

Title (en)

Method and arrangement to determine a clock timing error in a multi-carrier transmission system

Title (de)

Verfahren und Vorrichtung zur Bestimmung eines Taktfehlers in einem Mehrträgerübertragungssystem

Title (fr)

Procédé et dispositif pour la détermination des erreurs temporelles d'horloge dans un système à transmission multiporteuse

Publication

EP 1221794 A9 20021204 (EN)

Application

EP 01400024 A 20010105

Priority

EP 01400024 A 20010105

Abstract (en)

[origin: EP1221794A1] The invention relates to a reception arrangement for receiving multicarrier symbols, each multicarrier symbol (S1, S2, S3) comprising a plurality of single carrier symbols, each symbol modulating a respective carrier frequency (f1, f2, f3). The single carrier symbols are transmitted simultaneously. The arrangement comprises means for detecting phase error of each single carrier and means for correcting the phase of a sampling clock (52) in view of the estimated error. The means for estimating phase error comprise means (581 ... 58N, 24, 40) for determining a parameter $\hat{\epsilon}_i$ for a carrier f_i according to the following formula: $\hat{\epsilon}_i = \frac{1}{N} \sum_{k=1}^N \frac{r_{i,k}}{a_{i,k}}$ wherein $r_{i,k}$ is the detected signal for the single carrier at a time t , $a_{i,k}$ is the corresponding symbol at the same time t , $a_{i,k-1}$ and $r_{i,k-1}$ correspond, respectively, to $a_{i,k}$ and $r_{i,k}$ at time $t-NT$, NT being the duration of transmission of a multicarrier symbol, and $\bar{\epsilon}$ means an average value on several successive symbols. <IMAGE> <IMAGE>

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