

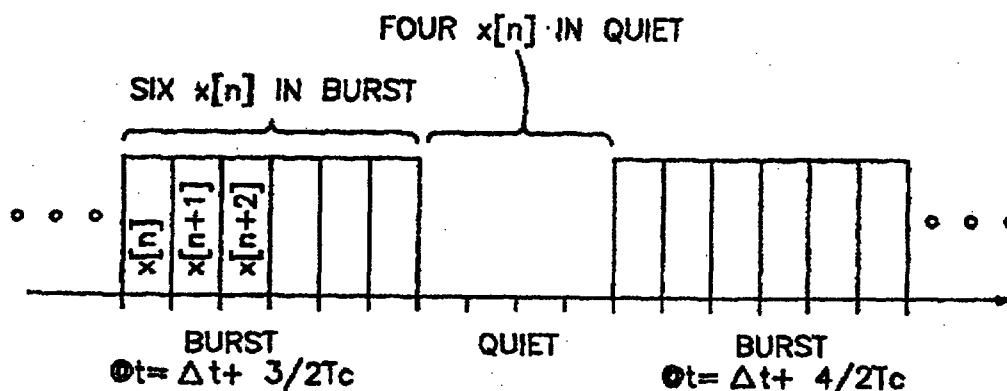


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(54) Title: **SYNCHRONIZATION OF TRANSMISSIONS FROM A SUBSCRIBER UNIT TO A BASE UNIT IN A RADIO CDMA COMMUNICATIONS SYSTEM**

(57) Abstract

Disclosed are methods and apparatus for use in a synchronous CDMA communications system (10) that employs orthogonal pn spreading codes. The methods are intended for synchronizing transmissions from a subscriber unit (SU 14) to a radio base unit (RBU 12), and include the steps of: (a) transmitting individual ones of a plurality of bursts from the SU to the RBU, each burst being transmitted with a different pn spreading code timing alignment; (b) receiving individual ones of the plurality of bursts with the RBU and determining a power estimate of each received burst; and (c) in response to a determined power estimate of one of the bursts exceeding a threshold, sending a message from the RBU to the SU. The message indicates that the SU is to use for subsequent transmissions the pn spreading code timing alignment that was employed when transmitting the burst that exceeded the threshold. In a preferred embodiment of this invention the step of transmitting transmits an indication of the pn spreading code timing alignment used when transmitting a given one of the bursts. Each burst is transmitted with a pn spreading code timing alignment that differs by 1/2 chip from a previous pn spreading code timing alignment.