

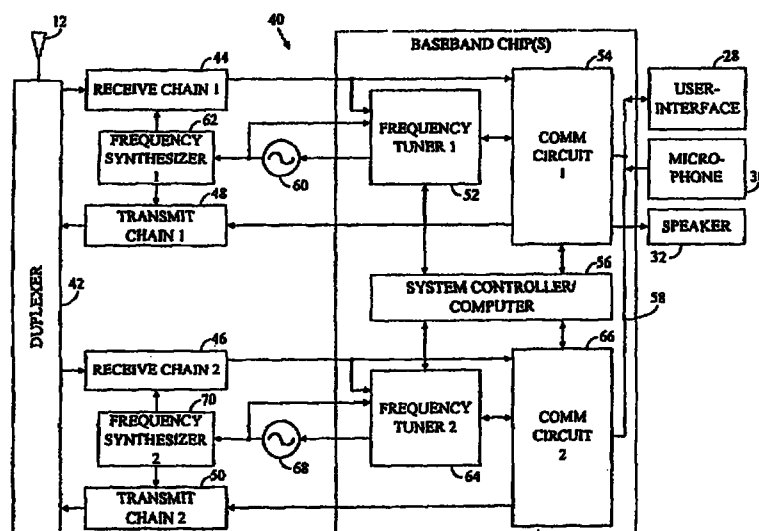
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(54) Title: MULTI-MODE COMMUNICATIONS SYSTEM WITH EFFICIENT OSCILLATOR SYNCHRONIZATION



(57) Abstract: A wireless communication device (40) can operate in either of two modes. In the first mode, a first frequency tuner (52) locks a first oscillator (60) onto a received signal, received from an antenna (12) via a first receive chain (44). This locking also adjusts the frequency used in the first transmit chain (48). When the device is to be switched to the second mode, a system control computer (56) first servos a second frequency tuner (64) so that a desired ratio is obtained. This ratio is the ratio of the frequency of a second oscillator (68) to the adjusted frequency of the first oscillator. This servoing allows the device, and particularly the second receive chain (46) and the second transmit chain (50), to enter the second mode more quickly and accurately.