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(54) Title: RANDOM ACCESS IN A MOBILE TELECOMMUNICATIONS SYSTEM

(57) Abstract

A mobile communications system (10) is provided for significantly reducing the time required to process a random access mobile-originated call. During call setup, a mobile station (16, 18) transmits a random access packet that includes a preamble and a plurality of fields. The information provided in these fields is used by the base station (12) to facilitate a more efficient call setup and more quickly allocate channel resources. A system is also provided for detecting, identifying and receiving multiple random access requests. Each mobile station (16, 18) transmits one of a plurality of different preamble symbol patterns in a random access request packet. The base station

receiver (14) includes a plurality of accumulators (126), each of which is tuned to a different preamble symbol pattern. Consequently, the base station receiver (14) can distinguish between simultaneous random access requests. This preamble symbol arrangement can also be used in conjunction with power-ramping processes, such as those used in IS-95 and CODIT systems, to provide individual power control for mobile stations making multiple random access attempts.

