

Anystream Agility 2G™

# Standards Conversion

Grab Networks is an innovator in standards conversion technology. Anystream Agility 2G (Agility 2G) enables media companies to distribute and sell high-quality content internationally, utilizing file-based frame rate conversion and de-interlacing processes. Integrated directly into the media pipeline, motion compensated algorithms are implemented in multi-threaded software to enable end-to-end, file-based workflows with broadcast-quality frame rates and standards conversion.

Unlike hardware-based alternatives that disrupt file-based processing with baseband signal to signal workflows, or software alternatives that use field blending, Agility 2G delivers motion vector compensation and controls to enable a quality/performance trade-off, helping you meet any deadline or quality demand.

## Benefits of Motion Compensated Standards Conversion

Field blending is frequently used to achieve video frame rate conversion for field based content. With this technique, adjacent frame fields are superimposed so that images from both frames are visible simultaneously. This provides motion smoothing between frames, but leads to a blurring of image quality, visible to the naked eye. Examples of this technique include crawling and rolling displays such as stock tickers and news feeds, which are blurred, making the result less legible. Motion estimation and compensation techniques provide the best possible image quality at any frame rate. (See Figure 1)

Regular Interpolated Standards Conversion



Motion Compensated Standards Conversion



Figure 1. The image of the moving volleyball on the left illustrates the effects of field blending. The image on the right, also created from 2-field media, uses motion estimation and compensation to produce the clearer image of the ball in flight.

## Features

Agility 2G integrates Digital Vision's patented, Emmy™ award-winning motion estimation technology into the media processing workflow to produce output at an adjustable frame rate with the best image clarity possible.

- **Frame Rate Conversion:** Frame rate conversion is the process of interpolating moving image content and creating images that did not exist in the original material. Agility 2G first analyzes video frames and produces motion vector fields. It then defines the location and speed of video images and predicts the location of all objects in the picture at any moment in time. Finally, it synthesizes video with objects so that each object moves smoothly into the expected position within each interpolated frame.
- **Broadcast Standards Conversion:** The process of standards conversion with Agility 2G starts with NTSC, PAL and high-definition 1080i and 720p video frames. They are then corrected for color space, frame rate, scan line and aspect ratio differences to create content that appears to have been shot in the native display format.
- **De-Interlacing:** With Agility 2G, interlaced broadcast source material is converted to create a progressive format for Web and mobile consumption. Motion estimation techniques are applied between fields to create smooth, clear images.
- **Telecine:** Agility 2G converts 23.98 PsF content to 25, 29.97 or any other frame rate using motion estimation, eliminating interlaced telecine and the associated cadence corrections from the workflow.

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