The invention relates to a method for recording and/or playing back digitally coded signals, more particularly digital video signals on magnetic tape, having a data rate which is reduced with respect to the data rate actually necessary for playing back a picture, said reduced data rate being achieved by among other things inter frame and intra frame coding (see for example Patents Abstracts of Japan, Vol. 7, No. 8, (E-152) (1153), 13.1.1983, & JP-A-57166785).

For recording digital colour pictures, which contain about 216 Mbit/s of raw data, it is necessary to reduce the data to be recorded for a narrow band channel, such as for example a video recorder shows. Among other things the following methods are known for data reduction.

1. Intra frame coded pictures. Thus the content of a picture is reduced such that the information to be transmitted is reduced by redundant and/or irrelevant component parts.

2. Inter frame coded pictures. During this coding only the differences in successive pictures are recorded.

The disadvantage of the intra frame coded recording lies in the fact that with a required data rate to be recorded of 10-15 Mbit/s the picture quality is very poor. Less than 10% of the information is recorded.

The disadvantage of the inter frame coded recording lies in the fact that it is not possible to begin playback at any desired point in the recording, since the information is only relative. The starting picture is missing.

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The object underlying the invention is to provide a recording process which combines the advantages of data reduction by intra frame and inter frame coding and which at the same time makes it possible to carry out rapid search mode and insert editing.

This object is achieved by the solution described in Claim 1. Advantageous further refinements of the invention are described in the dependent claims.

In accordance with the invention a picture sequence is coded such that at the beginning of the picture sequence an intra frame coded picture is recorded following which there is a number of

inter frame coded pictures. The intra frame coded picture may have both a fixed and variable block length. The inter frame coded pictures have a variable block length. The picture sequence includes a constant or variable number of coded pictures.

An embodiment of the invention is explained with reference to the drawing. In this the figure shows the construction of a picture sequence.

A picture sequence 23 consists of an intra frame coded picture 1 and a number of inter frame coded pictures 2-10. Each picture 1-10 has a picture synchronous signal 12-21 at the beginning. The block length of the inter frame coded pictures 2-10 is variable and depends on the difference in information of successive pictures. At the beginning of each picture sequence 23 the intra frame coded picture 1 is characterised by an intra frame identification S.

Through this recording process it is possible to carry out a rapid search mode in both directions. Thus with every nth intra frame identification an intra frame coded picture is scanned in which n is a whole number.

Furthermore, insert edit is possible. Each edit begins with and ends before an intra frame coded picture.



Patent Claims

1. A method of recording and/or playing back digitally coded signals, more particularly digital video signals on magnetic tape, having a reduced data rate with respect to the data rate actually required for playing back a picture, which is achieved by among other things inter frame and intra frame coding, **characterised in that** the beginning of a picture sequence (23) is determined by an intra frame coded picture (1) with a fixed or variable block length, and that a number of inter frame coded pictures follows on from that with a fixed number of pictures and variable block length or a variable number of pictures and a fixed block length.

2. A method according to claim 1, **characterised in that** the beginning of a picture sequence (22) is indicated by an intra frame identification (S).

3. A method according to claim 2, **characterised in that** the intra frame identification (S) is recorded on its own track.

4. A method according to claim 1, **characterised in that** each picture (1-10) has a picture synchronous signal (12-21) at the beginning.