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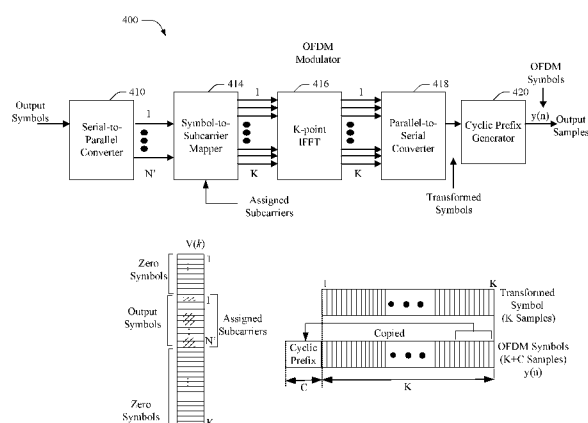
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(54) Title: JOINT USE OF MULTI-CARRIER AND SINGLE-CARRIER MULTIPLEXING SCHEMES FOR WIRELESS COMMUNICATION



(57) Abstract: A communication system that facilitates transmissions in accordance with a single-carrier (SC) multiplexing scheme, a multi carrier (MC) multiplexing scheme or a combination thereof is disclosed. Based on various factors such as attributes associated with a UE (user equipment) or availability of resources, a base station can signal to the UE an appropriate multiplexing scheme to be adopted for particular transmissions. The UE can be scheduled for transmission in a semi-static mode wherein the UE employs the transmission scheme for a particular time interval or it may change the mode dynamically for different transmissions. For transmissions from the UE comprising a plurality of data streams with dissimilar attributes, the base station implements a MIMO (multiple input multiple output) system for the UE. This facilitates a UE to dynamically switch between or simultaneously adopt the various multiplexing schemes for communications and thereby fully utilize advantages associated with the different schemes.



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