

ABSTRACT**APPARATUS AND METHOD FOR DETERMINING SIGNAL AND/OR
SYMBOL TIMING IN A MIMO WIRELESS COMMUNICATION SIGNAL**

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An apparatus for determining signal timing in a wireless communication signal performs an auto-correlation of the signal. Subsequently, the apparatus determines whether an energy characteristic of the signal satisfies a threshold criterion. In dependence of this determination, the auto-correlation is compared
10 with the energy characteristic and the signal timing is determined from the comparison. Additionally, the apparatus is also configured to determine symbol timing in a MIMO wireless communications signal having first and second signal components comprising known symbols, a known symbol of the second signal component being shifted by a shift interval with respect to a known symbol of
15 the first signal component. The apparatus performs first and second cross-correlations of the signal components with a known symbol stored in the apparatus, the second cross-correlation being shifted from the first. A combined cross-correlation from the first and second cross-correlations is determined. Symbol timing is subsequently determined from the combined
20 cross-correlation.

Figure 3



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