



madVR Envy

**Unlock Your TV or Video Wall's Full
Potential with the madVR Envy**

www.madvrenvy.com

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In this document we cover how the madVR Envy video processor can elevate your TV or video wall viewing experience, offering a range of cutting-edge features that take your picture quality and immersions to an entirely new level. Whether you are watching the latest blockbuster in 4K HDR or enjoying 1080p content such as from broadcast TV or older Blu-ray movies, the Envy ensures you maximize the performance of your display for the ultimate picture quality and enjoyment. Let's explore how the Envy can take your picture quality to a whole new level.

Best-in-class HDR Dynamic Tone Mapping and Why It Matters

Tone mapping is crucial in displaying HDR content properly. HDR enables a broader range of colors and brightness, but displays often struggle to show HDR content accurately, especially when scenes have both very dark and very bright elements. Without proper tone mapping, these details can get lost, resulting in a subpar viewing experience, like blown out highlights and crushed blacks with loss of shadow detail. This is where the madVR Envy steps in.

Envy's awarded best-in-class HDR frame-by-frame dynamic tone mapping (DTM) adjusts every single frame to deliver the ideal brightness and detail in every scene. While many high-end displays, like the latest OLED models, now offer some form of dynamic tone mapping, they are often limited in processing power and adaptability compared to what the madVR Envy delivers.

The Envy evaluates each frame dynamically, ensuring no detail is sacrificed, whether in dark shadows or brilliant highlights, giving you the most faithful representation of the director's intent. The Envy DTM also utilizes proprietary, advanced algorithms like Contrast Recovery, Highlight Recovery, and Shadow Detail Recovery to further enhance the HDR experience, ensuring optimal contrast, vivid highlights, and extreme shadow detail for a more dynamic and visually captivating picture.

AI-Powered Upscaling for Today's Content

Even in a 4K-dominated world, there is still plenty of HD (1080p) content out there. Most displays do a decent job upscaling to match the native resolution of the display, but this often result in soft and less detailed images. The madVR Envy employs sophisticated AI upscaling to take your HD content to the next level. By leveraging the immense power of its dedicated GPU, the Envy analyzes and enhances every pixel, providing you with an image that looks almost indistinguishable from native 4K content.

This AI upscaling ensures you get crisper textures, finer details, and an overall more refined image quality. It outperforms the built-in upscaling of even the best displays because it has far greater

processing power and uses next-generation algorithms, enabling it to create a richer and more detailed viewing experience.

Non-Linear Stretch for a More Immersive Experience

One of the challenges when watching movies on 16:9 displays like TVs and many video walls is the presence of those pesky black bars at the top and bottom of the screen. This happens because most movies are shown in a wider aspect ratio, such as 2.40, than the screen. These bars can be frustrating, especially because you invested in the largest screen you can fit in your space or budget, only to lose nearly a third of the image. Without an Envy, you can zoom the content to fill the screen, but then you would crop off 30% of the movie.

The madVR Envy offers a unique solution with its patent-pending bi-directional non-linear stretch. This feature expands the movie to fill part of the black bar area, reducing these significantly without noticeable distortion—even making them small enough to resemble the displays bezel if you prefer. Unlike with cropping, Envy intelligently stretches less important areas while preserving the content, resulting in a more immersive viewing experience.

Similarly, the industry is shifting toward wide-aspect flat panels and video walls, such as the increasingly popular 21:9 displays. The Envy's NLS delivers significant advantages in these setups by making better use of the extra screen width, transforming sports and 16:9 movies into a more immersive viewing experience.

Calibration: Achieving the Most Accurate Lifelike Image

The madVR Envy enables professional calibrators and skilled enthusiasts to perform reference level calibrations for the ultimate in image accuracy. Envy integrates seamlessly with calibration software like Calman and ColourSpace to achieve exceptional accuracy in grayscale, gamma, and color gamut calibration, ensuring precise color representation and tonal detail. With support for the largest LUTs in the industry, including 1D LUTs with up to 4,096 points and 3D LUTs with up to 16.7 million interpolated points, the Envy enables true reference-level calibration unlike anything else.

A precise calibration makes all the difference, particularly on high-end displays, bringing out the finest details and maximizing contrast, while ensuring colors are true to life. With a reference-level calibration using the Envy, the image quality is elevated, making the content more immersive, likelike, and visually accurate.

MotionAI: Lifelike Motion and Unmatched Clarity When It Counts

The madVR Envy Extreme offers MotionAI, the world's first AI-based motion interpolation in a dedicated video processor. Motion interpolation increases the frame rate to enhance image clarity and reduce judder, which becomes more noticeable the bigger and brighter the TV or video wall is.

While madVR Labs didn't invent motion interpolation, the company set out to try and perfect it with MotionAI.

Other motion interpolation methods often fall short, introducing artifacts like tearing, unstable frame rates, and the 'soap opera effect' that made movies look overly processed. Over the years, these shortcomings gave motion interpolation a bad name, leading many users to disable such features as soon as they get a new display, and even recommend that others do the same.

MotionAI changes this by providing the benefits of motion interpolation while still being capable of maintaining the original cinematic feel. This makes MotionAI the first motion interpolation technology that users find genuinely transformative and enjoyable.

MotionAI also provides very precise control over the motion processing strength, allowing you to adjust it to suit your taste. Whether you prefer the original frame rate with minimal judder reduction or enjoy the ultra-realism and extreme clarity of high frame rates, Envy's MotionAI delivers. Even if you prefer not to use motion interpolation for movies, MotionAI still brings unmatched lifelike detail and clarity to sports, documentaries, and concerts at 4K120, delivering an experience that puts you right in the heart of the action.

Additionally, MotionAI can speed up HDMI handshakes by maintaining a constant frame rate, further enhancing your viewing experience—an important benefit that's often overlooked.

The Ultimate Viewing Experience

With madVR Envy, your TV or video wall becomes more than just a screen—it becomes a window into every scene, enhancing every movie, show, concert, and live event you watch. It gives you the power to achieve an unparalleled viewing experience that truly brings out the best in your display. With the best-in-class awarded HDR dynamic tone mapping, AI-powered upscaling, bi-directional non-linear stretch, reference-level calibration control, and MotionAI, the Envy delivers unparalleled image quality and immersion.

All the features discussed here are available in the Envy Core, Pro, and Extreme—except for MotionAI, which is exclusive to the Envy Extreme. Isn't it time to unlock the true potential of your display? Visit madvrenvy.com today or [contact an Authorized madVR Envy dealer](#) near you to learn more.