

**TIMING SYNCHRONIZATION IN A RECEIVER EMPLOYING
ORTHOGONAL FREQUENCY DIVISION MULTIPLEXING**

ABSTRACT OF THE DISCLOSURE:

A method and apparatus are disclosed for determining the boundaries of guard intervals of data symbols being received in a coded orthogonal frequency division multiplexed signal. Temporal samples separated by an interval of an active interval of a data symbol are associated in pairs, and difference signals obtained. The dispersion of a first comparison block of difference signals is determined, and compared to the dispersion of a second comparison block of difference signals, the second comparison block being displaced from the first comparison block by n samples. An F ratio is calculated for the dispersions of the two blocks. F ratios are iterated in a succession of comparison blocks, and a signal representing the F ratios subjected to peak detection. The peaks represent the boundaries of the symbol's guard interval. This information is utilized in synchronizing an FFT window for subsequent signal reconstruction.

FIGURE 6