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**Kim**

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(54) **METHOD AND SYSTEM FOR BITS AND CODING ASSIGNMENT UTILIZING EIGEN BEAMFORMING WITH FIXED RATES FOR CLOSED LOOP WLAN**

(75) Inventor: **Joonsuk Kim**, San Jose, CA (US)

(73) Assignee: **Broadcom Corporation**, Irvine, CA (US)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 636 days.

(21) Appl. No.: **11/052,389**

(22) Filed: **Feb. 7, 2005**

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(51) **Int. Cl.**  
**G06F 15/16** (2006.01)  
(52) **U.S. Cl.** ..... **455/434; 455/41.2**  
(58) **Field of Classification Search** ..... 455/67.14, 455/62, 63.3, 134, 138, 139, 423, 557, 434, 455/41.2; 370/248, 346, 468  
See application file for complete search history.

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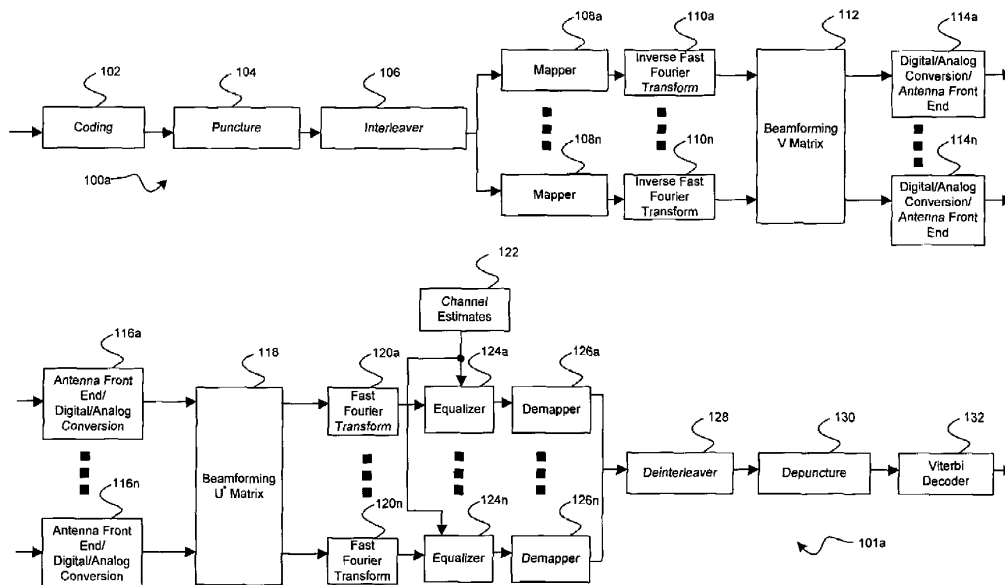
*Primary Examiner*—Sam Bhattacharya

(74) *Attorney, Agent, or Firm*—McAndrews, Held & Malloy

(57) **ABSTRACT**

A method and system for bits and coding assignment utilizing Eigen beamforming with fixed rates for a closed loop WLAN is provided. Aspects of the method for communicating information in a communication system may comprise transmitting data via a plurality of radio frequency (RF) channels utilizing a plurality of transmitting antennas and receiving feedback information related to the plurality of RF channels. Bits may be assigned for transmission via at least one of the plurality of RF channels based on the feedback information. At least a portion of subsequent data having at least a first coding rate based on the assignment of bits may be transmitted via at least one of the plurality of RF channels. The method may also comprise receiving data via a plurality of RF channels utilizing a plurality of receiving antennas, and transmitting feedback information related to the plurality of RF channels.

**30 Claims, 8 Drawing Sheets**



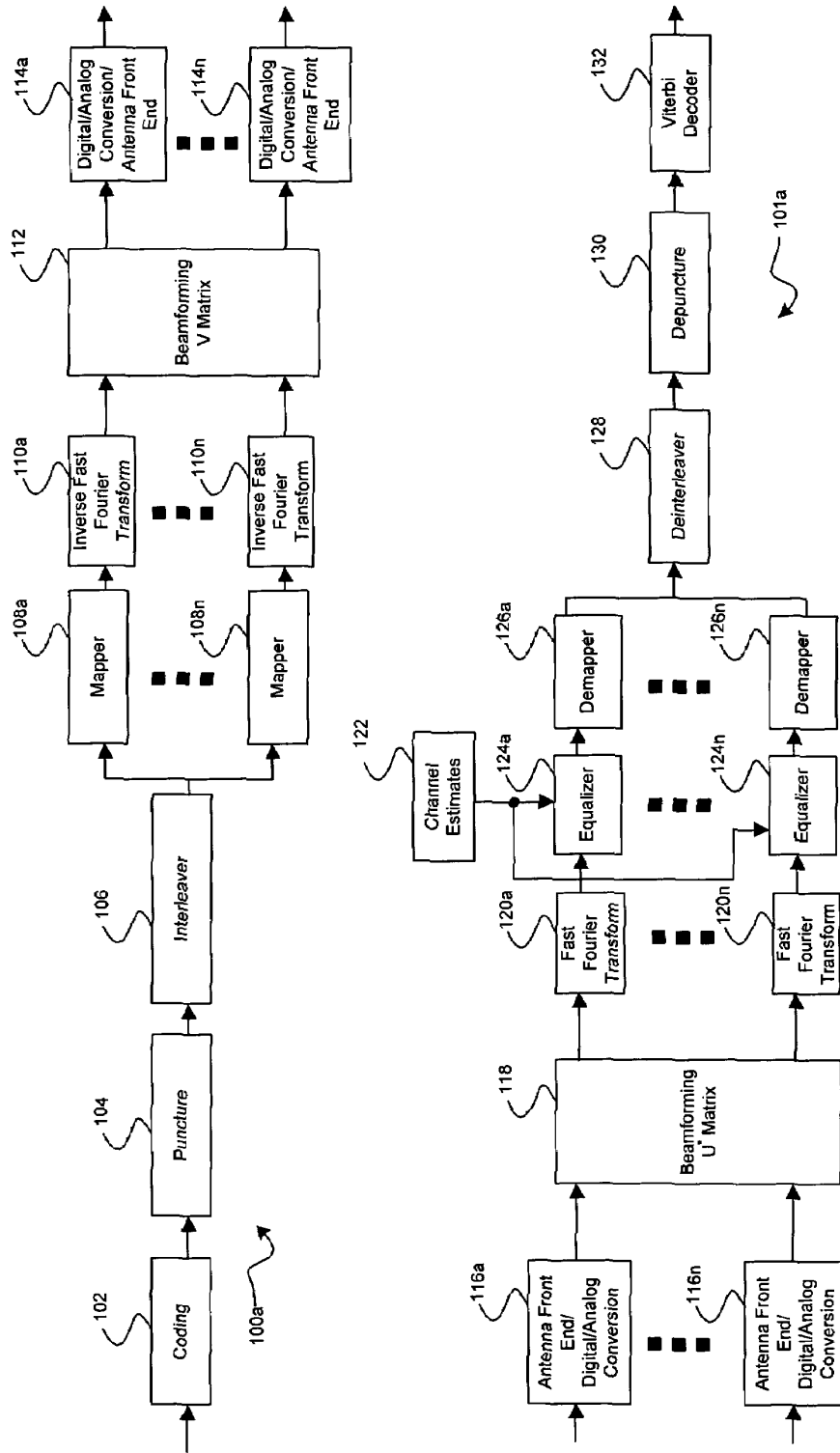


Figure 1a

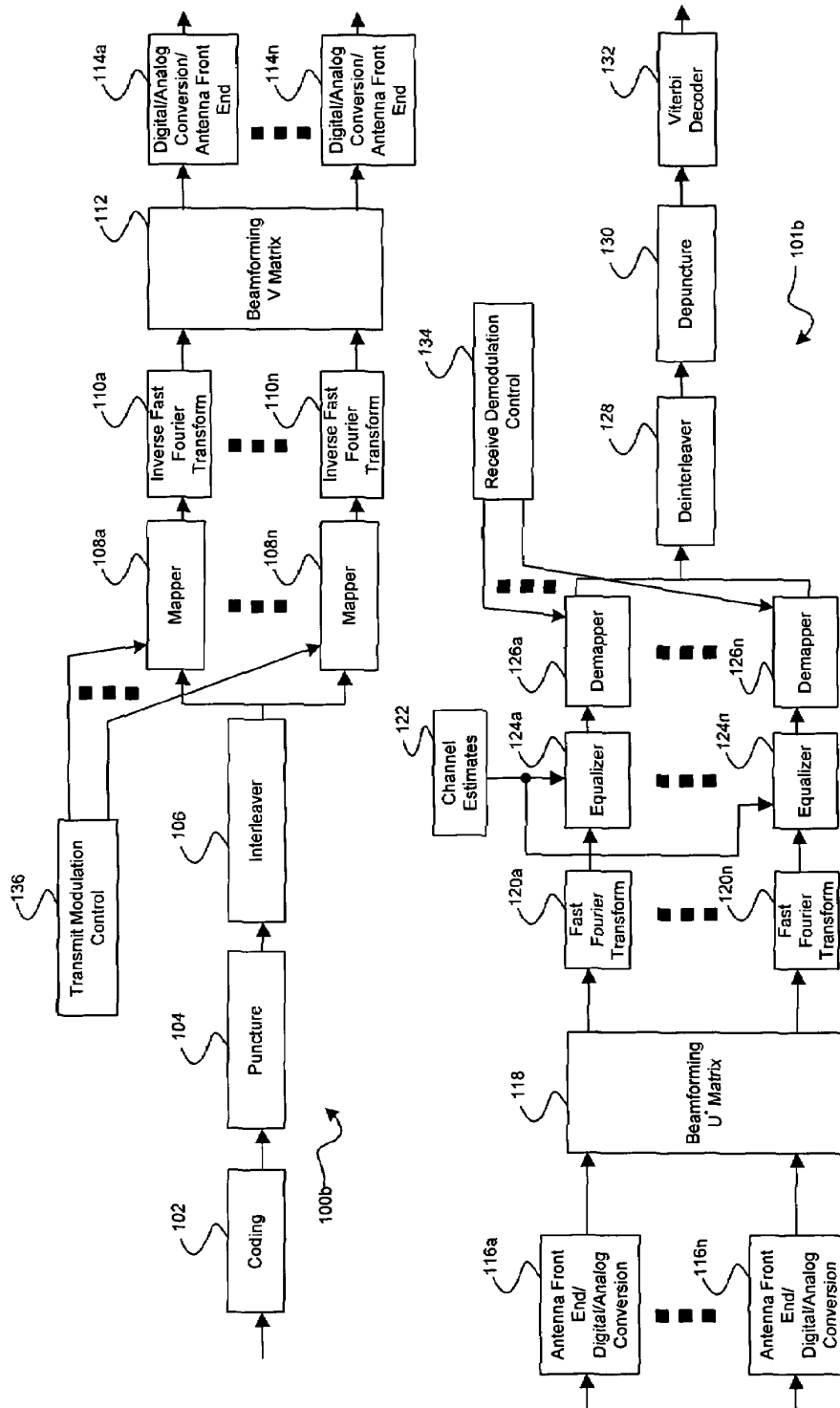


Figure 1b

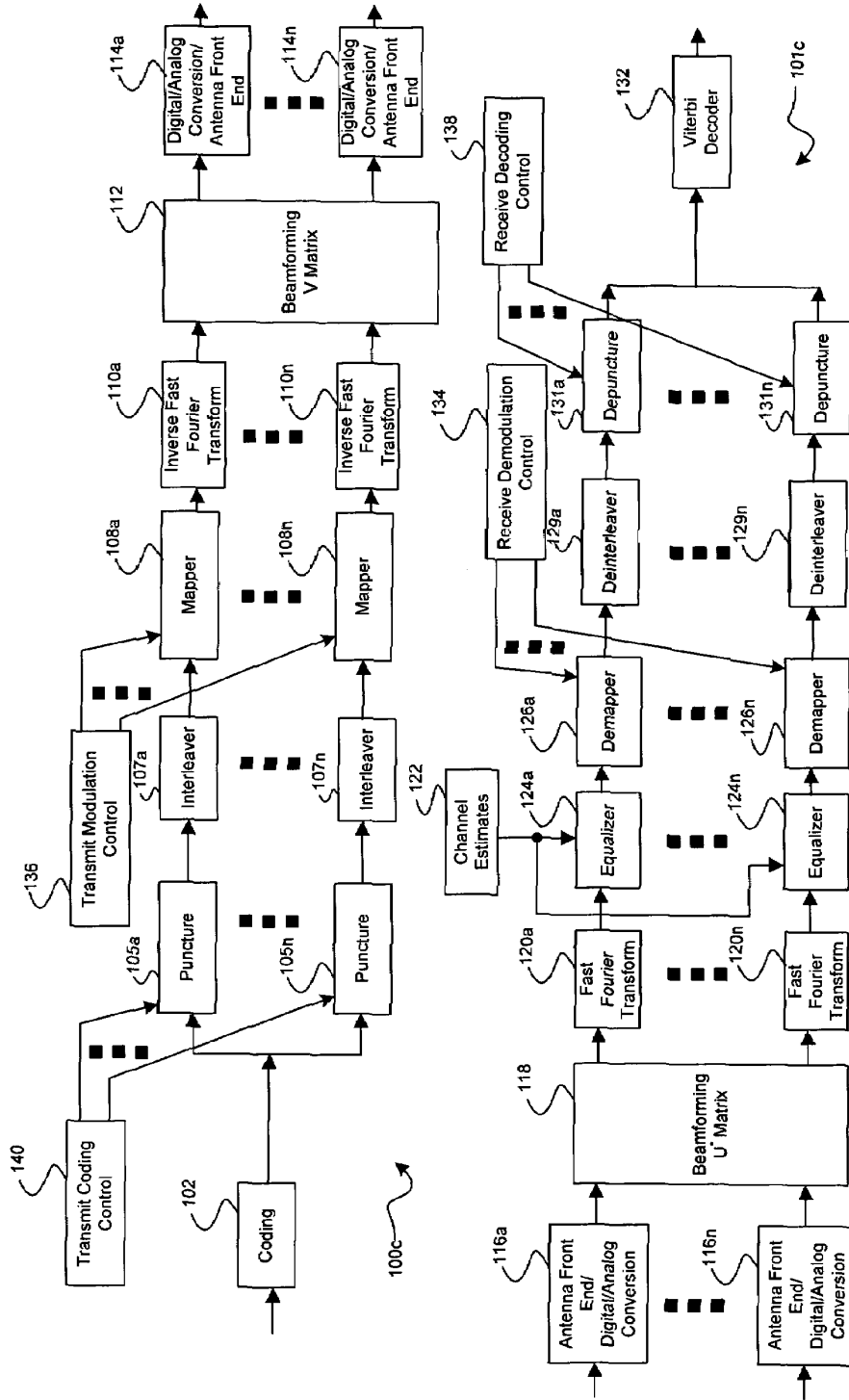


Figure 1c

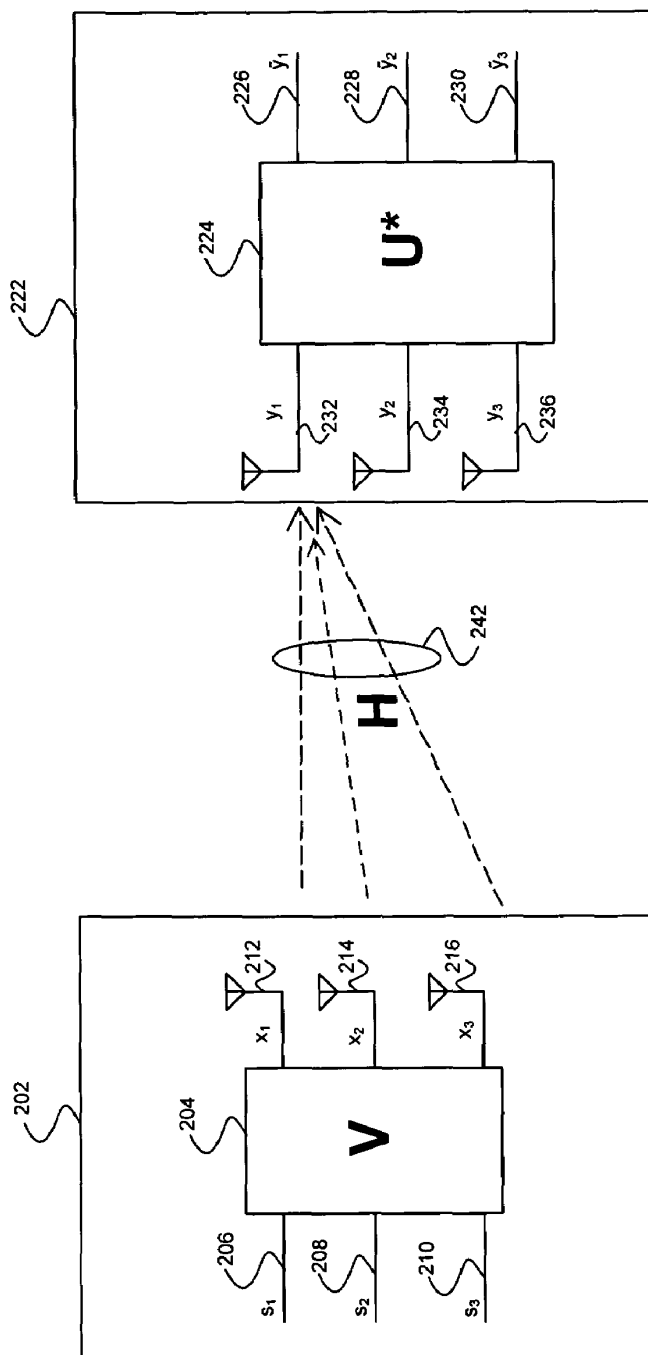


FIG. 2

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