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(54) **MULTI-HOP PACKET RADIO NETWORKS**

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(58) **Field of Search** **370/252, 328, 370/310, 310.01, 310.02, 318, 321, 329, 370/332-334, 337-338, 341, 309, 436, 437; 455/67.1, 67.3, 67.4, 69, 62**

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(57) **ABSTRACT**

An adaptive communication system utilises opportunistic peak-mode transmissions to transmit data between originating and destination stations, via one or more intermediate stations. Each station monitors the activity of other stations in the network, storing connectivity information for use in subsequent transmissions. Each station also sends out probe signals from time to time, to establish which other stations are in range. Messages are then sent across the network from station to station, with confirmation data being transmitted back to the originating station, until the destination station is reached. Old messages, which would otherwise clog the network, are timed out and deleted. A communication network and transceiver apparatus for use in the network are also disclosed.

31 Claims, 13 Drawing Sheets

