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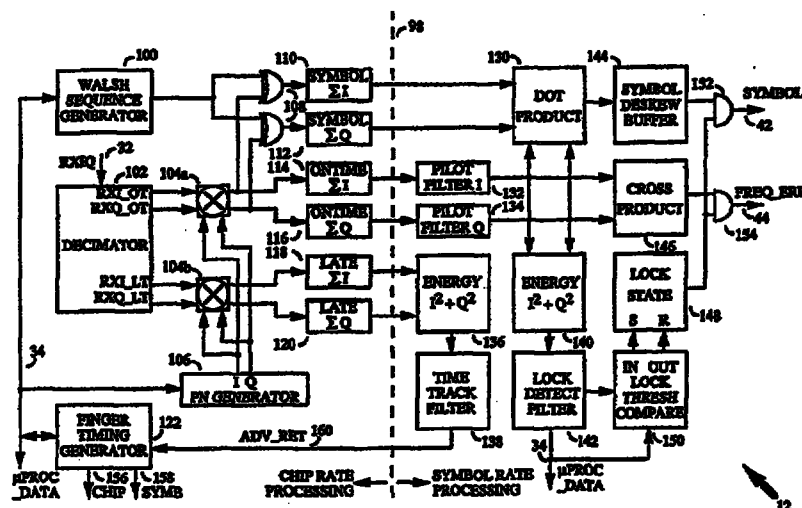
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(54) Title: **RAKE RECEIVER ARCHITECTURE FOR A MOBILE DEMODULATOR USED IN A CDMA COMMUNICATION SYSTEM**

(57) Abstract

The present invention involves demodulating a signal in a spread spectrum multiple access system employing a pilot on the forward link. The rake receiver (10) separates the signal processing based on the period over which the processing occurs. Symbol rate processing is performed by a single time-shared multiply-accumulate datapath (34) that services multiple finger front ends (312) and a searcher front end (314). The front ends (312) are dedicated circuits that perform all chip rate processing, producing a data vector and asserting a flag indicating the results are ready to be serviced by the shared datapath. A datapath controller (308) arbitrates use of the datapath between the finger front ends (312), the searcher front end (314), and combining functions, configuring the datapath to service them on a first-come, first-serve basis. The controller (308) sequences the datapath through a fixed routine as dictated by the signal processing associated with the block being serviced.