deFlicker.tv

for Ultramotion and Highspeed Cameras

Flicker is ubiquitous in high-speed and ultra-high-speed night-time recordings. Flicker is caused by high-frequency brightness fluctuations in lighting sources installed in most sports venues world-wide.

We have researched this phenomenon since 2008 and now created an ingenious software/hardware solution that removes flicker in realtime and can be easily integrated into broadcasting workflow.

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Simple setup and usage

You get a box, connect it to HD-SDI input and output, and boot it. That's it. Parameters can be adapted via a simple GUI using on-screen-display or CRT output and any USB keyboard, however this is seldom necessary.

The box takes what your high-speed camera delivers and deflickers it in real time, giving a output signal without flicker.

How does it work?

Very fast CPUs analyze input video for specific objects, and estimate and compensate for flicker on an object-level basis. This ensures best deflicker results while also minimizing motion blur.

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Single / Tower (Dell)

Supports PAL, NTSC, 720p, 1080i (all up to 60fps) - 3G-ready

I/O: HD-SDI over coaxial cable, auto-synchronized (opt. genlock)

CPU: 2x QC Xeon E5-2643

Twice-redundant memory (2bit ECC)

Redundant power supply(750W)

Preinstalled deFlicker operating system with six user-definable settings & two levels of watchdog timers

Remote admin/troubleshooting

Single / 19" rack 1U (Dell)
Specs exactly like tower system

Price tower/rack, all-inclusive
EUR 14,000.00

Shuttle MiniPC/XPC (Cube)
Coming soon!

CPU: 6C Intel i7 3930K
No power/memory redundancy
less comprehensive deFlicker settings
(probably) no remote admin

Est. price (preliminary)
EUR 7,000.00

Why we don't use FPGAs

Simple FPGA approaches using off-the-shelf motion tracking chips can only compensate camera movement on a frame-by-frame basis. This is clearly insufficient when many objects are moving, and will also introduce large artefacts when camera movement and object movement are not aligned. By using a pure software approach we keep maximum flexibility to ensure future extensibility.

Why we don't use GPUs

While our current motion tracking would be about 30% faster on the fastest GPU it is somewhat cumbersome to put 6-8 GPUs into a tower, and impossible for a 19" 1U rack.

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Pledge

We are committed to improving and updating our system. Currently planned updates include improved 1080i video processing by analyzing half-frames, implementation of 3G video modes, and a completely new object tracker that is almost ready for deployment.

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