

Receiver for receiving a combination signal taking into account inter-symbol interference, method for receiving a combination signal, and computer program

Abstract

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A receiver for receiving a combination signal comprising two separate signal portions whose pulses are shifted relative to each other and/or whose carrier waves have a phase difference is adapted to obtain a first series of samples using a first sampling, the first sampling being adjusted to a symbol phase of the first signal portion, and to obtain a second series of samples using a second sampling, the second sampling being adjusted to a symbol phase of the second signal portion. The receiver is configured to obtain probabilities of transmission symbols of the first signal portion and probabilities of transmission symbols of the second signal portion for a plurality of sampling times based on the second series of samples and the first series of samples. The receiver is configured to determine probabilities for symbols of the second signal portion based on samples of the first sampling and estimated or calculated probabilities for symbols of the first signal portion, taking into account inter-symbol interference between transmission symbols of the second signal portion in the samples of the first sampling. The receiver is configured to determine probabilities for symbols of the first signal portion based on samples of the second sampling and estimated or calculated probabilities for symbols of the second signal portion, taking into account inter-symbol interference between transmission symbols of the first signal portion in the samples of the second sampling.

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Fig. 1