

ABSTRACT

MOTION COMPENSATED FRAME RATE CONVERSION

5 Methods and apparatus, including computer program products, implementing
and using techniques for computing motion vectors in a digital video sequence are
disclosed. A recursive hierarchical method is used to determine a motion vector by
using multiple resolution levels of the image frames. A best motion vector is first
determined for the lowest resolution level. The best motion vector is propagated to a
10 higher resolution level, where some adjustments are made and a new best motion
vector is determined. The new best motion vector is propagated to yet another
higher resolution level, where more adjustments are made and another new best
motion vector is determined. This process is repeated until the highest, original,
resolution level has been reached and a best motion vector has been identified. The
15 identified best motion vector at the original resolution level is used for performing
motion compensation.