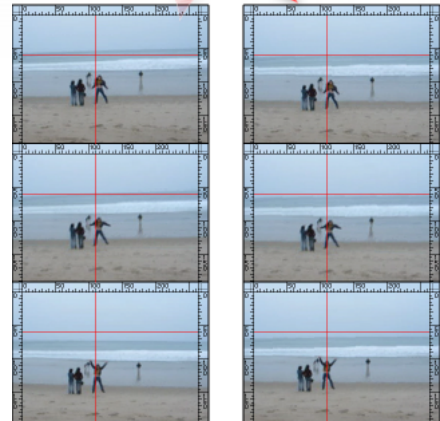# YUV Stabilizer Technology

High-quality stabilization of shaky video

Video cameras can produce shaking artifacts; that is, the video image changes its horizontal or vertical alignment from frame to frame. This unwanted effect may occur even with a high-quality camera if the camera is not firmly fixed. Often, shaking cannot be thoroughly neutralized by an internal stabilizer. Furthermore, the optical or electro-mechanical means used by cameras to deal with this phenomenon cannot be used for previously captured video.

We offer a high-quality post-processing solution to stabilize shaky videos.

Primary Applications

- Digital camcorders
- Post-processing of captured video
- Restoration of shaky video digitized from tapes and films

Captured or digitized shaky video

YUV Stabilizer Technology

Stabilized video

Key Features

- One-pass real-time processing
- Fully automatic
- High-quality reconstruction of missing border areas after deshaking correction

Basic Deliverables

- Source code for a reference implementation in C
- C and assembly language source code for an implementation optimized for the PC (if required)
- Algorithm description
- Software description
- Verification instructions

YUVsoft Corporation

web: www.yuvsoft.com
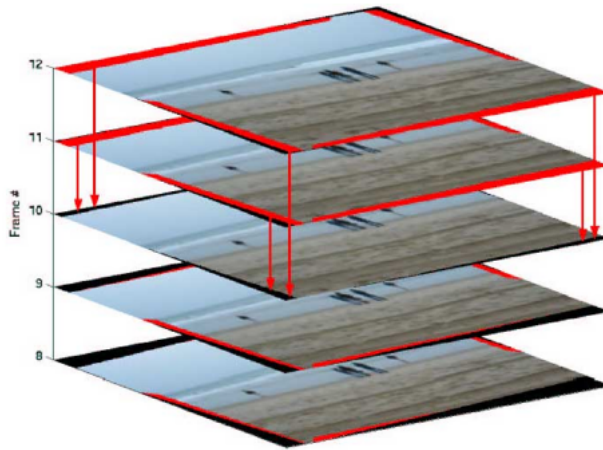**e-mail**: customers@yuvsoft.com
phones: +1 408 426 5988
          +7 906 744 0865

YUV Stabilizer Technology

Specification

- One-pass real-time processing
- Fully automatic
- High quality reconstruction of missing border areas after deshaking correction; no clipping used
- High-speed and high-quality modes

- Sophisticated multiparameter model for camera motion approximation
- Ensures significantly more stable and effective operation of other video processing algorithms, such as motion compensation and denoising
- Competitive visual quality
- Single previous frame used to stabilize current frame; high-quality results require a buffer of 3 frames
- Memory usage of 27 bytes or fewer per pixel
- Performance of non-optimized C reference model is 26 fps for a CIF video on an Intel Pentium 4 2.8 GHz PC
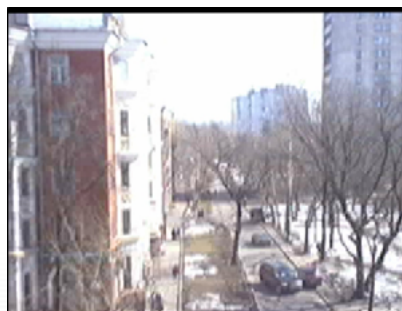- Ample potential for parallelization and for various speed/quality trade-offs

Comparison with Competitors

- DynaPel SteadyEye
- Deshaker by Gunnar Thalin
- Red Giant Software FilmFix

Our Advantages

- High-quality reconstruction of image borders

Deshaker by Gunnar Thalin

Upper and rightmost border areas are missing

YUV Stabilizer

All border areas restored

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