

Title (en)  
METHODS AND APPARATUS FOR ENCODING AND DECODING DATA

Title (de)  
VERFAHREN UND VORRICHTUNG ZUR KODIERUNG UND DEKODIERUNG VON DATEN

Title (fr)  
PROCEDES ET APPAREIL DE CODAGE ET DE DECODAGE DE DONNEES

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Application  
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Abstract (en)  
[origin: WO9811698A1] In a coded orthogonal frequency division multiplex (COFDM) system n-bit data words are encoded as  $2^m$ -symbol code words (binary, quaternary, octary, etc.). The code words are selected for desired low peak-to-mean envelope power ratio (PMEPR) characteristics of transmissions over a COFDM channel, from a set of cosets of a linear subcode of a code having a specified generator matrix. The code words thus identified by the procedure described can, even for values of m in excess of 3, simultaneously limit the PMEPR to 3 dB, provide specified error control characteristics, be implemented in a feasible manner using analytical circuit techniques (e.g. with combinatorial logic), and include sufficiently many different code words to enable data to be transferred at useful rates. Other selections of code words can be made, enabling a higher maximum PMEPR or a reduced error detection capability to be accepted in order to obtain a higher code rate.

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