



US006785510B2

(12) **United States Patent**
Larsen

(10) **Patent No.:** **US 6,785,510 B2**
(45) **Date of Patent:** **Aug. 31, 2004**

(54) **ROUTING IN A MULTI-STATION NETWORK**

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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 443 days.

(21) Appl. No.: **09/730,096**

(22) Filed: **Dec. 5, 2000**

(65) **Prior Publication Data**

US 2001/0036810 A1 Nov. 1, 2001

(30) **Foreign Application Priority Data**

Mar. 9, 2000 (WO) PCT/IB00/00248

(51) **Int. Cl.**⁷ **H04B 7/15**

(52) **U.S. Cl.** **455/11.1; 455/13.1; 455/502**

(58) **Field of Search** **455/11.1, 517, 455/522, 502, 13.1, 13.2, 500; 370/338, 465**

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(57) **ABSTRACT**

A method of relaying data between mobile stations in a cellular communications system is provided. The system comprises a number of mobile stations and base stations. Each base station makes synchronization transmissions within its area of covers, which define a broadcast control channel for the transmission of broadcast data from the base station to mobile stations within the area of coverage. The synchronization transmissions are received at mobile stations within the area of coverage, which extracts data defining the broadcast control channel, and at least one calling channel on which mobile stations can transmit probe data to one another. The probe data is used by the mobile stations to obtain connectivity information relating to the availability of other mobile stations. The synchronization transmissions also contain data which is used to define at least one traffic channel which is used by the mobile stations to relay message data between themselves. Effectively, the method of the invention provides a hybrid system which combines conventional cellular technology with opportunistic relaying technology.

6 Claims, 14 Drawing Sheets

