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(54) **Title:** ADD-ON APPARATUS FOR SYNCHRONIZATION OF FREQUENCY DIVERSITY COMMUNICATIONS AND METHODS USEFUL IN CONJUNCTION THEREWITH

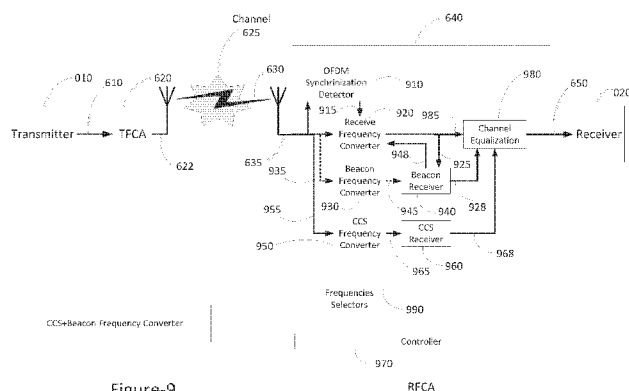


Figure-9

(57) **Abstract:** Add-on apparatus dynamically enhancing frequency diversity of a main signal sent over an existing communication system, the system using a communication protocol to convey the main signal from a Tx end to an Rx end, the add-on apparatus comprising a Transmission Frequency Converter (TFC) at the Tx end operative while the system is transmitting the main signal, to at least once shift a given center frequency about which the system is transmitting, to at least one corresponding alternative center frequency, wherein the TFC and an Reception Frequency Converter at the Rx end share prior knowledge defining how each shift of the given center frequency is to be timed relative to at least one recognizable element within the known communication protocol and wherein the Transmission Frequency Converter is operative to use the prior knowledge to recognize the at least one recognizable element and to shift the center frequency accordingly.