



US007016658B2

(12) **United States Patent**  
**Kim et al.**

(10) **Patent No.:** **US 7,016,658 B2**  
(45) **Date of Patent:** **Mar. 21, 2006**

(54) **APPARATUS AND METHOD FOR TRANSMITTING/RECEIVING DATA ACCORDING TO CHANNEL CONDITION IN A CDMA MOBILE COMMUNICATION SYSTEM WITH ANTENNA ARRAY**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 579 days.

(21) Appl. No.: **10/337,711**

(22) Filed: **Jan. 7, 2003**

(65) **Prior Publication Data**

US 2003/0128769 A1 Jul. 10, 2003

(30) **Foreign Application Priority Data**

Jan. 7, 2002 (KR) ..... 10-2002-0000837

(51) **Int. Cl.**

**H04B 1/02** (2006.01)  
**H04J 3/22** (2006.01)  
**H03M 13/00** (2006.01)  
**H04L 5/12** (2006.01)

(52) **U.S. Cl.** ..... **455/102**; 455/103; 455/272; 455/273; 455/277.2; 370/204; 370/465; 370/543; 714/757; 714/780; 714/810; 375/264; 375/240.27

(58) **Field of Classification Search** ..... 455/102, 455/103, 108, 110, 111, 115.1, 115.3, 450, 455/452.2, 504-506, 512, 513, 67.11, 69, 455/132-136, 272, 273, 275, 276.1, 277.1; 370/464-469, 479, 480, 533-544, 203, 204, 370/208, 211, 441; 714/746-768, 780, 784, 714/786, 790, 799-805, 810; 375/240.24-240.27, 375/261, 264, 265, 242, 253, 316, 324, 325, 375/340, 349

See application file for complete search history.

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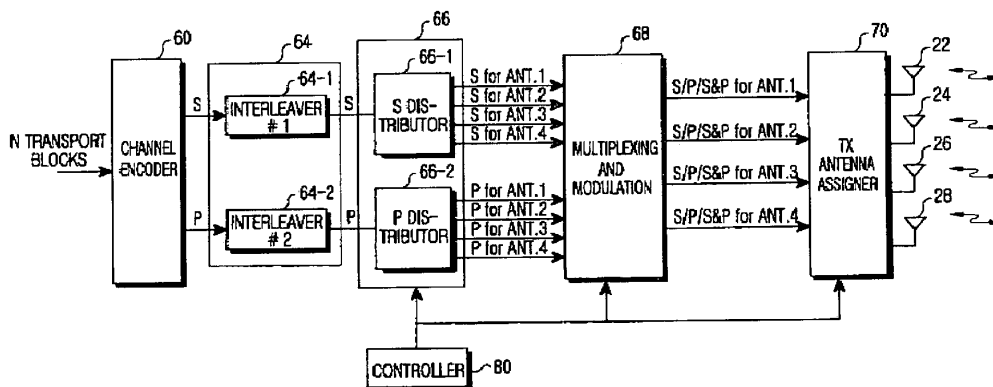
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(57) **ABSTRACT**

Disclosed is a method for providing first and second interleaved bit streams to a modulator in order to transmit the first and second interleaved bit streams through at least two antennas in a mobile communication system. An encoder encodes a transmission data stream into a first bit stream with first priority and a second bit stream with second priority being lower than the first priority. An interleaver interleaves the first and second bit streams into the first and second interleaved bit streams. The modulator modulates the first and second interleaved bit streams. The method comprises distributing the first interleaved bit stream into first assignment bit streams for the respective antennas and the second interleaved bit stream into second assignment bit streams for the respective antennas according to power condition information of the respective antennas; and generating combination bit streams by combining the first assignment bit streams and the second assignment bit streams, distributed according to the respective antennas, and providing the generated combination bit streams to the modulator.

**25 Claims, 9 Drawing Sheets**



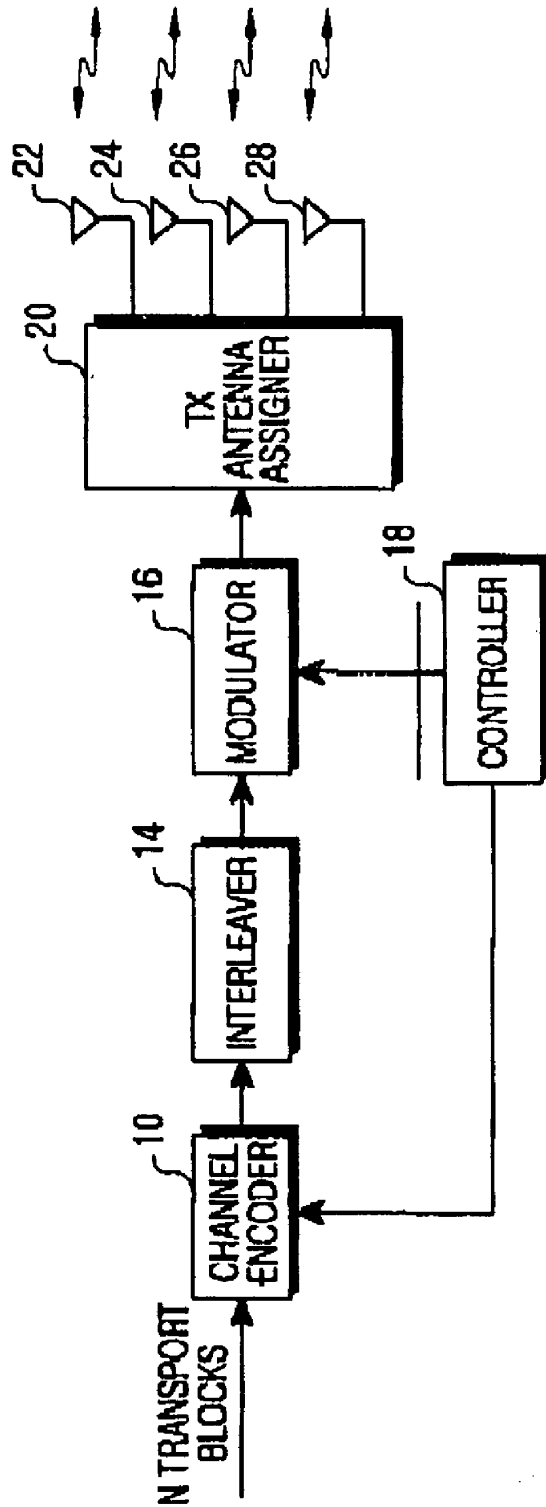


FIG.1

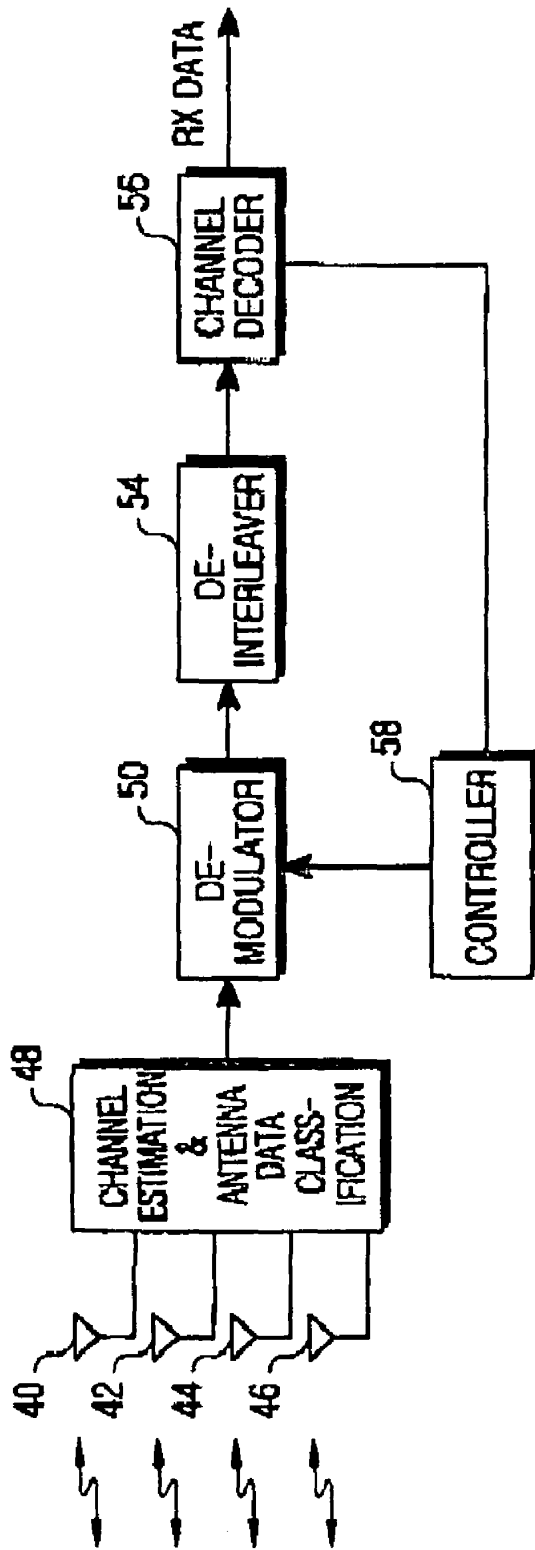


FIG. 2

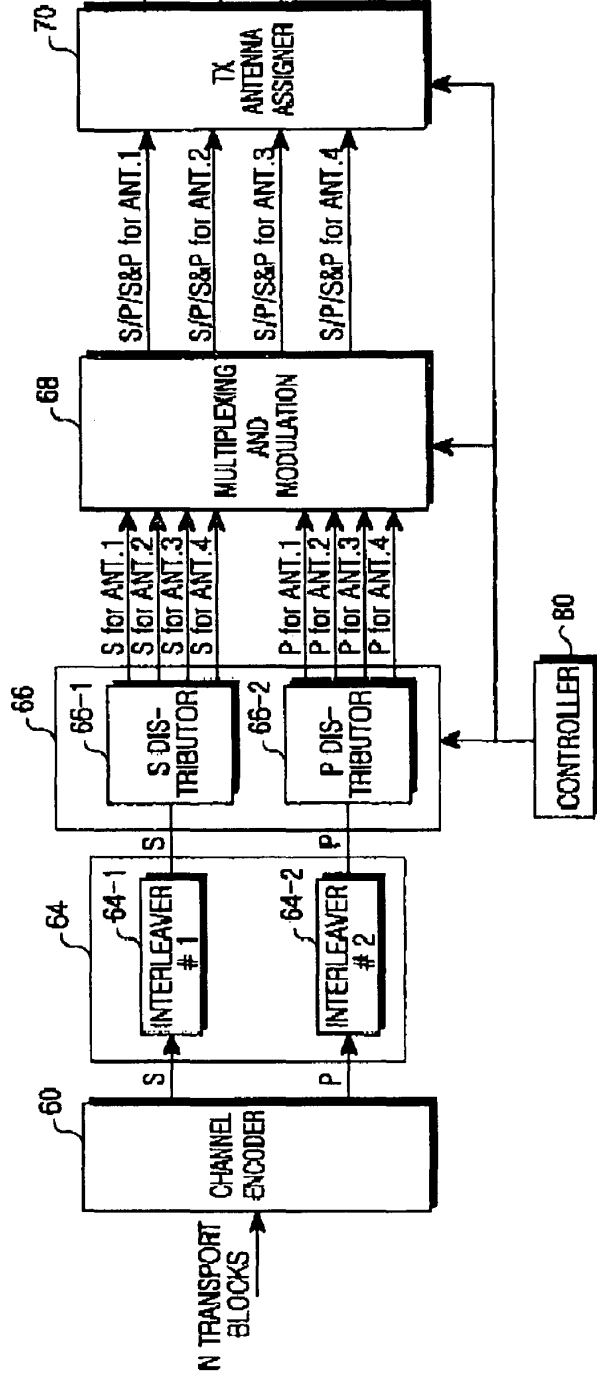


FIG.3

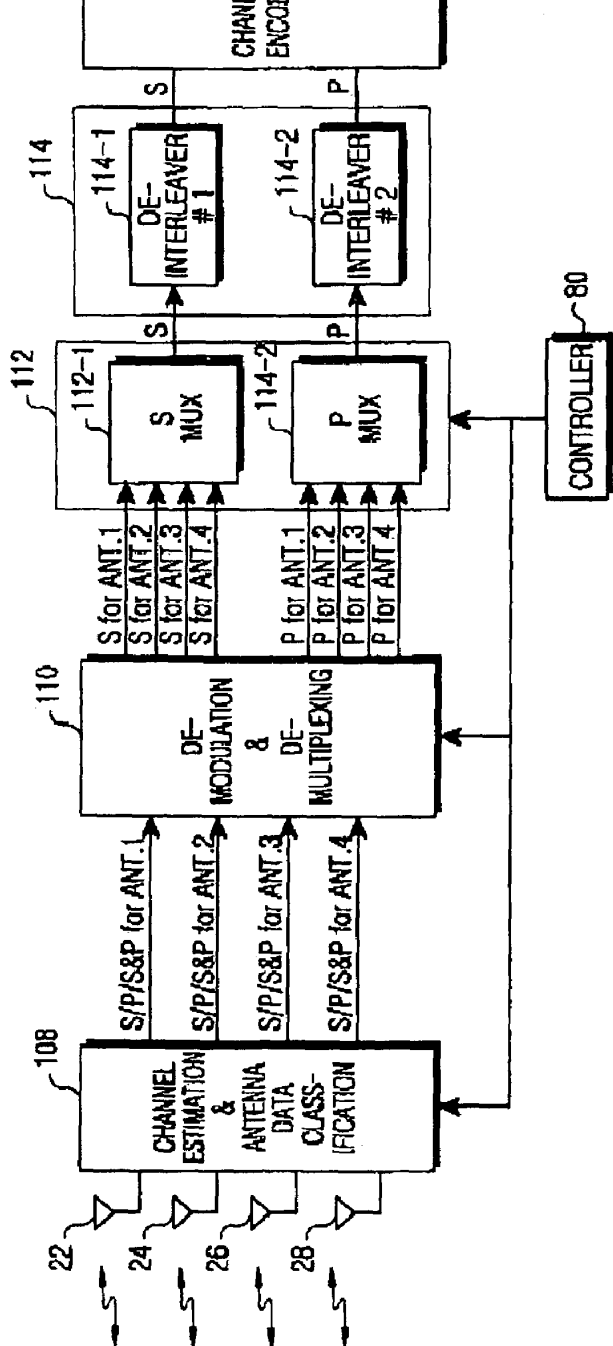


FIG. 4

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