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# (12) United States Patent

Sriram et al.

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# (54) METHOD FOR MAINTAINING TIMING IN A CDMA RAKE RECEIVER

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(52)	U.S. Cl	H04B 1/713 

(58) **Field of Search** ...... 375/147; 370/320;

341/50; 708/190; 714/732

# (56)

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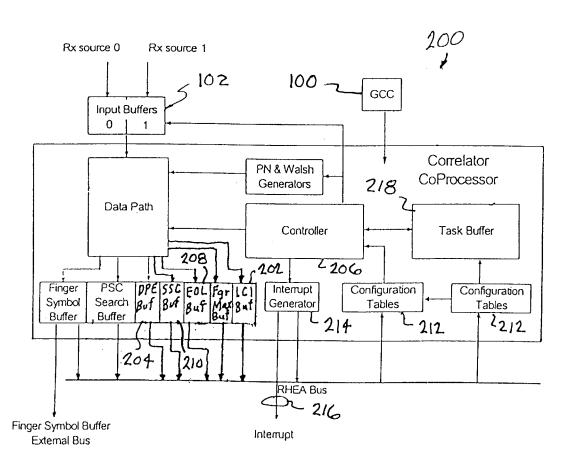
\* cited by examiner

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## (57) ABSTRACT

A system and method for maintaining timing in a CDMA rake receiver has a global chip counter that counts CDMA signal chips as they arrive at the CDMA rake receiver. A local pseudo-noise (PN) sequence replica of the incoming CDMA signal is generated and used to perform a sliding window correlation of the locally generated PN sequence replica with the incoming signal to correlate the CDMA signal timing relative to stored CDMA signal chip counts. The PN sequence timing is maintained relative to GCC, which avoids having to keep track of absolute time within each Rake finger.

### 23 Claims, 5 Drawing Sheets





Sep. 14, 2004

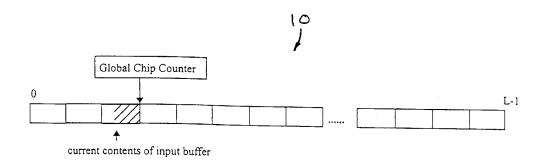
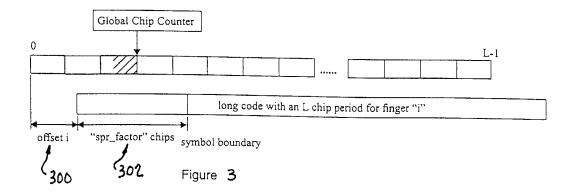


Figure 1. Global chip counter



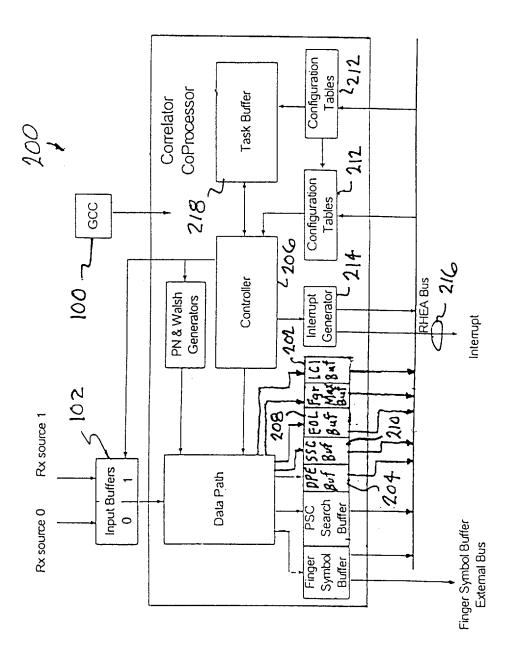


Figure 2

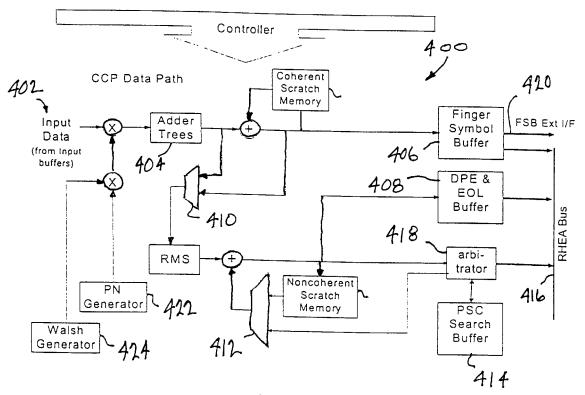
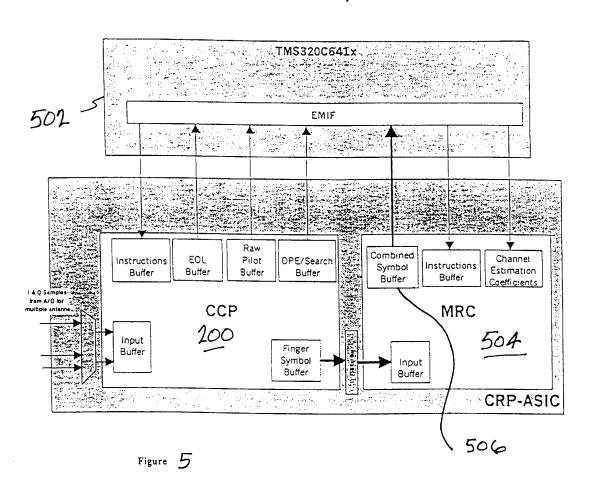


Figure 4 CCP Data Path

500



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