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Sriram et al.

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

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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 618 days.

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(51) **Int. Cl.**[7] **H04B 1/69**; H04B 1/707; H04B 1/713

(52) **U.S. Cl.** **375/147**; 370/320; 370/335; 370/342; 398/78

(58) **Field of Search** 375/147; 370/320; 341/50; 708/190; 714/732

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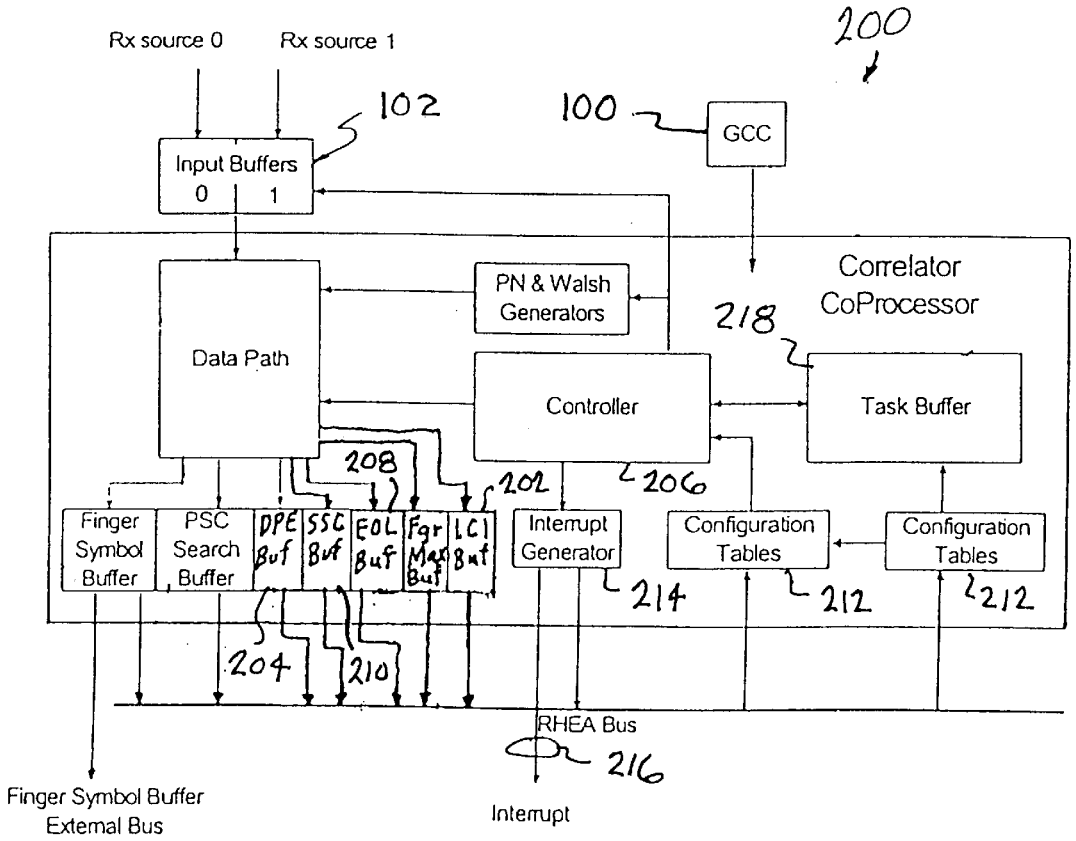
(57) **ABSTRACT**

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



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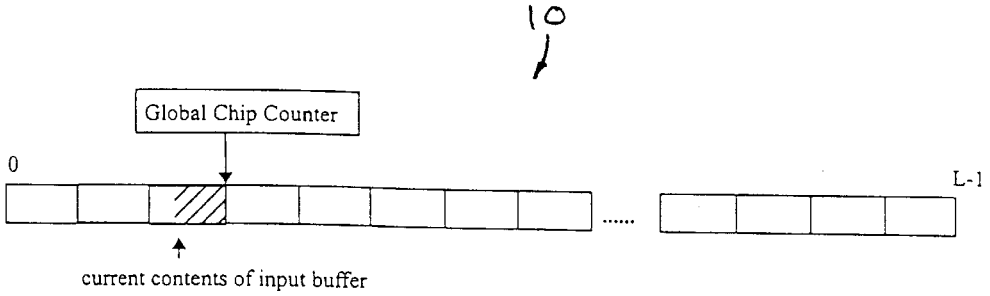

Figure 1. Global chip counter

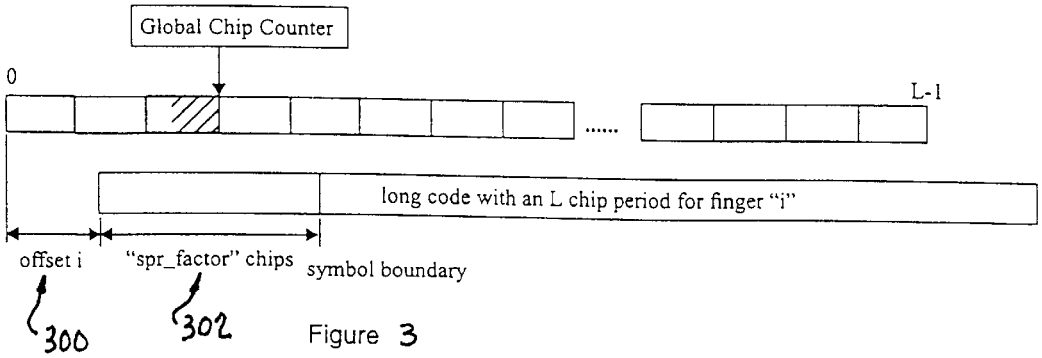

Figure 3

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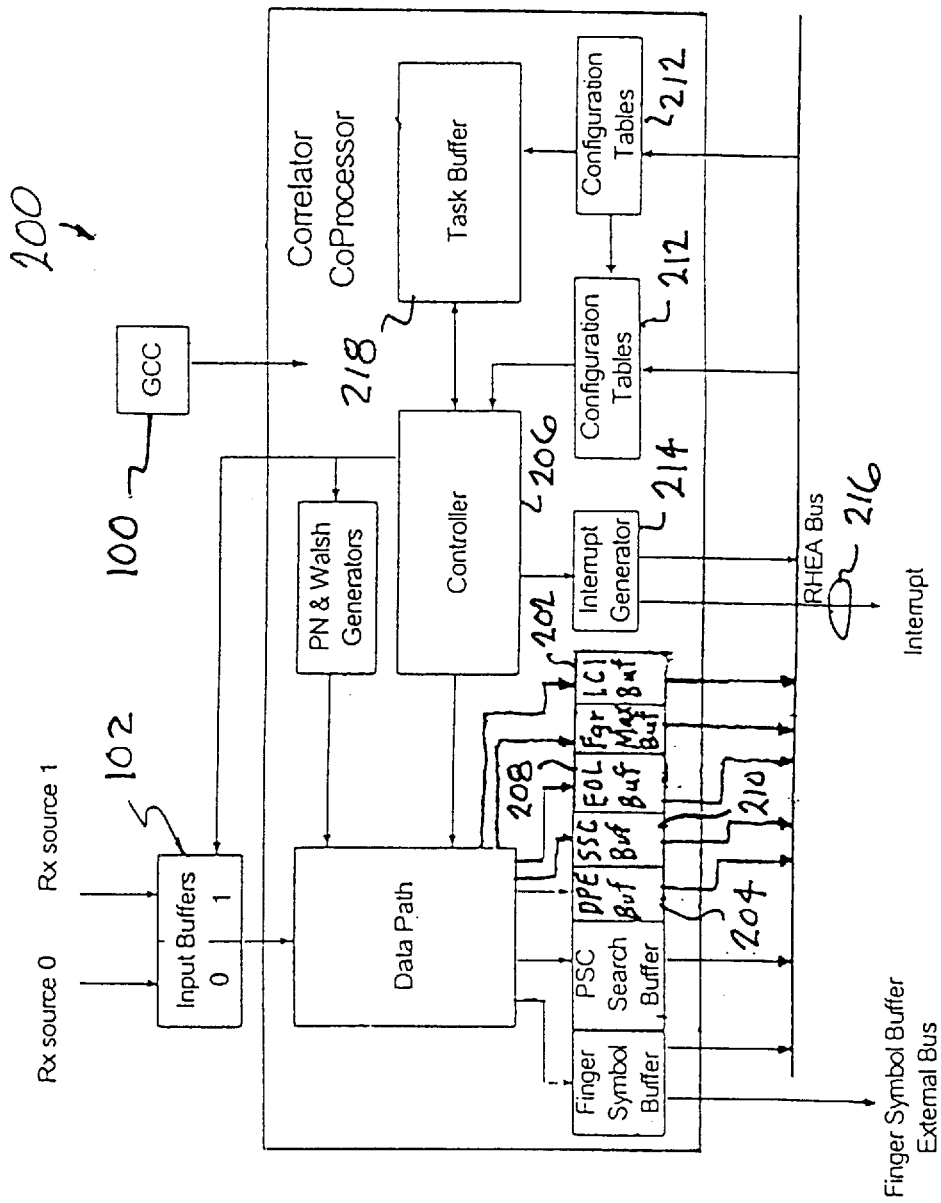

Figure 2

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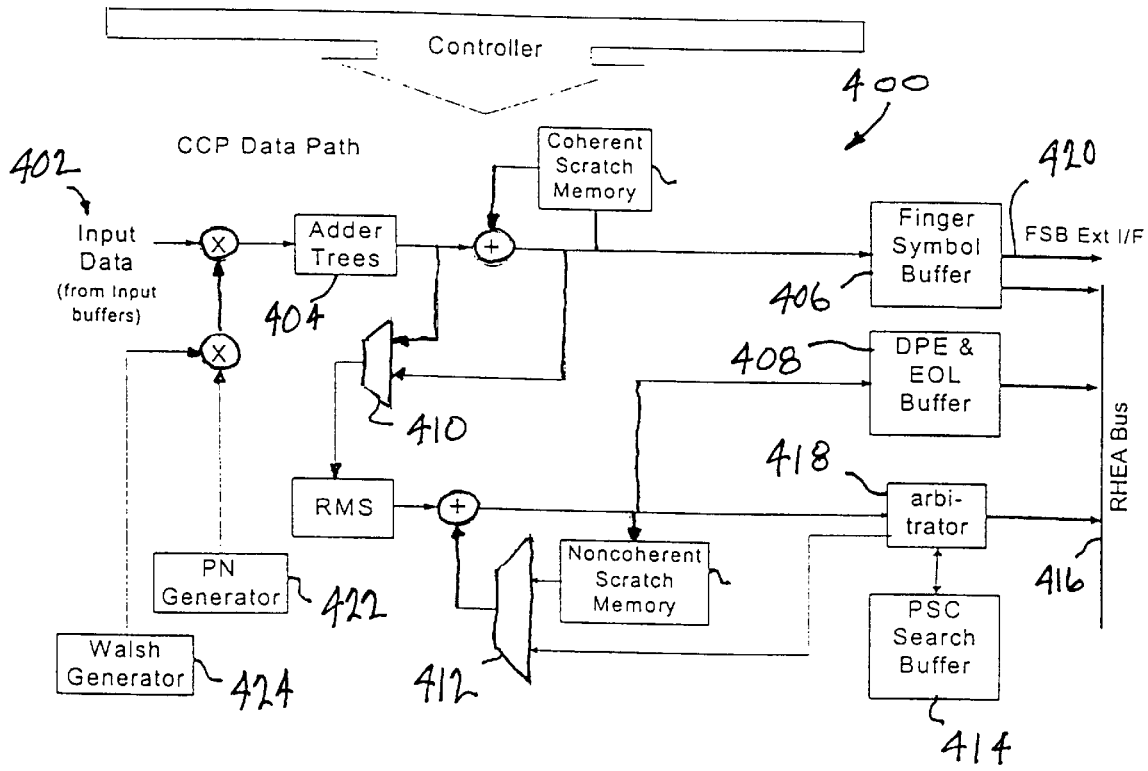

Figure 4 CCP Data Path

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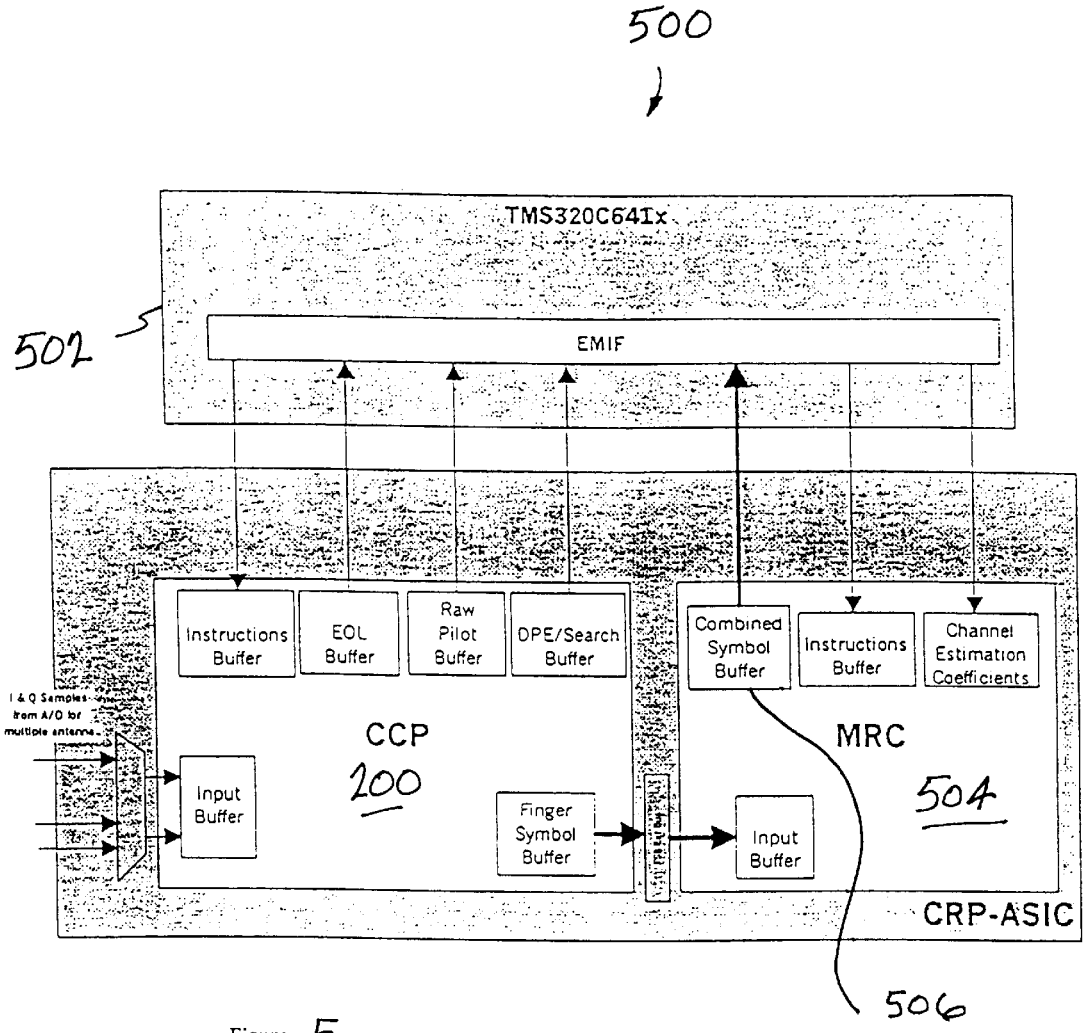

Figure 5

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