

PERSONAL COMPUTER INCLUDING MOTION VIDEO REAL TIME CAPTURE,
COMPRESSION, AND RECORDING

ABSTRACT

A personal computer system is operated to concurrently execute
5 threads of multitasking operations to capture motion video data from a
video source, compress such data, and record the compressed data in a
file. Compression is selectively done in either one of two modes, an
inter-frame compression mode and a intra-frame compression mode, both
modes being block-oriented. During intra-frame compression, homogenous
10 blocks are used to represent four pixel values with a single pixel value
when the four pixels in a block are perceptually similar. During inter-
frame compression, unchanged blocks are used to represent four pixel
values as unchanged from the preceding frame when the four pixels are
perceptually similar to the same four pixels in the preceding frame.
15 Additionally, inter-frame compressed video frames use homogenous blocks
to represent four pixel values with a single pixel when the four pixel
values in a block are perceptually similar to each other but are
perceptually different from the same four pixels in the previous frame.

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