MULTIPATH CDMA RECEIVER FOR REDUCED PILOT

Abstract

A digital spread spectrum communication system employing pilot-aided coherent multipath demodulation effects a substantial reduction in global-pilot and assigned-pilot overheads. The system and method uses a QPSK-modulated data signal whereby the modulated data is removed and the recovered carrier is used for channel amplitude and phase estimation. The resulting signal (119) has no data modulation and is used as a pseudo-pilot signal (119). In conjunction with the pseudo-pilot signal, a multiple-input phase-locked loop (157) is employed further eliminating errors due to carrier-offset by using a plurality of pseudo-pilot signals. A pilot signal (135) is required to resolve absolute phase ambiguity, but at a greatly reduced magnitude.

Figure 4

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