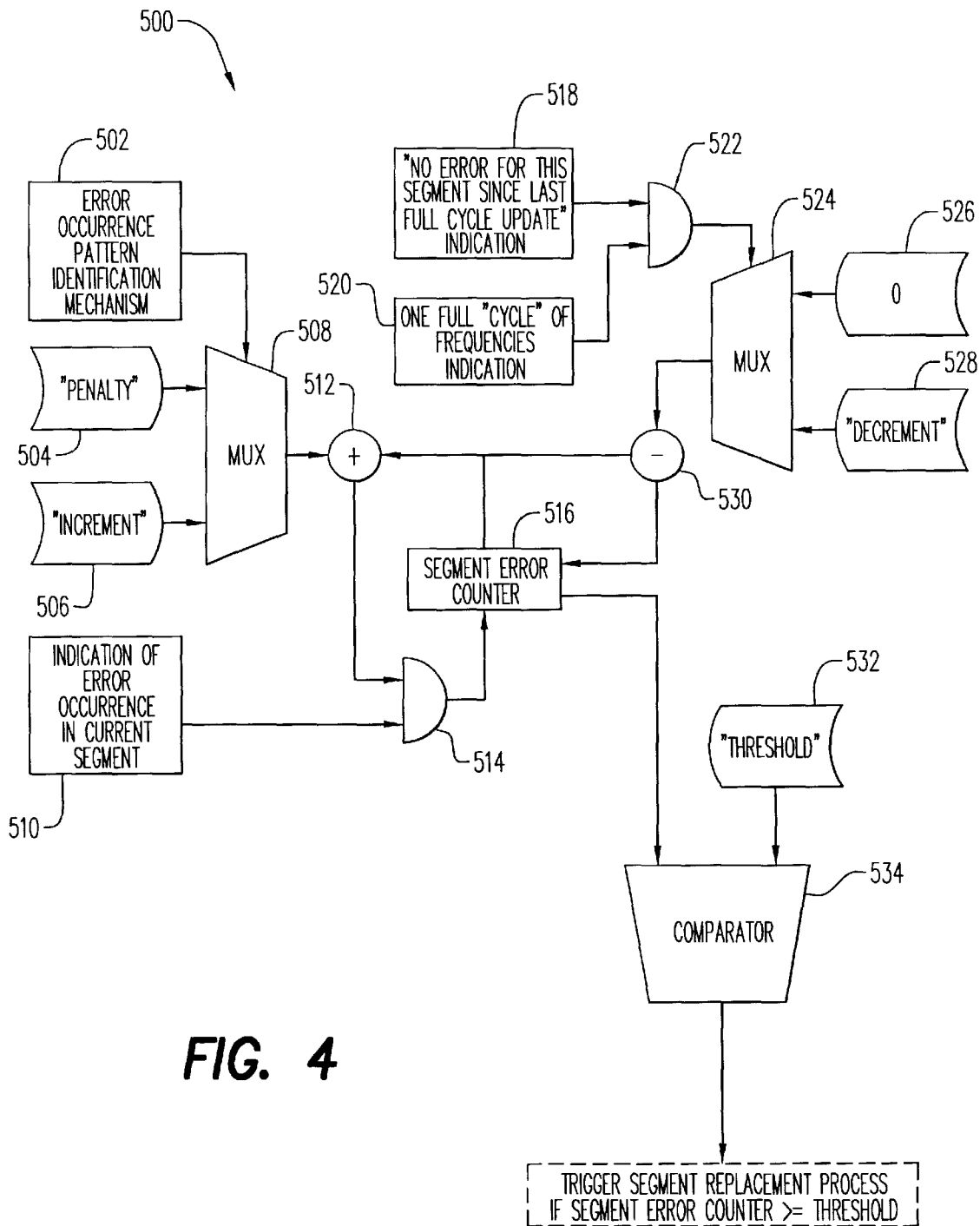


FIG. 4

# 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.